Toward a Poetic of Visual Music

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Abstract—Toward a Poetic of Visual Music
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Music composition—unlike most other forms of media, which are heavily influenced by the image-based electracy—has remained in the oral or literate age. While musical performance and the star system give the appearance that music is fully a part of the image culture, the image rarely plays an influential part in the composition process. Music composers bring the visual together with music primarily by creating music while watching a visual track—they attempt to bring congruence to the music-visual mix by matching the emotional or action qualities of the visual—or by taking a piece of music and creating a set of visuals which may match the narrative content (lyrics), the rhythm, the emotional content of the music, or simply be a stylized performance of the music. In neither instance does the visual aesthetic influence the composition of the music.

Arthur Schopenhauer suggests that music expresses the essence of the Will, while the other arts are only shadows of it. The challenge for the visual musician is to bring the visual to this level. Schopenhauer does offer assistance in the creative endeavor by pointing out the paths of aesthetic reflection and ascetic denial. His suspicion of symbolic or conceptually based creation points the visual composer away from technique toward the essence.

The artistic component, the Visual Music 8/8 Project, explores two ways of creating visual music. The first is creating visuals that have the character of music and which viewers respond to in ways that are similar to how they respond to music. The challenge is to create images that elicit the same kinds of associations and emotional connections that listening to music does. The second and more difficult task is to find ways to compose, produce, and play music using a visual aesthetic. Previous attempts to create visual music have tended to falter by relying on pre-existent music, by the usage of computer generated symmetric designs, by requiring the visual and musical to be experienced together and by paying more attention to technique rather than the spirit of the composition. Eight visual and musical composers suggest the parameters that are most important for the visual music composer. These parameters will include form, color, motion and duration emphasizing temporality over spatiality. These visual music creations hint at the new experiments waiting to be attempted.
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Prelude: From Orality to Visual Music

The image is approaching the point of omnipresence. It is reality, it is location, it is idea.

Godfrey Reggio  (Reggio, Naqoyqatsi Press Notes)
Godfrey Reggio—producer of the “Qatsi” series, which uses only images and music for feature length movies—states that the image has become the dominant form of communication in our culture. He argues that we live within the image, that the image has an overwhelming power in our culture. Greg Ulmer defines this current era as electry—a secondary orality that combines features of the oral and literate cultures mediated and networked by electronic technology. The image becomes the mode of logic ushering in new ways of thinking. Ulmer’s mandate is to reform the way of structuring thought and societal organization as we move into this era of electry.

The “apparatus” theory that guides the heuretic project to invent electry suggests that the nation state as the collective form of identity in the print era will eventually be replaced by some other yet to be determined collective order. The apparatus as a matrix of technology, institutions, and identity formation also suggests that the individuals gathered together within this new political arrangement will not experience their identity as “self” (“selfhood” being specifically a literate experience and behavior). It is possible to point to what is happening to individual identity experience, at least, but more difficult to say at this point what is happening collectively. In an image based apparatus people experience themselves as a surface look (just as in literacy they experienced themselves as a separate interiority). It is not a matter of one replacing the other, but of being as look supplementing and displacing interior “character. (Ulmer, Electronic Languages Classroom 4/15/01)

This shift into image-based electry, brings with it changes to all forms of communication, to social constructs, even to political formations. This paper and the accompanying artistic project will chart one path—and suggest several more—to move music into the image era. Observing MTV or the covers of numerous pop-music magazines, one would think that music is already fully transitioned to the electrate age—but these are more about a surface image than it is about the influence the image has on the task of musical composition.
Music—especially composition, and to a lesser degree performance—remains solidly in the oral age. The composition of music in popular and folk genres is created in an oral style—where the ears and the evaluation of sound is constantly referred to in the process. Music composed in the classical style is created in a literate or mathematically reasoned style—where the composer has a firm understanding of the relationships of notes, instruments and technique to the resulting sound. Both compositional styles are solidly based on the understanding or experience of the sound associated with the created forms. For the orally created pieces the sound is made concurrently with the composition. For the literate style, the composers understand the sound relationships in their mind without actually hearing the sound at the time of composition. Both methods compose with an awareness of what the final composition will sound like and can accurately predict what a performance or recording will produce. *Toward a Poetic of Visual Music* sets out to challenge the composer to consider the possibility of composing with a visual aesthetic rather than the customary aural one.

**Entering Electracy**

In orality, thinking was a voice from outside ones head. In literacy, the idea was contained in the word, usually the printed word. Within electracy, people see/experience their own unique image of life. (Ulmer, "Electronic Languages") Even a cursory look at Chart #1 will show how many facets of life have been effected by the change first from the oral to the literate and then again with the coming of the electrate era. We will explore how musical composition has resisted the full transition into the electrate age—performance and the star images have acceded to the change but composition remains primarily in the oral era. Not only ways of communicating or composing change, but Ulmer suggests that the core of understanding changes from one era to another.

Oral peoples who experienced thought as spirit were organized collectively in tribes; literate people who experience thought as self are organized collectively in nation states. The heuretic principle suggests that electrate peoples who experience thought as virtual
<table>
<thead>
<tr>
<th>Epoch</th>
<th>Occasion/Style</th>
<th>Role of Memory</th>
<th>Role of Feeling</th>
<th>Institution</th>
<th>Patterns of Community Organization &amp; Identity</th>
<th>Mode of Interpretation -- Understanding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orality</td>
<td>The story, myth becomes the center of knowledge</td>
<td></td>
<td></td>
<td>Religion</td>
<td>Tribe Spirit</td>
<td>Story Myth</td>
</tr>
<tr>
<td>Oral</td>
<td>Tribe Family Marketplace Retelling Story event</td>
<td>Mode of transmission Formulaic patterns of memorization</td>
<td>Intense Emotional Expression Passionate Spontaneous</td>
<td>Ritual</td>
<td>Tribe Temple Corporate memory</td>
<td>Retelling Reshaping of story for each situation Storyteller as thinker Know what you can remember</td>
</tr>
<tr>
<td>Manuscript</td>
<td>Public Reading to large groups Chanting</td>
<td>Memorization of exact sounds necessary for recitation</td>
<td>Highly expressive More formal abstract Less spontaneity</td>
<td>Tribe Temple Corporate memory</td>
<td>Allegorical Metaphorical</td>
<td></td>
</tr>
<tr>
<td>Literacy</td>
<td>The text becomes the center of knowledge</td>
<td></td>
<td></td>
<td>School Method</td>
<td>Nation Self</td>
<td>Text Word</td>
</tr>
<tr>
<td>Print</td>
<td>Private reading Intimate Informal</td>
<td>Increasingly minimal Reader supplies images Less expression More focus on objectivity</td>
<td></td>
<td>Community organizations</td>
<td>Literal reading of texts Concepts more than metaphors</td>
<td></td>
</tr>
<tr>
<td>Silent Print</td>
<td>Study</td>
<td>Irrelevant Waste of time</td>
<td>Inappropriate</td>
<td>Class Structures</td>
<td>The word or document</td>
<td></td>
</tr>
<tr>
<td>Epoch</td>
<td>Occasion/Style</td>
<td>Role of Memory</td>
<td>Role of Feeling</td>
<td>Institution</td>
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<td>Mode of Interpretation -- Understanding</td>
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</tr>
<tr>
<td>Electracy</td>
<td>The screen becomes the center of knowledge</td>
<td>Essential for repetition of Story Know trivia Remember the pop culture not personal history</td>
<td>High expression Emotionally spontaneous</td>
<td>Entertainment Being Wired-Internet</td>
<td>Connections the “Look”</td>
<td>Image Persona</td>
</tr>
<tr>
<td>Electronic</td>
<td>Broadcasting</td>
<td>A new form of storytelling</td>
<td></td>
<td>Entertainment News Corporation</td>
<td>Network</td>
<td>Myths</td>
</tr>
<tr>
<td>Television</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>The star: Entertainment, Sports, Politics</td>
<td>Icons</td>
</tr>
<tr>
<td>Electracy</td>
<td>Private Simulated Networking</td>
<td>RAM-computer remember it all Remember the identity/role you assume Instant access Remember computer commands</td>
<td>Emotional overlay over real Interactive User friendly</td>
<td></td>
<td>Virtual community Global</td>
<td>Logic</td>
</tr>
<tr>
<td>Internet</td>
<td>Instant communication</td>
<td></td>
<td></td>
<td></td>
<td>Internet connection</td>
<td>No time to think logically Simulation Expert systems Surface image Meaning is unstable</td>
</tr>
</tbody>
</table>

Chart #1

(Ulmer 2001), (Ulmer 2003), (Turkle 1995), (Boomershine 1989), (McCluhan 1962), (De Kerckhove 1995), (Holsopple 2000)
image will organize collectively in some new way that as yet has not come fully into view (but perhaps is glimpsed in multinational corporations). (Ulmer, *Internet Invention: From Literacy to Electracy* 8)

The forms of music have changed with the continuing experiments into the electronic production of music, however the composition of music still has not given priority to the image. The music industry has become multinational and would warrant exploration based on Ulmer’s theories, but that is a different direction than this paper will go. Derrick De Kerckhove considers how people have used these changing media. “Written words are concepts in isolation, until they are combined into images by the reader” (De Kerckhove 105) In the literate era readers produced their own images within their own imagination—based on the word constructs and their own collection of experiences. Television, however, provides the images in the electrate age. “Instead of scanning text to create and store images, children who watch TV must quickly generate from loosely connected fragments and reconstitute the object vision. This is very different from labeling objects and stringing them together in coherent sentences.” (De Kerckhove 16) De Kerckhove sees this primarily in negative ways—but the case can be made that television requires viewers to assemble images, impressions and emotional impulses into a set of understanding. The viewer assembles meaning, not in coherent literate sentences as De Kerckhove desires, but in another less reasoned way—which highlights the fact that television and text speak to very different aspects of the human being. Text speaks primarily to the mind while the image starts at the emotion. De Kerckhove claims that the effect of this difference is that the viewer is already receiving the information fully processed. “If the video screen has such a direct impact on my nervous system and my emotions, and so little effect on my mind, then most of the information-processing was actually being performed by the screen.” (De Kerckhove 8) An alternate to this view is to understand the brain being asked to process information in a different way that does not use the same word based logic that De Kerckhove considers superior.
De Kerckhove follows in the footsteps of his mentor, Marshall McLuhan, who stated, “Printed books, themselves the first uniform, repeatable, and mass-produced items in the world, provided endless paradigms of uniform commodity culture for sixteenth and succeeding centuries.” (McLuhan 163) The images continue or amplify the mass-produced quality of this commodity culture. Guy Debord talks about the commodity fetishism where consumers make fetishes out of products—and the associated images of happiness, success and satisfaction—that offer a shortcut to happiness and the solution to other manufactured needs. Like De Kerckhove, Debord sees the images used as a form of mind/viewer control. For De Kerckhove it was a replacement for thinking while Debord considers the breakup of community and ensuing isolation. “With the advent of long-distance mass communication, the isolation of the population has become a much more effective means of control.” (Debord 122) Debord suggests that this also leads to the downfall of art as it breaks away from its community role of myth maintenance and the common language of the literate era.

As soon as art—which constituted that former common language of social inaction—establishes itself as independent in the modern sense, emerging from its first, religious universe to become the individual production of separate works, it becomes subject, as one instance among others, to the movement governing the history of the whole culture as a separated realm. Art’s declaration of independence is thus the beginning of the end of art. (Debord 132-3) These controlling images lead to unthinking behavior—where the person actually lives within the image mediated life.

The spectator’s alienation from and submission to the contemplated object (which is the outcome of his unthinking activity) works like this: the more he contemplates, the less he lives; the more readily he recognizes his own needs in the images of need proposed by the dominant system, the less he understands his own existence and his own desires. The spectacle’s externality with respect to the acting subject is demonstrated by the fact that the individual’s own gestures
are no longer his own, but rather those of someone else who represents them to him. The spectator feels at home nowhere, for the spectacle is everywhere. (Debord 23)

For those who remain intellectually in the literate age, the image culture appears to be unthinking—even a major step backwards. Those who are fully part of this era process information in very different ways and are not interested in the text based conceptual signification. They become more intuitive and eclectic in the complex of image-based signification.

Debord describes the electrate era as one dominated by the spectacle. “The spectacle is not a collection of images; rather, it is a social relationship between people that is mediated by images.” (Debord 12) Ulmer would give the image-based era a much richer matrix of meaning than do either Debord or De Kerckhove—who are more committed to a literate sense of identity. Debord suggests that all of life becomes an illusion.

The spectacle erases the diving line between self and world, in that the self, under siege by the presence/absence of the world, is eventually overwhelmed; it likewise erases the dividing line between true and false, repressing all directly lived truth beneath the real presence of the falsehood maintained by the organization of appearances. The individual, though condemned to the passive acceptance of an alien everyday reality, is thus driven into a form of madness in which, by resorting to magical devices, he entertains the illusion that he is reacting to this fate. (Debord 153)

Roland Barthes discusses three meanings contained in images: first, studium which is the predictable denotation and what we know it is; second, the culturally understood meaning, third, the punctum or obtuse which has details that sting the viewer evoking a memory that could be wild, personal and is not codified. (Barthes) It is this third meaning that becomes important when considering the electrate age. Ulmer suggests,

The meanings that are namable in a photograph are called “studium” (constituted by the public encyclopedia of concepts) and the obtuse
meaning “punctum”—that which stings or pricks one emotionally. The photograph produces a feeling that we associate with the experience of recognition and epiphany…Nor is there anything esoteric about third meanings. The punctum juxtaposes to ideological (mis) recognition an alternative, a personal memory based not on the public archive but a private repertoire. The subversiveness of this move is not in the content but just in the effect of having two databases to call upon, to slow the fixation of meaning, to interrupt the exchange…Here is the key to reasoning in the electronic digital apparatus. The language apparatus is a prosthetic memory—an artificial memory that augments and extends the power of living organic human memory. And each apparatus has its own way of performing this supporting function. The power of the photograph to stimulate involuntary personal memory is the point of departure for an electrate institutional practice. (Ulmer, Internet Invention: From Literacy to Electracy 44 )

In this image-based culture music functions in a congruent role—working in collusion with the television and movie image, energizing the advertising sting, and assisting in the evoking of involuntary memories. Barthes worked with the third meaning primarily in regard to film and photography; but music also functions in the third meaning stinging the emotion as much or more than do photographic images. Music evokes memories, feelings, moods—a whole range of emotions.

Music has and continues to play a major role in the formation of belief systems—in the advertised product of happiness, in the mystical union with the popular culture icon, with the claim of the political person wrapping themselves in an iconic image or label, with the power of the sporting hero to elicit loyalty, with the religious invocation of exclusion and correctness. While recognizing the decline of traditional religiosity—which has strong attachments to the literate text-based era—Slavoj Zizek identifies an new embodiment of spirituality. This new spirituality offers people another fetish, which allows them to accept life in this
spectacle driven modality—in spite of their arguments that they have left behind the religiosity of the literate age.

Although “Western Buddhism” presents itself as the remedy against the stressful tension of capitalist dynamics, allowing us to uncouple and retain inner peace and Gelassenheit, it actually functions as its perfect ideological supplement…”Western Buddhism” thus perfectly fits the fetishist mode of ideology in our allegedly ‘post ideological’ era. (Zizek 12-3)

This spirituality, rather than functioning outside of or in contrast to the ideology of global capitalism, actually accommodates the capitalistic urge and the age of “unbelief.”

So, when we are bombarded by claims that in our post-ideological cynical era nobody believes in the proclaimed ideals, when we encounter a person who claims he is cured of any beliefs, accepting social reality the way it really is, one should always counter such claims with the question: Ok, but where is the fetish which enables you to (pretend to) accept reality “the way it is”? (Zizek 15)

The function of the image, fetish, spectacle continues to require exploration—especially in regard to the way it is used in musical performance and the parade of ever changing pop stars who push the consumption of fashion, music and entertainment news.

**Music in the Electrate Age**

When we consider the place that image has in our culture we are not surprised by the change in communication and societal organization. Chart #1 demonstrates the shifts that have occurred as we have moved from orality, through literacy and into electracy. While most forms of communication have increasingly moved to a predominance of the “image”, music especially when it comes to composition is still in orality or literacy. If you look at the performance of music a strong visual/image component has become normal with choreographed dance moves, lavish costuming, elaborate staging, designed sets, and image projections.
With performance music becomes more an image-based spectacle—moving substantially into the electrate age. Music performers also become part of the spectacle carrying much of the façade demanded of the popular culture icon. The influence of music videos has been felt throughout the electronic media industry—ironically affecting the production of television, movies and advertising—with the usage of visual styles and preference for image communication over that of the word. Ulmer suggests that performance may be the most important part of music in the electrate age, “performance may be to electracy what definition was to literacy.” (Ulmer, Internet Invention: From Literacy to Electracy 38) In popular music the image has become more important than the actual production of the music. This has changed the very criteria of who gets chosen by the labels to promote—often elevating the image over the quality of musicianship. The performance is what gives them their signification—which may be more about declassification—where the dictionary text-based method is about classification. Ulmer elucidates,

Walter Ong and other grammatologists have shown, for example, that school with all its practices such as concept formation and method is the institutionalization of alphabetic writing. Once the move was made from manuscript to print, at least two foundational practices of medieval schooling were abandoned: mnemonic training and scholastic logic...While the entire administrative superstructure of literate specialized knowledge will be translated into cyberspace, once there much of it will evaporate...The history of literacy shows that we may expect profound changes to result from the changes in the language apparatus of our civilization that have been underway at least since the invention of photography in the early nineteenth century. (Ulmer, Internet Invention: From Literacy to Electracy 4-5)

De Kerckhove notes how these same changes have affected music.

From the Renaissance up to the recent reversal provoked by electronic technologies, the writing down of music has amounted to mastering sound and reducing to second class status all spontaneous
popular forms of traditional folkloric rhythms. The opposition between writing and music is almost a biological one, as writing takes control of the brain while organized sound takes control of the whole body. (De Kerckhove 100)

An interesting trend with the move into the electrate age has been a renewed interest in the oral heritage of music—roots music in the United States has made a resurgence with films such as *O Brother Where Art Thou*?; Irish, Celtic, and Scottish music have festivals and dedicated radio shows; and builders of ethnic acoustic instruments are experiencing a greater demand. Music in the electrate age is getting closer to its emotional roots. The invention of the audio recorder assists in both the resurgence of oral roots music, the continued oral composition style and in the commoditization of the musical product. Later sections will explore the role of the audio recorder particularly with Brian Eno and John Cage and their usage of found sounds.

The composition of music, especially in the popular arena has remained in the oral age. Composers work with the sounds and put them together with a constant reference to what is heard. Patterns and sounds are memorized and recycled into the next composition. Musicians then memorize these compositions for their performance, or lip sync to already recorded music. DJ’s use the sounds found on records to create new sonic mixes from these found already recorded sounds. Composers who have been more traditionally trained often compose in a more literate manner, with a formal understanding of the mathematical relationships of different notes, sounds and instruments. This knowledge allows them to compose based on a mental understanding of how to put these different sounds together. Their knowledge is still rooted firmly in an aesthetic that is based on the auditory process. From the written score trained musicians play the repeatable music forms previously composed. Few, if any, composers use the visual/image as the driving aesthetic in the composition task of music. Ulmer challenges us to think about our ways of knowing, our ways of creating and the process of getting there.
It turns out, however, that the practice most relevant to the obtuse order of meaning, most revealing of mood and atmosphere as categorical states of mind, is music. The point for electracy is not the music as such, or does not stop with the music but the mood it supports and evokes...In literacy it is possible to write concepts directly (justice); in electracy it is possible to image moods directly. (Ulmer, *Internet Invention: From Literacy to Electracy* 220)

Music has been associated with mood and emotion for centuries. Schopenhauer associated music with abstraction and emotion—but not specific emotions. It was natural for music to play an important part in the formation of an image culture in spite of it not being apprehended by the eye—because of this close tie to the emotional part of being. The problem *Toward a Poetic of Visual Music* explores is whether music can be composed in this image/electracy era using the image and its associated aesthetic instead of resorting to the auditory process—where music is primarily composed with an oral or literate manner. Ulmer details the way patterns change with a movement from one era to the next. “When the oral narratives were recorded or written down in the alphabet, it became possible to discern a pattern, a repetition of signifiers that was not perceptible in spoken discourse.” (Ulmer, *Internet Invention: From Literacy to Electracy* 30) Following the path suggested by the theory of Ulmer we will explore what happens when music is composed with a visual aesthetic. The exploration will start from three points; the philosophy of Arthur Schopenhauer, the practice and thought of eight experimental artists, and the artistic endeavor—the *Visual Music 8/8 Project*—which combines the visual, hidden codes and the composition of sound. What will we discover in this era of a second orality—that combines features of the oral and literate while giving predominance to the image?

**Toward a Poetic of Visual Music**

If in this era of electracy the image or visual becomes the dominant aesthetic—then how do we bring music fully into this aesthetic? *Toward a Poetic of Visual Music* will put forward a poetic philosophy—a form of knowledge about
the shaping of a material or the artistic method of creating a work. The artistic component, the Visual Music 8/8 Project, will explore two ways of creating visual music. The first is creating visuals that have the character of music and which viewers may respond to in ways that are similar to how they respond to music. The Visual Music 8/8 Project will challenge viewers to respond to images in the same way that they respond to music—with the portrait sets and visual compositions created from the portraits. The challenge is to create images that elicit the same kinds of associations and emotional connections that listening to music does. The second and more difficult will be to find ways to compose, produce, and play music using a visual aesthetic. The visual compositions will include a hidden code that will lead to the creation of musical compositions. These musical compositions will allow the viewers to experience the sound created via a visual aesthetic.

Music composers bring the visual together with music primarily in two current practices. Composers create music while watching a visual track—they attempt to bring congruence to the music-visual mix by matching the emotional or action qualities of the visual. The composition is carried out in an oral or literate manner with composer interpreting the significance of the visual and matching the tone and quality to that of the music. The Godfrey Reggio and Phil Glass collaborations begin to break out of this method—it is unclear in some instances which comes first in the process, the visual or the aural. The second way is to take a piece of music and create a set of visuals which may match the narrative content (lyrics), the rhythm, the emotional content of the music, or simply be a stylized performance of the music. This approach uses a visual aesthetic that responds to the content of the music but the visual aesthetic does not influence the composition of the music. A third, but less frequent, attempt would be the usage of computer-generated systems that match a set of visuals with pre-existing music. These often work with colors or geometric shapes and are usually independent of any human judgment based oral or visual aesthetic. Human judgment and control is minimized once the system has been created.

Toward a Poetic of Visual Music and the Visual Music 8/8 Project will demonstrate artistically and philosophically the following five things. First, visual
music compositions/experiences can be created that will elicit responses in the viewers that are similar to the responses of those who listen to music. These responses will mirror what the essence of music carries—the deeper emotional connections, the energy, the meditative possibilities, or the engrossing enveloping character of music. These explorations will include the troublesome issues of rhythm, musical sound decay, repeatability, melody and harmony—attempting to bridge the divide between the aural and the visual. This task will require some definitions of the essence of music emphasizing its emotion, connections, energy, and meditative qualities.

Second, it is possible to compose music using a visual aesthetic—rather than the customary aural one—and listeners will recognize the resulting sounds as music. For this to be fully realized the visual composers must have no awareness, during the compositional activity, of what the resulting “music” will sound like. The visual composer must be focused fully on the visual content of their compositions—ignoring the possible auditory connections that might be made.

Third, this visual music can overcome the challenge to maintain human contact—with the accompanying levels of imperfections and the variability of aesthetic taste—throughout the visual music composition process. Many of the current attempts to create visual music use a computer generation process, where a software designer create algorithms that generate the visuals or the music based on these principles. Many of these compositions flounder in the traps of geometric shapes and primary colors.

Fourth, these visual compositions can attain the same position as that held by music in the philosophy of Arthur Schopenhauer—superior to all of the other arts. This effort will question the stratification he has laid out, especially the stratification within music—that assigns melody a superior position over the bass.

Fifth, further experiments will be suggested that will continue the journey toward this poetic and raise several more issues that would warrant historical analysis and philosophic reflection. These experiments will only touch the surface of the musical match with light and color, or the role of vibration in sight and hearing.
Other approaches would be appropriate for the challenge set forth by this poetic. Exploring the use of dance and choreograph, as in several Merce Cunningham productions, or dancers attached to motion capture software, as Troika Ranch does, which then creates music via a real-time MIDI engine leads to fascinating interplays of image and music. The dancers body appears to have a memory of rhythm which is closely related to the aural experience of music. This experiment works at the separation from this aural experience, choosing to focus on attaining the visual music using only a visual aesthetic.

Synesthesia where perceptions in one sense are accompanied by perceptions in another sense, could make the claim to offer rich insight into the quest for a poetic of visual music. Richard Cytowic suggests that,

Synesthesia is the involuntary physical experience of a cross-modal association. That is, the stimulation of one sensory modality reliably causes a perception in one or more different senses. Its phenomenology clearly distinguishes it from metaphor, literary tropes, sound symbolism, and deliberate artistic contrivances that sometimes employ the term “synesthesia” to describe their multisensory joinings. (Cytowic)

*Toward a Poetic of Visual Music*, is attempting to deliberately use one aesthetic—visual—in place of another—aural. With synesthesia being an involuntary experience it proves to have less value to this particular project. We will study the compositional philosophy of Vasily Kandinsky—who Crétien van Campen claims had synesthesia. (van Campen)

**Organization**

Peter Greenaway often organizes his films around sets of numbers, letters, or even drawings. This method allows him to structure his work without the traditional narrative structure, which he tries to avoid. *Draughtsman’s Contract* is organized around 12 drawings, *The Belly of the Architect* uses the number seven, *Drowning by Numbers* counts from one to a hundred, *8 1/2 Women* works with the number of women, *The Cook, the Thief, His Wife and Her Lover* is organized with various palettes of color.
John Cage, an experimental composer, has used the *I Ching* many times as a tool to create his music. Ulmer explains, “the *I Ching*, the *Chinese Book of Changes*, expressing the wisdom of tradition that shaped Japanese culture, has a similar combinatorial arrangement, representing all human experience in 64 hexagrams or archetypal situations.” (Ulmer, *Internet Invention: From Literacy to Electracy* 49) 4’33”, the famous “silent” piece, was built using the *I Ching* tables to give it a solid structure without Cage needing to make the choices in traditional ways.

The organizing principle chosen for this dissertation and artistic experiment are a set of instruments in the mandolin and bouzouki family—mandolin, mandola, octave mandolin, cittern, bouzouki—where the predominant design of the instrument is an eight-stringed acoustic instrument. The eight strings are in pairs—tuned alike or one-octave apart from each other. These instruments, the number eight, and pairs will serve as the organizing principle of both the philosophical and artistic explorations. The philosophical part, *Toward a Poetic of Visual Music*, is paired with the artistic experiment, the *Visual Music 8/8 Project*.

The philosophical writing itself is organized into pairs of movements; the philosophical writings of Arthur Schopenhauer are joined with explorations into the compositional methods of experimental composers and visual artists. Pairings of words—like Consonance and Dissonance—are used to structure the four Schopenhauer sections—which move like a four movement symphony with its themes, variations and conclusion. Each Schopenhauer section is paired with a section exploring artists/composers. The four artist/composer sections bring together a pair of artists—one visual and one musical—in the discourse about composition. The final chapter will provide a conclusion of both the written and artistic discourses.

**The Visual Music 8/8 Project**

The *Visual Music 8/8 Project*, will explore the same issues in an image based composition enquiry. The project starts with images of a set of instruments all built by the innovative luthier, Stefan Sobell, in his Northumberland shop. Eight sets of portraits will be created of Sobell building musical instruments, seven
people playing the instruments, and the instruments themselves. For each person/instrument combination there will be eight finished portraits. These portraits will be used to create eight visual compositions. The visual composers will use Adobe After Effects to animate the still images into a two to four minute piece of “visual music”. After Effects, a two-dimensional animation program, allows extensive changes in position, opacity, rotation, and scale and a limited set of three-dimensional work including lighting and camera angle changes.

The eight visual compositions will lead to the composition of eight pieces of music created with visual aesthetic—by a hidden code to decode the programming that is done by the visual music composers. Four other animators will be invited to each do one of the visual animations so that several visual aesthetics and perspectives can be experienced.

The Visual Music 8/8 Project will progress by a series of stages to produce the full final project:

- Photographing the instruments.
- Photographing the creation of and playing of the instruments. (The players and instruments are listed in the appendixes.)
- Creating the pairs in eight groups of eight images.
- Creating a larger group of 330 images that will be used in the animation process. The original eight portraits will represent the strings of the instruments—the additional images represent the changing tone of a string as it is fretted (shortening the string length). 42 of these images contain multiple Adobe Photoshop layers—which allow for eight images per string on each of the eight instrument/people combinations. (The string correspondence can be found in the appendixes.)
- Creating a secret code/notation system for the correspondence between image and sound. (The secret code is found in the appendixes.)
- Creating the visual music, from the collected images, using Adobe After Effects—which will also be done by four other animators/visual composers. (The four extra animators are listed in the appendixes.)
- Decoding/notating the visual music with the key into a notated form.
Recording/Performing the created music

The completed Visual Music 8/8 Project will be ready for a gallery exhibition including the following components:

- 64 images—shown in groups of 8 (These will be named with the first name of the person, the letter corresponding to the tuning of the string, and Roman numerals going from I to VIII to define the order. For example, Anna G-II—from an octave mandolin—or Stefan A-IV—from a mandola.)
- Eight visual compositions ready to show on some form of monitors. (These will be named Visual Composition with roman numerals from I to VIII.
- Eight music compositions—created by the visual composers—ready to play on an audio system. (These are named Musical Composition with the Roman numeral from the corresponding Visual Composition.)

Flusser: Image and the Work of Photography

The base of the Visual Music 8/8 Project is accomplished with the use of photography. The photograph has played an important role in the change from literacy to electracy and the creation of an image-based culture. Debord suggests that the elevation of sight brings about the elevation of abstraction and “it is inevitable that it should elevate the human sense of sight to the special place once occupied by touch; the most abstract of the senses, and the most easily deceived, sight is naturally the most readily adaptable to present-day society’s generalized abstraction.” (Debord 17) As we will discover, abstraction joins emotion as an attribute that causes Schopenhauer to elevate music to a superior position among the arts—and will of course be a part of the effort to bring the visual into the realm of music. Vilem Flusser goes further in suggesting that the camera, the image-maker, is closely tied to the eye. “Tools in the usual sense are extensions of human organs…Is the camera then a machine because it appears to simulate the eye and in the process reaches back to the theory of optics?” (Flusser 23)

Flusser in Philosophy of Photography. works with the apparatus of the camera and how images are created.
Photographers, it is true, do not work but they do do something: They create, process and store symbols...one sees that the camera produces symbols: symbolic surfaces that have in a certain way been prescribed for it. The camera is programmed to produce photographs, and every photograph is a realization of one of the possibilities contained within the program of the camera. (Flusser 25-6)

Flusser suggests that the camera is doing a similar task as written language, storing or using symbols. As Ulmer and others have suggested the writing of language limited what was communicated by what the written language was able to contain. In like fashion the photographic image is limited by what can be captured through the lens by the film—the digital photographic process does expand the breadth of what can be contained in the photographic image. Just as writers prefer certain forms of writing because they come closer to “true” signification, Flusser asserts that many photographers prefer black-and-white photographs to colour photographs because they more clearly reveal the actual significance of the photography, i.e. the world of concepts...the colours of photographs are at least as theoretical as black and white. The green of a photographed field, for example, is an image of the concept ‘green’...The more genuine the colours of the photograph become, the more untruthful they are, the more they conceal their theoretical origin. (Flusser 43-4)

We will come back to similar issues with Schopenhauer and the occasional effort by musical composers to bring symbols of other sounds into their music so people would hear the rain or cannon. The Visual Music 8/8 Project has chosen the limits of two types of lenses—wide angle and macro—in the acquisition of the portraits and base materials for the visual compositions. These lenses do not match the traditional lens length that is used in the acquisition of portraiture.

Flusser goes beyond discussing the apparatus of the camera by discussing the importance of images.

Images are significant surfaces. Images signify—mainly—something “out there” in space and time that they have to make comprehensible
to us as abstractions (as reductions of the four dimensions of space and time to the two surface dimensions). This specific ability to abstract surfaces out of space and time and to project them back into space and time is what is known as “imagination.” It is the precondition for the production and decoding of images…The significance of the image as revealed in the process of scanning therefore represents a synthesis of two intentions: one manifested in the image and the other belonging to the observer. (Flusser 8)

Flusser understands that images and texts often function together in an era that straddles literacy and electracy. “Texts admittedly explain images in order to explain them away, but images also illustrate texts in order to make them comprehensible.”(Flusser 11) To suggest that image and text have a similar discourse would be to ignore the gulf that separates them. As filmmaker, Richard Fenwick suggests,

Words have a linear, discrete, successive order…Visual forms—lines, colours, proportions etc…are just as capable of articulation, or complex combinations as words, but …the most radical difference is that visual forms are not discursive. They do not present their constituents successively but simultaneously. (Fenwick)

This is the tension that will remain throughout this document as it attempts carry the discourse both philosophically and visually.

Flusser was concerned with how images could hide the reality and how they can function as signifiers of something else. The movement in the Visual Music 8/8 Project from the visual composition to the musical composition is based on a secret set of codes which decide how the usage of a particular image within the composition will result in a particular note or series of notes to be played—based on it’s scale, position, opacity, etc.. Siegfried Zielinski reports that, cryptology, the use of hidden codes, has a long history, within the media sciences, from substitution codes, to systems of transpositions, to very complex forms of encoding all designed to maintain the secrecy of the message. (Zielinski, "Siegfried Zielinski: Intro to Media Archeology") From the notation codes, which are hidden
from the visual composers, assignments of instruments, strings, pitches and durations will be made. A more traditional notation will be created from which the music can be recorded or performed. This notation will employ a system of tablature, which suggests what should happen to each string of a particular instrument at anytime within the musical composition.

Wassily Kandinsky offers a caution to those who enter the philosophical discussion of aesthetic issues.

There are also philosophers of aesthetic who write profound books about an art which was yesterday condemned as nonsense. In writing these books they remove the barriers over which art has most recently stepped and set up new ones which are to remain for ever in places they have chosen. They do not notice that they are busy erecting barriers, not in front of art, but behind it. And if they do notice this, on the morrow they merely write fresh books and hastily set their barriers a little further on. This performance will go on unaltered until it is realized that the most extreme principle of aesthetic can never be of value to the future, but only to the past. No such theory of principle can be laid down for those things which lie beyond, in the realm of the immaterial. That which has no material existence cannot be subjected to a material classification. That which belongs to the spirit of the future can only be realized in feeling, and to this feeling the talent of the artist is the only road. Theory is the lamp which shed light on the petrified ideas of yesterday and of the more distant past. (Kandinsky, Concerning the Spiritual in Art 12)

This paper will attempt to leave open doors and windows rather than a static theory at the end of this exploration. That spirit of experimentation includes a commitment to shake aside the normal expected boundaries—too much visual music assumes a computer generated look—which this experiment will attempt to break out of by including the imperfections and aesthetic reactions of human artists.
Schopenhauer: Representation/ Will

Everything in the world has its own spirit which can be released by setting it into vibration.

Oskar Fischinger (Cage, An Autobiographical Statement)
Schopenhauer, in *The World as Will and Representation*, posits the world as two aspects, representation—the way that things present themselves through experience—and the Will—what the world is “in itself” beyond mere appearances. These concepts at first glance seem distant from the search for a poetic of visual music. But they offer the possibility of a deeper consciousness—which is a struggle for most artists including visual musicians—and the possibility of finding the reality beyond the representational image.

**Representation**

The world as representation is: a “mere fabric” of appearance, the “phenomena” of appearance, that which is “shown”, the “mirror” or the “objectivity” of the “will.” The world of representation is known by the senses and by scientific exploration. Schopenhauer writes,

> What the eye, the ear, or the hand experience is not perception; it is mere data. Only by the passing of the understanding from the effect to the cause does the world stand out as perception extended in space, varying in respect of form, persisting through all time as regards matter. For the understanding unites space and time in the representation of *matter*, that is to say, of effectiveness. This world as representation exists only through the understanding, and also only for the understanding. In the first chapter of my essay *On Vision and Colours*, I have explained how the understanding produces perception out of the data furnished by the senses; how by comparing the impressions received by the different senses from the same object the child learns perception; how this alone throws light on so many phenomena of the senses, on single vision with two eyes, on double vision in the case of squinting, or in the case where we look simultaneously at objects that lie behind one another at unequal distances, and on every illusion produced by a sudden alteration in
Schopenhauer argues that we can’t really know the world, and that the representation that we do experience is just that, a representation. He is in agreement with Kant that cause and effect, time and space are all constructs placed on top of experience to explain the way things appear to us. To make sense of our experience and perceptions we must use the presuppositions of time and of space—which are subjective conditions based on our intuition.

**Will**

Will is the: “thing-in-itself”, hidden, unlike the visible representation, the un-individuated force or power and undirected striving that manifests as a blind, irresistible urge.

This and this alone gives him the key to his own phenomenon, reveals to him the significance and shows him the inner mechanism of his being, his actions, his movements. To the subject of knowing, who appears as an individual only through his identity with the body, this body is given in two entirely different ways. It is given in intelligent perception as representation, as an object among objects, liable to the laws of these objects. But is also given in quite a different way, namely as what is known immediately to everyone, and is denoted by the word will. Every true act of his will is also at once and inevitably a movement of his body; he cannot actually will the act without at the same time being aware that it appears as a movement of the body. The act of the will and the action of the body are not two different states objectively known, connected by the bond of causality; they do not stand in the relationship of cause and effect, but are one and the same thing, though given in two entirely different ways, first quite directly, and then in perception for the understanding. The action of the body is nothing but the act of the will objectified, i.e., translated into perception...the whole body is nothing but the
objectified will, i.e., will that has become representation…it can also be said that the will is knowledge a priori of the body, and the body is knowledge a posteriori of the will…Only in reflection are willing and acting different; in reality they are one. Every true, genuine, immediate act of the will is also at once and directly a manifest act of the body; and correspondingly, on the other hand, every impression on the body is also at once and directly a manifest act of the body; and correspondingly, on the other hand, every impression of the body is also at once and directly an impression of the will. As such, it is called pain when it is contrary to the will, and gratification or pleasure when in accordance with the will. (Schopenhauer, The World as Will and Representation, Volume I 100-1)

It is not that we have two worlds but that these worlds are fully a part of each other in spite of the human awareness or unawareness of this. “This world in which we live and have our being is, by its whole nature, through and through will, and at the same time through and through representation.”(Schopenhauer, The World as Will and Representation, Volume I 162) The action of our body and the act of the will are the same thing, they are not a relationship of cause and effect. Schopenhauer takes this idea and makes the broader claim that the Will is the inner aspect of the world just as the act of the will is the inner aspect of our body. For Schopenhauer this Will operates blindly and is not to be put in congruence with a “God figure” running the universe. In the next Schopenhauer section we will explore the two ways—aesthetic and ascetic— which delve into the suppression of individual willing to experience the Will. The ascetic way goes through suffering and self-denial while the aesthetic way is reached by contemplation. Schopenhauer will move from this theory of the Will to explain the superiority of music over the other arts.

**Idea, Kant and Plato**

Schopenhauer moves—Dale Jacquette considers this to be Schopenhauer’s major innovation over Kant’s philosophy—beyond Kant when he suggests that we
Christopher Janaway suggests Schopenhauer used Plato in his move away from Kant.

Even though the Kantian thing in itself was supposed to be beyond the limits of human knowledge, while Plato’s Ideas were the objects of knowledge par excellence, Schopenhauer conflated what the two were saying, and formed a Platonic view about what an insight into the thing in itself beyond appearance would be like. (Janaway 235)

Schopenhauer clarifies these understandings, “Idea and thing-in-itself are not for us absolutely one and the same. On the contrary, for us the Idea is only the immediate, and therefore adequate, objectivity of the thing-in-itself, which itself, however, is the will—the will in so far as it is not yet objectified, has not yet become representation.” (Schopenhauer, *The World as Will and Representation, Volume I* 174)

Schopenhauer hints to his ascetic and aesthetic ways of understanding when he says, “We ourselves are the thing-in-itself. Consequently, a way from within stands open to us to that real inner nature of things to which we cannot penetrate from without it.” (Schopenhauer, *The World as Will and Representation, Volume II* 195)

It is not these theories alone that make Schopenhauer so valuable to artists and musicians. Janaway suggests, that it is in the application rather than the theory that Schopenhauer is valuable to the arts.

As an exercise in metaphysics, Schopenhauer’s doctrine of the will as thing in itself is so obviously flawed that some people have doubted whether he really means it—perhaps will is just a concept which explains a wide range of phenomena, and is not supposed to extend to the unknowable thing in itself...Nevertheless to stop there would be short-sighted. Schopenhauer’s more restricted notion of the will to life, which characterizes observable aspects of human behaviour, is an interesting and powerful idea. His conception of will expressing itself within humanity, and the polarity he discovers between our being governed by the will and our escaping it, enables him, as we
shall see, to present large tracts of our lives in a new light…It has been these applications, rather than the bald metaphysical statement that the thing in itself is will, that have had the most influence on philosophers, psychologists, and artists of later generations.

(Janaway)

Schopenhauer challenges the artist to go beyond the mere representation—to provide brief glimpses of the Will to those who are capable of perceiving it. The artist of course makes these more accessible to the viewer. Of all the arts music becomes the most adept at accomplishing this task.

**Music**

Schopenhauer took his understanding of the relationship of art and Will to the extreme when he suggests that music is a “direct expression of the Will.” He differentiates music from all the other art forms—which remain more attached to the representation. We will return to this theme in the third Schopenhauer chapter. As our world is nothing but the phenomenon of appearance of the Ideas in plurality through entrance into the *principium individuationis* (the form of knowledge possible to the individual as such), music, since it passes over the Ideas, is also quite independent of the phenomenal world, positively ignores it, and, to a certain extent, could still exist even if there were no world at all, which cannot be said of the other arts. This music is as *immediate* an objectification and copy of the whole *will* as the world itself is, indeed as the Ideas are, the multiplied phenomenon of which constitutes the world of individual things. Therefore music is by no means like the other arts, namely a copy of the Ideas, but a *copy of the will itself*, the objectivity of which are the Ideas. For this reason the effect of music is so very much more powerful and penetrating than is that of the other arts, for these others speak only of the shadow, but music of the essence.

(Schopenhauer, *The World as Will and Representation, Volume I* 257)
The *Visual Music 8/8 Project* takes on the experiment of bringing the visual arts into the arena of music—going for the essence instead of the shadows. The challenge is to create visual forms that penetrate in the same way as music. While Schopenhauer lays out a clear challenge with these thoughts, his discussions on acoustic theory have less direct value in constructing these experimental forms. Schopenhauer uses the works of Jean-Phillippe Rameau, for his explanation of musical syntax. This choice aligns him with a Western literate theory and a strong emphasis on harmony. One key concept that Schopenhauer uses here is the Pythagorean idea that suggests that as you shorten the length of a string the pitch—or the speed of vibration—goes up. The intervals of the third, fourth, fifth, sixth produce consonant sounds while other intervals produce dissonant sounds. These will be explored in greater depth in the fourth Schopenhauer chapter.

Lawrence Ferrara suggests that Schopenhauer could have chosen a system based on Johan Fux, which would have served him better. “In this century, especially through the work of Heinrich Schenker and his students, a theory of free composition developed from eighteenth century Fuxian contrapuntal theory of the sort that was actually practiced by the masters of Western music.” (Jacquette 191-2) Contrapuntal music has two or more independent but related melody parts sounding at the same time. This method led to the serialism and the twelve-tone composition system of Arnold Schönberg. These theories were to avoid traditional tonalities by keeping all the tones equal importance. The *Visual Music 8/8 Project*, made possible compositions that lack the traditional melody structures. *Visual Composition IV* is the only composition that used *Mel D-VIII*—which had eight layers of images—to create a serial composition using an eight-note row. This section of the composition gives equal importance to each note and makes the transitions in measured durations. Virtually all of the musical compositions contain counterpoint where two or more voices are heard simultaneously and where the melody is unclear. These compositions function without the melody, which is the most important part of music for Schopenhauer.

Music is placed, for Schopenhauer, along a spectrum from bass to the highest position of the soprano.
Between the bass and the leading voice singing the melody, I recognize the whole gradation of the Ideas in which the will objectifies itself…In the melody, in the high, singing principal voice, leading the whole and progressing with unrestrained freedom in the uninterrupted significant connexion of one thought from beginning to end, and expressing a whole, I recognized the highest grade of the will’s objectification, the intellectual life and endeavour of man.
(Schopenhauer, The World as Will and Representation, Volume I 258-9)

Schopenhauer uses this analysis as a way to differentiate within music, a further stratification, in the same way in which he places music at the top of all the arts. It is the fact that the soprano is the primary vehicle of the melody, which leads Schopenhauer to elevate its position.

The invention of melody, the disclosure in it of all the deepest secrets of human willing and feeling, is the work of genius, whose effect is more apparent here than anywhere else, is far removed from all reflection and conscious intention, and might be called an inspiration. Here, as everywhere in art, the concept is unproductive. The composer reveals the innermost nature of the world, and expresses the profoundest wisdom in a language that his reasoning faculty does not understand…therefore in the composer, more than in any other artist, the man is entirely separate and distinct from the artist.
(Schopenhauer, The World as Will and Representation, Volume I 260)

For Schopenhauer, music and the melody in particular carry the deepest level of the Idea. This over arching theme is instructive but as Ferrara points out the theories of Fux would have served his preference of the melody better than did the harmonically-based theory of Rameau. The pre-eminence Schopenhauer gives to the melody could confuse the task of the visual composer. The bass and the rhythm section, especially in jazz, blues and pop music, play a greater role—have a greater impact on the body and the emotions than do the melody. It is the
collaboration/interplay of the melody with this rhythm section that gives music the edge over the other arts.

The Visual Music 8/8 Project, is not designed to necessarily yield a melody nor to encourage an easy arrival at a harmony playing alongside the melody. What the “visual composers” find “harmonious” in the visual realm will not necessarily result in music that is perceived by the listener to be harmonious. The visual composers, in the Visual Music 8/8 Project, do not in fact appear to have a concern for melody as they have composed, but each in a variety of ways—movement, vibration, rotation, scale change—place an apparently stronger emphasis on the pacing and rhythm of the visual. The argument could be made—and will be explored in the section on John Cage—that this is due to the limits of the visual. There are several ways that the visual seems to function as melody. Levels of brightness often function in the way that melody is described by Schopenhauer. In Visual Composition I the brighter visual breaks within the more muted flow attract the eye to watch their slow movement across the screen. Movement, especially of the brighter pieces, enhances the melodic functions of this composition. With Visual Composition VII, the brighter pieces function more as the end of movement, before crashing into the darker start of the next one. If it has a melodic content, the movement of the changing shapes and the color accents serve that function. In Visual Composition II, overly saturated colors perform the same function of attracting the eye to follow their movement. These contrasts of brightness and saturation also serve to enhance the functions of rhythm—so the concern with Schopenhauer’s stratification will continue. None of these visual compositions produces a corresponding section in the musical compositions that would traditionally be identified as a melody.

Schopenhauer always returns us to the greater problem—not of getting the correct stratification—but that of going beyond the technique. “If the singer or virtuoso wishes to guide his recital by reflection, he remains lifeless. The same is true of the composer, the painter, and the poet. For art the concept always remains unproductive; in art it can guide only technique; its province is science.” (Schopenhauer, The World as Will and Representation, Volume I 57)
Schopenhauer challenges all of the arts to consider the ground out of which springs art. Genuine art must not come from a concept but from knowledge of perception. To fully explore the relationship to representation in the arts we must explore issues of narrative, image and text, and language.

**Film and Peter Greenaway**

Peter Greenaway exemplifies the struggle to move away from language based narrative. He struggles with the propensity of cinema to use text-based narrative, often based on literature, as the formative approach to the creation of cinema. For Greenaway this is just another way to be trapped by the representational. He seeks and uses non-narrative ways to structure his cinema. An alternative to the narrative, suggested by Greenaway, is the usage of lists. “Everything exists to be put into a list, that if you wait long enough everything will find itself in a list somewhere or other and that if you are genius enough everything will appear in every list.” (Gras and Gras 15-6) He proposes that cinema has limited itself in ways that few other of the arts have.

I think that the greatest art works—and I exclude those found in film—have had far greater means at there disposal. Only cinema narrows its concern down to its content, that is to its story. It should, instead, concern itself with its form, its structure. Artistically, film is a very rich medium; it has so many indescribable possibilities, and hardly anyone uses them. It seems to me that the majority of directors make their films with only one eye open and their arms tied behind them. The capability of film to become an extraordinary and astonishing medium is completely ignored. One should not tell stories as straight line narratives. There are so many other possibilities, and film would only enrich them. (Gras and Gras 52)

In *The Draughtsman’s Contract*, Greenaway worked closely with Michael Nyman so that the visual and music were created together. Traditionally in the filmmaking process, the visual image is decided on and the composer is brought along at a much later stage, which
puts the music in a secondary, even tertiary position, which I find unsatisfactory. So we had to find a working method whereby we both collaborated at a quite early stage to ensure that the music lent the film some structural significance. (Gras and Gras 25)

The film itself deals with a Draughtsman who renders images of a wealthy landowner’s house from different angles. He can only draw what he sees and is incapable of not drawing what he sees—which means he does not see a great deal. He works solely in the representational realm and is unable to grasp the essence of what is happening. Greenaway uses this structure to take the audience beyond the surface of what is represented. He demonstrates how the mind often works with the mere suggestion as opposed to the clearly represented, in a comment on the eroticism in this film. “It’s my belief—one certainly shared with a lot of other people—that the greater sense of eroticism can be gained by suggestion rather than shall we say a catalog of gynecological details? I believe the eroticism is much more implied than seen, and that is a much more satisfactory state of affairs.” (Gras and Gras 26)

David Pascoe comments on Greenaway’s usage of these lists and numbers.

Greenaway’s films offer an inventory of the tools for representation; and his ‘fascinations’ are the artificial orders and structures that a film-maker necessarily creates. Hence, the drawings in The Draughtsman’s Contract, the letters in Z&OO, the figures in Drowning by Numbers or the colours of The Cook, the Thief are simply the means to create a representation of an individual thing, each addressing human possibility while remaining in themselves nothing. (Pascoe 21)

Pascoe doesn’t go far enough—he sees the abstract nature of Greenaway’s lists but expects them to represent in a codified way something else. Greenaway’s lists however show more about the constructed nature of these organizing principles than standing in for something else. They also open up the film for deeper reflection about life—by exposing the construct, by reconstructing, by moving into the absurd and the abstract. Several of Greenaway’s films have a dense mass of
verbiage, that at first viewing seem to overwhelm the visual, but they are only a smoke screen. They are not intended to allow the viewer to escape into an easy narrative understanding of what is happening, but to force the viewer to experience the myriad of connections the brain is capable of making.

The Visual Music 8/8 Project, like Greenaway, uses very specific objects, like instruments, tools, hands and faces all organized in visual lists. These images however are not produced in the way photographs of perfect representation are produced. Keith A-VI rather than representing the violin or even the player becomes a contemplation of the motion and energy that come from their synergy. The camera in Anna E-VIII gets so close to the octave mandolin that it is barely discernable as an instrument but becomes a shape of luminescent red interrupted by a mass of brass colored lines that fall off into a soft field of muted color.

Language, Media Effects and Errol Morris

Errol Morris, a documentary film-maker, considers language to be more important than image. “I do think that language is the bedrock of everything I do. And this kind of strange language, language that comes out of people talking. It’s spoken language, as opposed to written language, and heavily edited spoken language.” (E. Morris, Errol Morris's Topic) The editing of spoken language is the base around which Morris forms his documentary films. Morris started in his documentary work doing extended audio only interviews, but eventually moved to film. He recognized that he could create something more complex with the images added—but the structural force of his films are still the words. Jay Allison describes the experience of viewing a Morris film, “When you watch an Errol Morris documentary, the stunning visuals seduce you. Then you realize you can close your eyes if you want, because the heart of the film is in voices.” (E. Morris, Errol Morris's Topic) While Morris gives priority to the word, we should observe two things: he invests a great deal of money and effort into achieving stunning visual presentations and his preferential treatment of the word does not include the idea that truth has been achieved or solidified.
Truth is not guaranteed by style or presentation. It’s not handed over on a tray like a Happy Meal. It’s a quest. It often is as interesting to chronicle people’s persistent avoidance of the truth as their pursuit of it. But in any event, whatever truth is, it is a linguistic thing. It’s not a visual thing. To talk about a photograph being true or false is utterly meaningless. Words give you a picture of the world and visuals take you into the mystery of what is out there and whether language has captured it or not. (E. Morris, Errol Morris’s Topic)

Morris does not accept the idea that truth can be discovered separate from the word that defines it. He thinks that truth must be tied to linguistic activity—he does not understand that the visual can get closer to the essence of the truth than the word is capable of. His thought comes into conflict with Schopenhauer at this point—for Schopenhauer elevates music to the top of the arts, which is more separate from the word than is the visual.

This sense of the unknoweness of truth keeps Morris in touch with the Will—which also has the mystery of not being captured by words. Morris comments on the sense of discovery that happens in the production of documentary film.

People discount the out of control element in art as if somehow—you see it in the auteur theory, you see it in the sort of idea that great art is completely under control. Someone has this exact picture of what they’re going to do and they realize it faithfully…And my experience is that art is a very different kind of affair. And maybe this just points out certain infirmities that I have as a filmmaker, but I think one of the most exciting things about making a movie is not knowing what’s going on, of actually being in an odd place where unexpected things are happening. Where you’re learning things that you could not have imagined you were going to learn in advance…I think the worst thing that you can do as a filmmaker is just go through a recitation of received material, and illustrate it as if somehow your job is to provide the illustrated news. My tendency as a filmmaker is to keep going, to
Holsopple, 43

keep gnawing at some bone until I finally come to a conclusion that satisfies me. (E. Morris, Errol Morris's Topic)

In Mr. Death, Morris talks about Fred Leuchter who went from being a repairman of electric chairs to a denier of the Holocaust.

In Mr. Death, I like the line because it is the one explicit confrontation with Fred. “Fred, do you ever think you might be wrong?” I also think that it’s a question a lot of people want to ask, so I’m a surrogate audience member. And his answer is utterly amazing: he says, “I’m long since past that.” …He goes on to say, “I made a decision that I wasn’t wrong.” You made a decision? But what if you were wrong? Is this about making a decision? I’m sorry you are wrong, your decision notwithstanding. (E. Morris, Interview with Errol Morris)

In spite of Morris’ obvious judgment—that Leuchter is wrong—he doesn’t claim to have a clear grasp on truth. For Morris the interview process itself can lead to abstraction and an increase in the number of questions and a decrease in the number of answers. Morris uses an Interotron and Megatron so that people make eye contact with the lens while seeing the image of the interviewer who they are talking to. It functions like a teleprompter, only the faces of the interviewer and interviewee appear in place of the text. This allows the viewer to function as “the human connection” in the same way that Morris does during the interviews.

In a conversation with Ron Rosenbaum, Morris talks about truth, especially in relation to the interviews in Mr. Death.

I believe that we face incredible obstacles in our attempts to see the world. Everything in our nature tries to deny the world around us; to refabricate it in our own image; to reinvent it for our own benefit. And so, it becomes something of a challenge, a task, to recover (or at least attempt to recover) the real world despite all the impediments to that end...The fact that there is a knowable world out there informs everything that I do. To me, it’s impossible for me to even think of the Leuchter story without calling attention to the fact that he is investigating something that really happened. And that Leuchter
(either wittingly or unwittingly) is in the business of denying something that really happened...I think it's a big problem for all of us, what's real and what's been fabricated in our mind. (E. Morris, 
 Conversations)

Morris starts his usage of words and production with the presupposition that there is a knowable reality out there. This presupposition is what allows him to place so much of his efforts into the control of the spoken word in his documentary films—and to his elevation of the word over music and the visual in importance.

Morris suggests, that contrary to popular opinion, people see what they have come to believe. In The Thin Blue Line, he demonstrates this principle by repeating visual images of the crime scene that change in small ways—to match the version of truth he is being told by the various witnesses. He documents how what people saw changes over time as they come to believe a different set of circumstances. Being paid to change what you saw apparently worked in at least one situation as well. These images and their changes allow the audience to see each of the proposed possible courses of events, while at the same time exposing the absurdity of their chosen positions. People have chosen to see certain things because it is more acceptable to what they believe. Morris raises important issues in relation to how people use images—actually seeing in their mind what they believe they are seeing. However he appears not to ignore the relatively high value people place on these images in understanding life. Morris chooses to believe that if he puts the correct words under the visual representation—usually that he creates or re-creates—he will be convincing.

Research into the effects of television viewing—what people see—attempts to prove that the content of the viewing effects behavior. Sut Jhally, of the Media Education Foundation, researched the effects of viewing the Cosby show. He reports, “One of the most striking features of our audience study is the ability of most people to see it both ways at the same time: to combine an awareness of the Huxtables’ upper middle class status with the idea that they are a normal, everyday family.” (Jhally and Lewis 23) Studying how both the black audience and the white audience responded to the show demonstrates how people saw what they desired
to see in many instances. The white audience was able to see the racial differences as irrelevant, since they are “just like white people.” The black audience saw the Huxtables as they would like to recognize themselves, as they wished to be seen. Jhally, suggests that this has economic realities that must cover for the reality.

The American dream is not an innocent ideological notion. To sustain consent for a market economy constructed upon enormous disparities in income and wealth, it is necessary to persuade people not to question but to consume. People need to be convinced that, regardless of their circumstances, the system is fundamentally fair. If at the same time they can be encouraged to maximize their consumer spending, so much the better...Television, in the United States, combines an implicit endorsement of certain middle class lifestyles with a squeamish refusal to confront class realities or class issues. (Jhally and Lewis 74)

What this all means is that the white audience assumes that the system is now operating fairly and there is no more racism.

For most white people, the image of a racially divided world is burdensome because it implicates white people as the undeserving beneficiaries of structural social inequalities...White people cannot, in the face of such inequality, afford to rest on their laurels without a certain sense of guilt. The Cosby Show in this sense is extremely seductive. It provides an image of the world as many would like it to be. It misleads the white audience into the belief that any sense of concern or guilt is unwarranted. (Jhally and Lewis 87)

Jhally’s results can be interpreted in at least two ways—the view that suggests the content of the show convinced people that this was reality even though it does not match statistically or the understanding that viewers interpreted what they saw based on what they believed or desired to believe. This demonstrates the way that human perceptions of the representations that are viewed/heard are filtered by
the individual will. These perceptions may have little congruence with the essence or the more universal Will.

Jhally claims, as others would, that Bill Cosby was attempting to change perceptions but the reality of the larger social context—the social context that is gripped by the façade—made the change minimal. Advertising agencies claim that ads change behavior—to increase their advertising revenue—but of course the viewer is most susceptible to those ads, which are for a products within their current interests. The second way ads work is to increase the desire for more stuff—any stuff that promises happiness—by the constant reminder that our “will” is not being fulfilled. The task of the advertisers is to keep people locked into the representation—and reaching the individual will is relatively easy. Television and movie producers, however, repeatedly claim that the content of their productions has little or no impact on the actions of the viewer—they blame it on the context—except when convincing advertisers to place ads within their productions. A cursory view of the opinion pages in a local newspaper would lead one to accept Morris’ view—since some writers appear to see the encroachment of truth and liberty within every event in the world. The paranoia within their world-view twists everything to bring new fear, new enemies. What this makes clear is that viewers are in a context with a set of world-views that filter all of the images that they view—and each of the images is contained in a larger context of images—so that the power of an individual image to change thinking is limited. Many images connect directly with the emotional part of humans—as opposed to the center of logic—in addition to the effects of the matrix of culture, personal experiences, beliefs, and memories. Content or context—this must remain a tension for the visual composer as they create their visual music.

In spite of these disclaimers—we still acknowledge that the image has power in touching the emotional core of the viewer—in certain circumstances these emotions carry a formidable power in creating, amplifying, or changing opinion. It must be noted that the US Military after it’s experience with the power of the photographic image during the Vietnam War, had very strict procedures for the press during the first Gulf War. In the second, reporters were embedded to keep
the images in the home team favor. Morris’ friend Nubar Alexanian, who appears in a later chapter, would disagree with his assessment of the effectiveness of the photograph to tell the truth. In comments on two photographs from the Vietnam War era he demonstrates his point.

In 1968 photographer Eddie Adams took this photograph of the execution of a North Vietnamese spy. It’s a powerful image, one which not only describes the horror of war, but the power of photographs. Also present at the time of this execution was a television crew, who, it seems, were standing right next to Adams when he took his photograph. When you view their footage, what you see is an event with a beginning, middle and end, a journalistic document in the purest sense. Perhaps because it describes this event in its entirety, and certainly because there is a contextual relationship between each moment (the strength of film) there is relief in ending—of being allowed to move on. In the photograph, there is no context, there is only the present, carried into the future, by one five-hundredth of a second. This photograph, along with the image by Nick Ut of nine-year-old Kim Phuc running naked from Napalm being sprayed in her village went a long way toward stopping the war. It’s impossible to imagine photographs being more effective in the world. (Alexanian, Stones in the Road: Photographs of Peru 6)

The debate over the effects or power of the image will not be settled by this or any other study, due to the complexity of issue and the multiplicity of factors effecting human behavior and belief. It is clear however that the image is capable of going beyond the representational—beyond the capability of words.

**Image and Text**

W.J.T. Mitchell highlights the struggle that image and text continue to have with each other.

What is it that writing and grammatology exclude or displace?
Nothing more or less than the *image*—the picture, likeness, or
simulacrum—and the *iconology* that aspires to be its science...How do we say what we see, and how can we make the reader see? The familiar answer of poets, rhetoricians, and even philosophers has been this: we construct a ‘visible language,’ a form that combines sight and sound, picture and speech—that ‘makes us see’ with vivid examples, theatrical gestures, clear descriptions, and striking figures—the devices associated in classical rhetoric with *enargeia*...But alongside of this tradition of accommodating language to vision is a countertradition, equally powerful, that expresses a deep ambivalence about the lure of visibility. This tradition urges a respect for the generic boundaries between the arts of eye and ear, space and time, image and word. And it’s theory of language is characteristically oriented toward an aesthetic of invisibility, a conviction that ‘the deep truth is imageless’ and that language is the best available medium for evoking that unseeable, unpicturable essence. (Mitchell 114)

Artists are wary of texts that interpret the image for it often is more the act of capturing, enclosing, shutting the image into a closet of meaning. The text usually attempts to keep the image in the representational arena, controlled by the organization of words. Especially in the border between literacy and electracy the texts—in an attempt to preserve their place of privilege—impose themselves around the image to maintain the logical functions of the words.

Mitchell proposes that we must give up on the notion of a “metalanguage” that can control the meaning of an image. The meaning of an image cannot be contained in a verbal or literary discourse. Mitchell suggests that the icon (image) is resistant to the logos (defining word).

Whatever the pictorial turn is, then, it should be clear that it is not a return to naïve mimesis, copy or correspondence theories of representation, or a renewed metaphysics of pictorial ‘presence’: it is rather a postlinguistic, postsemiotic rediscovery of the picture as a complex interplay between visuality, apparatus, institutions,
discourse, bodies, and figurality. It is the realization that spectatorship (the look, the gaze, the glance, the practices of observation, surveillance, and visual pleasure) may be as deep a problem as various forms of reading (decipherment, decoding, interpretation, etc.) and that visual experience or ‘visual literacy’ might not be fully explicable on the model of textuality. (Mitchell 16)

Mitchell notes the reality that images are taken into the world of text—to satisfy the desires for interpretation and containment. Interpreters of the visual often attempt to bring a correspondence of meaning to elements and visual styles of the image so that it can be explained fully. The Visual Music 8/8 Project works to bring the image into the realm of music—not into relationship with text—avoiding the easy associations with word-style information decoding structures.

Mitchell brings us back to the issue of Schopenhauer with his description of illusionism and realism.

illusionism is the capacity of pictures to deceive, delight, astonish, amaze, or otherwise take power over a beholder...to trigger a responsive experience in the beholder. Realism, by contrast, is associated with the capacity of pictures to show the truth about things...The spectator of the realist representation is not supposed to be under the power of the representation, but to be using representation in order to take power over the world. (Mitchell 325)

Mitchell, like Schopenhauer, is skeptical of the truthfulness of what is purported to be realism. His comments on abstraction and art point the visual composer in a helpful direction.

In contrast to traditional art with its anecdotes and allegories, there is no temporal sequence to be ‘read’ or deciphered in abstract painting: its forms are grasped in an instantaneous, intuitive perception—a single moment crystallized in space. Paintings are to be seen, not heard, or heard only as a silent, frozen music. (Mitchell 227)

Music shares this style of intuitive perception with the abstract image. The struggle to get beyond the representational is evident in several portraits from the
**Visual Music 8/8 Project.** John A-II uses an out focus blur to remove the clear representation and John E-III and John E-IV remove the color to increase the distance from representation. Many images in this project have a short depth of field, which causes parts of each of these images to be out of focus. These experiments with the depth of field are an attempt to get to a deeper truth than can be contained by the traditional crisp representational photograph. Color and form—within in these images—increase in significance and will be explored in greater depth in the section on Kandinsky.

Morris, with his emphasis on the word, appears to go against this interest in the visual communicating something that can’t be conveyed by words. While he seems genuinely interested in the truth, he appears to be uninterested in the place that the visual has in that effort. He has little space for the unsayable, for what cannot be put into words, for what can’t be known in a literate way, for the abstraction from materiality. He demonstrates the larger tendency of language, to speak of the known, or to limit discourse to what can be verbalized. Schopenhauer—in spite of his literary skills—talks about music going beyond these confines of words. “The composer reveals the innermost nature of the world, and expresses the profoundest wisdom in a language that his reasoning faculty does not understand.” (Schopenhauer, *The World as Will and Representation, Volume I* 260) These words challenge all composers of music, as well as those who attempt to interpret it. Some suggest an easy solution—by boxing music into a word interpreted matrix similar to that used to constrain the image—describing music as a universal language. Lydia Goehr suggests that this doesn’t solve the issue for Schopenhauer. “Music is not a universal language just because its meaning is available to all regardless of cultural difference, but because it is the only language which mirrors the Will without mediation.” (Jacquette 205) Music for Schopenhauer doesn’t function as a universal language, with a formal syntax that is understandable to all. We will explore, in a later chapter, his disdain for the use of the symbolic and representational in art. Music is not a language in the way some theorists would understand it. The separation of music from language aligns it more closely with the image—which also remains outside of the confines of
language. For Schopenhauer the special designation of music comes back to the possibility music has to convey the essence of the world, instead of the shadows which the other arts are relegated to. He does suggest that the language of music is not words—in the same way as images are not. “Hence it has always been said that music is the language of feelings and of passion, just as words are the language of reason.” (Schopenhauer, The World as Will and Representation, Volume I 259) Schopenhauer makes clear that music is not an actual or definite emotion, but is an abstract or the “essential nature” of an emotion. Music expresses a universal quality of emotion which cannot be translated into a conceptually based discursive language. What is amazing about music however is that even though it is inexplicable, it is easy for many people—of many cultures—to get a sense of or understand. This understanding is not tied to a universal set of codes, but to it’s ability to express universal qualities of emotion.

A Visual Language

Alexanian argues that photography is a different form of communication from that of words. He considers images to be separate or not dependent on the facts and captions often associated with them.

As a photojournalist, I am not dependent on the literal facts of a story to take honest pictures of subjects within the story. Besides narrative has never been one of photography’s strengths: as a medium it is much too ambiguous…what I’m most interested in are photographs that are not dependent on captions—images strong enough to stand on their own. (Alexanian, Nubar Alexanian's Topic 5)

Alexanian believes like Schopenhauer does of music, that the image is capable of connecting to the Idea in ways that words may not. The Visual Music 8/8 Project—with a heavy dependence on the image through portraits and visual compositions—attempts to bring both image and music together in ways that connect with the Idea.

Peter Bonnici suggests that “all communication takes place through language; not all languages use words.” (Bonnici 18) Bonnici is convinced of the
power of the visual language. “Anyone who suspects that more information is picked up the ‘heart’ than by the ‘head’ should be interested in visual language because it has the power to open the heart…Anyone who cares about meaning as well as form should be interested in visual language as a powerful medium of non-verbal communication.” (Bonnici 12-4) He compares the visual language to other non-word based languages of sound, music, movement and body language. Visual language, for Bonnici, is based on color, shape, proportion, space, tone and texture. “At all times, it needs to be remembered that non-verbal languages communicate messages through the medium of feelings. The matter of consistency can then be deepened by asking if body language, the language of space, the language of tone of voice are projecting the same ‘feel’ as the visual language.” (Bonnici 100) In the development of his thought on visual language, Bonnici returns to where Schopenhauer left us, with music.

Music is the language of sound—it can totally change a person’s mood. It is such a powerful influencer of mood largely because it relies on the finest of our senses—listening. In some philosophical systems, music and proportion are closely linked through the mathematics of harmony. Architects are known to have taken the ratios of length, breadth and height of a space and plucked that harmony on a harp. If the sound is harmonious, then they have probably got the relationship right. If not, they look for ways of resolving the discord. (Bonnici 32)

Just like these designers and architects, the Visual Music 8/8 Project pays attention to the ratio of the framing and perspectives in the frame as well as the issues of color, shape, tone and texture. Many of the portraits are shot in a panoramic format where the length of the image is two and a half to four times that of the height. Several of the visual compositions, depart from the traditional television frame ratio (4:3) to one that is more panoramic (2:1).
Schopenhauer’s Influence

It is Schopenhauer’s affirmation of the arts, of their ability to go towards the Will, and of the superiority of music in this quest that makes him so valuable to the aspiring visual musician. Shehira Doss-Davezac differentiates between Plato and Schopenhauer, “Where Plato rejects art because, devoid of Ideas, it is devoid of knowledge, another word for science and mathematics, Schopenhauer accepts art because it is not science…Art manifests the Idea visually, rather than conceptually.” (Jacquette 261-2) Schopenhauer’s strength is not his syntactical understanding of music but in his understanding music as “pure form”—the way into the Will itself.

Doss-Davezac points out how Schopenhauer has influenced the arts.

It is in Schopenhauer’s approach to music that the Symbolist aesthetic perhaps found its closest resonances…the Symbolists having shifted the weight of all the arts towards music…To achieve musicality Symbolists insisted, words, lines and colors must be delivered from their mimetic and descriptive functions. The vocabulary of the arts must become an intuitive, experimental science of the poetic value and meaning inherent in the language of art itself…Symbolist theories of art did not disappear with the close of the nineteenth century. These ideas were developed further by Kandinsky and Klee, and later by the Abstract Expressionists, who experimented with painting so as to find how best to express in Schopenhauer’s words ‘joy and sorrow…to a certain extent in the abstract.’ Their findings brought them to total abstraction which they believed to be the truest expression of reality, and which Schopenhauer had found alone of all the arts in music—the expression of the Will itself. (Jacquette 271-3)

Goehr suggests that music “captures the entire endeavor of humankind” The patterns and flow of music reflect those of life—going from desire to satisfaction and back—and “are structurally analogous to these patterns of desire, frustration, and fulfillment.” (Jacquette 205) All of the arts are closely tied to life
and its cycles. Paul Guyer says, “The experience of art does not just allow us to escape from the pain of reality, like a drug, but occasions a joyful affirmation of our identity with reality that cannot readily be obtained anywhere else.” (Jacquette 129) The next Schopenhauer chapter explores the relationships of suffering and contemplation—of the ascetic and aesthetic paths to go beyond the representational.
The artist expresses only what he has within himself, not what he see with his eyes…A work of art is a world of its own, not an imitation of nature.

Alexej von Jawlensky (Roethel 44,50)
The interplay between the visual arts and music historically contain many attempts to connect and crossover between the forms—visual-artists and musicians have even attempted to use composition methods based on the other. Dick Higgins in writing about “new music” surprisingly starts his article by referring to Vasily Kandinsky, rather than to a musician.

There was a time, not so long ago, when music was considered a form of entertainment, perhaps on a higher level than some other forms, but still part of the same world as theatre, vaudeville, circuses, etc. Similarly, apart from religious art and purely functional art, the fine arts were basically used for decorative purposes. But with the rise of the idea that the work of art was intended first and foremost as an experience, that its function could be spiritual, psychological, and educational, the situation began to change. Kandinsky’s view of art as a means of deepening one’s spiritual life is a landmark along this way. (Battcock 21)

Higgins’ narrow critique of the way art has worked—demonstrating primary analysis for the contemporary and pop forms of music—is correct to note the developments that worked to make art move beyond the entertainment level. Many of these attempts involved the desire to change the relationship between the work and the spectator. Boredom and intensity became a dialectic that John Cage began to emphasize. Higgins summarizes,

> it has become almost a hallmark of our mentality to accept the possibility of boredom and danger; a work that is without these possibilities only decorate life and so is merely a commodity; the most intense art is necessarily involved with these things, boredom and danger...Ours is a mass society, and although we do attempt to do what we do with maximum quality, quality has for us become one among other indications of integrity. Today we do not equate quality alone with the value of a work. Most of the interesting works of our time are works that shed light on our mentality without necessarily
trying for the same standards of success as works, say, of twenty years ago. (Battcock 27)

Kandinsky and Cage were unwilling to create art that had already been done—to go with the accepted forms or traditional composition methods—but pushed into new horizons.

**Kandinsky: Technique Versus the Inner Being**

Kandinsky suggests that only a few artists are “prophets” who can see beyond the “limits” of their place. He has harsh word for the majority of artists—those who are doing art for “art’s sake” while neglecting the “inner meanings.” He expands,

In search for method the artist goes still further. Art becomes so specialized as to be comprehensible only to artists, and they complain bitterly of public indifference to their work. For since the artist in such times has no need to say much, but only to be notorious for some small connoisseurs (which incidentally is also a very profitable business for him), there arise a crowd of gifted and skilful painters, so easy does the conquest of art appear. In each artistic circle are thousands of such artists, of whom the majority seek only for some new technical manner, and who produce millions of works of art without enthusiasm, with cold hearts and souls asleep.

(Kandinsky, Concerning the Spiritual in Art 8)

Kandinsky complains about the same lack—not being in touch with the Will or the universal passion—within these artists as Schopenhauer does.

For Kandinsky painting has two “weapons” to use, color and form. “Form can stand alone as representing an object (either real or otherwise) or as a purely abstract limit to space or a surface. Colour cannot stand alone; it cannot dispense with the boundaries of some kind.” (Kandinsky, Concerning the Spiritual in Art 26)

The essence of these tools is not what is crucial to understanding Kandinsky’s method of composition. It is not the style, the personality or the outward form that is important but the “inner meaning”—which drives the artist in creation.
The inner need is built up of three mystical elements: (1) Every artist, as a creator, has something in him which calls for expression (this is the element of personality). (2) Every artist, as child of his age, is impelled to express the spirit of his age (this is the element of style)—dictated by the period and particular country to which the artists belongs…(3) Every artist, as a servant of art, has to help the cause of art (this is the element of pure artistry, which is constant in all ages and among all nationalities). (Kandinsky, Concerning the Spiritual in Art 33-4)

The goal of the artist therefore is not mastery of form but of adapting the form to its “inner meaning.” The artist, as the “priest of beauty”, must compose to match the intensity of the “inner need”—which demands a different starting point than those the academy of art and music are accustomed to,

Artists are tempted to start with theory and develop their practice out of that theory. Kandinsky cautions that theory lacks the essentials of creation—“the inner desire for expression—which cannot be determined.” (Kandinsky, Concerning the Spiritual in Art 35) The spectator has a similar temptation, overemphasizing style and missing the “inner meaning”—by connecting the various outward parts into a meaning.

Our materialistic age has produced a type of spectator or “connoisseur,” who is not content to put himself opposite a picture and let it say its own message. Instead of allowing the inner value of the picture to work, he worries himself in looking for “closeness to nature” or “temperament,” or “handling,’ or “tonality,” or ‘perspective,” or what not. His eye does not probe the outer expression to arrive at the inner meaning. (Kandinsky, Concerning the Spiritual in Art 49)

The spectator, like the artist, emphasizes the technique or style over the “inner meaning” and ends up missing the main thing.
**Kandinsky: Form**

Form has two tasks, for Kandinsky, the outer and inner tasks. The “outer task” is that of limiting surfaces with two options. Form limits the surface to create a material object or to create an abstract form. The “inner task” is to fully express the “inner meaning.” Form in the outward meaning is nothing but a “separating line” dividing surfaces of color. This outward form, however, is tied to its inner meaning. Even abstract forms or geometric shapes have a “power of inner suggestion.” (Kandinsky, Concerning the Spiritual in Art)

Between the two options—material object or abstract form—of the “outer task” lie many options. Kandinsky suggests that the artist is bound to forms that have some of both the material and abstract in them. “Purely abstract forms are beyond the reach of the artist at present; they are too indefinite for him. To limit himself to the purely indefinite would be to rob himself of possibilities, to exclude the human element and therefore weaken his power of expression.” (Kandinsky, Concerning the Spiritual in Art 30)

Ulmer uses Jasper Morrison as an example of the use of form and sensuality.

Sex is to some extent, and probably greater than one realizes, a powerful factor in creativity and that one probably puts into objects a kind of…sexual tension. Appreciation of form is also a physical thing and perhaps an object draws on the same level as human sexual attraction and objects can have a kind of eroticism of their own which is put there almost in an instinctive way. A bit difficult to explain. You can look at a garden rake made in this kind of bent wood structure and the way it’s split and then rejoined at the end is extremely…I hate the word sensual, but let’s say sexy, sexy is a better word. (Ulmer, Internet Invention: From Literacy to Electracy 56)

Sobell—the builder of the instruments in the Visual Music 8/8 Project—when constructing instruments, bends the sides and arches the soundboard. He creates the curve of the tailpiece to finish the end instrument, uses an elliptical circle for the sound-hole, and bends a body shape that changes with size variations but retains it
sensuous feel. The Stefan series of portraits in the Visual Music 8/8 Project has a variety of images showing the shaping of the wood. Anna E-VIII carries the curves of the side enveloping the sound hole. Terry G-II compares the front and the back shapes while Geoff D-II and John E-IV celebrate the whole top. Sara A-V shows how the curve of the body joins with the neck. Sobell creates a form—offering a sensuous quality for the viewer—that many players find aesthetically pleasing to play and hear. Their playing becomes a caressing of the form to bring forth sound. Visual Composition I hints at the human form, using the vestiges of these forms to create the lines that separate the surfaces of color.

**Kandinsky: Color and Vibration**

Color, for Kandinsky, produces a corresponding spiritual vibration—which is more important than the physical impression of music. This spiritual vibration has a more intense effect on more “sensitive souls.” He compares these color vibrations that vibrate the soul to the concept of synesthesia—the experience that some people have where data received by one sense is carried into other senses—and to sympathetic vibrations of a musical instrument where one string vibrates, without being struck, sounding in harmony with another vibrating string on a different instrument. Kandinsky makes the same connections between color, the sounds of music and the influence on the soul.

The sound of colours is so definite that it would be hard to find anyone who would try to express bright yellow in the bass notes, or dark lake in the treble…Colour is a power which directly influences the soul. Colour is the keyboard, the eyes are the hammers, the soul is the piano with many strings. The artist is the hand which plays, touching one key to another, to cause vibrations in the soul.

(Kandinsky, Concerning the Spiritual in Art 25)

Kandinsky takes the comparison of color/light vibrations with sound vibrations—beyond comparisons by Goethe, Newton or Rimington (see section Art/Music)—to an important level in considering how the artist gets to the Will in Schopenhauer’s terms. The challenge for the artist is to use color that corresponds
to the vibration of the “human soul”, which is the artist responding to the “inner need.”

Several portraits in the Visual Music 8/8 Project contain sympathetic vibrations. Stefan E-V contains different stages that resonate with each other—choosing the back grain and placing the bridge both tasks that affect the final sound producing quality of the instrument. Anna A-VI has the instrument calling the vibrations within the player into a deeper movement.

Kandinsky—in much the same way as Schopenhauer does with melody and bass—compares the emotions and the colors that they connect to. Red, which is alive and restless, would be a trumpet and blue, which is peaceful and deep, would be a cello. (Color Theory According to Wassily Kandinsky) “Shades of colour, like those of sound, are of a much finer texture and awake in the soul emotions too fine to be expressed in words. Certainly each tone will find some probable expression in words, but it will always be incomplete, and that part which the word fails to express will not be unimportant but rather the very kernel of its existence.” (Kandinsky, Concerning the Spiritual in Art 41) Kandinsky suggests that the same inner appeal can’t be achieved by two different arts—painting and music—but they may work together to bring a single result.

**Cage: Composing Silence**

Cage’s best-known composition 4’33” was written in 1952. Often called the “silent piece”, it was first performed by David Tudor.

Tudor placed the hand-written score, which was in conventional notation with blank measures, on the piano and sat motionless as he used a stopwatch to measure the time of each movement. The score indicated three silent movements, each of a different length, but when added together totaled four minutes and thirty-three seconds. Tudor signaled its commencement by lowering the keyboard lid of the piano. The sound of the wind in the trees entered the first movement. After 30 seconds of no action, he raised the lid to signal the end of the first movement. It was then lowered for the second movement, during
which raindrops pattered on the roof. The score was in several pages, so he turned the pages as time passed, yet playing nothing at all. The keyboard lid was raised and lowered again for the final movement, during which the audience whispered and muttered.

(Solomon)

4’33” caused an uproar at this first performance. For the audience it had gone too far, but for Cage it remains his preference over other music. “If you want to know the truth of the matter, the music I prefer, even to my own or anybody else’s, is what we are hearing if we are just quiet. And now we come back to my silent piece. I really prefer that to anything else, but I don’t think of it as ‘my piece’.”

(Kostelanetz 12)

Marjorie Perloff responds to the suggestion, of many, that anybody could write music like Cage did with 4’ 33”. “It is easy to copy a piece like 4’33”, but how many of us would have conceived of the idea in the first place?” (Perloff 292) Cage however built it note by note. He used chance operations and charts which he had used for a variety of musical creations. He made the writing of the piece difficult to avoid the possibility of looking foolish. He states,

now when I wrote 4’33” i was in the process of writing the music of changes that was done in an elaborate way there are many tables for pitches and durations for amplitudes all the work was done with chance operations in the case of 4’33” i actually used the same method of working and i built it up the silence of each movement and the three movements add up to 4’33 i built up each movement by means of short silences put together it seems idiotic but that’s what i did i didn’t have to bother with the pitch tables or the amplitude tables all i had to do was work with the duration tables….i didn’t know i was writing 4’33” i built it up very gradually and it came out to be 4’33”.

(Cage, I-lv 20-1)

4’33” is a major step in Cage’s exploration of sound and silence—fulfilling a desire to use silence in a musical composition that had been with him for at least five years.
The exploration of silence came out of several important experiences. Cage describes the experience that directed further exploration of silence.

Try as we may to make silence, we cannot. For certain engineering purposes, it is desirable to have as silent a situation as possible. Such a room is called an anechoic chamber, its six walls made of special material, a room without echoes. I entered one at Harvard University several years ago and heard two sounds, one high and one low. When I described them to the engineer in charge, he informed me that the high one was my nervous system in operation, the low one my blood circulation. Until I die there will be sound. And they will continue following my death. One need not fear about the future of music. (Cage, Silence 8)

Cage states that we ignore much of the sound that is around us. “Wherever we are, what we hear is mostly noise. When we ignore it, it disturbs us. When we listen to it, we find it fascinating. The sound of a truck at fifty miles per hour. Static between the stations. Rain. We want to capture and control these sounds, to use them not as sound effects but as musical instruments.” (Cage, Silence 3) He was thinking about “found sound” as early as 1937—with the desire to capture and use these environmental sounds—but with 4'33” he used the environmental sounds in an indeterminate way. He did not control or capture the sounds but instead allowed them to happen at the moment. The usage of indeterminate noise as a part of the performance is a step that few artists have chosen to follow. These sounds viewed as disturbances by most performers were considered not to be an interruption by Cage. L.J. Solomon explains,

According to Cage, music could no longer be considered new or ‘experiential’ unless it incorporated interpenetration. Previously, sounds that were outside the composer’s intentions were considered alien intrusions, unwelcome ‘noises’. But works that welcome and include sounds outside of the composer’s and performers’ intentions are those that include interpenetration. (Solomon)
Cage by this stage in development began to understand silence not as the absence of sound but the absence of control, the absence of intended sounds, or the turning off of our awareness of the noise around us. (Solomon)

Lydia Goehr discusses three conceptions of silence that show themselves in relation to Schopenhauer’s view of music and are important first steps away from the representational nature of words.

The first dimension of silence captures the meaningful silence of the musical language. Unable to speak discursively or conceptually, music, Schopenhauer argues, nonetheless speaks—and it speaks not merely volumes but “everything.” One purpose of my inquiry is to unravel in Schopenhauerian terms the apparent paradox that the fine art of sound is essentially silent, or that the purpose of the musical art is to express the inexpressible. (Jacquette 202)

Goehr continues,

The second dimension of silence is a meta- or philosophical silence. It captures the inability of philosophy—at least in its traditional forms—to adequately describe the musical art…Schopenhauer demonstrates the use to which arguments by analogy (comparison, proportion, and negation) can be put if philosophers are to say anything about that which in strictly philosophical terms of rational explanation, cannot be spoken about…The third dimension of silence concerns the reception of Schopenhauer’s musical remarks…I shall suggest that, regarding Schopenhauer’s specifically musical remarks, the fact of their silent reception was indicative not of neglect, but of a pervasive and uncritical approval. (Jacquette 202-3)

These three conceptions, primarily about the absence of discursive language, do not reach the stage of silence as understood by Cage. He is attempting to find the deeper “inner meaning” of Kandinsky in the indeterminate sounds contained in the everyday.
For the spectator Cage’s explorations demand a new kind of awareness. Richard Kostelanetz considers the change in understanding that spectators must go through.

By importing this nonmusical image into a concert situation in which musical sounds are expected, Cage’s piece implies that the “music” consists of all the accidental noises in the room, whether humanly produced or not. Therefore, whereas a spectator originally observed that the piece contained no music at all, once he grasps the implications of 4’33”, he can infer that literally everything he hears within that frame of four minutes and thirty-three seconds belongs to the piece. (Kostelanetz 107-8)

Kostelanetz goes on to list three more corollaries of meaning; in all performed pieces whatever is written as silence is actually filled with noise, no musical piece can give the same aural experience twice, humanly produced music and non-intentional noise have the same status within a listening experience. (Kostelanetz) 4’33” in reality became a duration-based container to hold the experiences that happen at any given performance. Duration or time becomes the most important parameter of the musical enterprise for Cage—and one that visual musicians can also appropriate easily into their composition.

For Kandinsky black is the equivalent of musical—not silence in Cage’s expanded sense—silence.

A totally dead silence, on the other hand, a silence with no possibilities, has the inner harmony of black. In music it is represented by one of those profound and final pauses, after which any continuation of the melody seems the dawn of another world. Black is something burnt out, like the ashes of a funeral pyre, something motionless like a corpse. The silence of black is the silence of death. Outwardly black is the colour with the least harmony of all, a kind of neutral background against which the minutest shades of other colours stand clearly forward. It differs from white in this also, for with white nearly every colour is in discord, or
even mute altogether. (Kandinsky, Concerning the Spiritual in Art 39)

Black like silence makes the smallest sound or color noticeable. All of the portraits in the Sara set, from the Visual Music 8/8 Project, have the musicians coming out of the blackness. Black for Kandinsky represents silence and the imaged music group, SansDB, means without sound (literally without decibels). The images and the name imply the silence and the photographs suggest they are playing that silence.

**Kandinsky: Painting and the Temporal Dimension**

Kandinsky recognizes that music is generally conceived to be about time and painting is generally about space, but attempts to break out of this dichotomy. For Kandinsky the point becomes the shortest duration available to the painter. The location of the point becomes important when comparing it to sound—for as it moves away from the center of the plane it becomes a double sound. Kandinsky went so far as to translate some musical scores into a series of points and lines. He progresses to defining the sound of lines based on straightness, degree of angle, and the conquest of the plane. Beyond the sound of single lines he notes the repetition of lines and the ensuing rhythm that is created. In the appendix to Point and Line to Plane, Kandinsky has charts where he describes the sound of various elements. Some combinations create double sounds—straight lines bring cold tension while warm tensions come with the curved lines. Inner pulsations accompany the sounds of the geometric curves. (Kandinsky, Point and Line to Plane appendix) Kandinsky considers the vibration or pulsation within images to play an important role in the painting of music. “Repetition is a potent means of heightening the inner vibration and is, at the same time, a source of elementary rhythm which in turn, is a means to the attainment of elementary harmony in every form of art.” (Kandinsky, Point and Line to Plane 38) The temporal aspect of the forms becomes crucial in the quest to move beyond spatiality,

the time required to follow a straight line is different from that required for a curved one, even though the lengths are the same; the more
animated the curved line becomes, the longer is the span of time it represents…The application of time has a different inner colouration in horizontal and vertical lines, even if of equal lengths, and perhaps it is in reality a matter of different lengths which, at any rate would be psychologically explainable. The time element in a purely linear composition must not, therefore, be overlooked and in the theory of composition it must be subjected to an exact examination. (Kandinsky, *Point and Line to Plane* 98)

The vertical portraits and the horizontal portraits, in the *Visual Music 8/8 Project*, which have the same ratio between length and height, convey very different experiences of duration with the long horizontal ones carrying the greater duration. *Visual Composition V* and *Visual Composition VI* make extensive usage of lines. In the visual compositions the horizontal lines appear to be more about amplitude/volume (the higher on the screen the louder) while the vertical ones suggest more about time, duration and rhythm. The speed with which they appear and disappear gives the impression of rhythm and duration.

Kandinsky—in addition to the temporal quality of the line—associated the thickness of the line to pitch. The thinner lines represent sounds made by higher pitched instruments while the thicker lines correspond to the lower pitched instruments. (Kandinsky, *Point and Line to Plane* 98) Kandinsky with much of his work tried to stay accessible to people with a traditional understanding of musical structures—keeping both duration and pitch in his descriptions.

**Cage: Duration vs. Pitch**

Cage started with, what he later discovered was an ignorant concept—the assumption that the opposite of sound was silence. The only characteristic of sound that was measurable in silence is duration, “therefore any valid structure involving sounds and silences should be based, not as occidentally traditional, on frequency, but rightly on duration.” (Cage, *Silence* 13) His experience in the anechoic chamber changed his understanding of the silence of silence. “That experience gave my life direction, the exploration of non-intention. No one else
was doing that. I would do it for us. I did not know immediately what I was doing, nor, after all these years, have I found much out.” (Cage, I-iv 1) He however continued to see duration as the only common characteristic of what is described as sound and silence—not frequency, amplitude or timbre. (Cage, Silence 18) Cage demonstrated this structure based on duration with, Composition as Process, where the speech is timed to correspond to parts from Music of Changes, which would be played in the interruptions of the speech. Cage discovered that the parameter of duration could easily accommodate musical as well as non-musical sounds—noise and conventional instruments.

Cage is critical of what is taught about music, “Schools teach the making of structures by means of classical harmony. Outside school, however, a different and correct structural means reappears: one based on time.” (Cage, Silence 63) Rhythm is simply the relationships of lengths of time and Cage proposed that the frame or a fraction of a second is the unit of time used to measure music. Like film or video time, music will be based on clock time or linear time. This will allow the composer to use any rhythm in contrast to the limits imposed by the quarter/half/whole notes of traditional music. Along with the breakdown of timing methods will be a change in the sound available to the composer, for he rejects the limitations of the 12 pitches in traditional western music. “Percussion music is a contemporary transition from keyboard-influenced music to the all-sound music of the future. Any sound is acceptable to the composer of percussion music; he explores the academically forbidden ‘non-musical’ field of sound insofar as is manually possible.” (Cage, Silence 5)

The Visual Music 8/8 Project has visual compositions, which are timed in durations of frames (29.97 per second), which in turn are fractions of a second, and translates that into notation that allows a musician to play the ensuing visually created composition. Having a human perform or record the musical composition brings in a lack of precision, which means the resulting music may vary slightly from the clock time of the visual composition.
Kandinsky: Harmony in Composition

Kandinsky defines how lines can create harmonious or disharmonious positions. The diagonal that goes from corner to corner of a rectangle is harmonious, but those that go from a corner to a side are not. Parallel forms that point into each other are harmonious, while those that point away from each other are not. (Kandinsky, Point and Line to Plane 128-31) Five portraits in the Stefan set, from the Visual Music 8/8 Project, contain two images. Stefan D-I draws the eye along a curve offering a harmonious resolution, but Stefan D-II has the vectors pointing away from each other creating disharmony. In Stefan E-V and Stefan E-VI the lines move toward each other, while Stefan A-VII has lines that appear parallel but end up drawing the eye together to the back of the image—creating a more complex experience of harmony. Kandinsky expands,

The universal harmony of a composition can, therefore, consist of a number of complexes rising to the highest point of contrast. These contrasts can even be of an inharmonious character, and still their proper use will not have a negative effect on the total harmony but, rather, a positive one, and will raise the work of art to a thing of the greatest harmony. (Kandinsky, Point and Line to Plane 97)

Kandinsky was causing the same kind of stir with his growing abstraction in painting as was Arnold Schönberg with his atonal music. (Roethel 32) Kandinsky and Schönberg conversed with and seemed to understand each other. They recognized their commonality in going beyond the restrictions that had been placed on their respective artistic disciplines. Schönberg rejected thematic repetition of melodic pattern, any form of pitch configuration and the chromatic scale. He used non-harmonic tones and unresolved dissonance. Kandinsky in painting went from the figurative to the abstract or free. They both relied on intuition. Kandinsky referred to Schönberg's freedoms and its limits.

Schönberg realizes that the greatest freedom of all the freedom of an unfettered art, can never be absolute. Every age achieves a certain measure of this freedom, but beyond the boundaries of its freedom the mightiest genius can never go. But the measure of freedom of
each age must be constantly enlarged. Schönberg is endeavouring to make complete use of his freedom and has already discovered gold mines of new beauty in his search for spiritual harmony. (Kandinsky, Concerning the Spiritual in Art 17)

Kandinsky’s ability to see music—to see the color and line of the music—was carried over into his experience of hearing music. In listening to Wagner, Kandinsky realized that music can evoke pictorial images, colors, and mood.

Lohengrin, however seemed to me to be the complete realization of that particular Moscow. The violins, the deep bass notes, and above all the wind instruments, embodied for me at that time all the power of that early evening hour. I saw all my colors in my mind; there before my eyes. Wild, almost crazy lines traced themselves before me. I did not dare use the expression that Wagner had painted “my hour” in music. (Roethel 54)

**Cage: Prepared Piano, Percussion & Rejection of Tone**

In an effort to leave behind the twelve-tone method—like Schönberg—Cage tried a number of experiments.

I was convinced overnight that that although twelve-tone music was excellent theoretically, in making use of the instruments which had been developed for tonal music, it had continually to be written negatively rather than straightforwardly. It had always to avoid the harmonic relationships, which were natural to the tonal instruments, which instruments it did not so much use as usurp. I was convinced that for atonal music new instruments proper to it were required. (Cage, John Cage Writer: Previously Uncollected Pieces 31)

Cage started writing pieces for prepared piano to get beyond the expected gamut of pitches—to create these new atonal instruments out of traditional instruments. The score for *A Valentine Out of Season* [Music for Xenia to play on a prepared grand piano], demonstrates what a prepared piano piece was like. The
score’s first page contains the instructions for preparing the piano. Next to a listing of the tone to be prepared are the materials to be used, the strings to be affected (1,2,3), the distance in inches from the damper or the end of the strings. The materials used in this particular piece are rubber, weather strip, slit bamboo, penny, wood, large bolt and bolt. The rest of the score is quite traditional, with the exception of occasionally calling for both pedals. The pedals were used in conjunction with the strings affected to give a different sound. (Cage, A Valentine out of Season) Cage reports,

The result is a gamut of sounds moving from lower to higher octaves without the correspondences of pitch characteristics of scales and modes. These sounds are of different timbres and of a decibel range comparable to that of the harpsichord. In effect, the prepared piano is a percussion ensemble under the control of a single player. Where mutes are placed only between the second and thirds strings, two different sound are available, one produced with the soft pedal (which eliminates the effect of the first string), the other without it.

(Kostelanetz 76)

Percussion with a rejection of traditional tones is just a short leap from these prepared piano compositions. In his writing/lectures exemplified by Lecture on Nothing, Cage attempted to create a rhythmic reading where one of the “structural divisions was the repetition”—in this case one page was repeated fourteen times. (Cage, Silence ix) Cage sought to bring this sense of rhythm—with multiple simultaneous layering of sound—into a variety of experiences. In Where Are We Going? What are we doing?, there are four lectures which are meant to be heard simultaneously. In the written text, accommodation must be made to allow printing where words can’t be heard/seen over each other. The textual form makes all the words legible which negates the original intention of Cage. He “wanted to say that our experiences, gotten as they are all at once, pass beyond our understanding.” (Cage, Silence 194) Cage with his percussive work is further defining the importance of duration—specifically duration that is broken into smaller durations.
creating rhythm—and sealing his commitment to disregard the need to create harmony out of the blended sounds.

Visual Composition II in the Visual Music 8/8 Project is a collection of loops in much the same way as Cage has created a variety of his sound experiences. The main section of the visual composition contains 1) a loop of Geoff and his mandola with three-dimensional colored lighting that is created from three loops of the particular Geoff image, 2) a loop of Sara and Carrie created from two loops using multiple portraits of them, 3) a loop of the body of a bouzouki from the Terry set, 4) a loop of two violin players from the Keith series with the images flashing on and off, and 5) a loop created from portraits of two Irish sessions at pubs with Keith. The bridge section contains: 1) a loop of Sara playing the mandolin, and 2) the same loop of the bouzouki used in the main section. These loops repeat at various times and overlay (with various opacities and transfer modes) on top of each other to create the final visual composition. This collection of looping visuals and the variation of their placement creates harmony and disharmony among the ensuing colors and forms.

Cage’s quest is not just about getting beyond much of what is taught about music, but to get beyond the idea that we are in control. His description of life sounds similar to that of Schopenhauer.

Not all of our past, but the parts of it we are taught, lead us to believe that we are in the driver’s seat. With respect to nature. And that if we are not, life is meaningless. Well, the grand thing about the human mind is that it can turn its own tables and see meaninglessness as ultimate meaning…Here we are. Let us say Yes to our presence together in Chaos. (Cage, Silence 195)

Kandinsky: From Music to Painting

Kandinsky and Schopenhauer have strong connections philosophically, which Dabrowski points out. Schopenhauer believed that the experiences of the Will were superior to those of representation—Kandinsky believed that pictorial representation should be eliminated in order to arrive at the inner meaning. This
inner meaning in turn can be linked to Schopenhauer’s notions of emotions and strivings—and Kandinsky’s disdain for art that starts with the concept. Kandinsky’s theories of color and form, which led him to abstract images, demonstrates his intent to go beyond the representational to the experience of the Will.

Kandinsky—in spite of being a painter—agreed with Schopenhauer that music was the more advanced art. His desire was to bring his painting into the same place occupied by music.

With few exceptions music has been for some centuries the art which has devoted itself not to the reproduction of natural phenomena, but rather to the expression of the artist’s soul, in musical sound…A painter, who finds no satisfaction in mere representation…in his longing to express his inner life…naturally seeks to apply the methods of music to his own art. And from this results that modern desire for rhythm in painting, for mathematical, abstract construction, for repeated notes of colour, for setting colour in motion. (Kandinsky, Concerning the Spiritual in Art 19)

Kandinsky—who felt painting was currently locked into painting natural forms and phenomena—points out that painting can do in one moment what music requires a passage of time to do. Music has duration of time at its disposal but painting can present to the viewer the whole content of its message at one time. Music has in fact usually failed according to Kandinsky when it has tried to express things from the natural world—as Schopenhauer suggests that it should avoid. Kandinsky’s effort is to move painting to use the same “powers” which music has used for a long time. He says, “I value only those artists who really are artists, that is, who consciously or unconsciously, in an entirely original form, embody the expression of their inner life; who work only for this end and cannot work otherwise.” (Kandinsky, Concerning the Spiritual in Art vii) For Kandinsky—like Schopenhauer—the crucial issue for art is where it comes from, with preference given to the inner life/activity or the Will.
Cage: NonIntention, Nondeterminate, Indeterminate

Cage approaches his compositional task, as one who does not make choices. He often uses the mechanism of the *I Ching* to construct his music. The use of chance keeps composers from controlling sounds based on their likes and dislikes or their personal tastes. Non-intention, for Cage, is not an escape, or a drug induced, hallucination inspired music. *Rozart Mix* (1965) was designed to have at least 88 loops on tape which would use any material. There were to be at least a dozen machines playing all over the Rose Art Museum. The loops would get intertwined with each other and that would all be part of the performance. This reservoir of tape loops was so large so as to eliminate the exercise of choice. *(Kostelanetz)*

*Williams Mix* (1952) uses a collection of sounds that are divided into six categories and then used chance operations to determine how they went together. All of the cutting and splicing were controlled by chance operations. The composers intentions were renounced in the production but an object on tape was the final outcome. *(Kostelanetz)*

In spite of claiming to work in nondeterminate ways, Cage confesses, “We can set up ideals as I do—and I do really believe them—about getting rid of likes and dislikes; and after every moment I say it, I have to confess that I still have them. I do try to get rid of them, but they pop up all the time.” *(Kostelanetz 32)*

Cage went beyond the nondeterminate when he began to compose pieces that allow the performer to have a part in the determination of the outcome. Cage in *Composition As Process*, evaluates a number of experimental music pieces in regard to the indeterminate character of their performance. *Indices* by Earle Brown—a leading composer of American avant-garde music—does not qualify, while the performance involves a number of players, the score has a fixed relation of its parts. This means the performance does not have the quality of indeterminancy. Though Brown used tables of random numbers to bring about the determination of the score, these tables were not available in the performance of it. Cage also suggests that Brown introduced bias even in the random numbers used for composition. The conductor and instrumentalists simply do as the score tells them. *(Cage, *Silence)* Cage states,
The intolerable situation described is, of course, not a peculiarity of *Indices*, but a characteristic of Western music, the masterpieces of which are its most imposing examples, which, when they are concerned not with tables of random numbers (used in the way which introduce bias) but rather with ideas of order, personal feelings, and the integrations of these, simply suggest the presence of a man rather than the presence of sounds. The sounds of *Indices* are just sounds. Had bias not been introduced in the use of the tables of random numbers, the sounds would have been not just sounds but elements acting according to scientific theories of probability, elements acting in relationship due to the equal distribution of each one of those present—elements, that is to say, under the control of man. (Cage, *Silence* 37)

*4 Systems*, also by Brown, meets the qualifications since it doesn’t have a score for either solo or ensemble performances. There is no fixed relation of parts. “The function of the performer or of each performer in the case of *4 Systems* is that of making something out of a store of raw materials. Structure, the division of the whole into parts, is indeterminate.” (Cage, *Silence* 38) The performer gives both structure and form, by dividing the “whole into parts and by providing the morphology of the continuity.” (Cage, *Silence* 38)

*Duo II for Pianists* by Christian Wolff—who used symbols instead of traditional notation—is affirmed. The structure, the division of the whole into parts, is indeterminate, (No provision is given by the composer for the ending of the performance.) Method, the note-to-note procedure, is also indeterminate. All the characteristics of the materials (frequency, amplitude, timbre, duration) are indeterminate within gamut limitations provided by the composer. The form, the morphology of the continuity, is unpredictable. One of the pianists begins the performance: the other, noticing a particular sound or silence which is one of a gamut of cues, responds with an action of his own
determination from among given possibilities within a given time bracket. Following this beginning, each pianist responds to cues provided by the other, letting no silence fall between responses, though these responses themselves include silences. (Cage, *Silence* 38)

The performer instead of following a score must be alert to the situation, since cues could happen at any time, and is responsible for their own performance.

Cage ends *Composition as Process* with a number of descriptions of an indeterminate performance. The composition must be experimental, in which the outcome is not foreseen. The action of composition is not concerned with its excuse, of which it needs none. The performance is necessarily unique and cannot be repeated. A recording of the performance has no more value than a postcard, which provides the knowledge that something happened. The performers should be separate from each other so that the sounds may issue from their own centers. The sounds should issue independent of a time beat. (Cage, *Silence* 39)

Cage confesses, “Not having, as most musicians do, an ear for music, I don’t hear music when I write it. I hear it only when it is played. If I heard it when I was writing it, I would write what I’ve already heard; whereas since I can’t hear it while I’m writing it, I’m able to write something that I’ve never heard before.” (Solomon) Normally composers who come from either an oral or literate tradition hear something and write it down or know in their minds what something will sound like and compose from that knowledge. Cage is not compositionally working with sound at all, his structures are created by chance or mathematics which supply him with no knowledge of the sound that will be created. Cage desired to leave the structures of control behind.

The visual composers in the *Visual Music 8/8 Project* have no idea what their composition will sound like as they create the visual composition. The system has no built in knowledge base that would allow them have a concept of what the composition will sound like. They must rely on their visual aesthetic in the creation process. While the musical composition is indeterminate in it’s creation, the
performance of the music is coded. The recording or performance is based on the notation that corresponds to the visual composition.

Cage’s *Music of Changes* was composed with operations of chance but it wasn’t indeterminate. The performers were expected to play the notation as it was written.

In the *Music of Changes*, structure, which is the division of the whole into parts; method, which is the note-to note procedure; form, which is the expressive content, the morphology of the continuity; and the materials, the sounds and silences of the composition, are all determined. Though no two performances of the *Music of Changes* will be identical, two performances will resemble one another closely. Though chance operations brought about the determination of the composition, these operations are not available in it’s performance.

(Cage, *Silence* 36)

The use of chance remains too closely tied to western music to satisfy Cage. 4’33” has a formal structure but the content of unintentional environmental sounds are indeterminate. The directions to the performer called for the doing of some simple, non-obtrusive action to mark the separate movements. While it has often been done as a piano piece it could be performed on any instrument.

For Cage, “The highest purpose is to have no purpose at all. This puts one in accord with nature in her manner of operation.” (Cage, *Silence* 155) While Cage denies intention it does not follow that the artist has had an experience of the Idea. Cage does not describe the compositions as to approaching a deeper ascetic or aesthetic experience—described by Schopenhauer in the next section as paths to at least a temporary experience of the Will.

**Kandinsky: Abstraction**

Kandinsky compares abstract painting to a game children play, which repeats a word until it has been deprived of its original meaning. “In drawing, the abstract message of the object drawn tends to be forgotten and it’s meaning lost…the soul undergoes an emotion which has no relation to any definite object,
an emotion more complicated.” (Kandinsky, Concerning the Spiritual in Art 15)

Kandinsky used color and form—the same elements used by the representational painters—to find the emotion, the inner meaning and paint that. He describes painting,

> Painting is like a thundering collision of different worlds that are destined in and through conflict to create that new world called the work. Technically every work of art comes into being in the same way as the cosmos—by means of catastrophes, which ultimately create out of the cacophony of the various instruments that symphony we call the music of the spheres. (Dabrowski 11)

The collision course was Kandinsky’s goal to achieve on canvas the departure from the objective world, a new art based only on the “inner need” of the artist. Kandinsky suggests that “Pure artistic composition has two elements: 1) The composition of the whole picture. 2) The creation of the various forms which, by standing in different relationships to each other, decide the composition of the whole.” (Kandinsky, Concerning the Spiritual in Art 30)

Kandinsky did sense that humanity was not yet ready for the culmination of abstract forms and chose to be patient. Vivian Barnett describes his patient approach,

> This idea of a constant, slow forward motion in the artistic development is mirrored in Kandinsky’s approach to his own work. All that is erratic and impulsive is rejected in favor of deliberate control and reflection. Kandinsky left nothing to chance, not even the way people were supposed to think about his status as an artist or the way his works should be presented. (Barnett 17)

Cage is very deliberate about using chance to compose and in the performance of his music, Kandinsky to the deliberateness adds the quality of reflection. Cage has great concern for the experience of the performer, while Kandinsky talks more about the experience of the viewer. The viewer receives a number of impressions according to Kandinsky. “The impressions we receive, which often appear merely chaotic, consist of three elements; the impression of the colour of the object, of its
form, and of its combined colour and form." (Kandinsky, *Concerning the Spiritual in Art* 31) Cage was most interested in giving the performer the freedom to shape the performance and for the audience to experience the environment—while Kandinsky works to create art that is in touch with a deeper reality and draws the viewer into the reality.

**Kandinsky: Compositions**

Kandinsky suggests that there are two types of constructions in painting: 1) Simple composition, which has an obvious and simple form and which Kandinsky called melodic. 2) Complex composition, which has various forms, subjected more or less to the principle form, called symphonic by Kandinsky. Within these “new symphonic composition” in painting, Kandinsky suggests three sources of inspiration. 1) Impressions: Pictures stimulated by “direct impressions of external nature” which are expressed in “linear painterly form”. 2) Improvisations: These paintings carry “impressions of internal nature”, representing the “chiefly unconscious” and for the most part arising from events of an “inner character”. 3) Compositions: The expression of feelings that are slowly formed “inner feelings.” “After the first preliminary sketches, I have slowly and almost pedantically examined and worked out...here reason, the conscious, the deliberate and the purposeful play a predominant role. Except I always decide in favor of feelings rather than calculations.” (Dabrowski 11)

Magdalena Dabrowski explains the connection to feelings and emotions, Kandinsky’s guiding principle in the creation of a Composition is the ‘expression of feelings’—or as he puts it elsewhere, the ‘inner necessity’—that is, the artist’s emotional response to events of an internal nature. That feeling is a result of a combination of experiences: on one hand, those perceptions that arise from the artist’s inner world, on the other, the impressions the artist receives from external appearances, events, or concepts. These impressions find emotional resonance as they enter the artist’s inner world, and through ‘reason, the conscious, the deliberate, and the purposeful’
they solidify to find concrete expression in art through the external pictorial form. As a result, the work of art becomes ‘the inseparable, indispensable, unavoidable combination of the internal and external element, i.e., of content and form…Pure painting is the result of the combination of color tones and linear elements of form determined by the internal necessity of the artist when creating a work. It is the kind of painting that discards the superfluous, mimetic form, and in which the essentials are examined in every detail. In pure painting, the pictorial means, devoid of specific reference to objects of visible reality, become the prime vehicles of expression and create a universal content. As such, pure painting is the expression of the soul of the artist. The emotional response of the viewer is conditioned by the pictorial means rather than by the objects depicted…He understands the internal element to be the emotion—or ‘vibration’—of the soul that corresponds to the ‘external elements’, or an appropriate visual form. He intends his pictorial rendering of this spiritual feeling to strike the same emotional chord in the spectator through the expressive qualities of the work. (Dabrowski 11-2)

Acid Blue, from the Visual Music 8/8 Project, starts as an image of Sara playing the mandolin, but becomes a combination of the object being engulfed by the abstract color forms vibrating from the top of the instrument. In this image it is the abstraction that vibrates with music not the hand-instrument combination. engulfing the instrument that remains in the lower left. It is the abstraction that makes the music, not the instrument/hand combination.

It is with Compositions—which he considered his most important works—that the full effect of Kandinsky’s exploration of form, color and music becomes evident. The act of calling these paintings “compositions” connected with Kandinsky’s desire to paint music and were painted in several periods between 1909 and 1939. The very title of “composition” implies for Kandinsky; the final finished painting, the relation of the parts of the painting to the whole, and the process of construction that led to this expression. (Dabrowski 12) Dabrowski also
connects the compositions to music, “For Kandinsky, the ‘inner sound’ of the picture is the crucial aspect of its success as a painting and the key to understanding. Neither the descriptive quality of figures and objects nor the narrative aspect of the event is essential to him,” (Dabrowski 39) Kandinsky is fascinated by the emotional power of music, which allows listeners’ imaginations to interpret or respond emotionally to something that is not a literal descriptive subject. The abstract nature of both the music and Kandinsky’s art are what bring the two within proximity. We see the unusual pattern of creating in his description of Composition II.

Once in the throes of typhoid fever, I saw with great clarity an entire picture, which however, somehow dissipated itself with me when I recovered…finally after many years I succeeded in expressing in Composition II the very essences of that delirious vision—something I realized, however, only recently. From the very beginning, that one word ‘Composition’ resounded in my ears like a prayer. It filled my soul with reverence. And ever since it has pained me to see how frivolously it is often treated. I allowed myself complete freedom when painting studies, even submitting to the ‘whims’ of my inner voice. (Dabrowski 25)

The Compositions bring together the inner voice, the emotion of music and the visual into the painting.

Kandinsky: The Process of Composition VII

While earlier compositions focused more on color than on form the last three compositions emphasize form over color. Composition VII has a considerable amount of documentation regarding its creation process. There are photographs taken during the painting, from Gabriele Münter, and also the many drawings and color studies leading to the composition. Kandinsky did not specify a theme as he had on several of the earlier compositions. Composition VII is abstract to a high degree and eradicates almost all traces of objects—unlike several of the earlier
compositions it does not have a specific theme. Dabrowski notes what scholars have found in the composition,

The complex iconography of *Composition VII*, as has been pointed out by several scholars, combines the themes of the Resurrection, the Last Judgment, the Deluge, and the Garden of Love. The motifs relating to all of these subjects are recognizable among the turbulent abstract and semi-abstract shapes, and can be identified on the basis of those present in the numerous studies. (Dabrowski 44-5)

There are at least twelve ink studies/drawings/sketches, seventeen in watercolor and oil, and six schematic/analytic drawings—which demonstrate Kandinsky’s practice of alternating between drawings and waters as he worked at the issues of composition. (Barnett 449-69; Dabrowski 86-102) Kandinsky painted the piece over a four-day period following all the work of these studies. The four Münter photographs show the process from drawing of the full composition and then the painting of various sections starting from the center, then the extreme right and finally ending in the lower right. (Dabrowski)

**Conclusion**

Barney Childs suggests about Cage,

The fact that a piece is the result of an indeterminate process is apt to lead to erroneous conclusions about the nature of its treatment of musical time. Such a piece may vary enormously from performance to performance, but each single performance will happen as uniquely and irrevocably in its succession of what's presented now as any more ‘ordered’ music construct. Admitting performer choice to determine order, or improvisation, animates the performer's sense of “right”-ness about what should be played when, but the result is still no less committed to itself than any other piece of music. (Battcock 125)

Cage gives equal priority to the performer, values the sound of “silence” and composes by indeterminancy.
M.T.H. Sadler in the introduction to Concerning the Spiritual in Art dubs Kandinsky as a “visual musician”.

Kandinsky is painting music. That is to say, he has broken down the barrier between music and painting, and has isolated the pure emotion which, for want of a better name, we call the artistic emotion. Anyone who has listened to good music with any enjoyment will admit to an unmistakable but quite indefinable thrill. He will not be able, with sincerity, to say that such a passage gave him such visual impressions, or such a harmony roused in him such emotions. The effect of music is too subtle for words…Of course colour-music is no new idea. That is to say attempts have been made to play compositions in colour, by flashes and harmonies. Also music has been interpreted in colour. But I do no know any previous attempt to paint, without reference to music, compositions which shall have on the spectator an effect wholly divorced from representative association. (Kandinsky, Concerning the Spiritual in Art xix, xx)

Kandinsky’s artistic endeavors—which match much of what Schopenhauer understood about art—provide a fertile field for further exploration by visual musicians. His desire to paint music intersects well with the desire to create a form of visual music.

Cage suggests that duration—and the derivatives of rhythm and percussion—is the most important parameter of music when it comes to composition. He rejects the other parameters—like pitch and amplitude—because they are narrowly based on western conventions of music. He defined music without reference to sound—more closely relate to duration—which is helpful to visual musicians who are working to define music without reference to sound. Kandinsky has suggested that—while painting is normally about space—the visual arts can deal with duration using points, lines, repetition, pulsations created by curves and inner vibrations. The visual musician will be able to change the form over the course of time—a temporality that Kandinsky did not have available to him. Cage often uses repetition in the form of loops and cycles that happen on top
of each other with varying sync points—this style of looping with variable sync points is very common among the visual compositions in the *Visual Music 8/8 Project*.

Kandinsky assumed the most important way to paint music was to adapt the form to the “inner meaning”—which is much more important than any of the techniques that could be incorporated. He sought the “spiritual vibration” which could connect with the vibrations of color and music. The art should be an expression of the feelings—related to the universal passion found in Schopenhauer. Kandinsky calls the artist to listen to the voice of “inner meaning” and the viewer to listen to the art, not to the finally constructed analysis of these pieces. Kandinsky used form to limit the surfaces which affect both the inner and the outer meanings. Kandinsky attempted to put color in motion within his paintings, the visual musician has the reality of color in motion at their disposal.

Cage valued most highly musical pieces, which were indeterminate—those that kept the power to control away from the composers. The *Visual Music 8/8 Project* does give composers control over the visual composition but they have very little insight into what the resulting musical composition will sound like. This project asks the composers to make all of their decisions based on their visual aesthetic and to ignore the possible connections to sound.

The move for Kandinsky toward abstraction and away from the representational—echoes Schopenhauer—and gives insight to the visual musician. Cage’s use of “silence” is much more difficult to translate into a theory for visual music. His compositional methodology that gives a role to the performer is a challenge that also is not yet realized in terms of the visual musician. In the concluding chapter—a starting point will be proposed that would involve the performers in the creation of the visual music and could incorporate the ambience of the setting—like visual mix/dj musicians. While Cage breaking out of the restraints of western music theory is inspirational for the visual musician, Kandinsky offers more insight into the compositional process. The challenge for visual musicians is to find the way to the “inner meaning.”
The Visual Music 8/8 Project desires to create music in two ways: by having visual compositions that are in touch with the “inner meaning” and by using these visual compositions to create music that has been influenced only by a visual aesthetic and not an aural aesthetic. This project takes areas of experimentation from both Kandinsky and Cage with the desire to create visual music and to separate the composition of the sound from the control of aural desires. The musical compositions, will unlike Cage, not be indeterminate or based on a mathematical/computer based algorithm but will be determined by human interventions based on their own visual aesthetic perceptions.
Schopenhauer: Ascetic/ Aesthetic

My path leads to the creation of a fresh perception of the world. I can thus decipher a world that you do not know.

Dziga Vertov (Roberts 42)
Real art isn’t translating an already existing concept into the visual, but is the discovery of the Idea. The question remains how the artist or, for Schopenhauer, the genius moves beyond the concept, the imitative, the mere representation of a phenomenon. Cage and Kandinsky used silence and abstraction in their move away from the representational art and the norms of traditional notated art. For Schopenhauer it is a person of genius who is able to get beyond the representation to the will to become the “pure subject of knowing.”

Now according to our explanation, genius consists in the ability to know, independently of the principle of sufficient reason, not individual things which have their existence only in the relation, but the Ideas of such things, and in the ability to be, in face of these, the correlative of the Idea, and hence no longer individual, but pure subject of knowing. Yet this ability must be inherent in all men in a lesser and different degree, as otherwise they would be just as incapable of enjoying works of art as of producing them. Generally they would have no susceptibility at all to the beautiful and sublime; indeed, these words could have no meaning for them. We must therefore assume as existing in all men that power of recognizing in things their Ideas, of divesting themselves for a moment of their personality, unless indeed there are some who are not capable of any aesthetic pleasure at all. The man of genius excels them only in the far higher degree and more continuous duration of this kind of knowledge. These enable him to retain that thoughtful contemplation necessary for him to repeat what is thus known in a voluntary and intentional work, such repetition being the work of art. Through this he communicates to others the Idea he has grasped. Therefore this Idea remains unchanged and the same, whether it is called forth by a work of art or directly by contemplation of nature and life.

(Schopenhauer, The World as Will and Representation, Volume I 194-5)
If all willing springs from a lack or deficiency, from suffering, we will discover that, any “attained object of willing” will give only temporary satisfaction. Schopenhauer—as if he knew what was coming in the electrate era—recognized the endless cycle of desire and disappointment that can fill an image-based form of communication. This endless cycle describes the temporary respites offered by—but rarely delivered—the advertising consumptive culture. While these consumer goods promise a brief reprieve from suffering they have no long lasting effect. In this electrate era the images are designed to offer beauty with one hand while encouraging more desires of the will with the other. Lasting peace and happiness can never be achieved by a fulfilling of the will. To reach this state requires being raised up from the “endless stream of willing.” When we reach “pure, will-less knowing,” we will be unaffected by everything that moves our will. When we move into this liberated state we are no longer an individual, but are “pure subject of knowing. We are only that one eye of the world which looks out from all knowing creatures.” (Schopenhauer, The World as Will and Representation, Volume I 198)

**Vertov and the Kino-Eye**

Dziga Vertov attempted to be the eye that “captured life unawares.” Rather than starting with a script or other narrative structure he attempted to capture life. While Vertov had a strongly socialist agenda, he was experimenting with getting into the actual visual and sound textures of life. He experimented with recording street noises and editing them but the equipment of his time was not up to it. He describes the day that led to this experiment, “I was returning from the railway station. In my ears, there remained the chugs and bursts of steam from a departing train…someone swearing…a kiss…somebody’s exclamation…laughter, a whistle, voices, the ringing of the station bell, the puffing of a locomotive…whispers, shouts, farewells.” (Roberts 15)

He was stymied in his ideas for this audio collage. At the suggestion of some filmmakers he decided to try his vision on film instead of in the collection of sound. *The Man with the Movie Camera*, the resulting film, Vertov called a “visual
In the proposal for the film we see how far Vertov hoped to take this. "The Man with the Movie Camera constitutes an experiment in the cinematic transmission of visual phenomena without the aid of intertitles (a film with no intertitles), a script (a film with no script), theatre (a film with neither actors nor sets)." (Roberts 32) Vertov saw the need to take film beyond the mere representation of what the eye could see.

Until now we have violated the movie camera and forced it to copy the work of our eye. The better the copy, the better the shooting was thought to be. Starting today we are liberating the camera and making it work in the opposite direction—away from copying. The weakness of the human eye is manifest. We affirm the Cine-Eye, discovering the chaos of movement: the result of Cine-Eye’s own movement; we affirm the Cine-Eye with its own dimensions of time and space, growing in strength and potential to the point of self-affirmation. (Roberts 19)

Vertov takes the viewer into the mechanics of the film so that it loses its power of representation. The films shows us the camera and the operator, the film editor, getting the theater ready for the show, and the projectionist—leaving no question in the mind of the viewers that they are watching a construct. Vertov in creating this visual symphony, captured the activity of people—getting up, working, playing, being intoxicated (with religion), being destroyed by capitalism (with the people rushing into the marketplace) and moving about the city with many forms of transportation. Vertov envisioned his whole effort as creating a montage, not just within the edit.

To make a montage is to organize pieces of film, which we call the frames, into a cine—thing. It means to write something cinematic with the recorded shots. It does not mean to select pieces, to make ‘scenes’ (deviations of a theatrical character), nor does it mean to arrange pieces according to subtitles (deviations of a literary character). Every Kino-Eye production is mounted on the very day that the subject (theme) is chosen, and this work ends only with the
launching of the film into circulation in its definitive form. In other words, montage takes place from the beginning to the end of the production. (Michelson)

Vertov took seriously his own mandate—to separate from the language of theater and literature. He keeps the viewer constantly aware that he is looking at a screen, and they are repeatedly reminded of his intervention with speed change, direction change and split screens. This pushes the viewer to go beyond the representation and enter into the art at a deeper level.

**Beyond Representation**

Schopenhauer believes that most people will never be able to attain this state—of experiencing the Idea—for they seek objects only in relation to their will. Their interface with objects is arranged around a system of desires, attainment, and the lack of fulfillment, which starts the cycle all over again. The question is; how can the individual will be frustrated in such a way as to allow us to find true art? Schopenhauer takes us on the first step of discovering two of these ways with a discussion of beauty and the sublime.

Thus what distinguishes the feeling of the sublime from that of the beautiful is that, with the beautiful, pure knowledge has gained the upper hand without a struggle, since the beauty of the object, in other words that quality of it which facilitates knowledge of its Idea, has removed from consciousness, without resistance and hence imperceptibly, the will and knowledge of relations that slavishly serve this will. What is then left is pure subject of knowing, and not even a recollection of the will remains. On the other hand, with the sublime, that state of pure knowing is obtained first of all by a conscious and violent tearing away from the relations of the same object to the will which are recognized as unfavourable, by a free exaltation, accompanied by consciousness, beyond the will and the knowledge related to it. This exaltation must not only be won with consciousness, but also be maintained, and it is therefore
accompanied by a constant recollection of the will, yet not of a single individual willing, such as fear or desire, but of human willing in general. (Schopenhauer, The World as Will and Representation, Volume I 202)

The difference is primarily related to how this state of “pure will-less knowing” is achieved. Does it appear with opposition by a “disappearance of the will from consciousness” or is it achieved by a “conscious exaltation above the will.” Schopenhauer is clear that beauty and the sublime are not opposites but are two ways of going beyond the will. The opposite of the sublime is that which appears “charming or attractive.” These charming objects stimulate the will by offering “satisfaction and fulfillment.” This stirring of will draws the viewer “down from pure contemplation.” What Schopenhauer is seeking to avoid is art that stirs the will through representations that cause desire or whet the appetites. The purpose of art is the opposite of this—to enable the viewer to enter into a will suppressed state of contemplation. This state is similar—although less intense—to that of the artist creating the work. The sublime arises when something that is unfavorable to the will “becomes the object of pure contemplation.” (Schopenhauer, The World as Will and Representation, Volume I 207)

**Contemplation**

If we are beyond the will, when we call something beautiful we are no longer speaking in terms of desire or in terms of the individual object.

By calling an object beautiful, we thereby assert that it is an object of our aesthetic contemplation, and this implies two different things. On the one hand, the sight of the thing makes us objective, that is to say, in contemplating it we are no longer conscious of ourselves as individuals, but as pure, will-less subjects of knowing. On the other hand, we recognize in the object not the individual thing, but an Idea; and this can happen only in so far as our contemplation of the object is not given up to the principle of sufficient reason, does not follow the relation of the object to something outside it (which is ultimately
always connected with relations to our own willing), but rests on the object itself. (Schopenhauer, *The World as Will and Representation, Volume I* 209)

When contemplation recognizes the beautiful—but without individual desire to possess or control—it moves beyond the realm of the advertising based image to a place of will-less knowing.

The images and the connections made by advertising images—which attempt to define the beautiful life—attempt to reach the viewer in their emotional center while avoiding any foray into logic. While logical reflection will deflate most advertising claims and hinted connections, Schopenhauer does not suggest that we can find the true beauty by reason and logical reflection. He suggests that art must go beyond the scientific reason and beyond the symbolic attachment or relationship.

What kind of knowledge is it that considers what continues to exist outside and independently of all relations, but which alone is really essential to the world, the true content of its phenomena, that which is subject to no change, and is therefore known with equal truth for all time, in a word, the *Ideas* that are the immediate and adequate objectivity of the thing-in-itself, of the will? It is *art*, the work of genius. It repeats the eternal Ideas apprehended through pure contemplation, the essential and abiding element in all the phenomena of the world. According to the material in which it repeats, it is sculpture, painting, poetry, or music. Its only source is knowledge of the Ideas; its sole aim is communication of this knowledge…art…plucks the object of its contemplation from the stream of the world’s course, and holds it isolated before it. (Schopenhauer, *The World as Will and Representation, Volume I* 184-5)

This contemplation is the opposite of science, which follows reason and can’t find complete satisfaction. Art considers things without the rational method of the principle of sufficient reason. This, according to Schopenhauer, is the form of
true genius—the ability to do “pure contemplation.” “Accordingly genius is the capacity to remain in a state of pure perception, to lose oneself in perception, to remove from the service of the will the knowledge which originally existed only for this service...to discard entirely our own personality for a time, in order to remain pure knowing subject, the clear eye of the world.” (Schopenhauer, The World as Will and Representation, Volume I 185-6) The true genius is animated and restless because the present can’t fill their consciousness. The true genius requires imagination to see, not what nature has formed, but the intended form within the Will. The logic of mathematics and science obscure this insight rather than assist it.

Building musical instruments requires the usage of mathematical formulas, and construction techniques informed by science. The builder must understand the physics of form and strength, and the relations of length and size to tone. However to create instruments that go beyond the average the builder must be in touch with less scientific things as well. Sobell, the builder of the instruments in the Visual Music 8/8 Project, imagines the beauty found in a raw piece of wood, imagines the shape of that wood carrying the opportunity for sound and visual contemplation. He can hear in his mind how particular wood grains will vibrate with sound when the instrument is completed and the attached strings are struck. Many of the formulas for building an instrument involve science and math, in terms of mechanical strength, string length and fret placement. These qualities alone however will not make a fine instrument. To make a fine instrument requires the ability to see into the wood—to see the form hidden in the wood, to hear the vibrations inherent within the wood. In Stefan E-V, Sobell is choosing the grain patterns and placement for the back of a large-body bouzouki. The tighter grains of the Cocobolo wood will provide deep clear tone with good separation in the final instrument. Stefan A-IV shows Sobell trimming the bracing to the shape and thickness that maintains structure strength but allows full toned vibrations. The builder must function in both ways to build instruments of true beauty. Sobell’s instruments, for those who recognize it, holds the eternal Ideas apprehendable through contemplation.
Schopenhauer identifies the challenge for the artist—to go beyond the will, beyond the representation to the Idea. The artist must become the knower. Jacquette suggests,

The artist suffers extraordinarily, according to Schopenhauer, because genius experiences the greatest frustrations of creative activity in its compulsion to represent nonrepresentational knowledge…The artist, then, is first and foremost a knower, someone with a distinctive albeit nonrepresentational imagination-enhanced knowledge of Platonic Ideas acquired by sensory experience of the world as idea. (Jacquette 10-1)

Schopenhauer considers how one reaches this state of pure knowing. He has already given us a hint in the discussion of beauty and the sublime, with the struggle-free feeling of the beautiful and the “conscious and violent tearing” exaltation of the sublime. It should come as no surprise that Schopenhauer suggests suffering as a way that can lead an understanding of the world without the will. While the one path, aesthetic contemplation, is similar to the effect of beauty, the other leads to more struggle. Ascetic suffering, self-denial, is the other path to a suppressed individual will, which will reveal the “pure knowledge.” For the artist, who is called to suffer, the frustration and repression of the will opens the way for the art to come forth.

Ascetic

Schopenhauer describes ascetic suffering, in a constellation of words which circle around the themes of suffering and denial within a deliberate course of life. Ascetic suffering is: saintly self denial, nonrepresentational, denial of the will to live(not to be confused with a desire for suicide—which is often driven by the individual will), disciplined self-denial, a deliberate suppressing and breaking of the will, deprivation of the will’s longing for bodily needs—often seen in chastity and voluntary and intentional poverty. This suffering is a form of freedom, freedom as resignation, or freedom from the will altogether (We could compare this to the aesthetic path which is only freedom from the individual will.). The person
chooses suffering, “therefore, every suffering that comes to him from outside through chance or the wickedness of others is welcome to him; every injury, every ignominy, every outrage.” (Schirmacher 166) For the person who has achieved this state, ecstasy and other intense emotions lose their effectiveness for they are simply signs of the will’s attachment to objects. The experience is a loss of individuality.

His will turns about; it no longer affirms its own inner nature, mirrored in the phenomenon, but denies it. The phenomenon by which this becomes manifest is the transition from virtue to asceticism. In other words, it is no longer enough for him to love others like himself, and to do as much for them as for himself, but there arises in him a strong aversion to the inner nature whose expression is his own phenomenon, to the will-to-live, the kernel and essence of that world recognized as full of misery. He therefore renounces precisely this inner nature, which appears in him and is expressed already by his body, and his action gives the lie to his phenomenon, and appears in open contradiction thereto...he ceases to will anything...thereby denies the affirmation of the will that goes beyond the individual life, and thus announces that the will, whose phenomenon is the body, ceases with the life of this body. (Schirmacher 164)

Schopenhauer twists us around lest we all become “desert fathers” in a quest to become an artist. We can't deliberately choose this life from our will, with the desire to create art that comes from “pure knowledge.”

Now since, as we have seen, that self-suppression of the will comes from knowledge, but all knowledge and insight as such are independent of free choice, that denial of willing, that entrance into freedom, is not to be forcibly arrived at by intention or design, but comes from the innermost relation of knowing and willing man; hence it comes suddenly, as if flying in from without. (Schirmacher 190)

Suffering doesn't leap forth as a new subject to readers of Schopenhauer—suffering is one of the essential experiences of human
existence—what becomes new is the relationship of self-denial to the creation of art. Documentary film-makers and photographers often focus on the pain and humiliation of humanity.

Documenting Suffering as Art

Documentary film has been used as a vehicle to bring the subject of human suffering into the consciousness of society for years. We must determine if they remain in the individual experience or move beyond it to the Idea. Paula Rabinowitz claims that, “The invention of the individual witness whose personal story serves as a template for history has been crucial to twentieth-century Western accounts of atrocity and war.” (Rabinowitz 107-8) The accounts of mass destruction have assumed a sense of urgency in our culture and the individual narrative serves as a universal truth. Claude Lanzmann is one of the witnesses to the Holocaust—one of the most atrocious events of the last century.

Lanzmann, who has tried to bring forth the unspeakable holocaust, works much like Kandinsky with the abstract visual, or with an aesthetic visual approach rather than trying to use historical artifacts from the holocaust. Rabinowitz describes his style,

\textit{Shoah} reimagines the relationship of viewer to film, and of history to documentary, by producing a historical document without references. Lanzmann makes visible the unseen, the witnessing of an event without witness, through speech: the purpose of the extermination camp was not only to annihilate a people, but to erase the evidence of its existence, to deny the power of looking and telling. (Rabinowitz 28)

Lanzmann pushes his witnesses to recount painful memories. They must reenter a place of suffering for the crafting of this film. The film forces us to resign ourselves to the pain, to give up the desired explanation, the desired happy resolution of the traditional Hollywood film including Steven Spielberg’s \textit{Schindler’s List}.

\textit{Shoah}, by Lanzmann, is made up of testimonies and visuals relating to place and movement. It is not an historical document but is about the "relation
between art and witnessing.” (Felman 205) Shoshana Felman suggests in relation to Shoah that, “Knowledge is shown by the film to be absolutely necessary in the ongoing struggle to resist the blinding impact of the event, to counteract the splitting of eyewitnessing. But knowledge is not, in and of itself, a sufficiently active and sufficiently effective act of seeing.” (Felman) This is an echo of Schopenhauer who refuses to consider that art could come out of reason, but says instead that pure knowledge comes out of art. Lanzmann had few rules when he set out to produce Shoah, but was clear in his determination not to answer the question of why. He says, “Not to understand was my iron law during all eleven years of the production of Shoah.” (Caruth 204) You can’t start from a rational position of truth and get to what is truly there. Lanzmann describes the results if he hadn’t followed this rule,

You can imagine a conversation between the SS of Treblinka, for instance, and me about their life, about how did they come to this point, how did they arrive there. This has been attempted already. They talk very much about their parents, about their childhood, about their schooltime. And there is a gap, and they know perfectly well that they cannot bridge it. (Caruth 212)

Lanzmann himself reports his own difficult experience of making the film. “My problem was to transmit. To do that one cannot allow oneself to be overwhelmed by emotion. You must remain detached. This work has plunged me into an immense solitude…But it was essential not to be crushed. Or to crush others. I tried rather to reach people through their intelligence.” (Felman 239)

Documentary photographs have been used in equally gripping ways. In the thirties, the Farm Security Administration sent photographers across America to document the economic disaster. Rabinowitz explains the purpose, the “team needed to provide evidence of the brutalizing conditions of rural poverty to ensure that the programs instituted by the New Deal would continue; but they also needed to create arresting images, icons that could enter and alter cultural memory.” (Rabinowitz 44) Dorothea Lange became famous for many photographs taken during this time—Migrant Mother is possibly the most iconic of these.
Rabinowitz reports on Lange’s experience of this photograph,

Dorothea Lange recalled her encounter with Migrant Mother Florence Thompson as an exchange: she claimed they both understood that each woman could do something for the other. This exchange was hardly an equal one: Lange received material and career benefits from the portrait of Thompson and her children; perhaps she and her children eventually benefited from the migrant camps which the government set up after the plight of these hungry families became a national outrage, spurred in part by the wide circulation of Lange’s photographs. (Rabinowitz 103)

Although *Migrant Mother* has become iconic, the original viewers of the image were moved not by the particular emotion of the woman but by the larger sense of suffering it contained. The current viewer, however, may be more attracted to the beauty of the image—and the technique—then they are grabbed by the universal Idea.

Felman suggests that these documents of suffering do not bring us to a to a complete statement of knowledge.

What the testimony does not offer is, however, a completed statement, a totalizable account of those events. In the testimony, language is in process and in trial, it does not possess itself as a conclusion, as the constatation of a verdict or the self-transparency of knowledge. Testimony is, in other words, a discursive practice as opposed to a pure theory. (Felman 5)

Testimony stays away from being conceptually based, which Schopenhauer discounts, but goes beyond the individual will toward the universal Idea of pain. For photographers, like Lange, it is an entering into the suffering that allows the creation of the art that functions at a deeper level. To move to the general makes the voice echo the Idea that is exposed in the testimony of a particular event.

For some writers and artists the experience of suffering is not their choice. Felman states that poet Paul Celan’s “witness is not that of an ‘invited,’ but rather that of an evicted, traveler: one whose journey has originated in the constraint of
deportation, in the throes of an *ejection* from his native country.” (Felman 25) The challenge for many documentary artists is choosing, consciously, to enter into the suffering of an event or an individual’s experience. To enter is to leave behind the desire for simple easy constructs or to leave behind the basic desire for happiness. Choosing to enter into the suffering is to deny the will, to put aside the desire for a quick and easy solution, to accept the experience of pain. Avital Ronell speaks to this breaking of the will, “We have a blind urge to stop the question, the desire to snatch a quick answer, an answer that will kill the question.” (Ronell) She suggests that,

> Philosophy has to stop testifying for the defense team but must go into the emotion. It must abandon its traditional pursuit of conciliation. Philosophy can't be detached, but needs to stay with the untamable ravages of horror. They must stop making sense of something that can’t be resolved...Art must make a choice, while knowing whatever you have done may not be right. (Ronell)

The documentary artist may not live in a state of total denial, but the act of stepping into this pain—not a private personal pain, but a universal pain of humanity—brings the same possibility of the ascetic experience. Many times the most difficult denial—is to deny that you can fix something, that you can make the situation better, that you can create this art without causing more pain. Some artists would choose to avoid working with these issues because it runs the risk of re-traumatizing the subject. To choose to be the instrument of any pain is not an easy decision, but the true artist also recognizes that they are bound by an equally painful—if not more painful—option of being silent. To be silent in the face of this pain is to deny the witness, is to acquiesce to the desire for silence of those who committed the atrocity, to give in to the will and ignore the Idea.

*Journey Toward Forgiveness*, produced for ABC television release, is an example of this difficult decision. (Holsopple, *Journey toward Forgiveness*) Wilma Derksen, whose daughter had been abducted and killed more than 10 years before, confessed that she had been unable to watch the home movies of her daughter since that brutal event. During the hour and a half long interview, she
cried for more than fifteen minutes. The act of production though allowed her to reflect on the person that she had become, to again view this family footage, to recognize the strength of her support group. The producer had to enter into this intense experience of pain, had to live within the tension of this pain, had to allow the pain to sit there unresolved, to find the Idea that is contained in the art. (A series of digitographic images also exists from this same intense experience.)

Near the end of the production, the family survivors group—that Derksen was part of—invited the producer to sit with them since they recognized the same effects of trauma within him as they had experienced. The task of this documentary production style required the entering into of pain, suffering, and a loss of the sense of control. Derksen and the other subjects chose to re-enter their own pain, invited the producer to walk with them into the pain, because they were committed to the documentary work that would come out of that interaction. “Barb”—one of the subjects—in the documentary video, Beyond the News: Sexual Abuse, entered into her personal pain as a way of letting the “truth” be brought into view. During the production “Barb” was able to tell her story but when the camera was shut off let out a primal scream and wept for an extended period of time. (Holsopple, Beyond the News (11 Editions)) Neither of these shows suggest easy answers or quick resolutions—in fact they invite the viewers to also enter the pain. Artists could create these works without stepping into the pain, by reflecting on the sublime in a detached way, but they would be tempted to stay on the surface, to fulfill the willful desire for an aesthetic resolution that doesn’t muck in the pain. To enter the pain, to expose oneself to the chance of opening up more pain, of refusing to offer quick answers can be the entry point into the creation of art that reaches the Idea.

Dori Laub talks about the experience of one who listens to another human who has experienced suffering.

The listener can no longer ignore the question of facing death; of facing time and its passage; of the meaning and purpose of living; of the limits of one’s omnipotence; of losing the ones that are close to us; the great question of our ultimate aloneness; our otherness from
any other; our responsibility to and for our destiny; the question of
loving and its limits; of parents and children; and so on. (Felman 72)
This is the pain of the documentary artist who chooses to leave the natural longing
of the will behind and pursue the course of denial in the construction of their art.

John Atwell suggests what an artist, who has chosen to enter into this
suffering, offers to the viewer.

The genius, through his extraordinary insight into the fact that life
(including his own life) is essentially suffering, reaches the point at
which the great question of life stands out most vividly—whether to
affirm life or deny it—and he chooses to affirm life, knowing full well
what his choice involves…sacrificing himself, as it were, for the good
of humankind by creating artworks that facilitate apprehension of the
Platonic Ideas by others and that, equally, offer others the now-and-
again consolation of aesthetic serenity. (Jacquette 93)

Most commentators on Schopenhauer seem bound to the traditional ideas about
the ascetic path. Jacquette’s comments illustrate this,

The best route through suffering to an understanding of the world as
Will for Schopenhauer is therefore more specifically suffering induced
through deliberate efforts at suppressing the will. This involves the
disciplined self-denial of ascetism, leading by degrees from
deprivation of the will’s longing for such bodily necessities as food,
water, companionship, and sleep, to the experience of a mystical loss
of individuality and dissolution of the subject-object distinction.
(Jacquette 8)

These commentators, by sticking to traditional definitions of the ascetic life miss the
rich possibilities that come to artists who make themselves available to the pain of
the world around them.

How Can I Sing a Glad Song, from the album But Until Then, illustrates a
musicians struggle with the experience of pain. (Holsopple, But until Then track 2)
The song written after a trip to Liberia, where six political/ethnic factions were
destroying the people and the country with a civil war, demonstrates the desire to
let that suffering be expressed in music. The author did experience during this trip not only the suffering of others but the deprivation of food, water and rest. In spite of a return to a more normal physical life, the composer chose to remain in the pain seeking the Idea. Few if any artists master fully the denial of the will, according to Schopenhauer, but the documentary artist can enter into the suffering of others, denying their individual will and creating an artistic work. However, Schopenhauer suggests that the aesthetic path is the more normal path for the artist.

**Aesthetic**

For Schopenhauer the aesthetic path involves contemplation, with an overwhelming experience of beauty and the liberation temporarily from suffering. The genius suffers more than all others and this aesthetic experience is a temporary liberation from that suffering. The aesthetic pleasure delivers knowledge from service of the will, causes a forgetting of oneself as an individual and is an enhancement of consciousness. It leads to the pure will-less, timeless freedom of pure knowing. The aesthetic experience frees one from the world as representation and becomes the intuitive apprehension of the Platonic Idea.

While Schopenhauer seems unclear about the effort the person makes in relation to this aesthetic experience it is clear that this path involves little or less denial of the will. Aesthetic contemplations are moments where the will is suppressed as opposed to the ascetic path, which implies a more constant denial of will. Just as the experience of beauty requires less effort to set aside the ordinary concerns of the will than does the experience of the sublime, so too does the aesthetic path require a less continual denial of the will.

The aesthetic experience as Jacquette explains,

> Involves a brief but pregnant suppression of the individual will. What Schopenhauer means by this is that in contemplating nature or art, the aesthetic genius stands so enraptured in an encounter with beauty or the sublime that there occurs something like a mystical union of the subject with the object in a dissolving of the subject-object distinction. The desires of the
individual will are overruled by absorption in the moment of aesthetic appreciation. (Jacquette 8)

Lucian Krukowski extends this moment into the art itself, suggesting that within it is the momentary separation from will. “Artworks, even the arts of time—music, drama—are about stillness, when stillness is understood in its metaphysical sense as completeness and perfection.” (Jacquette 67) Having stillness within the arts of time—music and video—challenges artists to create still motion. In the Visual Music 8/8 Project, Terry D-III captures the motion of the player within the portrait. In Keith D-III the heads and bodies begin to disappear melting into the instruments, into the enveloping music making—the rational mind is removed as the mood of the music takes over. Both of these images work to bring completeness by capturing more than just a moment, but the deeper essence of what is happening. Visual Composition I contains slow mostly abstract motion that brings a sense of completeness like sitting by slowing flowing water. Visual Composition VII, also abstract, moves at a much faster pace but also gives a sense of completeness within the motion.

If the artwork carries this momentary suppression of the will within itself, that does not mean that the whole process of the completion of the artistic piece is carried out in this moment. For Schopenhauer there are three stages in the aesthetic creative process. First you have the sensory reception of the Platonic Ideas. The artist may seek out the moment by cognitive activity, but it usually happens in the midst of contemplation. Secondly, the artist will complete or perfect the Ideas and find a vehicle for the communication of the Idea. Thirdly, the production of the work requires an act of the will, creating a non-discursive expression as intelligible form in an artistic medium.

Schopenhauer sums up, “In the aesthetic method of consideration we found two inseparable constituent parts: namely, knowledge of the object not as individual thing, but as Platonic idea, in other words, as persistent form of this whole species of things; and the self consciousness of the knower, not as individual, but as pure will-less subject of knowledge.” (Schopenhauer, The World as Will and Representation, Volume I 195) Schopenhauer’s theory is a major
alternative to the more respected scientific method of knowing and the corollary of expert technique. The artist—and the visual composer in particular—must not get tied up in the scientific enquiries and into the obsession with creating the next computer technique if they want to create art. The aesthetic process leads to Schopenhauer’s discussion of genius in the creation and reception of art.

The Role of the Genius

The reception of art has lower requirements than does the production. Paul Guyer points out this difference in referring to Schopenhauer’s writings.

The production of art through genius clearly requires the highest degree of activity; the reception or appreciation of art produced by others, however, requires not only a lower degree of activity than such production of art, but even a lower degree of activity than aesthetic response to nature. This is because in a work of art the Platonic Ideas have already been isolated out by the artist.

(Jacquette 121)

In spite of the work of art bringing the Idea closer to the viewer, it does not mean that most people experience it. Schopenhauer says, even “the most excellent works of art, the noblest productions of genius, must eternally remain sealed books to the dull majority of men, and are just inaccessible to them.”(Schopenhauer, The World as Will and Representation, Volume I 234) It does not even mean that the artists, themselves, can explain, interpret, or fully understand their own art—or that they can articulate with words the Idea that is coming out of the art.

The artistic activity is to bring to completion the Will—not by seeing what nature has formed but the intent of that formation. “But it is perception above all to which the real and true nature of things discloses and reveals itself,” (Schirmacher 86) says Schopenhauer,

although still in a limited way…But if our perception were always tied to the real presence of things, its material would be entirely under the dominion of chance, which rarely produces things at the right time, seldom arranges them appropriately…For this reason imagination is
needed, in order to complete, arrange, amplify, fix, retain, and repeat at pleasure all the significant pictures of life, according as the aims of a profoundly penetrating knowledge and of the significant work by which it is to be communicated may require. (Schirmacher 86)

What all of this means for the artist—who listens to Schopenhauer—is that art is not constructed by reference to myth, culture or belief, but by the direct portrayal of the Will. This eliminates the codified symbolism that would make art easy to interpret with one-to-one correspondences.

Already here in the discussion of genius we find Schopenhauer discriminating between music and the other arts—and as expected suggesting that the creation of the melody requires the most genius (See section on Art/Music for more). Lydia Goehr stresses Schopenhauer’s view that music requires more genius for its composition than do any other forms of art.

Music is the product of genius, Schopenhauer explains, but it requires more genius than does the production of the other arts. The same dualism which separates the Will from representation, the universal from the particular, the metaphysical from the physical, music from the plastic and literary fine arts also separates the composer-genius from the embodying (phenomenal) person. (Jacquette 206)

Goehr reminds us though that music has the most to offer those who listen or experience the music.

The experience of music, as the highest form of aesthetic experience, is “remote from pain” because it is without phenomenal reality. Unlike in our everyday existence, in music we experience the life of the Will without bearing the full pessimistic brunt of its associated frustrations. Music offers us, therefore, even if for just a brief moment, a redemption from our perpetual suffering. (Jacquette 208)

The Artistic Dilemma

What is an artist to do? The artist can choose—if you can really choose—the path with the self-denial of asceticism, following in the footsteps of the
mystics and desert fathers. This is a full denial, or suppression of the will. The artist can also choose to enter fully into the suffering of world as a listener—walking alongside in the suffering—during the production of documentary works. The artist must leave behind the will that asks for tranquility and happy endings. Alternatively the artist can be open to the momentary liberations from the individual will of the aesthetic path. In either case the artist is at a risk to experience at a deeper level the suffering that Schopenhauer claims is a major component of the human experience. It appears that the artist must pay the price for the revealing of the Idea, for the artist as Lucian Krukowski points out can never stay fully in the moment or life where the will is suppressed.

The lessons contained in art, those glimpses of the possibility—and rewards—of a contemplative life, may secure art’s philosophical value, but they place the artist in a dilemma that is as personally insoluble as it is vocationally necessary. The dilemma is this: artists, like philosophers, must face the “true nature” of will in order to reveal it; but unlike philosophers, artists cannot escape the will by withdrawing from its imperatives, for artistic creativity is action in the world. Schopenhauer’s philosopher has good reasons to deny the value of action: Ambitions are never fully realized; happiness is a chimera just beyond reach; progress is a coercive illusion; and there is no God to help along. The artist’s product—the artwork—shows us the tranquil alternative to the will through images of the world of forms, a world where there is no inadequacy to instigate action. Yet the completeness of art’s content must take shape—be created—within the world of will, and here we find the dilemma Schopenhauer gives to creativity. Artists cannot deny ambition or the hope of progress if they are to fashion the images that, viewed philosophically, provide good reasons for just such denials. In this sense, the didactic import of art’s content cannot be applied to the actions that lead to its creation—nor can it inform the lives of its artists. (Jacquette 65)
The pleasure the genius gets from everything beautiful is the return for the artist—the reward for accepting the task and the suffering. As Schopenhauer explains,

The pleasure of everything beautiful, the consolation afforded by art, the enthusiasm of the artist which enables him to forget the cares of life, this one advantage of the genius over other men alone compensating him for the suffering that is heightened in proportion to the clearness of consciousness, and for the desert loneliness among a different race of men...This purely knowable side of the world and its repetition in any art is the element of the artist. He is captivated by a consideration of the spectacle of the will’s objectification. He sticks to this, and does not get tired of contemplating it, and of repeating it in his descriptions. Meanwhile, he himself bears the cost of producing that play; in other words, he himself is the will objectifying itself and remaining in constant suffering. (Schopenhauer, *The World as Will and Representation, Volume I* 267)

While this begins to sound like the self-denial of the ascetic path previously described by Schopenhauer, for the artist it does not contain the “resignation” of the saint and deliver him from life forever—it is only a temporary reprieve. Unlike the way of the mystic, the artist does not leave life and experiences only a temporary moment of contemplation.

Sobell, the instrument builder from the *Visual Music 8/8 Project*, finds the sensuous beauty in the grains of the various woods that he carefully shapes, scrapes, smoothes, bends, carves into the intricate details of an instrument. He carefully chooses each piece of wood, examining it closely so that he can hear the silent sound contained in the fiber that will another day be part of an instrument making delightful sounds for the player and listener to hear. Even the crafting that Sobell does involves his ability to perceive something different than the average person does in the piece of wood. This returns us once again to the importance that Schopenhauer has for all artists.
The world can appear in its true color and form, in its complete and correct significance, only when the intellect, freed from willing, moves freely over objects, and yet is energetically active without being spurred on by the will…the intellect of the genius is detached from the will and so from the person, and what concerns these does not conceal from him the world and things themselves; on the contrary, he becomes distinctly conscious of them, and apprehends them in objective perception in and by themselves; in this sense he is *reflective*. (Schirmacher 89)

Wolfgang Schirmacher summarizes our challenge,
Schopenhauer perceived in art a realm in which this entirely different world lived by us for moments all too rare, lived by creative artists as well as by neocreative viewers, by writers and empathetic readers. Through its transition to ethics Schopenhauer’s “gnostically tinted aesthetics or worldlessness,” as found in his philosophy of art, becomes an “aesthetics of aliveness” that in the “experience of otherness” overcomes the stagnation of the given world. But in “pure knowing” as well, in the work of philosophical genius, we can become “the clear eye of the world.” Compassion is a way of life enabling us to put into practice the “turning” of the will, and thus achieve its suspension. (Schirmacher xvii)

Schopenhauer is not advocating that artists choose to be ascetic, in fact suggesting that few can master that self-denial—but artists should not abandon the idea too rapidly especially as we work within the rapid pace of the electrate age. Artists can at least consider the possibility of entering more fully into the pain of others, especially in the field of documentary art. It is unlikely that many artists will go so far as to follow Schopenhauer’s suggestion of avoiding images of desire—food and nudes—which lead to desire and a breaking of the desired contemplation. The artist must pay attention to what gets in the way of their contemplation—of what calls to their individual will.
Schopenhauer placed a high value on aesthetic contemplation, which is a needed correction to the tendency of modern artists to get so enamored by the electronic tools available that they no longer experience the momentary times of the “suppression of the will.” The visual composer—often working solely with digital tools—must find ways to stay connected to the suffering world—not getting lost in their electronic cave which rarely functions as the desert hermits cave did. Technique must not get in the way of following the ascetic and aesthetic paths that Schopenhauer has delineated. Schopenhauer moves us beyond an obsession with technique, beyond the imitative representational arts, as we reach for the “pure knowledge”
Reggio and Eno

The role of the artist is to be like God, creating the space and the possibilities and then the user becomes like the gardener still taking part in the creative process but unable to change the rules of the system.

William Latham (J. Morris)
Godfrey Reggio and Brian Eno break the traditional composition and production patterns within their individual media. Reggio works primarily with the visual, but integrates music into the process from the very beginning—forging movies that lack traditional forms of narrative. Eno foregoes the dominant human voice, and the accompanying chordal progressions to create music with a new tonality. Tom Johnson describes this new tonality,

The greatest difference between the new tonality and traditional European tonality is that recent music doesn’t have much to do with chord progressions. You don’t hear clean shifts from dominant to tonic chords in the new tonality. You seldom even hear those major and minor chords that are the essence of traditional European tonality. Instead, you hear, basically, a scale, and the chords and melodies that arise may be any combination of notes from this scale. As there is no concern for the chord progressions that propelled traditional European music and that continue to propel most pop and folk music as well, there is no need for a strong bass line to carry the progressions. (Battcock 32-3)

*Discreet Music* is one of many examples of this new tonality in Eno’s work. The music compositions within the *Visual Music 8/8 Project* fall easily into this categorization. The composers, working solely with the visual information, do not achieve strong chord patterns. The music becomes groups of notes built into a sound palette that changes slowly and unpredictably. The musical compositions don’t offer the bass line and the melody driven music.

Reggio—who spent 14 years in silence and prayer as part of a contemplative religious order—can’t escape the ascetic imprint of that experience when he creates a film. The film images certainly explore the surface but quickly pull the contemplation of the viewer under the surface, to experience the raw reality. Reggio describes the moments in his life experience that crystallized the desire to create these “concert cinema” experiences—the experiences that reveal the deep ascetic foundation from which he comes.
I think in every person’s life there’s a thread. The moments in our life that crystallize are the equivalents of beads, and while they seem to be disassociative at times, in fact one thing leads to and builds on another. I don’t think it’s a linear progression, it happens more in a spiritual sense. To be specific, in my case I went into my religious community at the age of 14. I had hoped for the opportunity to be intensely idealistic, of leading an absurd life, one that could shun the world, the world being pleasures, gratifications, rewards, attentions, and success, to pursue a more interior life, one of service to other people. I became disenchanted, not with the concept, but with the reality of living in a structure that was more involved with the letter of the law than the spirit. Hence, after taking final vows at the age of 25, I was asked to leave the brotherhood, through mutual agreement, at the age of 28. I felt however that it was great preparation for my life. Instead of growing up in the ‘50s as an adolescent, I grew up in the Middle Ages as an adolescent. That can produce abnormalities to be sure. In terms of how it effects the film, my interest is not to pursue a career in the industry but to pursue my own creative capacities as best I can. (Reggio, Films That Heal: An Interview with Filmmaker Godfrey Reggio)

Reggio brings a strong ascetic bent, which merges with his current passion to use the visual image in an aesthetic way.

Eno—representing the artistic urge that comes from aesthetic experience—works to create music that has removed the human reference. Many of his efforts distort or abandon altogether the use of human voices. Eno’s inspiration comes from the landscape painters of the early 20th century as he tries to create music that is like a “figurative painting”—unlike Kandinsky who attempted to paint like the abstract forms of music. (Mallet) The musical landscapes, On Land, become another way to experience the world.
Reggio: Technology and Human Spirit

Reggio’s ascetic life gives him the perspective to criticize the very technology, which he has chosen to use—all the while refusing to concede the total demise of the spirit.

Industrial technology has spelt the end of spirit, it has practically eliminated the environment, it has inspired madness beyond anyone’s ability to imagine... I’m not against technology, it means technique, a way of doing something. What I’m questioning is the technique that results from the energy of centralized forms, such as nation/states, corporations, and conglomerates. (Reggio, Films That Heal: An Interview with Filmmaker Godfrey Reggio)

Reggio reserves most of his critique for the systems—the corporate organizations that centralize power—rather than then the humans functioning within those systems.

All three film-titles, in the Qatsi trilogy come from the language of the Hopi Indians. Koyaanisqatsi means ‘life out of balance.’ Powaqqatsi means ‘one life consuming another.’ Naqoyqatsi can be translated as ‘war as a way of life.’ Reggio originally envisioned these three films to express his point of view on the modern technological environment. (Reggio, Interview: Godfrey Reggio)

The first film dealt with Northern Hemisphere, hyperkinetic societies, Koyaanisqatsi. The second film dealt with Southern Hemisphere cultures of orality, cultures of simplicity and tradition as they’re being seduced by progress and development, Powaqqatsi. And early on, in fact, during the time when Powaqqatsi was put together, it became clear to me that the subject matter of this (Naqoyqatsi) film would be this moment of globalization in which we find ourselves. (Reggio, Interview: Godfrey Reggio)

Naqoyqatsi differs from the first two installments of the trilogy by relying heavily on the digital manipulation of religious and political symbols, advertising images and corporate logos. The first two films relied on a documentary film style to achieve the visual image, but Naqoyqatsi demonstrates Reggio’s willingness to use
technology to create a blistering attack on itself. All three films, especially Powaqqatsi, are about the move of culture from an oral culture into the image dominated electrate culture. *Naqoyqatsi* uses digital technology for most of the images—the faces of people that appear in the news, the images from advertising, images that the viewer sees daily—but all changed by the digital processing. Reggio, from long reflection on the technology that surrounds the global context brings together the hopeless—with the cynicism often engendered by technology—and hopeful convictions.

I'm trying, as difficult as this might sound, to hear, to be courageous enough to be hopeless about this world order in order to be able to be hopeful about something that's more akin to what it means to be a human being. Now I realize that's an enormous indictment. I look at the world from the point of view of we're in the moment of the twilight of the real…From that point of view, technology is the new sun of our universe and the effort of these films has been to try, through art, to seek the darkness, as it were, from the light of that overwhelming, that blinding technology. (Reggio, *Interview: Godfrey Reggio*)

Reggio, like Lanzmann, puts the painful reality of suffering, oppression, and injustice on the forefront of his images. While, Lanzmann uses contemporary images of historic places coupled with the narrative reflections, Reggio uses engaging images that expose the rapid disintegration of culture. Seeking the darkness doesn’t seem like a likely way to find hope, but Reggio seeks it in that very place. Reggio is surprisingly positive about humanity. “I believe in the innate goodness of human beings. If I didn’t believe in that, then there would be no hope. Hope is the substance of things to be hoped for. If you can’t believe in the goodness of human beings, then we’re all part of a massive joke in a slave colony and everything is fucked up and there’s no hope.” (Reggio, *Films That Heal: An Interview with Filmaker Godfrey Reggio*) Reggio’s films show that he is aware of the vast changes that have and are coming with advent of the electrate era.

In describing *Koyaanisqatsi* we see that Reggio wanted to get beyond the surface understanding.
What I tried to show is that the main event today is not seen by those of us who live in it. We see the surface of the newspapers, the obviousness of conflict, of social injustice, of the market, the welling up of culture. But to me the greatest event or the most important event of perhaps our entire history, nothing comparable in the past to this event, has fundamentally gone unnoticed. And the event is the following; the transiting from old nature or the natural environment as our host of life for human habitation into a technological milieu, into mass technology as the environment of life. So these films have never been about the effect of technology of industry on people, its been that everyone, politics, education, of the financial structure, the nation state structure, language, the culture, religion all of that exists within the host of technology, so it's not the effect of, it's that everything exists within. It's not that we use technology, we live technology, technology has become as ubiquitous as the air we breathe. So we are no longer conscious of its presence, so what I decided to do in the making this film is to rip out all of the foreground of a traditional film, the foreground being the actors the characterization, the plot, the story. I tried to take the background all of that, that is just supported like wallpaper, move that up into the foreground, make that subject, ennoble it with the virtues of portraiture and make that the present, so we looked at traffic as the event, we looked at the organization of a city, as the equivalent of what a computer chip looks like. We looked at acceleration and density, as qualities of a way of life that is not seen and goes unquestioned. Life unquestioned is life lived in a religious state.” (Reggio, Koyaanisqatsi: Life out of Balance interview)

Reggio’s critique resonates with the nightmare described by Katherine Hayles, “a culture inhabited by posthumans who regard their bodies as fashion accessories rather than the ground of being.” (Zizek 35) Reggio breaks through the façade to help people understand the limits of technology and the limits of power. His high
view of humanity is matched with the limits that Hayles values—“that recognizes and celebrates finitude as a condition of human being, and that understands human life as embedded in a material world of great complexity, one which we depend for our continued survival.” (Zizek 35) Phil Glass, the music composer for the trilogy, comments about how the music that accompanies the images and how it functions to assist in the breaking of the façade.

These are people that you see on television. These are people that you see in the newspapers. These are people that you see their pictures, you've seen them all your life. But the music isn't the music that you would associate with them. This isn't music that would have been made by Reagan's political campaign or, you know, it's not music that supports who they're supposed to be. In other words, the music isn't about them. The music is about us who are watching it. This is the music of the spectator. This is not the music of the marketer. (Reggio, Interview: Godfrey Reggio)

Glass and Reggio are fully aware of the powerful connection that music can make with the emotions of the viewer and use the image music combination to reach toward the human pain and frailty obscured by the technology. Reggio appears to be seeking for the humanity buried in the onslaught of the digitally mediated image, while Eno works to eliminate the human reference in his music—which may be part of the same drive to remove the human from the omnipotent position that culture elevates it to.

### Eno: Without Human Reference

Eno seeks to immerse the listener in the music—like Reggio to get beyond the surface—to enter the music. Eno is one of the early proponents of what has unfortunately become ambient music. He reports observing, during the production of *Music for Airports*, that airports have too many human voices happening already so this album should not be structured around the voice.

Humans are naturally interested in other humans. If you make a painting with a human in it, no matter what scale that human is, you'll
find that the eye constantly returns to that as the point of reference. Similarly, with music, if there is a voice it almost always becomes the center of our attention. I've found this extremely irksome, so I've deliberately either left the voice out, which is why I've made such a lot of instrumental music, or I've altered the voice in some way or another. I've used voices speaking different languages, made the voice strange enough sonically for it to become instrumental, and deliberately sung what could not possibly be construed as anything other than nonsense, so that people stop trying to find out what it means. That's the worst game to be playing when you're listening to music I think—to be asking yourself, “What does this mean?” (Schnabel 40)

Like Reggio—whose films have no spoken word—his music isn’t based on a word oriented lyric or narrative structure. What is ironic is that Eno has become more abstract while setting out to become more figurative like the landscape painters.

To create this musical landscape Eno uses musical loops that are stacked and repeated to create an infinite variety.

One of the pieces on there is structurally very, very simple. There are sung notes, sung by three women and myself. One of the notes repeats every 23 1/2 seconds…the next lowest loop repeats every 25 7/8 seconds or something like that. The third one every 29 15/16 seconds or something. What I mean is they all repeat in cycles that are called incommensurable—they are not likely to come back into sync again. (Eno)

Musical loops are a normal part of music, but with Eno the fact that they overlap and never repeat with the same combination makes them unusual.

All of the visual composers, in the Visual Music 8/8 Project, used loops to create their final composition. Like Eno, they often do not maintain a strict sync with each other but create new visual composites as they interact with each other at different places. Visual Composition III and IV are created with a number of
discreet visual loops that are combined in various configurations to create the longer composition. The loops stacked on top of each other, and repeated with varying opacities and durations, cause completely new and interesting visuals. *Visual Composition III* has a constantly looping background of images from the *Geoff* series of portraits. On top of this other images are layered which are also in shorter loops. All of these *Compositions* result in music that repeats a variety of themes with slight variations resulting from the different loop combinations. *Visual Composition VII* is built from a set of eight loops, which are then combined into another set of loops. While these loops maintain a set sync with each other they change as different loops are given visual precedence at varied times along the course of the complete composition. The changing visual preference also causes the resulting musical composition to change over the course of the composition.

**Reggio: Without Narration/Narrative**

Reggio, like Eno, limits the human voice in his film. He avoids the use of traditional narrative in either the dramatic script like most movies or the all-knowing voice of the documentary film. Reggio started the creation of these films with a description of images rather than a traditional narrative script. He comments, “These films are meant to provoke, they’re meant to offer an experience rather than an idea or information or a story about a knowable or a fictional subject.” (Reggio, *Koyaanisqatsi: Life out of Balance* interview) What these films attempt to do with the audience is so different than a more traditional narrative approach. The films move the images from the background to the foreground—the audience then experiences the part of film that they are used to ignoring or considering inconsequential. The music, created by Phil Glass, does not recede into the background—as it does for many more narrative style films—but is a strong component in the re-interpretation of the images. The unexpected combination forces the audience to walk away or consider new connections.

Reggio struggles not only with the idea of narrative construct, but with the possibility that words could even describe and define what is happening in these films.
Experience suggests life is more complex, not open to simple affirmations or condemnations—this being the myopic role of politics, patriotism, propaganda and advertisement. Critical thought must go through the prism, through the hope, through the courage, of this and that. Having said this, I have created a film without words, not for lack of love of the word, but rather for the love of the word...Now let me turn the tables; if a picture’s worth a thousand words, without a picture, can you describe the world we inhabit in words? To rename our world is perhaps our most important opportunity in life. The power of language, the word, in a state of tragic humiliation, is our anecdote to the conformity of the hyper-real image. To take back our language, to name the world, is the essence of freedom and, in this world, a dangerous act...It’s not that I don’t appreciate or feel the significance of words, it’s just that language has become a technology. It’s no longer the bearer of meaning but covered with cultural baggage so it blinds us to the realities we’re dealing with. To produce a piece devoid of language increases the richness of suggestion and effective impact, the ability to concentrate outside of the linear processes of our trained minds, offers the opportunity of a deep inspirational experience. It can make us feel alive. (Reggio, Naqoyqatsi Film Forum-1)

Reggio wants these films to go beyond the limited power words have in this era. Reggio, like Schopenhauer, recognizes the power of music to go beyond the word. Combining the music and image he hopes to get beyond the limitations of language. “We’re trying to go right into the solar plexus, right into something that is more akin to direct communion, rather than going through the metaphor of language. So what better narration (the music) to have than that which can go directly into the sensibilities and the soul of the viewer.” (Reggio, Koyaanisqatsi: Life out of Balance interview) Reggio, like Peter Greenaway—who uses words but not traditional narrative—thinks film is stuck in the narrative entertainment mode. By combining image and music he hopes to get to the emotion level, to “resonate
at that base level, inside a person’s heart chakra. Film also has the potential to be inspirational, meaning in spiritus, it can inspire, a person can perceive the spirit or entity behind or inside the image.” (Reggio, Films That Heal: An Interview with Filmmaker Godfrey Reggio) Reggio—by eliminating the words, by refusing the normal constructs of filmmaking—pushes the viewer to a deeper level of reflection. His films can be experienced primarily in the aesthetic mode with their beautifully created images—or by denying the surface beauty one can be pushed into an ascetic experience that shakes the foundations of one’s understood existence.

_Flying Bouzouki_, one of the portraits produced during production of the _Visual Music 8/8 Project_, attempts to go beyond the surface meaning of the instrument by using a “moving” still-film camera with a slow shutter speed. The results are less predictable and contradict the traditional instrument photograph—perfect focus, long depth of field—a perfect representation of the surface of the instrument. This image gets into the essence of the instrument—allowing the viewer to “hear” the instruments vibrations rather than experience it as an object.

**Reggio: Power of Image**

It is with the film, _Naqoyqatsi_, that Reggio fully delivers on his critique of the power of the image.

The image is approaching the point of omnipresence. It is reality, it is location, it is idea. And now, with digital technology, image has become pure illusion. There are no limits to the images we can create. But images become iconic to culture in that they become so familiar, and so resonant they’re not even seen. They have enormous control and power over our lives. What we see without questions we become. (Reggio, _Naqoyqatsi Press Notes_)

The first two films approached the production of images in a documentary style, while _Naqoyqatsi_ broke with that method by manufacturing most of the film from already existent images. The first films sought to perfect the image, catching it as it happened on location. _Naqoyqatsi_, however finds the location within the iconic
image—“those images that describe the world in which we live and then we revivify them, reanimate them, change their motion, color, speed, layer them, paint them … recontextualizing those iconic images and in that sense we will be questioning the venerated familiar.” (Reggio, *Powaqqatsi: Life in Transformation* interview) Just as Reggio, participated in the ascetic life, he drags his viewer into the bowels of the technological image to experience the way that each viewer is already living within technology, stripped of the very words to be able to describe—and supposedly control—that experience. *Naqoyqatsi*, describes this existence using icons taken from the screen of the electrate image dominated culture. This visual catalog of what seem like everyday images—taken out of their normal context—are made into the telling vision of the present age. Iconography of earlier centuries was designed to open up a “window” to a deeper spiritual experience—or to the “soul” of the contemplator—although many used them in the same magical fetish-endowed life-accepting existence as in the current era. The icons of this electrate era—are meant to discourage deeper reflection—encourage a surface understanding and a reflexive response. The reflexive response is often tied to a consumptive non-reflective existence—firmly stuck in personal desire. These icons are designed to keep the viewer from any experience, even temporarily of the Will as Schopenhauer describes it—there mandate is to increase the personal desires of the viewer. In a fashion similar to Eno and his usage of found sound—Reggio re-contextualizes these images with digital manipulation, color change and distortion. The new shape or color encourages the viewer to see through the surface façade—not just to the deeper spiritual meaning contained in the image—but to the emptiness of meaning found on the surface.

The *Visual Music 8/8 Project*, starts with a traditional method of collecting photographic images on negative film. This film is scanned—becoming a digital file—and manipulated—combined to create the portraits. The visual compositions however alter the images even beyond recognition within the animation program *After Effects*. The images are simply the palette used by the visual composers to create their visual music.
Eno: Classical Versus Variety

Reggio organized his films around images without the organizational confines of the traditional script. Eno likewise abandons the traditional musical score in his composition of music. He serves the intention of creating very specific sounds. Eno like Cage designs his own methods of notation to create a different apparatus for his compositions. Eno says,

A musical score is a statement about organization; it is a set of devices for organizing behavior toward producing sounds. That this observation was not so evident in classical composition indicates that organization was not then an important focus of compositional attention. Instead, the organizational unit (be it the orchestra or the string quartet or the relationship of a man to a piano) remained fairly static for two centuries while compositional attention was directed at using these given units to generate specific results by supplying them with specific instructions. (Battcock 129)

Eno compares the organization of the orchestra, the “classical” system, with its hierarchy of rank and varying degrees of responsibility to what he calls the “variety” system. In the “classical” system there is one focus and a very limited perceptual position available to the listener and it requires the use of trained musicians. “His training teaches him to be capable of operating precisely like all other members of his rank. It trains him, in fact, to subdue some of his own natural variety and thus to increase his reliability (predictability)…The variety of a system is the total range of its outputs, its total range of behavior” (Battcock 130) The “variety” system is limited by the environment which functions to reduce the variety by choosing which strains survive and reproduce. Eno contends that variety must be limited—that a primary focus of experimental music has been toward its own organization, and toward its own capacity to produce and control variety, and to assimilate “natural variety”—the “interference value” of the environment. Experimental music, unlike classical (or avant-garde) music, does not typically offer instructions toward highly specific results, and hence does not normally specify wholly
repeatable configurations of sound. It is this lack of interest in the precise nature of the piece that has led to the (I think) misleading description of this kind of music as indeterminate. I hope to show that an experimental composition aims to set in motion a system or organism that will generate unique (that is, not necessarily repeatable) outputs, but that, at the same time, seeks to limit the range of these outputs. This is a tendency toward a ‘class of goals’ rather than a particular goal, and it is distinct from the ‘goalless behavior’ (indeterminacy) idea that gained currency in the 1960s. (Battcock 131-2)

Eno, as opposed to Cage, values the range of limits placed on experimental music. The composition allows the piece to be adaptive, to be found in the exploration of performance, to generate something new, but all of this happens within a range of limits.

Eno uses paragraph seven of *The Great Learning* by Cornelius Cardew—a pianist and composer—as a test composition to evaluate his theory. The score makes implicit that it can be performed by any group of people. Hypothetically the score appears to offer the possibility of radically different performances from one to the next. “The fact that this doesn’t happen is of considerable interest, because it suggests that somehow a set of controls that are not stipulated in the score arise in performance and that these ‘automatic’ controls are the real determination of the nature of the piece.” (Battcock 132) He analyzes the results of the composition hypothetically and in the real performances he has heard or been a part of. “In the hypothetical performance, the overall shape of the piece would consist of a large stock of random notes thinning down to a small, even, occasionally replenished stock of equally random notes (as they are either what is left of the initial stock or the random additions to it).” (Battcock 133) The directions have built in a way to add new notes, “choose your next note freely”, when the supply has become too low in the performance of the piece. In the real performance though factors other than the score and its directions are at play. Eno describes a performance,
The piece begins with the same discord and rapidly (that is before the end of the first line is reached) thins itself down to a complex but not notably dissonant chord. Soon after this, it “settles” at a particular level of variety that is much higher than that in the hypothetical performance and that tends to revolve more or less harmonically around a drone note. This level of variety is fairly closely maintained throughout the rest of the piece. It is rare that performers need to resort to the “choose your next note freely” instruction….And this observation points up the presence of a set of ‘accidents’ that are at work to replenish the stock of notes in the piece. The first of these has to do with the “unreliability” of a mixed group of singers. (Battcock 133)

A singer may be tone-deaf, another singer might transpose octaves to make it easier to sing, or might sing a note that is harmonically a close relative. The space of the performance itself may have an effect on the notes used—most large rooms have a resonant frequency. The resonant frequency—the pitch at which an enclosed space resonates—will sound louder than other notes of equal amplitude. The practical effect of this phenomenon is the increased probability that the performance will become centered around this environmentally determined note. (Battcock 134)

The performers are asked to choose at most stages from a fairly wide pool of notes. This brings to bear their preferences and tastes. Eno notes how much this influences musicians,

Their own cultural histories and predilections will be an important factor in which ‘strains’ of the stock they choose to reinforce (and, by implication, which, they choose to filter out). This has another aspect; it is extremely difficult unless you are tone-deaf (or a trained singer) to maintain a note that is very discordant with its surroundings. You generally adjust the note almost involuntarily so that it forms some harmonic relationship to its surroundings. (Battcock 134)
In spite of the hypothetical range of possibilities we see that in the performance the “variety” is controlled by a number of factors that actually bring about a piece with relative harmonious relations. This “variety” approach has the composer constructing the piece in such a way that the variety isn’t ignored but is used to create the substance. These constructions, unlike the classical style, do not require trained musicians to maintain reliability.

The Visual Music 8/8 Project has very clear limits while at the same time setting in motion a system of considerable variety both in the creation of the visual compositions and of the resulting musical compositions. The visual compositions settle into a common set of parameters since they are required to use the images as their building blocks. Just as the performers in Cardew’s piece choose a note, so do the visual composers find particular images, colors or people portraits to use in their compositions. One composer used three images (Visual Composition VIII) to create his complete composition, while others used many more—however none of the composers used more than fifteen percent of the available stock of images to create their visual composition (Visual Composition VII uses forty of the images—the most used by any of the eight compositions.). The instruments have a common shape, many have a consistent set of hues, the players hold their instruments in similar ways, and the clothing the performers chose to wear all present limitations to the portraits and the compositions. The resulting musical compositions are limited by the range of instruments used in the project which all have four sets of doubled-strings—which tend toward a slight variation in tuned pitch and are often used to create drone like sounds. Within this range of tonal possibilities their still are varieties of pitch, rhythm and combining of tones.

Eno: The Recording Studio as Instrument

In addition to differing with Cage on the amount of limits placed within a composition, Eno placed a high value on the recording of sound as opposed to Cage’s preference to compose for the unique performance space. Eno from the beginning saw the recording studio as something beyond a system of capturing people playing and singing. He considered it to be a musical instrument—as a way
to create music rather than just transmit music. Eno used the recording studio—unlike Pop music, which remains firmly entrenched in the need to have a human voice—as a way to bring the background into the foreground. His goal was to eliminate the voice—the voice that puts instruments into the position of accompaniment. (Mallet). Eno took advantage of the tape recorder to capture sounds—like the “noise” sounds that might happen in the middle of a Cage performance—and use them in creating new sounds. These found sounds include what musicians would normally label noise. The tape recorder allowed Eno to enlarge his sound palette to include both traditional instruments, voices—especially distorted ones—and these found sounds into his finished recordings.

As the computer has replaced the tape recorder for the manipulation and sampling of sounds the increased complexity has become an issue. Eno reflects on the complications that complex computer programs can bring into the process,

The trouble begins with a design philosophy that equates “more options” with “greater freedom.” Designers struggle endlessly with a problem that is almost non-existent for users. “How do we pack the maximum number of options into the minimum space and price?” In my experience, the instruments and tools that endure (because they are loved by their users) have limited options. Software options proliferate extremely easily, too easily in fact, because too many options create tools that can’t ever be used intuitively. Intuitive actions confine the detail work to a dedicated part of the brain, leaving the rest of one’s mind free to respond with attention and sensitivity to the changing texture of the moment. With tools we crave intimacy. This appetite for emotional resonance explains why users—when given a choice—prefer deep rapport over endless options. You can’t have a relationship with a device whose limits are unknown to you, because without limits it keeps becoming something else. (Mallet)

Possibilities within limits—creativity free to respond to the moment rather than being buried in technological decisions and frustrations—are the place where Eno
chooses to work. He is looking to create unique sounds but especially to create systems that can generate those sounds.

Eno suggests that it is within limits that the creator can find meaning. In the Visual Music 8/8 Project, the lenses used for all of the portrait photography were limited to a wide angle lens and a macro lens, the film formats were limited to the panoramic and medium film formats, and the depth of field was limited to a shallow depth by using only available light—especially in the shop and pub shots. These limits were formative in creating a series of portraits that rejects the traditional portrait formulas. The subject matter in the images is also limited to the small pool of people who play instruments built by Sobell—who builds about 36 instruments per year. The visual composers were limited by having a set group of 330 images—with 42 of them being multi-layered—with which to compose their visual music. Beyond the visual material limits they all worked within the software After Effects—which they all had some familiarity with—which is limited primarily to two-dimensional rather than full three-dimensional possibilities. Within in these limits the visual composers still create a considerable variety.

**Eno: Generative Music**

Eno is interested in process in addition to creating this new sound—in fact he is more interested in creating generative systems than in the composition of music. He states this vision,

> What I am arguing for is a view of musical development as a process of generating new hybrids. To give an example: one might propose a “scale of orientations” where, on the right hand, one placed the label “Tending to subdue variety in performance” and, on the left, “Tending to encourage variety in performance.” It would be very difficult to find pieces that occupied the extreme polarities of this scale, and yet it is not difficult to locate distinct pieces at points along the scale…All of that stuff I released called ambient music, not the stuff those other 2 1/2 million people released called ambient music—all of my ambient music I should say, really was based on that kind of principle, on the
idea that it’s possible to think of a system or a set of rules which once set in motion will create music for you….it starts to create music you’ve never heard before…It’s putting in motion something and letting it make the thing for you. (Eno)

Eno recognizes this generative idea at work in several compositions. Steve Reich’s piece, *It’s Gonna Rain*, is produced by two machines playing a loop of a preacher saying, "It’s gonna rain", for more than 17 minutes. Because the machines are inconsistent in their speed they gradually slip out of sync with each other. Eno evaluates the results,

The piece is very, very interesting because it’s tremendously simple. It’s a piece of music that anybody could of made. But the results, sonically, are very complex. What happens when you listen to that piece is that your listening brain becomes habituated in the same way that your eye does if you stare at something for a long time. If you stare at something for a very long time your eye very quickly cancels the common information, stops seeing it, and only notices the differences. This is what happens with that piece of music. (Eno)

Eno claims that, his own piece, *Neroli* is the same type of generative idea at work. It has a very complex web made from simple ingredients. It is a single keyboard piece observing what happens if the system allows only the harmonics of the mode you intended to play. The sequencer and the human playing it collide with their tastes, mistakes and passions to make the resulting music. (Gill)

Although Eno is a producer of well-known music, like that of U2, he doesn’t enjoy listening to albums, which repeat the same music every time you listen. He comments,

You know up until about a hundred years ago people never heard the same music twice. Of course it was always different. When recording appeared, suddenly you had the wonderful luxury of being able to play music wherever you wanted to, and control it in various ways. But of course it was always the same thing. And now you have this thing which is kind of a new hybrid where you can play the
music wherever you want just like a record, but it won’t be the same thing each time. This is actually very thrilling I think. (Eno)

Eno is attempting to create systems that return the variety that is inherent in live performance—which is never the same twice—except within the “classical” system, with notation standards and highly trained musicians, which often gets close to this same idea of repeatability. Eno reacts against both of these repeatability systems—recording or classical performance. Classical music is under control—specifying the music in advance and then constructing it. Generative music on the other hand is out of control—it only specifies a set of rules and then lets it construct within that framework. Classical music is predictable, repeatable, finished, seeks to subdue circumstances, has a single line of command, and has a clear sense of who composed the music. Generative music, on the other hand is unpredictable, unrepeatable, unfinished, you don’t know what the end is and is sensitive to the circumstances. Generative music is multi-centered with many active web like modes and little sensibility about who created the music. (Eno)

Eno’s concern with the fixed composition is closely related to his concern for the experience of the listener. He wants listeners to experience variety rather than the very predictable sound of the recorded or strictly played “classical” mode.

**Reggio: Into and Out of the Ascetic**

In contrast to Eno, who is driven by aesthetic considerations, Reggio grounds his work in his ascetic experience. His fascination with what lays beyond the façade, comes from his years spent in reflection. Reggio suggests that this ascetic background has been a major effect on his filmmaking. “I’ve always been interested or motivated in what stands behind the surface of things and your religious and doing mental prayer and trying to go beyond words into some deep feeling with something that’s willful then it helps you prepare… I had a great preparation for disciplined focus in that mad time.” (Reggio, *Koyaanisqatsi: Life out of Balance* interview) This disciplined life forces Reggio to describe the way in which technology is eating out the center of humanity in Naqoyqatsi or in
Powaqqatsi—where the oral culture of the southern hemisphere is being consumed by the norms of a different culture.

Reggio’s films have a rich aesthetic sense for the viewer, but the non-narrative style is meant to deprive the audience of easy meaning and push them toward their own ascetic/meditative experience. Reggio recognizes that this opens up his films to multiple meanings—“A thousand viewers seeing the film could have a thousand different responses. What you give up in doing that is the overt nature of propaganda or didactic expose, more traditionally the role of documentary. But what you gain is the richness of an experience that portends a state of altered consciousness.” (Reggio, Films That Heal: An Interview with Filmmaker Godfrey Reggio) For Reggio, the viewer should leave the viewing not “knowing”, but with a profound image which draws forth even deeper reflection.

**Eno: Technology and Unpredictability**

For both Eno and Reggio, a major issue is how to relate to and interface with the ever-increasing complexity and availability of technology in the electrate era. Both use technology, but Reggio is more prone to use technology to critique technology. Eno comments on how enslaving the technology can be.

All of these technologies can be liberating, but they usually aren’t. For instance, the sampler enables you to make any recorded sound into a musical instrument. Unfortunately, what people nearly always do with samplers is try to make string sounds or brass sounds, and in so doing they take away the most interesting thing about classical instruments, which is not that they have a particular sound, but that they have an intelligence playing them. (Schnabel 39)

Eno has come to prefer the human interface with the possibility of error and change over the manufactured sound produced by many electronic performers today. The Visual Music 8/8 Project shares this concern with Eno—how to retain the human interface within the creation and how to allow the aesthetic of the human to make decisions outside of the computer algorithms which tend to create a sense of perfection. Visual Composition 1 is very abstract—but due to the organic nature of
its components it retains an organic human sensibility and motion that is often absent in computer generated visual music.

Eno wants to create systems that are complex enough, so that you can’t predict what the outcome of the process. The *Visual Music 8/8 Project* has been difficult to predict outcomes. The process is complex, in that the *Visual Compositions* could literally stack 200 images on top of each other, and the corresponding sounds could have a duration that would be impossible to achieve with an instrument. It is also difficult to predict what the sound combinations created by the visual process will yield. There is almost no way to predict from the completed visual composition what the music being composed will sound like. The visual composition is approached differently than is that of music composition—having less sense of rhythm and less discreet images/pitches. The visual variation that After Effects encourages is carried over into the unknown quality of the musical compositions. Eno suggests that creating a system that will remain interesting is not an easy task either for the designer or the user. “If it is going to be easy to use its usually not rich enough to be really interesting enough. If its going to offer you the kind of subtlety and finesse that you would want in order to make interesting music, there unfortunately is a learning curve.” (J. Morris) Eno continues by describing his goal, “you design the seed, you plant it in the computer and it grows it for you and of course each time its grows it, it grows a different form.” (J. Morris) What Eno is suggesting is a system that uses the computer to work from the boundaries to generate unique musical compositions that come from the real of unpredictability.

**Conclusion**

Reggio and Eno—both experimenters and innovators—surprisingly emphasize the value of limits within the compositions process. These limits may be: within the composition system, within the materials put in the set of possibilities, within the language and words used, within the ranges of expression allowed. The visual musician will benefit from working within a set of limits—in fact these limits may actually encourage more creativity.
An issue both keep in the forefront of the their compositional decision making is the interplay of technology and spirit. They value technology but also respect the place of human imperfection. While Reggio and Eno start at different ends of the ascetic-aesthetic continuum they both find this issue to be of utmost importance. The visual artist must struggle to keep some of the spirit and human imperfection in the system or risk weaker visual music that becomes only technology based. Reggio views collaboration as one way to keep this interplay alive.

Reggio offers insight into the composition of images with—the use of repetitive images, the varied pacing of change, the long durations of similar images that merge with one another to create a smooth flow, his acquiring images in a documentary style, the usage of found images, the use of heavily manipulated images, the use of changing depth of field especially when on the human face, the use of different angles and perspectives then we are accustomed to see and the juxtaposition of different types of images that create mental connections. Eno offers compositional insights with—the use of looping to create larger pieces, the use of found sounds, the use of alternate tonalities, the idea that a generative system could be designed to create unique music, the use of controls and limits within a class of possibilities versus a set goal (not indeterminacy), the setting in motion of this system with its limits but with a range that you can’t control and his decision to not use the human voice.

Reggio offer philosophical insight with—his rejection of the use of words and narrative, his acceptance of the power of image, his assigning a deeper sense of meaning to abstraction, his use of the non-narrative to get into the deeper part of the person which can’t be accomplished easily with discourse and his undaunted hopeful view of the human in the midst of his critique of technology. Reggio’s most important contribution may be his bringing together of the ascetic and aesthetic dimensions—aesthetic production motivated by ascetic experience—which pushes the viewer to go beneath the surface of the image.
Schopenhauer: Consonance/ Dissonance

Whereas, in the past, the point of disagreement has been between dissonance and consonance, it will be, in the immediate future, between noise and so-called musical sounds.

John Cage (Cage, Silence 4)
Schopenhauer writes from a context, which assumes a literate or mathematical approach to music—in both the composition and performance of music. This literate approach is dependent on a written or notation system of documenting music. This notation system—even the idea of creating a notation system—is a practice of Western culture. In many cultures music is transmitted person to person, remaining primarily in an oral tradition. Alison Knowles evaluates the effect of using a notation system,

> Western notations brought about the preservation of “music,” but in doing so encouraged the development not only of standards of composition and performance but also the enjoyment of music that was more or less independent of its sound, placing the qualities of its organization and expressivity above sound itself...until recently, notation was the unquestioned path to the experience of music.

(Battcock 191)

Knowles may be overly optimistic about the listeners experience of music, which has much less to do with the notation system and much more emphasis placed on the value of the sound produced. Listeners, while often concerned that musical pieces be played correctly, especially with pop music define correctness not based on a notation of the music but by a previous listening experience of the music—either in a concert or from a recording. Pop musicians have to be aware of their need to replicate in a concert setting the music that they create in the recording studio—which affects the choices they make during the recording process. The listeners concerns about correctness of music performance are more concerned with how something sounds than they are about the matching of a literate notation system. The notation system retains its position of predominance in “classical music” or with the highly trained musician.

The introduction of electronic technology has returned music back to a form of the oral culture—although one that is mediated electronically rather than face-to-face. Many people now learn music from recordings—rather than from a person or from notated scores. Musicians use the recording technology to create new music
and sounds but remain firmly bound by the auditory experience of this music. This electronic oral culture though does not require the total forms of memory recall—as does the traditional oral culture—to pass on the musical traditions. The recorded music provides the mnemonic device to pass on music from one musician/composer to the next. The recording technology is also used to document new works in progress and to track the development of experimental forms of composition.

Trevor Wishart considers this electronic-oral system to still be based on the notation system developed in the literate era. “The fundamental thesis of this (analytic notation) system is that music is ultimately reducible to a small, finite number of elementary constituents with a finite number of elementary constituents with a finite number of ‘parameters’, out of which all sounds possibly required in musical praxis can be notated by combination.” (Wishart 22) In folk music—which has remained in the oral age—musicians without any ability to function in a literate sense—are still bound by a similar set of notes and rhythms. The main parameters of this system were pitch and rhythm, which appear to create a two-dimensional “lattice.” In addition to the notation system, the other foundation of the notated-Western music was instrument technology—which may explain the way that folk music has some of the same boundaries. This technology contributed to the system by creating families of instruments with a stable timbre and a system of variable pitches. The piano/keyboard is the ultimate representation of the “lattice” based system. (What Cage did with his prepared piano took piano out of this control.) Stringed instruments have a greater variability of timbre because of more player variability. Wishart claims this system gives precedence to the score over the vision or experience of the player and creates within the listener expectations of a particular type of sound. His view—while containing elements of truth—ignores the large variety of instruments available to musicians and composers, especially with the inclusion of numerous ethnic instruments from around the world. In addition to this large pool of instruments are those that are being changed and developed by modern instrument builders.
Sobell—the builder of the instruments used to organize the *Visual Music 8/8 Project*—has been instrumental in revitalizing the usage of several of these instruments. Sobell built his first cittern in 1973 and developed his bouzoukis and mandolins from that original design. Niall Ó Callanáin and Tommy Walsh highlight Sobell’s importance to the development of these instruments, “The English cittern was recently revived by Stefan Sobell of Northumberland in England, who makes them to suit the more modern folk music, usually with four or five courses of double strings. The bouzouki that is generally played in Ireland today, takes it’s shape from the cittern and is often referred to as such.” (Ó Callanáin and Walsh 6) Paul Kotapish points out Sobell’s motivation,

Stefan Sobell, probably the best-known of the British Isles luthiers, was the first to experiment with carved tops and backs on a bouzouki-like instrument. Ironically, it was a Portuguese guitarra, not a bouzouki that got him started. “I didn’t know what to do with it until I strung it mandolin style: GDAE,” he recalls. “When I met Andy Irvine in the late ‘60’s, he tuned it GDAD, and that open tuning lent itself to accompanying songs and playing tunes. It made a lovely sound but without much projection. About the same time I got hold of an old Martin C-3 (round-hole archtop), which I got by trading a concertina and a car engine to some American kids. I thought if I could combine the big projecting clanging tone of the Martin with the shape, feel, and tuning of the Portuguese guitar, then I’d really have something.”

(Kotapish)

The traditional Greek bouzouki was bowl-shaped and had six strings, “but when it became integrated with Sobell’s newly revived cittern, a new instrument was created. It sounded like a bouzouki but looked like a cittern…and is now accepted as part of the Irish musical tradition.” (Ó Callanáin and Walsh 6) Sobell uses this body shape to build bouzoukis and mandolins with different body sizes and neck lengths. These instruments have played a role in the resurgence of the interest in acoustic Irish music.
Inside the System

Schopenhauer—in this literate context—chose the theories of Rameau to structure his musical understanding around. Lawrence Ferrara describes and critiques this choice,

Rameau’s *Traité de l’Harmonie* (1722) is symptomatic of the Age of Reason in its presentation of a rationally based, logical harmonic disposition rather than the more empirically based practice of the realization of chords over a ‘figured bass’ and species counterpoint codified in the music theory of Fux (Johann). Rameau advocated a ‘vertical’ (harmonic) method; Fux championed a blending of ‘vertical’ (through realization of ‘figured bass’) with ‘horizontal’ (through ‘species counterpoint’) approaches in the teaching and analysis of music composition. In a C chord the constituent notes are C, E and G: C is the root, E is the third and G is the fifth. Any one of these three notes could be the bass or lowest note of this chord on a piano, in a choral piece for four parts, or in an orchestral piece for twenty parts. Distinctive in Rameau’s approach is that the bass note is always understood in terms of the root (in this case, C) and music is conceived as a progression of vertical states that imply a ‘functional harmony’…In this century, especially through the work of Heinrich Schenker and his students, a theory of free composition developed from the eighteenth century Fuxian contrapuntal theory of the sort that was actually practiced by the masters of Western music…Schenker’ concludes that Rameau’s harmonically based approach misses the linear, in contrapuntally directed lines which combine and express harmony…Recognizing Schopenhauer’s partiality for melody over harmony…it is exceedingly unpropitious that Schopenhauer embraced the non-linear, harmonic approach of Rameau. (Jacquette 191-2)

The most important feature Schopenhauer took from Rameau deals with the way a scale is created. As you shorten or lengthen a string, the frequency (speed
of vibration) is in inverse proportion to the length that is vibrating. This structure is based on, Pythagoras, who noted that there is a relationship between the length of a vibrating string and the musical sound. If you take two strings of the same material and the same amount of tension and stop one of them at the halfway point, it will produce a note that sounds an octave higher than the full-length string—just as the octave mandolin (with double the length strings) sounds an octave lower than the mandolin. From divisions—using simple numerical numbers—of the length of the string came the foundations of the Pythagorean interval theory upon which western music and instrument technology is built. Western music however uses a “tempered” scale—rather than one that is accurate mathematically—which only preserves the octave. All other intervals such as the fifth, major third and minor third are merely approximations. (Zielinski, "Siegfried Zielinski: Intro to Media Archeology") The intervals which are based on the relationship of small numbers—the third, the fourth, the fifth and the octave—are the “consonant” intervals. "Dissonant" intervals are based on larger correlative numbers. Schopenhauer based his understanding of consonance and dissonance on this theory.

Wishart reminds us that the predominate instruments and the notation system dominate the way music is created and evaluated.

A musical instrument is a device used to stabilize, through its resonance-structures, the pitch and timbral dimensions of a sound-event. The morphological structure of the sound-event is thus dominated by the characteristics of the natural phenomenon of resonance. The typical instrumental musical object is of the attack-resonance type. The gestural input from the performer, especially in the highly technologically developed Western instrumentarium, is thus subordinated to this particular natural phenomenon structure. (Wishart 102)

Wishart wishes to blame codification/notation on those who want to control music and keep it in the literate world. “Committed verbalists will not be convinced by anything I have to say about the separation between 'meaning' and 'signification'. For the linguistic philosopher all problems are reducible to problems of signification...
within language and such a philosopher will merely deny the validity of our problem." (Wishart 15) Wishart seems to ignore, or be unaware of Schopenhauer’s theory that music goes beyond the concept, beyond the word, beyond the representational, to the Will. Wishart understands that music goes deeper—this is a given for any musician that is part of an oral tradition—but seems most concerned with the structure around which music is built. Music in an oral, pre-notation, era is monitored by the ear and responded to immediately by the receiver. Wishart suggests that what is most important about this oral practice is the gesture, as opposed to the more literate, western, approach that deals with the properties of sound found on a “lattice” notation system. These gestures include timbre modulation, amplitude, frequency modulation versus the more narrow “lattice parameters” of pitch and duration. The essence of what is important for the oral performer—especially in the folk presentation—is the emotional communication aided by rhythm. The emotional response of the oral tradition would align it closely with the theory of Schopenhauer.

**Melody: Rhythm and Harmony**

Schopenhauer gives a superior value to the melody—which carries the “sequence and continuity of progress”, moves with more speed than other parts, leads the whole, and is the “highest grade of the will’s objectification.” Melody, according to Schopenhauer, has two elements: rhythm and harmony. Rhythm is related to the duration of the note, the meter, and is the quantitative element. Rhythm is created by a repeated division of sound—division into equal parts corresponding to one another—first into larger parts, which are then divisible into smaller parts. These durations hold everything together in the music with their similar measures of time. Analogies can be made to math with relationships of lengths and to symmetry in architecture. For rhythm to happen, points of time must be measurable and measured.

While rhythm is related to duration or the quantitative, harmony is interested in the qualitative—the pitch and depth of the notes. The measurement is the rapidity of vibrations as opposed to the duration of sound. Harmony requires
certain notes, notes that come from the key the melody is structured around. The music form, or structure, is the alternation of ‘discord and reconciliation’—progress from consonance to dissonance and resolution back to consonance. This progression moves from the original key center to a competing key center and back to the original key center, back to the fundamental note of the composition. For the visual musician the movement between consonance and dissonance is usually based on the interactions of color and form and the movement from the dark to light—which correspond to the harmony part of Schopenhauer’s discussion of melody. For the visual musician to effectively add rhythm will require the duration-based parameter of movement.

Hans Richter, who respected greatly the abstract work of Kandinsky, wanted to use motion in addition to form and color. Working with Viking Eggeling, he chose the form of a scroll to get away from the static nature of the easel.

I consider the scroll as a new (dating from 4000 B.C.!) art form which, despite “sociological difficulties” that it might encounter (such as being despised by art dealers as too difficult to sell, or finding no room for its display over a potential purchaser’s fireplace) ought to become a modern medium of expression. It must in fact, as there are sensations to be derived from it which can be experienced in no other way, either in easel painting or in film...After each of us in 1919 had finished his first scroll, we began to understand that we had gotten more than we asked for: the necessity to release this accumulated “energy” into actual movement! Never during our collaboration had we dreamt of that. But there it was. And movement implied film! (Richter, "Easel--Scroll--Film" 81)

Richter produced his first film “Rhythm 21” in 1921, to go beyond the limits of the scroll. “We were in a new medium altogether. It was not only the orchestration of form but also of time-relationship that we were facing in film. The single image disappeared in a flow of images...We realized that the ‘orchestration’ of time was the esthetic basis of this new art form.” (Richter, "Easel--Scroll--Film" 81)
Richter by his usage of film does not mean most of what film stands for today. He saw it much more closely related to the idea of visual poetry with the rhythm that Schopenhauer valued. Film means visual rhythm and movement—which becomes the unifying structure—much like music or his chosen word “poetry.” Richter created this rhythm with such divergent images as; moving eyeballs rolling around the screen, human faces moving through the frame, rectangles moving around the screen and lights flashing around until the whole screen washes to white. Another piece shows; people walking in precise steps, feet going up and down a ladder, a clock turning rapidly, all the while employing the ability to alter the speed of movement. In yet another piece he uses pulsing boxes, which change sizes, to create a sense of three-dimensional space with overlapping and changing positions. (Richter, Hans Richter Early Works) Richter dreamed of a new art form called “film poetry” which would become an accepted part of modern art. (Richter, "Easel--Scroll--Film" 86) Siegfried Zielinski continues to analyze the historical urges for creating time-based media. The artists are driven by the urge to make the art sensitive for the other—the scientists use the time-based media with the desire to make something transparent and to explain it for the other. While Richter experienced some success with his usage of the scroll and even more with the usage of film, as Zielinski points out it is only with the invention of electricity that time-based media becomes a reality—even film is only the illusion of movement. (Zielinski, "Siegfried Zielinski: Intro to Media Archeology")

The progression of the *Visual Music 8/8 Project* demonstrates the same movement. The portraits have some of the qualities of the scrolls that Richter worked with—they require the eye to move to see the whole, have a large ratio between height and width dimensions, and add a sense of temporality to a static image. The eight sets of portraits—when viewed in a line hanging on a wall—also function like a scroll as the eye moves along the extended line of images. The visual compositions function more like the film that Richter worked with—incorporating movement and change over time. These compositions as Zielinski noted are dependent on technology for their creation and technology to make them accessible to the viewer. (It should be noted that the composited
portraits also rely on technology for scanning and the software that functions as a digital darkroom.)

**Overtones and Sympathetic Vibrations**

When the melody sounds, or the bass adds the lower note, there are added vibrations to each “pure” note. If a D note is played the ear hears faint overtones—which are multiples of frequency of the D—that make up a D chord. Stringed instruments also have sympathetic vibrations where one vibrating note may cause another to vibrate based on its length and string tension. (Jacquette 187) This mirrors Schopenhauer’s understanding of the nature of overtones. “With the sounding of the low note, the high notes always sound faintly at the same time, and it is a law of harmony that a bass-note may be accompanied only by those high notes that actually sound automatically and simultaneously with it through the accompanying vibrations.” (Schopenhauer, *The World as Will and Representation, Volume I* 258)

In the **Visual Music 8/8 Project**, five of the portraits in the *Stefan* set have harmonics, where two images are composited into the final portrait. *Stefan D-II* and *Stefan E-V* function similar to musical harmonics. A wide angle view of Sobell working is merged with another more close-up image—the different focal lengths offer octave separated pitches as harmonics do in music. *Anna A-VI* has two images layered on top of each other—these function more like sympathetic vibrations or faint overtones as the second image is dimly seen laying on top of the other one.

Within the visual compositions of the **Visual Music 8/8 Project**, these overtones of faint sound become common as the composers use images at low opacity and lay them in on top of other images. The visual composers have at their disposal a number of tools to make these overtones function within the visual realm. In Adobe After Effects® different layers of images can be combined using transfer modes—which calculate the resulting look by combining the layers. Several of these transfer modes: lighten—compares the two layers and uses the lighter information, darken—compares the layers and uses the darker information,
overlay—lighter areas in the top layer will lighten and darker areas will darken, hard light—increases the shadows, contrast and saturation, work together to create a blend of the images that usually gives predominance to one image while using faint parts of the other image.

Zielinski states that vibrations are a part of the total world, “Johan Wilhelm Ritter wanted to show that all materials are vibrating…everything exists in a tension between the plus and the minus…in fact the whole universe is vibrating.” (Zielinski, "Siegfried Zielinski: Intro to Media Archeology") It is these vibrations that are part of the suffering world and part of creating the temporary respites offered by music and the other arts.

The Purpose of Dissonance

Consonance and dissonance, for Schopenhauer, are about the mathematical relationship of notes,

all harmony of the tones rests on the coincidence of the vibrations…so long as the vibrations of two tones have a rational relation to one another, expressible in small numbers, they can be taken together in our apprehension through their constantly recurring coincidence; the tones are blended and are thus in harmony. On the other hand, if that relation is an irrational one, or one expressible only in large numbers, no intelligible coincidence of vibrations occurs…and accordingly are called a dissonance. As a result of this theory, music is a means of making intelligible rational and irrational numerical relations.” (Schirmacher 117)

Alongside this mathematical construct, in Schopenhauer, is an element of mysticism—which an exploration of the ascetic-aesthetic paradigm has revealed. Schopenhauer suggests that dissonance—going beyond the numerical understanding—actually functions to reveal consonance. Schopenhauer views life as full of suffering and strife, where music serves as an aesthetic experience that brings a brief respite from this situation. The movement from dissonance to consonance offers a temporary break from suffering—just as aesthetic reflection
does. Ferrara characterizes the split of dissonance and consonance as resistance and satisfaction. “Harmonic dissonance in music strikes discord in our consciousness because of its numerical relations to large number vibrations as calibrated in acoustics. Dissonance is resisted by the will.” (Jacquette 189) If we consider the ascetic way of knowing, dissonance—like pain is resisted by the will—finds aesthetic resolution in consonance. The back and forth construction serves to move us beyond the conscious will into the experience of the Will. Within this relationship of vibrations music becomes

the material in which all the movements of the human heart, i.e., of the will, movement whose essential nature is always satisfaction and dissatisfaction, although in innumerable degrees, can be faithfully portrayed and reproduced in all their finest shades and modifications; and this takes place by means of the invention of the melody.

(Schirmacher 117)

A binary construction—like consonance and dissonance—can be carried into a variety of fields. In the Visual Music 8/8 Project, lightness and darkness function in similar ways as do consonance and dissonance in sound. Visual Composition VII moves through heavily saturated dark moments to resolve into a brighter resolution—and then plunges into the same cycle again and again. Visual Composition IV has swirling dark moments from the dark pub that resolve into visual bridges of lightly-colored mandola tops and the outdoor brightness of the concert with the dancing girl.

Zielinski points out the binaries that Athanasius Kircherus experimented with—light/shadow and light/music—and his attempts to bring the binary world into harmony.

Kircherus, experimented with light and music, as well as composition… He worked on the musurgia universalis where he proposed that sound waves worked like light waves, and if reflected they would become stronger…He built a sequencer, scala musica, which was able to compose harmonious music by using fragments of sound…His goal was not to substitute for composers but for people
who could not compose He worked at disharmonious unison, which brings together what cannot come together…He worked at bringing the binary construction, light and shadow, of the world together in a harmonious relationship…This binary construction in acoustics leads to dissonance and consonance. (Zielinski, "Siegfried Zielinski: Intro to Media Archeology")

As Schopenhauer states, music without either consonance or dissonance would be of no purpose. Accordingly the harmonious progress of notes consists of the alternation of dissonance and consonance that conforms to the rules of art. A sequence of merely consonant chords would be satiating, tedious, and empty, like the languor produced by the satisfaction of all desires. Therefore, although dissonances are disquieting and have an almost painful effect, they must be introduced, but only in order to be resolved again into consonances with proper preparation…This is precisely in keeping with the fact that there are for the will at bottom only dissatisfaction and satisfaction…so music has two general keys, the major and the minor, corresponding to those moods, and it must always be found in the one or the other. (Schirmacher 123)

The Visual Music 8/8 Project maintains an openness to using a variety of notes, or combination of notes, in fact even solitary notes within the compositions. The project by its design does not require either a melody—at least not what listeners would consider a melody—or harmony. The system allows dissonance, combinations of dissonance and consonance, a strong repetitive consonance, totally dissonant pieces with no resolution, or a piece that alternates between them. The musical compositions exemplify this range from the minimal note usage of Musical Composition I to Musical Composition IV with clear moments of melody playing out above the more repetitive drone-like lower notes. Visual Composition I is composed of just five images—which means that Musical Composition I has only five different notes used over and over to build the sound experience. The visual
composition is primarily consonant with only minimal changes in the color palette and in the shapes—the musical composition however with a strong droning sound borders on being dissonant throughout.

*Visual Composition II* has extreme moments of dissonant colors and movements that are resolved with the textures of the vertically moving instrument at measured interludes. The composers do not have either traditional music composition method—the mathematically formulated literate method described by Schopenhauer or the oral method used by many composers—available to them to guide the outcome of their compositions. Their choices are limited solely to the visual aesthetic and the experience that they get visually from the composition.

**Conclusion**

Schopenhauer did recognize that even the western system of music is built upon a framework that has made compromises within the mathematical system to create one that is more “pleasing” to the ear of the composer and listener.

A perfectly pure harmonious system of tones is impossible not only physically, but even arithmetically. The numbers themselves, by which the tones can be expressed, have insoluble irrationalities. No scale can ever be computed within which every fifth would be related to the keynote as 2 to 3, every major third as 4 to 5, every minor third as 5 to 6, and so on…For the notes of the scale can be compared to actors, who have to play now one part, now another. Therefore a perfectly correct music cannot even be conceived, much less worked out; and for this reason all possible music deviates from perfect unity. It can merely conceal the discords essential to it by dividing these among other notes. (Schopenhauer, *The World as Will and Representation, Volume I* 266)

The parameters of the *Visual Music 8/8 Project*, while not requiring melody or harmony, do have limits built into the system. The instruments chosen for the project create many and multiple overtones due to the double string combinations and the strong sustain of many of the Sobell instruments. These instruments are
often played in opening tunings which allow for strong chords, can use droning strings that fit into a number of chords within a key, and often play music that contains small levels of dissonance within the more resolved chords. The choice of these instruments increases the probability that the musical compositions will provide at least a momentary respite from the suffering of the world.

Schopenhauer reminds us to not expect logic to be at the forefront in composing meaningful music, for logic can never be of practical use, but only theoretical interest for philosophy. For although it might be said that logic is related to rational thinking as thorough-bass is to music, and also as ethics is to virtue, if we take it less precisely, or as aesthetics is to art, it must be borne in mind that no one ever became an artist by studying aesthetics, that a noble character was never formed by a study of ethics, that men composed correctly and beautifully long before Rameau, and that we do not need to be masters of thorough-bass in order to detect discords. Just as little do we need to know logic in order to avoid being deceived by false conclusions. But it must be conceded that thorough-bass is of great use in the practice of musical composition, although not for musical criticism. (Schopenhauer, The World as Will and Representation, Volume I 45)

Schopenhauer returns us to what is important in the quest to create visual music—not the technique but allowing the visual composition to go to the place of music—the place of feelings and emotions, the place beyond reason, to leave behind the individual will and reach the Will.
Music is the art of the invisible. With some music, if we listen—really listen—we become more humane because it puts us into balance. Jazz music is designed to do this.

Wynton Marsalis (Marsalis 32)
Nubar Alexanian is a photographer, photojournalist and documentary photographer committed to using the image without words to communicate. He works often with journalists and gets to compare this drive with their reliance on words. “I love to joke with friends who are radio and print journalists about how dependent they are on facts to tell the story…As a photojournalist, I am not dependent on the literal facts of a story to take honest pictures of subjects within the story.” (Alexanian, Nubar Alexanian's Topic 4) He adds, “Besides, narrative has never been one of photography’s strengths: as a medium it is much too ambiguous.” (Alexanian, Nubar Alexanian's Topic 4) This does not however mean that he is unaware of the interplay between word and image, or sound and image. Alexanian has experimented with video and recognizes the powerful part that audio plays in the story construction. That being said his art has primarily been in photographing images that don’t rely on text or discourse to explain them.

Bruce Cockburn is a singer-songwriter—a designation that has become popular in the past few decades. Acoustic Guitar magazine listed the 100 essential acoustic guitar recordings in a 1996 article. Cockburn’s Dancing in the Dragon’s Jaws was listed as one of the ten essential by singer-songwriters. “Cockburn’s Dancing in the Dragon’s Jaws…is a joyous release that saw the Canadian singer-songwriter finally crack the American Top 40 with “Wondering Where the Lions Are.” (Jensen 49) Cockburn, with his heavy reliance on the lyric, will provide another perspective to the composition task. Cockburn is most known for his lyrical writing—even quoted by U2 in the song God Part II. Within those lyrics Cockburn often tackles issues of global import—landmines, political situations where injustice is rampant, or environmental concerns—suggesting frustration, confusion and the desire for action. Cockburn’s lyrics often sound like a travelogue of observations—which while naming evil rarely state exactly what justice would look like.

Callous men in business costume speak computerese
Play pinball with the Third World trying to keep it on its knees
Their single crop starvation plans put sugar in your tea
And the local Third World's kept on reservations you don't see

“It'll all go back to normal if we put our nation first”

But the trouble with normal is it always gets worse

*The Trouble with Normal* (Cockburn, *Anything Anytime Anywhere*)

*The Trouble with Normal*, has a regular rhythm that is constantly interrupted by an alternate pacing which then resolves back into the rhythm—never allowing the body to either move with the rhythm or to be at rest. The sense of unrest and discomfort are typical of Cockburn’s musical travelogue. This travel puts Cockburn into the electrate era with his globally aware commentary—illustrated by the title of his 1999 album, *Breakfast in New Orleans Dinner in Timbuktu* (Cockburn, *Breakfast in New Orleans Dinner in Timbuktu*)—and his break from a more nationalistic view. Alexanian and Cockburn share a common interest in travel and intersect in their reliance on experiencing a place out of which they journal, write, compose and photograph.

**Alexanian: Emotion and Experience**

Alexanian suggests that many documentary photographers deal in the realm of emotion and experience—they rely on how they feel about what is happening in front of their lens. The effort is to go beyond the mere facts into the more essential experience of the event—not to illustrate or represent, but to go beyond what is possible with words. Alexanian recognizes the problem that can occur with the use of captions and titles, where they actually detract or freeze the meaning of a photograph—even turning the image into a concept. He comments, “What I’m most interested in are photographs that are not dependent on captions—images strong enough to stand on their own.” (Alexanian, *Nubar Alexanian's Topic 5*)

*Stones in the Road* is a collection of images that Alexanian shot over an eleven-year period in Peru. Most of the images are labeled simply with a place and date. A few have labels associated with a particular event like a “wedding reception,” but they do not tell what is happening or inform a clear direction of meaning. The photographs speak for themselves—the viewer must wait for the photograph to speak not read the caption a writer has attached.
Cockburn: Writing From Experience

You rub your palm
On the grimy pane
In the hope that you can see
You stand up proud
You pretend you’re strong
In the hope that you can be
Like the ones who’ve cried
Like the ones who’ve died
Trying to set the angel in us free
While they’re waiting for a miracle

*Waiting for a Miracle* (Cockburn, *Waiting for a Miracle*)

Most songs Cockburn write contain stories—although they are layered together in a way that makes them hard to define. Cockburn comments about writing *Waiting for a Miracle*,

That song was written in Nicaragua, but it fits a few places. The last place where I’ve been where it might be said to be true was Mozambique where I was about a year and a half ago. Mozambique had a war not unlike the one in Nicaragua actually, only instead of the U.S. supporting the contras it was South Africa supporting a group called RENAMO. Their job was pretty much the same, fuck everything up as much as you can for as long as you can. They were more successful, I think, in Mozambique than in Nicaragua and it was bad enough, of course, there...But people, in the process of trying to reconstruct or construct a country out of the ruins that are left are faced with many problems...There are some noble attempts being made but those noble attempts are hampered at pretty much every turn by the presence of large numbers of land mines, which cause a problem if you’re trying to grow food because you’re liable to hit one with your hoe, if you’re trying to gather firewood or fruit from the forest
because the kids that you send out to do that might step one. If you succeed in growing food you can't get your stuff to market because the trucks have to drive over roads that may be mined, and so it goes.” (The Bruce Cockburn Project, tape of a concert on 20 April 1997, at The Egg, Albany, NY, USA)

Cockburn's comments demonstrate the depth of truth—the depth of universal emotion rather than particular place or emotion—contained by these songs that speak to the essence of life.

There's a wealth of amputation
Waiting in the ground
But no one can remember
Where they put it down
If you're the child that finds it there
You will rise upon the sound
Of the mines of Mozambique
…And in the bare workshop they'll be molding plastic into little prosthetic limbs
For the children of this artist
And for those who farm the soil that received
His bitter seed...

The Mines of Mozambique (Cockburn, The Charity of Night)

The Mines of Mozambique starts with wailing, distant guitars, and gradually the steady delivery of the lyrics takes over. Drumbeats continue while the dissonant chords build the discomfort level within the listener—ending with an ethereal other-worldly sound before it cycles back to the relentless driving beat. Cockburn sees his role—in these harsh realities—is to draw attention to another place and experience.

Alexanian: Beyond Illustration to Metaphor

Alexanian has concern about the way photographs have become representations for a pre-determined concept—the iconized, coded image of the
electrate era. “The greatest threat to documentary photography has always been illustration…In fact, I would argue that illustration has won over all forms of documentary photography, generating photographs that look and feel like photojournalism, but are, in fact, conceptual ideas of how to describe a subject or an event.” (Alexanian, Nubar Alexanian's Topic 7) His concern mirrors Schopenhauer’s concern with artists who start with a concept and remain solidly in the activity of creating representations. Alexanian encourages photographers to follow subjects that grip them, that speak to them, that hold them for a long time. He recognizes that it is relatively easy to be competent at the technical aspects of the photographic medium—what is challenging is to stay with it long enough to find the essence. For the photographer, there is in fact a need to go beyond the beautiful, to move beyond the desire for the beautiful. This requires denial of the will, as Schopenhauer would suggest. Alexanian believes that photography is better at metaphor than is narrative, because it is more poetic. “It always surprises writers whom I work on assignment with, that photographers aren't necessarily tied to the facts on a story to describe something honestly.” (Alexanian, Nubar Alexanian on the Point) He describes the taking of a particular photograph, (Alexanian, Stones in the Road: Photographs of Peru image12)

I was sitting outside a restaurant drinking coffee when I spotted them. I was really taken by them and jumped to my feet, ran to catch up with them and as I was crossing in front of them, I prefocused my camera and shot three frames. When I saw the print, I understood what compelled me. After spending many years photographing in Peru, I realized that the Andean people have an identity which has been on hold, perhaps since the Spanish came to their country. In this image, the woman and girl don't just look lost... they look centuries lost. Now, they might not be lost at all. But I needed to say this with a picture and this image does it. Is it true about them? In that moment, probably not. But overall, it's true about their people.” (Alexanian, Nubar Alexanian on the Point)
Cockburn: From Experience to Art Creation

Cockburn is clear that his work is to create art not push an idea—the message is a result of the art if there is one. Cockburn does not choose issues and then seek to write songs about them—his songs about these issues are because he has experienced them. Listening to his albums documents the trail that Cockburn has taken over the last thirty years.

I feel like it's all part of one picture. And it's a picture of a spiritual journey, more than anything... All those songs sprang from direct experiences and they wouldn't have sprung from any other thing...It's part and parcel to the way I write, to how I approach songwriting as a whole. The songs are attempts to do something with an emotional response I'm confronted with. Without that confrontation, that emotional response, there would be no songs. For me, what is essential is to write about as much of the human experience as I can. That includes political songs, but it doesn't preclude love songs, and songs about sex and whatever else might come up. (The Bruce Cockburn Project, "Tucson Weekly", circa 22 February 2000)

These travels have brought important change to Cockburn, and they offer important aspects to his work. "One of the important ones is the way it can kick you out of your habits of mind, and I think being regularly kicked out of your habits of mind is very important, vital really, from a creative point of view. Some people get that from drugs or indiscriminate sex but in my case it's been mostly through travelogue!" (The Bruce Cockburn Project, "Tender is the Night", Hearsay Magazine, Vol. 14b, December? 1996)

The Visual Music 8/8 Project captured the portrait images while traveling with the subjects—Anna and John on the expanses of the university parks, sharing tea with Stefan and Nigel as they built the instruments, Mel playing an outdoor festival with the young girl who danced across the field, or visiting various pubs with Keith for the Irish music sessions and whoever showed up to play with him.
The visual compositions brought these images together in ways that lost the specificity of person and place.

**Alexanian: Beauty and Abstraction**

Alexanian struggled to go through the beauty to what was underneath in his photography of Emmylou Harris. “I have to admit that her beauty presented a significant challenge. I had to shoot through it in order to photograph the meaning of her music. What makes a great singer is more than being beautiful and even more than having a voice from God.” (Alexanian, *Where Music Comes From* 52)

The *Visual Music 8/8 Project* does not use traditional portrait lens, avoiding the beauty look that could have been the goal. By using a predominance of available light, the images have shadows, dark spaces, short depth of field, and the rounded bulges created by wide-angle lenses. These images go beyond the concept of instrument, builder or player by refusing to give the expected iconic image. *Mel G-I* enlarges the instrument and the hand emphasizing them beyond their proportion, *John E-III*—with the wide-angle distortion—draws the eye to the citern and away from the woman playing the hurdy-gurdy. The wide-angle lenses suggest in greater detail the curvature of the instrument top—giving it a more pregnant, life giving sense.

Alexanian also chose to shoot the book, *Stones in the Road*, at the same time as the music book, to help him deal with the distraction of beauty. Alexanian explains another face from that project,

Regarding the picture of the old woman in Chinchero, (Alexanian, *Stones in the Road: Photographs of Peru* 33) let me say this. First, one of the reasons I’ve always liked this image is that people can’t tell whether it’s a man or woman. More than this, she was the reason I changed from shooting color film to black and white. In color, what you would notice more than anything would be her shawl, called a manta in Peru. These mantas are really beautiful, but I wanted people to see her face, not be distracted by the beauty of her manta. There’s an entire life’s story in her face, in the lines, the shine of her
skin. I know it sounds like a cliché, but she looks so weathered by living outside most of her life, working and sometimes sleeping in the fields at an altitude. (Alexanian, Nubar Alexanian’s Topic 10)

Black and white is just one method of moving towards abstraction—or away from representational—which Alexanian finds valuable. This movement away from representational reality takes us in the direction of the “unindividuated knowledge of Idea.” Alexanian explains,

the difference between color and black and white is that in black and white the image is abstracted one step further from the subject…we see in color, but we don’t see the way color film sees. So the use of color film is already an abstraction of sorts. But there’s a real separation between reality and image in black and white, which can engage the viewers’ imagination more fully. (Alexanian, Nubar Alexanian’s Topic 10)

Just as the *Visual Music 8/8 Project* used non-traditional lenses to change perspective and move away from reality—several images changed color or moved toward black and white as another separation from reality. *Geoff D-I* and *Anna E-VII* make the image monotone except for the instrument—which heightens the color of the instrument. The whole *John* set has the color changed—from the color shapes in the blurred *John A-II*, the split-toned *John E-III* and *John E-IV*, the harsh monotones of *John A-V*, to the over saturated greens and monotone people of *John A-VI*. It is the blur in these images that goes the step beyond black and white on the continuum from reality to abstraction.

Alexanian’s friend Jeff Jacobson notes the paradox—specific and ambiguous—of photography which also applies to the music of Cockburn.

I am struck by the ability of great photographs that document a fragment of real space and real time to give birth to many different meanings to different viewers. Words can attach specific meaning to photographs which may inhibit their ability to reproduce a multiplicity of meanings. I love the paradox of ambiguity in an image that is a direct representation of the reality before the photographer’s lens.
The combination of that ambiguity and specificity, that paradox, is what I feel gives photography its most unique power. (Alexanian, Nubar Alexanian’s Topic 19)

It is this reference to the specific while pointing to the deeper which gets both of these artists closer to the Schopenhauerean ideal of getting to the universal emotion with their art.

**Cockburn: Storytelling Emotion Into Lyric**

Here comes the helicopter—second time today
Everybody scatters and hopes it goes away
How many kids they've murdered only God can say
If I had a rocket launcher...I'd make somebody pay
…I want to raise every voice—at least I've got to try
Every time I think about it water rises to my eyes.
Situation desperate, echoes of the victims cry
If I had a rocket launcher...Some son of a bitch would die

*If I Had a Rocket Launcher* (Cockburn, *Stealing Fire*)

Cockburn understands that his story experiential songs can be misunderstood by those who want to jump to the concept too quickly or who want everything to match their preconceptions. *Rocket Launcher* came after a visit to a refugee camp—and is full of rage that doesn’t seem to end. The music has a repeated loop of sound that is interrupted by the crashing drums bringing home the anger caused by the regularity of these oppressive daily lives. The song ends with the punctuating sounds of drums. The songs contain not only his emotion but the emotions he observes among the people he meets. He comments that anger is not the only emotion that he discovers on these trips. “Those people still had this ability to go, ‘Well, okay, we're just gonna build something here.’ That just made the kind of cynicism, that we who live in the developed world can so easily feel about the usefulness or not of political action, seem so pathetic.” (The Bruce Cockburn Project, "Bruce Cockburn - A Burning Light and All the Rest" by William Ruhlmann, Goldmine magazine, 3 April 1992)
Paul Nonnekes analyzes the situation, Cockburn realizes that the travelers who go together are on a grim journey, he also realizes that their perceptions of beauty brings with it automatically a perception of the pain that mixes with that beauty. This is what makes (Cockburn) cry, the fact that the ideal of love, intuitively understood as the beauty of paradise, faces conditions of ruin, where that beauty is obscured, and is especially hard to see by those who do not have the eyes of love. This is why he is angry, building up a kind of rage against this condition. (Nonnekes 94)

Cockburn, as artist, understands that all he can do is put those emotions—and they rarely contain images of beauty—into the songs and give them to the audience. The audience contemplates the story told, the emotional sense of the music and responds.

Cockburn starts almost all his compositions with the lyrics and then adds the music—which is too sustain the emotion but not overwhelm the lyrics. (The Bruce Cockburn Project, Bruce Cockburn on Weekend Edition, Interviewed by Scott Simon, January 18, 1997, © 97 National Public Radio ) Cockburn on his travels—in fact all the time—is open to the songs that might come along. He keeps a notebook of words, lines, ideas and images. The fact that Cockburn starts with the lyrics, or even ideas, should not suggest that he functions primarily in the literate era. Songwriting for him—like any art form—speaks most clearly to the inarticulate, to the emotional. He states, "Writing music, for me, is about touching something deep in someone else from a real place in yourself. It can be done with a mood; it doesn't have to be done with ideas or direct statements." (The Bruce Cockburn Project, Straight to the Heart, Bruce Cockburn's songs of subversion," by David Batstone, Sojourners Magazine, September-October 1994) When he adds the music Cockburn—although he received training at Berklee in composition—composes with an oral method using his guitar to give sound to the emotion.
Alexanian: Images of Music

Alexanian has spent considerable effort to photograph a variety of musicians. In Where Music Comes From, he deals with contemplation in two ways: the contemplation of the performer/subject that is captured in the image and the contemplation of the viewer seeing the image. Several of the images show the musicians “seeing” another place with their eyes closed as they perform: a choir director and his choir with upturned faces (Alexanian, Where Music Comes From), the Roche’s mix introspection with entwining harmonies (Alexanian, Where Music Comes From), and Junior Wells has inner visions while standing among images of the legends (Alexanian, Where Music Comes From). The most instructive image is that of Wynton Marsalis with eyes closed hearing the inner voice that will speak through the waiting trumpet. (Alexanian, Where Music Comes From 61) Marsalis suggests that listening—and not just to music—is what it takes to create music. “The quality of the music you play comes directly out of the quality of your hearing. Listening is easy; hearing—well—that’s another thing.” (Marsalis 50)

Alexanian collaborated with Marsalis to create a book, Jazz, of images and words. These words and images flow in parallel—dancing back and forth with neither being given prominence or interpreting the other. Alexanian, sounding like Schopenhauer, talks about the power of music.

Humans everywhere have relied on music to communicate with their deities and considered music the medium created by the gods for dialogue. I understand why they believed this. Some music speaks to me so universally and powerfully, it does indeed seem otherworldly. It’s as if the great composers and performers are truly our intermediaries with a divine force. (Alexanian, Where Music Comes From 10)

While Schopenhauer would not agree with the religious descriptions of Alexanian it is clear that both recognize the universal power of music.

One third of the photographs in Jazz, involve motion or movement. The movement brings a sense of energy or “sound” to the images. These photographs struggle to bring more than one instant of time together within one frame. This is
the challenge when taking a medium which is traditionally considered to capture one moment in time—to be more spatially oriented—and bring it into relationship with music—which is very time based, cyclical and rhythmic. Marsalis explains, “Jazz musicians improvise with and against the form and harmonies of a piece... with and against ideas that are being presented by other members of the group. And we improvise with and against the time. We’re always trying to keep up... push or pull... play with or against... the beat.” (Marsalis 11) The images are the visual improvisation between the subject and the photographer with the dialogue caught in stride not as a completed idea. The energy flows across the pianist to Marsalis and off the keys in shades of gold and red (Marsalis 59). The dialogue between the sax and trumpet is hot as both put their concentrated energy into the music (Marsalis 57). Marsalis says in reference to jazz music,

> The vocabulary of jazz, the basic building blocks of music, are metaphors for communication. These haven’t changed very much since the very early days. Call and response means, I speak and you answer. A break... I stop and let you talk or vice versa. Solos... we each get a chance to expound on the subject. Riffs... we agree. Improvisation... what we say and how we say it. And finally, swing, which means coordinating all this communicating with style and good manners. (Marsalis 6)

Alexanian attempted to make music with the images he captured them, “This interplay between musical, visual, and emotional response became the melody in the photographs upon which I improvised frequently, experimenting and searching to broaden my own understanding of where music comes from.” (Alexanian, Where Music Comes From 11) The photography functions like musical improvisation—with the back and forth of the musician and the photographer—with their call and response.

Motion and movement dominate the photographs shot—for the Visual Music 8/8 Project—during the Irish music sessions, in the pubs, with Keith. In Keith D-III, two of the players move so much—in conjunction with the slow shutter speed and the brighter windows—they nearly disappear from our view, leaving only the
instruments to carry on—pure emotion without the interference of reason. The violinist in *Keith A-VI* starts to slide from view with the motion of his bow.

**Cockburn: the Power of Music**

I've seen the flame of hope among the hopeless  
And that was truly the biggest heartbreak of all  
That was the straw that broke me open  

...  
If this were the last night of the world  
What would I do?  
What would I do that was different  
Unless it was champagne with you?  

*Last Night of the World* (Cockburn, *Breakfast in New Orleans Dinner in Timbuktu*)

Melancholy hopefulness, in *Last Night of the World*, is the mixture achieved by the tempo of the guitar and bass mixture—the high and low tones moving back and forth. Cockburn reports a number of situations where it was seeing hope—where he expected hopelessness—that has influenced much of his songwriting.

In the last verse I was thinking specifically of refugees I had encountered back in 1983 in the south of Mexico. They had fled terrible things, were being starved and dying of disease. It couldn't get much worse, yet they faced their plight with discipline and this eternal flame of hope. It was such a poignant thing to witness. It made a huge impression on me. Whenever I get the feeling that things in life are hopeless, I only have to think of that. If those people could have hope in their circumstances it's ridiculously decadent for us not to have it. In that sense it 'broke me open' - put a big crack in the cynicism and lowered expectations that we grow up with in a culture like ours. (The Bruce Cockburn Project, "Bruce Cockburn,
Cockburn feels the responsibility of being an artist—with the powerful role it can play for the audience—with its ability to connect to a universal sense of emotion. Cockburn lets his passion loose in his songs, but he is not trying to tell people what to think.

It's very important to make a distinction between art and propaganda. What makes a difference between the two and has value to me is that if one considers oneself an artist, one has to present something like truth. That's a bit weird, but I think it's necessary to try and approach something like truth as closely as possible in one's work. Obviously, the truth is going to be somewhat subjective, everyone's truth is. Each of us has individual experiences, but we also are the product of the circumstances in which we live. Therefore, there's a connection that exists between any one person and every other person. In that way the experiences of anyone parallel that of everyone else. The trick is to articulate those things in such a way so they become accessible or so other people can relate to them...That was one of the things wrong with the 60's. People got swept away on the image of peace and love and so on without looking at the reality of what that might mean or how they might bring that into being in the world. (The Bruce Cockburn Project, Interview: Bruce Cockburn" by John Vernile. Written by Mary Anne Devine. From the WUSB 90.1 FM )

Cockburn doesn't see much difference between his songs about violence in Nicaragua and those about passionate love—they all involve the expression of universal emotions.

The kid who guards Fonseca's tomb
Cradles a beat-up submachine gun --
At age fifteen he's a veteran of four years of war
Proud to pay his dues
He knows who turns the screws
Baby face and old man's eyes...
For every scar on a wall
There's a hole in someone's heart
Where a loved one's memory lives
_Nicaragua_ (Cockburn, _Stealing Fire_)

**Alexanian: Seeing Beyond Self**

Alexanian shares a story about Marsalis, which illustrates the power that music can have, without a recourse to logical discourse. Following a question from a student about whether he could say anything on a trumpet about all the terrible things happening in the United States.

‘My commitment is really to the continuum of jazz and blues,’ he [Marsalis] replied. ‘Pop music is probably better suited to reacting to events like that.’ This said, he then sat at the piano. Chording a rhythm with his left hand and playing trumpet with his right, he improvised something so deep and soulful I found myself crying, unable to focus my cameras. The students were stunned silent. Finally Wynton stood up, wiped his own eyes, bowed and left the stage. Later I asked him what happened out there. ‘I really don’t know, man. I just got on a vibe. Something about the way that kid asked me that question.’ (Alexanian, _Where Music Comes From_ 60)

Although Marsalis assumes that pop music is better able to do this response it would often be a response that arises out of concept. What Marsalis did in this instance is to find that momentary experience of the knowledge. Marsalis claims that one must live to be able to play jazz, that it isn’t a technique that can just be learned, but that to get to the Idea you must first live—in a world of suffering as Schopenhauer would add. Experiencing life and the suffering and hope within it tie Alexanian and Cockburn to their artistic tasks.
Conclusion

Alexanian and Cockburn elevate the importance of experiencing life—people, places, events, traveling—in the process of composition. This addresses one of the temptations of the visual musician—to hibernate or hide within the technology—creating only within the boundaries of the techne. These life experiences and the observations—some which involve the ascetic suffering of the documentary artist—come together through reflection providing the emotional springboard for the artistic creation. These reflections often start at the specific but inform a greater openness to connecting to the universal emotions—and don’t be afraid to call these to peoples attention.

These experiences drive the artist to go beyond what words can explain. Alexanian encourages artists to distrust the words and narratives attached to the image. Cockburn—even though he starts composing with words—distrusts the attachment to ideas and concepts. They both suggest that the art itself is what speaks to the audience—the viewers should wait to hear what the piece is speaking. Both assume that music communicates powerfully—whether composed or improvised.

Observing Alexanian’s images—especially those of the musicians—suggests that visual musicians should work to incorporate motion within the visual aspect. The motion within his photographs creates a sense of temporality and duration that is unusual in still photography. Cockburn and Alexanian also achieve different levels of abstraction in their work from the absence of color to the lack of specificity in the lyric. These abstractions require the audience to go beyond the more representational level—reaching beyond the beautiful surface to the essence.

The Visual Music 8/8 Project takes these issues seriously—especially in the acquisition of the portraits—emphasizing travel and experience, capturing motion in the musicians, using a variety of means to create abstraction and seeking the deeper emotional content rather than the surface appearance.
Schopenhauer: Art/ Music

The true answer is to be found, I think, in the characteristic that myth and music share of both being languages which, in their different ways, transcend articulate expression, while at the same time—like articulate speech, but unlike painting—requiring a temporal dimension in which to unfold.

Lévi-Strauss (Wishart 163)
Schopenhauer assigns music a position superior to all other art forms. For him “music is the answer to the mystery of life. The most profound of all the arts, it expresses the deepest thoughts of life.” (Schopenhauer, *Spirit into Sound*) Schopenhauer places the arts onto a continuum from the lowest to the highest: architecture—rarely if ever undertaken purely for art but has a special relation to light and is not a copy—sculpture, painting, literature, poetry and music. This continuum matches his objectification of the will: from lowest to highest. Music is more like mathematics—more abstract and independent of the phenomenal world. (Schopenhauer, *The World as Will and Representation, Volume I* 264) Music, since it passes over the Ideas, is also quite independent of the phenomenal world, positively ignores it, and, to a certain extent, could still exist even if there were no world at all, which cannot be said of the other arts. Thus music is as immediate an objectification and copy of the whole will as the world itself is, indeed as the Ideas are, the multiplied phenomenon of which constitutes the world of individual things. Therefore music is by no means like the other arts, namely a copy of the Ideas, but a *copy of the will itself*, the objectivity of which are the Ideas. For this reason the effect of music is so very much more powerful and penetrating than is that of the other arts, for these others speak only of the shadow, but music of the essence. (Schopenhauer, *The World as Will and Representation, Volume I* 257)

Since Schopenhauer claims that music is a copy of the Will, he rejects the suggestion that music is—or should be—imitative of natural sounds like thunder, birds or running water. Just as music does not imitate the sounds of water, music does not represent individual occurrences, feelings or emotions but the universal occurrences.

Schopenhauer leaves a fissures open in his theory for the visual composer to squeeze through in the quest to bring the visual into the place of music. First, music is a language of feelings and emotions—that goes into the realm of the universal. Many of the visual compositions in the *Visual Music 8/8 Project* have
only minimally recognizable forms—and the recognizable forms don’t function in mimetic or symbolic ways. Second—and related to the first—music is valued for the abstract way in which it functions. A look at Kandinsky’s compositions suggests that a high level of abstraction without recourse to the physical world is possible in the visual arts. The Visual Music 8/8 Project notation system is built on a set of abstract principles where the relationship between the visual form and the music note has no congruence based on color, form, vibration or brightness. The visual compositions are not intended to represent the playing of music—even though the portraits start with images of the construction of the instruments and their being played—but are to function in two ways—as a visual music experience and as a method of composing music allowing the composer to use only the visual aesthetic. Third—visual compositions do not need to start from the position of the idea—or the concept that comes from contact with the world—they are fully capable of coming from the deeper sense of the Will. Fourth—music is more closely related to time than to space—the visual compositions are closely tied to a sense of time—more so than to a static space. Duration, within the Visual 8/8 Project, of the whole composition and the segments within—which often loop and repeat their time based sequences throughout the whole—is crucial to the visual construction of these pieces.

**Color and Music Theories**

History is full of artists and theorists who have created systems that bring color—or light—and music together. Attempts have been made for hundreds of years to find a correlation between sound and light—or to force the two into a comparative analogy. Goethe, for some time, embraced the idea that there was a correlation between the vibration frequencies of sound and of light. Kenneth Peacock states that, “Sir Isaac Newton was the first to observe a correspondence between the proportionate width of the seven prismatic rays and the string lengths required to produce the musical scale D, E, F, G, A, B, C.” (Peacock 398) Niels Hutchison suggests that Newton forced his color theory to match the music theory. “Newton felt obliged to divide the naturally-occurring spectrum into seven colours,
one for each note of a musical scale. In this way the phenomena of light and sound were united in one mathematical matrix.” (Hutchison) These seven colors, chosen by Newton, are still used to describe the rainbow.

Newton’s schema has been challenged by new discoveries in the science of light. Hermann von Helmholtz supplemented the traditional set of primary colors with the additives of red, green and blue. Hutchison demonstrates how Helmholtz moves into the color-music analogy.

The tonal range, from the darkest colour to the lightest, became more clearly defined. Particularly, pairs of complementary colours, such as red and blue-green, were isolated in the spectrum; it was eventually demonstrated that any pair of its own could reconstitute white light, if painted on a spinning disc. Helmholtz was very taken by the colour-music analogy… He personally preferred an A scale, so that his additive primaries of red, green and blue-violet would most closely match a major chord - in this case, A, C# and E. Spacing was all important to Helmholtz: closer colours were not so harmonious, nor did they give as pure an impression in his view. The complementaries, such as red and blue-green, satisfied him more, and he likened them to the satisfying musical intervals of the fourth and the major third. (Hutchison 2002)

Willard Wright, in The Future of Painting, predicted that the art of color, which in his time was expressing itself in painting, would need a new medium. He expected that light would be this new medium for the artistry of color.

What, one asks, will be the ultimate medium of this new art of color? There can be little doubt concerning the answer. Already the future of the art of color is evident. The medium of this new art will be light, namely: color in its purest, most intense form, and with determinable vibrations. That light is the logical means for the expression of color is obvious, for color is light; and only through light (that is: the heliotropic aspect of color) can color be made to function most effectively. Pigments are merely colors by proxy, without purity, and
Measurable vibrations of color were important to Wright’s theory. These vibrations, according to Wright, act on the optic nerve in a similar way to the action of sound vibrations act on the ear.

Tom DeWitt suggests that visual music must look for its own aesthetic—that is in touch with the psychology of sight. DeWitt starts with aural research by Helmholtz, “Helmholtz concluded that we appreciate the geometric progression in sound frequencies because our ears seem to produce these overtones even in the absence of their physical presence. In other words, we enjoy the art born from the subtle manipulation of our aural psychology.” (DeWitt 115) DeWitt appropriates this methodology and employs it to study sight. He exposes several discoveries: First, the eyes respond differently to black and white than they do to color from color. He suggests this is due to the difference in light sensitivity between the rods and cones. The change between them may trigger an emotional release. Second, the aesthetic of symmetry comes from the “bilateral symmetry” structure of the human optic system. Third, sight is tied to a time based cycling.

The persistence of vision closely matches our aural perception, that is, discrete sound events become continuous tones at about 20 cycles per second. Like the reduction of a score into beats and measures, films are made of frames and shots. The film medium invites artists to become visual musicians, dividing up time according to a sense of change. Hence one aesthetic that music can teach visual artists is that of tempo…it might be advisable to continue this formalism further, so that the exact duration of time between cuts would be based on a set beat frequency either subdivided by rational fractions or lengthened by integral multiples. Certainly, music has shown that this simple scheme appeals to an innate rhythmic sensibility in our psychology. (DeWitt 118)

This rhythm can be created by other methods than cuts, such as pulses, jumps, and moving objects. The motion can be used to express emotion, from excitement to calm. Fourth, the brain is able to finish only partially seen objects.
The brain is capable of recognizing images that are partially blocked or occluded from view by opaque foreground objects. Contrast this visual mechanism with hearing. The ear may be exposed to the summation of many simultaneous sounds, but the brain extracts coherent information from subsets of the total sound environment. This is a process of *subtracting* from our immediate awareness unwanted elements of a complex audio waveform. However, when the eye sees an occluded object, the brain fills in the missing elements, completing the process of recognition by *adding* pieces. (DeWitt 120)

Schopenhauer also theorizes about the senses and ranks them. Sight gets the nod over hearing. He states, “Sight has the highest rank, inasmuch as its sphere is the most far-reaching, and its receptivity and susceptibility the keenest. This is due to the fact that what stimulates it is an imponderable, in other words, something hardly corporeal, something quasi-spiritual. Hearing has the second place, corresponding to air.” (Schopenhauer, The World as Will and Representation, Volume II 27) The ranking continues on to the lowest senses of smell and taste. These senses are the most likely to be objective and subject to the will. Schopenhauer suggests that the perceptual boundaries of hearing contribute to the nature of music.

Perceptions through hearing are exclusively in time; hence the whole nature of music consists in the measure of time, and on this depends not only the quality or pitch of tones by means of vibrations, but also their quantity or duration by means of the beat or time. The perceptions of sight, on the other hand, are primarily and predominantly in space; but secondarily, through their duration, they are also in time also. Sight is the sense of the understanding that perceives; hearing is the sense of the faculty of reason that thinks and comprehends. (Schopenhauer, The World as Will and Representation, Volume II 28)
For visual musicians to be successful, given these parameter would require a strong temporal sense and a decrease in the reliance on the spatial perceptions. Movement and rhythm work well because they combine the spatial and temporal perceptions.

The passive nature of hearing leads to the power it exerts on the mind. Schopenhauer suggests why the visual musician—one attempting to do visually what music is capable of—may fail in their effort.

The effect of music on the mind, so penetrating, so immediate, so unfailing, and also the after-effect that sometimes follows it, consisting in a specially sublime frame of mind, are explained by the passive nature of hearing just described. The vibrations of the tones following in combined, rational, numerical relations, set the brain-fibres themselves vibrating in a similar way. On the other hand, from the active nature of vision, the very opposite of hearing, we can understand why for the eye there can be nothing analogous to music, and why the colour-organ was a ludicrous error. (Schopenhauer, The World as Will and Representation, Volume II 31)

The Color Organ

Louis-Betrand Castel developed a clavecin oculaire, a “harpsichord for the eyes”, in 1734. He describes his inspiration,

The idea for a clavecin oculaire was stimulated by writings of Athanasius Kircher, who had experimented with the magic lantern—an invention that became the slide projector. In his first article on the subject, Castel asked: “Why not make ocular as well as auricular harpsichords? It is again to our good friend [Kircher] that I owe the birth of such a delightful idea. Two years ago I was reading his Musurgia: there I found that if during a beautiful concert we could see the air which is agitated by all the various tremors of the voice and instruments, we would be astonished to see it sown with the most vivid colors.” (Peacock 399)
Castel describes an instrument of five octaves, with each note having a color associated with it. For instance C was blue and had white or black mixed with it to go up and down the scale.

During the nineteenth century there were a number of experiments to bring together sound and color; from Frederick Kastner using gas jets, D.D. Jameson using oil lamps and bottles full of colored liquid, and William Schooling using vacuum tubes. (Peacock) Alexander Wallace Rimington patented his Colour-Organ—which became the name for many other color light instruments—in 1893. Peacock describes the instrument,

Rimington was convinced that physical analogies of some kind existed between sound and color. In his book, he repeatedly compared the two phenomena, claiming that both 'are due to vibrations which stimulate the optic and aural nerve respectively'...Rather than attempting to show an exact parallel between vibration frequencies of light and sound, he divided the spectrum into intervals of the same proportions as occur in a musical octave. Thus the ratio between two light waves approximated that for a corresponding interval in sound. Each octave contained the same colors, and registral placement of colors was directly proportional to saturation, i.e. higher octaves contained more white light. The Colour-Organ stood over 10 feet high. A complex apparatus, it employed 14 arc lamps and many filters varnished with aniline dye. It also required a power supply capable of providing 150 amps. The five-octave keyboard resembled that of an ordinary organ and was connected by a series of trackers to a corresponding set of diaphragms in front of special lenses. Stops were furnished to control the three variables of color perception: hue, luminosity, and chroma (color purity). One stop allowed the performer to spread the spectrum band over the entire keyboard instead of over one octave—proof of Rimington's flexible attitude concerning the analogy between particular colors and tones. (Peacock 401-2)
Rimington’s “instrument” only produced color and was not capable of making sound. His instrument used traditional notation, playing the same notes on the keyboard as with a “sound” based instrument. It was his expectation that his instrument would be played simultaneously with a sound-producing one. Rimington’s C note corresponded to deep red—unlike Helmholtz who gave this color to the G note and Castel who gave the C to blue. The various theorists and builders did not have a consistent relationship of colors and notes.

Thomas Wilfred, who built the Clavilux in 1922, rejected theories that created a correspondence between light and sound. Peacock comments on his commitment to light and the Clavilux,

> Light alone was the principal feature of a new art form he named “Lumia”…He considered the term “color-music” a metaphor; yet his art resembled music by including factors of time and rhythm in live performance. Wilfred first used light in a purely abstract manner, but he later decided form and movement were essential. These he achieved via filters which permitted the projection of moving geometrical shapes onto a screen…Wilfred’s main instrument, employing six projectors, was controlled from a “keyboard” consisting of banks of sliders. An elaborate arrangement of prisms could be inclined or twisted in any plane in front of each light source. Color intensity was varied by six separate rheostats which Wilfred operated delicately with his fingers. Selection of geometric patterns was effected via an ingenious system of counterbalanced disks. (Peacock 405)

Wilfred, in Light and the Artist, lays out his framework for creating what he considered to be the eighth fine art—named Lumia—using the medium of light. The parameters around which Wilfred worked lay an interesting conceptual framework to compare to the visual music experiment—form, color and motion. He assigned the most importance to form and motion—allowed for static compositions deeming them less important—but suggested that eye required form and so that motion and color could not function independently of form.
Form has four sub-factors: LOCATION—Where is it?
VOLUME—How big? SHAPE—What is it? CHARACTER—What is there about it?…Color also has four sub-factors: HUE—What color is it—red, green, blue? CHROMA—How much gray has been mixed with the pure hue? VALUE—How much white in that gray?
INTENSITY—How strong is the light it sheds?…In lumia the term motion applies to all phenomena in the time dimension. Motion may therefore occur in a static form, with changes in volume, shape, character, hue, chroma, value and intensity. Like form and color, motion has four sub-factors: ORBIT—Where is it going?
TEMPO—How fast? Speeding up? Slowing down? RHYTHM—Does it repeat anything? FIELD—Is it constantly visible, or does any part of its orbit carry it beyond the range of vision? (Wilfred 252-3)

The visual arts are easier for Schopenhauer, and other theorists, to explain. He suggests that all people recognize human beauty when it is seen, but the artist sees this with more clearness. The artist in fact with his presentation exceeds that of nature. Schopenhauer disputes those who try to limit the subjects of painting to special events or people. He discusses historical painting, and suggests that no event in human life should be left out of the possibilities for painting. These paintings should include everyday life as well as significant historical events. This becomes apparent when exploring the significance of painting for art versus that of history. “The outward significance is the importance of an action in relation to its consequences for and in the actual world…The inward significance is the depth of insight into the Idea of mankind which it discloses…In art only the inward significance is of importance; in history the outward.” (Schopenhauer, The World as Will and Representation, Volume I 230)

It is this distinction between the inward and the outward that suggests some of what is special about music.

The truth which lies at the foundation of all the remarks we have so far made is that the object of art, the depiction of which is the aim of the artist, and the knowledge of which must be consequently precede
his work as its germ and source, is an Idea in Plato’s sense, and absolutely nothing else; not the particular thing, the object of common apprehension, and not the concept, the object of rational thought and of science. (Schopenhauer, The World as Will and Representation, Volume I 233)

Cheryl Foster suggests several types of art that don’t fit into Schopenhauer’s schema. The “degenerate mode of allegory known as symbolism, for in its practice, art veers entirely of course from perceptual contemplation into territory through which one must be guided by concepts alone.” (Jacquette 145)

Schopenhauer offers a corrective to any art theory that overemphasizes conventions, concepts and categories of artistic creation. The task of visual music is full of attempts to break with conventions—but in breaking with the conventions these artists often remained closely aligned with scientific concepts and techniques—which Schopenhauer demonstrates is just as dangerous.

**Concept and Idea**

For Schopenhauer the artistic endeavor is always a temporary respite. The artistic expression gives a glimpse of real life—the innermost nature of life—but doesn’t offer total satisfaction. All art speaks the language of perception, but not the language of reflection, so they do not offer a permanent universal knowledge. While art can be employed by either—the concept or the Idea—it is clear where Schopenhauer sees genuine art coming from.

The concept is abstract, discursive, wholly undetermined within its sphere, determined only by its limits, attainable and intelligible only to him who has the faculty of reason, communicable by words without further assistance, entirely exhausted by its definition. The Idea, on the other hand, definable perhaps as the adequate representative of concept, is absolutely perceptive, and although representing an infinite number of individual things, is yet thoroughly definite. It is never known by the individual as such, but only by him who has raised himself above all willing and all individuality to the pure subject
of knowing…For this reason the most excellent works of art, the noblest productions of genius, must eternally remain sealed books to the dull majority of men, and are inaccessible to them…Now it follows from all that has been said that the concept, useful as it is in life, serviceable, necessary, and productive as it is in science, is eternally barren and unproductive in art. The apprehended Idea, on the contrary, is the true and only source of every genuine work of art. (Schopenhauer, The World as Will and Representation, Volume I 234-5)

Unfortunately many artists are only imitators. Imitators—in contrast to the genius who grasps the Idea—observe what has an affect in genuine works. They take this observation, turn it into a concept—or technique—and of course destroy any possibility of creating genuine art. These artists birth their work from the concept and “like parasitic plants, they suck their nourishment from the works of others.” (Schopenhauer, The World as Will and Representation, Volume I 235)

Schopenhauer links the usage of allegory and symbolism to the conceptual arts—as a “mistaken effort” which does not serve the purpose of art. (He suggests however that it is admissible in poetry.) He rejects allegory, since the art must go through some decoding effort, or matching interpretive effort to arrive at the meaning. This is more of a scientific exercise than the artistic effort Schopenhauer has been describing. The viewer also must not engage in this kind of analogy or symbolic interpretation method. A viewer must stand before a piece of art and wait to see if it “speaks” to her. They must not address the art, which means they would only hear themselves talking—but their imagination must be excited. It is the fact that art, at least the best art does not speak directly to the mind or senses, but directly to the inner being, for “the very best in art is too spiritual to be given directly to the senses; it must be born in the beholder’s imagination, though it must be begotten by the work of art.” (Schirmacher 100)

This indeed presents a challenge to the visual musician. The Visual Music 8/8 Project could easily fall into the trap of taking several concepts and attempting to create the art from those perspectives. Schopenhauer suggests that the artistic
medium may be a better place to explore the issues—of the medium of visual music—than is the place of discourse.

The communication of such a thing can therefore take place only on the path of perception, which is that of art. Therefore, whoever is imbued with the apprehension of an idea is justified when he chooses art as the medium of his communication. The mere concept, on the other hand, is something completely determinable, hence something to be exhausted, something distinctly thought, which can be, according to its whole content, communicated coldly and dispassionately by words. (Schirmacher 101)

If a work of art attempts to convey a concept instead of an idea it gives up the “innermost kernel” and leaves the viewer unsatisfied. True art can’t be reduced to a distinct concept.

Schopenhauer does not see music as a vehicle to carry the lyric—but it is an independent art and does not require words to give it meaning. The voice is foremost an instrument of tone, and should have little concern for expressing the often inconsequential lyrics. For Schopenhauer the words are too closely tied to the conceptual. If a composer writes music for the text then he will respond to the “affections of the will” that the words are based on. The words connect with the direct ways of knowledge. However if we look at music that is purely instrumental we see that it speaks directly to the inner essence. Schopenhauer speaking of a Beethoven symphony says, “all the human passions and emotions speak from this symphony; joy grief, love, hatred, terror, hope, and so on in innumerable shades, yet all, as it were, only in the abstract and without any particularization; it is their mere form without the material, like a mere spirit world without matter.” (Schirmacher 116) Composers cannot by conscious intention seek to communicate concepts without giving up the true significance, the “innermost kernel” of the music.

**Feelings, Emotions, Passions**

Schopenhauer always separates music from the other arts in his discussion,
It stands quite apart from all the others. In it we do not recognize the copy, the repetition, of any Idea of the inner nature of the world...its effect on man's innermost nature is so powerful, and it is so completely and profoundly understood by him in his innermost being as an entirely universal language, whose distinctiveness surpasses even that of the world of perception itself...Therefore, from our standpoint, where the aesthetic effect is the thing we have in mind, we must attribute to music a far more serious and profound significance that refers to the innermost being of the world and of our own self...its imitative reference to the world must be very profound, infinitely true, and really striking, since it is instantly understood by everyone, and presents a certain infallibility by the fact that its form can be reduced to quite definite rules expressible in numbers, from which it cannot possibly depart without entirely ceasing to be music. (Schopenhauer, The World as Will and Representation, Volume I 256)

Music does not use the language of reason, words, but the language of passion—music acts directly on the passions or emotions, not on the individual will. The emotions and passions that music goes directly to are not specific ones but to the “essential nature” of those emotions. Music “never expresses the phenomenon, but only the inner nature, the in-itself, of every phenomenon, the will itself.” (Schopenhauer, The World as Will and Representation, Volume I 261)

Music offers the secrets contained in many scenes and events, and brings an enhanced commentary on the visual information. Movies and television use music to grab attention, to guide the emotional response, to proclaim special events, to infuse with adrenaline—this music is meant to bypass the reasoning and grab people in their emotions. Much of this music is formulaic and imitative—observing what works in real artistic works—it works on the emotions but lacks the power beyond the first body response. Since music is not a copy of the phenomenon, or “of the will’s adequate objectivity”—but is a “copy of the will itself”—it expresses the “thing-in-itself” of the phenomenon.
We could just as well call the world embodied music as embodied will; this is the reason why music makes every picture, indeed every scene from real life and from the world, at once appear in enhanced significance, and this is of course, all the greater, the more analogous its melody is to the inner spirit of the given phenomenon.” (Schopenhauer, The World as Will and Representation, Volume I 262-3)

Just as music is superior in all the arts, for Schopenhauer the melody is the pinnacle of music. He suggests that the melody needs the bass to produce the maximum effect, but that it is the most important part of the music. “The invention of melody, the disclosure in it of all the deepest secrets of human willing and feeling, is the work of genius, whose effect is more apparent here than anywhere else, is far removed from all the reflection and conscious intention, and might be called an inspiration.” (Schopenhauer, The World as Will and Representation, Volume I 260) The melody is in the superior position because it—just as music compared to the other arts—gets the closest to the Will.

**Conclusion**

Wright, 75 years ago, had high hopes for the development of a color instrument that would play the artist’s emotions.

The color-instrument of the future will not merely throw pretty squares, circles, coils, and volutes of colored light on a screen, but will be able to record the artist's moods, desires and emotions along any visually formal aesthetic line. Only when such an instrument has been perfected can the modern artist's creative conceptions be properly expressed. With the completion of this new medium the art of color will have entirely dissociated itself from the art of painting, not only impulse and conception, but in the world's attitude towards it. (Wright 51)
Wright proposed an instrument that would mirror an artist’s specific mood rather than being in touch with the more universal emotion. Ron Pellegrino seems equally optimistic about what the next generation of visual musicians can produce.

The notion of visual music, a sphere I’ve been exploring since the late 60s, is just beginning to pick up steam in the late 90s probably because the younger generation of artists is growing up in a multimedia world. The vast majority of older (over 30?) visual artists tend to be studio, gallery, and object oriented. They are materialists with a weak sense of the ephemeral and what’s involved in articulating the dynamical flow of time. Specialists in music seem to be too busy with their notes or generally disinclined to explore the sphere of visual music. Finally in the late 90s the new breed of multimedia artist is emerging, younger artists who seem to sense that today’s instrument of the electronic arts, the multimedia computer, has the built-in facility for integrating the electronic arts of sound and light. The multimedia computer and a language like Java, that can function as a software multimedia synthesizer, bring us to the threshold of a visual music age. (Pellegrino, The Electronic Arts of Sound and Light)

Pellegrino rightly critiques the majority of older visual artists who tend to be object oriented. He does not recognize the equally problematic temptation of the younger artist—to be overly concerned with technology and technique. Wright’s dream has not been accessed yet, with most of the recent energy in the visual music field being invested in the creation of software programs. The expectation remains to find a way to bring visual music into the same realm as that of music, that reaches into the passion and emotions of the universal.

The Visual Music 8/8 Project has created visual music that through the visual experience uses duration, movement, form and color to convey the emotions of the composer, going beyond their particular to the more universal—giving a brief respite to the viewer who is separated from their individual will momentarily. With
this project, it is also possible to quickly move into the world of reason—explaining techniques and technologies—seeking to label what the project has done.
Collopy and Miller (DJ Spooky)

So strongly do these color phenomena appeal to me that I venture to predict that in the not very distant future there may be a color art analogous to the art of sound.

Albert A. Michelson (Collopy, Unauthorized Duets: The Authorized Edition)
Paul Miller—a.k.a. DJ Spooky that subliminal kid—is a turntablist, mix-artist, philosopher and composer. Miller melds together various materials—including street noises, the greats of jazz and blues, insightful dense lyrics, loops and repetitions, scratches and cuts—to create his musical collages that reflect on life. Miller comments on his role as a dj, ”The turntable’s needle in dj culture acts a kind of mediator between self and the fictions of the external world. With the needle the dj weaves the sounds together.” (Miller, Dark Carnival(Excerpt)) He compares his dj work to that of several early film-makers where cross cutting allowed the presentation not only of parallel actions occurring simultaneously in separate spatial dimensions, but also parallel actions occurring on separate temporal planes…DJ mixes, you can see a similar logic at work: it’s all about selection of sound as narrative…It’s a process of sifting through the narrative rubble of a phenomenon…to name, to call, to upload, to download…contemporary 21st Century aesthetics needs to focus on how to cope with the immersion we experience on a daily level. (Miller, Notes for Paul D. Miller’s “Rebirth of a Nation”)

Miller is an example of a life lived fully within the electrate era—where any possible identity can be you. For Miller, life and identity creation are like the mix, you can put something in but the mix keeps changing—the whole keeps getting written over and over obscuring what is at the base. He says,

For me, electronic music is simply holding a mirror up to the world and seeing what comes back through the framework of how we see things around us... beats are like pulses, thoughts, fragments... always a refraction of the flow...I like to think of mix culture as a dynamic palimpsest—call it the electromagnetic canvas of a generation raised on and in electricity...It's an emotion of abstraction and attention deficit disorder: there's so much information about who you should be or what you should be that you're not left with the option of trying to create your own “mix” of your self...The “mix”
absorbs almost anything it can engage - and a lot of stuff that it can't. (Miller, Interview with the Harvard Advocate)

On this electronic palette, Miller is not content to paint sound from one narrow part of the world but is interested in the music of many cultures. Not only does Miller work to expand the musical vocabulary with his use of samples and scratching but he struggles to bring influences from diverse cultures together in his music. “Holding the warp and weave of the fabric of the world together is a difficult task when the threads are all from different cuts of cloth.” (Miller, Uncanny/Unwoven)

Fred Collopy as a theorist studies the historical and contemporary attempts to create visual music—as a practitioner he is involved in creating a computer program-instrument that will allow artists to create visual music in real time alongside a musical performance.

Music has always had visual dimensions—the shape of instruments, the pattern of notes on the page, the movement of the players and listeners, album cover art, stage lighting, even music videos. But seeds of a new, more intimate relationship between hearing and seeing music have been sown over the past two centuries and are beginning to bear fruit. The resulting art has been called by a variety of names, including visual music, color music, mobile color and absolute cinema. I prefer the lumia. Lumia are pieces, like songs, created by visual artists. (Collopy, "Color, Form, and Motion: Dimensions of a Musical Art of Light")

Collopy connects lumia, via the theory of Schopenhauer, to music with their common emphasis on emotions. “They are dynamic, based on essentially unlimited combinations of simple elements, are capable of expressing a broad range of human emotion and experience, and can be created in real time. With lumia, artists have begun to make paintings move like music, and even to link them with music.” (Collopy, "Color, Form, and Motion: Dimensions of a Musical Art of Light")

Just as Cage gave precedence to live performance, Collopy is interested primarily in performance as opposed to recording. He expects these performances will
include music along with the lumia—primarily computer-generated pieces using color and form.

**Collopy: Exploring Maps**

Collopy recognizes that he is part of the ongoing experiments to bring together sound and color—from Castel, Jameson and Rimington, to the more contemporary ones of Drave, Jalbert and Cohen. Many of the early experiments involved playing a piano-style keyboard that controlled some form of changing colored lights. A number of painters, including Kandinsky, have worked to cross these two media. Collopy quotes Survage as an example of his own desires, “painting, having liberated itself from the conventional forms of objects in the exterior world, has conquered the terrain of abstract forms. It must get rid of its last and principal shackle—immobility—so as to become as supple and rich a means of expressing our emotions as music is.” (Collopy, "Color, Form, and Motion: Dimensions of a Musical Art of Light")

Collopy’s research, in addition to the historical examples, includes a number of important contemporary artists/instrument builders. “Scott Drave’s Bomb, Mark Dank’s GEM, Sydney Fels, et al’s MusiKalscope, Sandy Cohen’s Bindhu, and Greg Jalbert’s Bliss Paint represent modern attempts to integrate graphics and music.” (Collopy, Fuhrer and Jameson) These experiments have resulted from the innovations in graphics and audio processing capabilities of computers. Each of these attempts give the “players” at least minimal control over the visual output.

Jaroslaw Kapuscinski, started with the visual on *Variations Mondrian*—using the art of Piet Mondrian which “is known for its ultimate simplicity and pure abstraction. His language became so close to music that the artist himself described it with such terms as counterpoint, rhythm, syncopation or harmony.” (Kapuscinski, *Works*) Kapuscinski’s video transforms and reconstructs several of Mondrian's paintings—the visual is synchronized to musical elements. The sound although linked to the visuals does not appear to have a consistent form of mapping. The visual—the reconstructed paintings—are the starting place with the
sound added by composing music to accompany them. Kapuscinski has several other videos, created with Larry Cuba or Maija Beeton, that appear to use the opposite compositional style that match visuals to existent music.

Kapuscinski hopes to give the visual equal footing with the sound—composing “structurally integrated intermedia works, in which sound and images are given equal importance and are developed either simultaneously or in constant awareness of each other. I am particularly interested in working with narratives that emerge BETWEEN aural and visual layers.” (Kapuscinski, Basic Theory of Intermedia: Composing with Sounds and Images) In contrast to mapping sound and color, he links sound and images by linking moments of change—temporal coincidence. Kapuscinski lists a number of correspondences, which include temporal, textural, qualitative, structural, and emotional links. Kapuscinski emphasizes creating the visual and the musical together—not creating one first and then using that as the base for the other—although many start with one or the other media form. (Kapuscinski, Works)

Several experiments start with already existent music and use some combination of computer program and human interface to create the visual. Tony Fragiacomo’s software application MIDIART, converts musical events from prerecorded MIDI files, into “psychedelic computer graphic images synchronized to the music.” (Fragiacomo) The software gives some controls over the visual—so it does go beyond the screen saver experience. Stephen Nachmanovitch’s Visual Music Tone Painter, converts synthesizer music into a visual display using a palette of colored geometric shapes all in real time. He describes the experience,

These visual forms respond not only to pitch but also subtle nuances of finger pressure and release. Musical dynamics are reflected through visual transformations in size, movement, color and shading…Playing color music with a touch-sensitive synthesizer keyboard gives a feeling of control, subtlety and responsiveness which is impossible to describe or convey indirectly, and which proves to be addictively fascinating…Every aspect of the work is
determined by unifying mathematical patterns that arise from the touch of the player. (Nachmanovich)

The Piano of Light consists of Jeff Burns playing a grand piano which makes sound, in addition to the visual created “by means of MIDI (Musical Instruments Digital Interface), the grand piano transfers signals to a computer that generates images and color gradations which are then projected by a video beam and 60 colored spotlights onto a tent surrounding the audience.” (Burns) It takes a large team to create these experiences and the mapping of sound and light are uniquely generated from a separate program written for each musical piece. Burns thinks the science of this sound/color mixture has much room for development—especially the study of how certain pieces make a particular emotional impression on the audience and what visual arts may correspond to those attributes. (Burns)

Scott Snibbe’s Motion Sketch allows you to control, the color, position and timing of a series of boxes into a continuous playing cycle of rhythm. With the change in color and position you can create movement that is perceived by the eye—all based on how the user moves the mouse. The results are based on direction of movement, and give control over size, color and shape. Motion Phone is a networked version of Motion Sketch—which allows multiple people to create together. (Snibbe)

Scott Drave’s Bomb creates a video stream using 80 color palettes—algorithmically derived from photographs and paintings, and icon sequences—taken from scanned images. The software is a form of “artificial life,” which adds to the randomness of the visual that develops—all designed to maximize the length a person is willing to watch. (Drave)

Collopy breaks the efforts of those who are playing graphics with music into two categories; image sequencers and image generators. Image sequencers play back images that have been created elsewhere, given a sequence with appropriate transitions. These are most often locked into a particular temporal relationship with music. Image generators permit a player to create some form of graphics in real time. He describes several,
Bomb and MusiKalscope represent good illustrations of programs that implement a particular graphic algorithm or family algorithms. Bomb’s algorithms, for example are based primarily on ideas from artificial life research. MusiKalscope’s are based on kaleidoscopic imagery. The knobs that these programs provide to the player directly reflect the structure of their algorithms…BlissPaint provides a library of animated shapes and patterns, called scribblers, and permits you to determine where these shapes are drawn using distributors. (Collopy, Fuhrer and Jameson)

Collopy recognizes the limits that any instrument/ program has, “Any instrument imposes certain features of an aesthetic on its users. One cannot do with a trumpet precisely what one can with a piano. One cannot achieve in oils the effects that can be produced easily using watercolors. Thus, an instrument’s design both limits expression and favors particular types of expression.” (Collopy, Fuhrer and Jameson) BlissPaint becomes very geometric and often symmetric as well. Many artists who worked in traditional media have worked to break out of their own limits—like Kandinsky who built his forms from simple elements. To the important parameters of color and form, most of the visual music projects add some type of movement or rhythm. It is with this rhythm, that the projects of the visual and of music intersect. This movement/ rhythm/ temporal movement is the point that Kandinsky struggled to get beyond in his paintings and that pushed Richter to experiment first with scrolls and then to move into the medium of film.

The challenge for the instrument designer/programmer is to design sufficient controls so that each of the parameters—color, form and rhythm—have adequate controls built in. This the challenge Collopy puts before the designer, “In effect, one needs to decide what knobs will be available. In making these decisions, we have been guided by aesthetic considerations wherever possible. Our choice of the hue, saturation, and value (HSV) color model serves as an illustration.” (Collopy, Fuhrer and Jameson)

Pellegrino, in his years of experimentation and observation, suggests that there are numerous flavors of visual music including:
music generated from channelized musical wavetrains...imagery and music emerge from the same algorithmic process...software for the creation, animation, and sequencing of graphics spinning out with musical gestures is modeled on the principles of MIDI sequencers...interpretive visualizations emerge from dance and theater traditions...musical materials and/or gestures are mapped to imagery to create visual instruments that are meant to be played by a variety of input devices...some music visualizers combine photos or paintings or drawings or the outputs of algorithmic/generative animation systems with live or recorded music and rely on coincidence and the predisposition of the minds of the audience/spectators to create order out of simultaneous sensory events...sonification of visual forms is a sphere of activity that intersects with music visualization enough to be considered a candidate for another visual music flavor. (Pellegrino, Visual Music Flavors)

In spite of all these experiments, those already tried and those yet to be tried, Pellegrino is convinced the search is really to get the visual to “a field of sublime power” –where music already resides according to Schopenhauer. (Pellegrino, An Ode to Electronic Instruments in the Arts)

**Miller: Sampling and Turntablism**

Miller approaches the emotional areas of music via his extensive quotations of other musicians and using musical elements that connect to the memory. Miller works with both areas—turntablism and lyricism—of the hip hop culture and its reliance on quotation motifs, just as jazz music has.

There are really two areas of hip hop and dj culture: there's turntablism, and then there's the freeform lyrical stuff, ...But for me and the turntable, I always viewed it as being like a writer, as writing, because if you break down the etymology of the word, its ‘phonograph’—the ‘phonetics of graphology’, or ‘sound writing’—so
essentially, this signal-to-noise ratio of the written text is ‘under erasure’…DJs are essentially like tricksters, playing these little snippets of everything, and reconfiguring. (Miller, *Dialectics of Entropy/Code/Cybernetic Jazz*)

Miller composes not with the “precise” forms of notes on paper but with the short pieces of music and life collaged and layered together to create the new.

Miller suggests that the musical sampling functions in the same way as the human brain—filtering from the archive of stored memories, images and quotes to create a new experience. He says, “I'm now beginning to think of my mind as an interlocking series of archives, just fragments of piles of snippets of CDs and records and movie clips, and even this conversation will be just another digital clip…I like to call it ‘cybernetic jazz’ or ‘dialectics of entropy’ or just plain old ‘collaborative filtering.’” (Miller, *Dialectics of Entropy/Code/Cybernetic Jazz*)

The creation of a new piece from the pieces of the old—allowing the audience to connect with their own archive of data—for Miller is a form of quotation. He responds to those who see it as a form of intellectual theft.

There is a difference between appropriation and quotation. To quote means to say: “I like this piece of music from this musician, and that's why I'm using it.” This is a homage. Appropriation means eradication of the names of others. I don't want to do this... I intentionally use quotations for my samples, and I try to rearrange them and build something new. On the other hand I must say, that everybody can use my songs for his or her own samples - of course I won't sue anybody! Music is always metaphor, and I'm trying to recontextualize these metaphors. (Hartmann and Pettauer)

Miller’s form of recontextualizing has been going on for centuries with writers, composers, and film-makers using themes and structures from well known texts to create their own art. Miller comments how these themes have become a part of language.

Music itself is a universal cultural language, presenting great possibilities to the musicians. Music never stands alone. Every single song contains so
many different influences, forming a collection of quotations. Nothing happens in a vacuum: This fact is expressed and externalized through DJing. Making music, you're never located in a vacuum, but you are part of an intertwinedness of influences. (Hartmann and Pettauer)

Not only does Miller sample others, he samples his own instrumentation. He plays the instrument, samples it and uses it like he would any of his other quoted sources.

Turntablism takes this idea of sampling and adds the sense of chance and the possibility of errors into the performance of music. It treats the music found on an album with irreverence, as the needle is dropped and the vinyl scratched and mixed. According to Miller, the turntable can change the listener relationship to the music from passive to active—they change the memory, the way of thinking, and bring uncertainty to a recording that is perceived as a fixed body of work. (Miller, On the Record: Notes for the Errata Erratum Duchamp Remix Project at La Moca)

**Collopy: Decoding the Systems**

For each of the visual models Collopy explores, the program designer/instrument designer must choose the parameters available for usage—most include form, color and rhythm. Form is usually built as points, lines, and planes, which are rarely used to represent an object. Many of the programs rely heavily on geometry, symmetry, and perfect circles, arcs, and lines—drawn by the computer to mathematical perfection. Precise color control is available through the mathematical systems of a variety of color spaces like RGB, CMYK, LAB and HSB. The more difficult task with these mathematical definitions of color is to understand the correlations with how the body, eyes and emotions are impacted by them. Collopy emphasizes, “Color is among the strongest stimuli that our brains receive from the outside world. It has been found to affect heart rate, perceptions of time, estimates of weight, size, and temperature, as well as how we experience loudness and noise.” (Collopy, "Color, Form, and Motion: Dimensions of a Musical Art of Light") Collopy, comments on his choice of the HSV color space, “For our
Holsopple, 192

purposes, color models that use dimensions that are more closely aligned to perception will be more useful. One, the HSV model, allows us to specify a color in terms of its basic hue, the amount of white mixed into that hue (saturation), and the amount of light present (value).” (Collopy, "Color, Form, and Motion: Dimensions of a Musical Art of Light") Collopy’s choice puts him in line with those who worked before to develop color organs. These developers often worked with keyboards that changed colors based on values of hue and saturation.

Hue is the way we differentiate between colors. Hue is often measured based on its position around a color wheel. Saturation describes the purity, intensity, or chroma of a particular color. Value is often referred to as lightness and occurs on a continuum from dark to light.

Mapping is a way to bring together the parameters of color—hue, saturation and value—and the parameters of sound—frequency, amplitude, and overtone or timbre. Systems that bring hue and tone together have been designed by people as diverse as Newton, Castel, Rimington, Helmholtz and Scriabin. Helmholtz clarified,

it must not be forgotten that any comparison between sound waves and light waves ceases to have any sense at all as soon as the numerical values of the musical intervals are modified entirely by the process of raising them all to a fractional power…Newton’s division into seven principal colours was perfectly arbitrary from the beginning and deliberately found on the musical analogies…these divisions are more or less capricious and largely the result of a mere love of calling things by names. (Collopy, Rhythmic Light)

Color is even more arbitrarily divided than is music, although a brief exploration would show that there are many ways to divide tone as well. Rimington pointed out the limits of this type of mapping, “similarly divided scales of colour and musical sounds have insufficient features in common to establish any emotional analogy whatever based upon numerical division.” (Collopy, Rhythmic Light) The problem encountered by the mapping projects is to work with the emotional connections
versus those based on mathematical similarities. Karl Gerstner suggested that value may actually have an emotional relationship to tone; dark and light colors do actually have effects which are comparable to low and high musical tones. Dark colors are sonorous, powerful, mighty like deep tones. But light colors, like those of the Impressionists, act, when they alone make up a whole work, with the magic of high voices: floating, light, youthful, carefree, and probably cool too. (Collopy, Rhythmic Light)

The biggest issue with any of the mapping projects is the mapping of emotional response versus the mapping of similarities based on vibration changes. Collopy highlights some of the problems with this approach. Music as it goes through its changes comes back to sounds that we hear as the same only an octave apart, color on the other hand does not have this repeated cycle.

There is a more subtle and, I think, fundamental problem with assigning hues to tones. It is a problem that afflicts almost any attempt to map numbers onto the hue portion of color space. The resulting images end up containing too many unrelated hues. Take a walk through an art gallery. One of the things that is most striking about so many of the objects we judge to be beautiful is the restraint that has been exercised in the range of colors used. Rarely does a work of art use the full range of hues available...A lesson that keeps coming back as we develop instruments to play graphics as musicians play with sound is this: there is no reason to assume that structures that create beautiful sound will in and of themselves produce works which look beautiful. (Collopy, "Color, Form, and Motion: Dimensions of a Musical Art of Light")

Nor can visual musicians assume that systems that create beautiful visual music will act to produce beautiful sound. The experiment to go from the visual to sound is not frequently noted in the history of visual music.

**Visual Composition I**, from the **Visual Music 8/8 Project**, uses a very limited palette—both in terms of color and in terms of the number of photographs
used—which works well in creating a visually beautiful piece of work. The resulting musical composition, *Musical Composition I*, because of the narrow limits of sound may have less emotional impact. The musical composition contains only five notes mixed together in various ways.

The mapping project is a difficult one to undertake. Collopy explores the approaches of several artists.

One approach to controlling color is suggested in the work of some of the color theorists, for whom it is the relationships among hues that provide the greatest potential for evoking a response. Ogden Rood, for example, argued that harmonious color combinations are found in pairs separated by 90 degrees on the color wheel, as well as triads of colors that are about 120 degrees apart. Josef Albers noted that strong complementary colors (those separated by 180 degrees) produce afterimages and vibrations. Faber Birren observed that people find pleasure in harmonies of color based on analogy (adjacent hues) and on extreme contrast (complementary hues). When adjacent colors are used, the effect is to produce color schemes that are predominantly warm or cool in feeling. When complimentary colors are used, the result is more startling and compelling. (Collopy, "Color, Form, and Motion: Dimensions of a Musical Art of Light")

For some the difference between the two, color and sound, seems too wide a gulf to bridge. Ogden Rood suggests a major difference, “When two musical sounds are mingled, we have accord or discord, and the ear of the practiced musician can recognize the separate notes that are struck; but when two masses of coloured light are mingled, a new colour is produced, in which the original constituents can not be recognized even by the eye of a painter.” (Collopy, *Rhythmic Light*) What Rood suggests is true but does not take into account colors being translucent and allowing other colors to show through, or the ability to have multiple colors within a layer. When movement is added it allows colors to move
across each other in ways that create new colors, while retaining areas with the original colors.

Most of the visual compositions in the *Visual Music 8/8 Project* are created with extensive usage of layers—with various levels of opacity and transfer modes set to mathematically merge these layers. It is still possible to recognize the fragments of images, and to discern multiple images at one time. *Visual Composition II* contains discrete images of Sara, Geoff, and players from the pub all at the same time. This layered effect is evident also in several of the portraits, especially *Anna A-VI, Terry D-VIII*, and *Mel A-VI* where the sympathetic vibrations create multiple tones.

The mapping project appears to presuppose that the direction of the creation will go from the music to the visual—the matching of colors assumes that you start with the music and then map the image to that already composed music. Rather than choosing a set of compatible hues or image components and mapping them to compatible tones it moves from music to visual. This is the opposite approach to that of the *Visual Music 8/8 Project*, which starts at the visual and moves to the musical composition—and does not assume that the visual and musical will accompany each other in a viewing experience.

**Miller: Recontextualizing**

Miller is not tied to set patterns, genres, or even techniques in the creation of his music. He doesn’t limit the sources for his material—nor does he assume that the sources will stay the same from one point in time to the next. He describes, “The internet is our metaphor for the way we think and it's a living network made up of the "threads" of all the information moving through it at any given moment... the idea is that information and beats and rhythms never stay in one place.” (*Miller, Interview with the Harvard Advocate*) The search for the next place, next piece of information is ongoing. The internet and hypertextuality allow the composer—in fact the audience—to configure a different combination with each piece. Eno was interested in creating a music-generating machine—Miller sees music composition as recombining, reshaping, recontextualizing like a living organism. Miller states,
music is ALWAYS a metaphor. It's an open signifier. It's something that can be molded and shaped. It's invisible material that is utterly malleable. It's not fixed or cast in stone. To recontextualize it, that's the science fiction aspect of it. It's always pointing to other areas. It's saying there's different ways we can do things and we don't have to stick to one model. Using that as a core of composition, the artists of this generation are willing to jump around genre definitions and styles at the flip of a hat...I think with a lot of electronic music makers, just because we have access to so many different cultures, we're much more willing to jump around and try and create this kind of psychological collage space. (Miller, Interview by Billy Bob Hargus)

Miller finds the practice of doing the same kind of music—repeating what has been done already—to be boring.

Miller's response to the change of the electrate era is to embrace the wide spectrum and then use music as a way to filter all of the information into a form that carries individual meaning. This generation, growing up in a TV based society, has “generation attention deficit disorder”. The only way to deal with the amount of information that is available is to filter it—and that is the role of music. The task of the dj, composer, is to link the interior and exterior existence. Part of this task involves creating new codes, changing the ones that already exist and encoding this into the art. Miller describes this,

Encoding. The word evokes systems of thought, procedures of extrapolation, syntax and structure, and most of all it evokes a sense of movement and actions taken in a realm of correspondences - of translating one form of code into another...In the movement from sign to signified, the translation process of language becomes a field of representation from which many meanings are created, and the resonance of those meanings takes shape in some form of linguistic play in literature. It does seem like a big jump to pull such different people together under the sign of play, but then again, that's what mixing is about: creating seamless interpolations between objects of
thought to fabricate a zone of representation in which the interplay of the one and the many, the original and its double - all these things come under question. (Miller, Uncanny/Unwoven)

Linked references, tightly packed words, converging experiences are woven together to create an experience that defines life. The music relies heavily on the word, on the common archive of musical memories, on the beat to get to the essence of meaning.

**Collopy: Artistic Creations and Imager**

Collopy, on the liner notes to his Unauthorized Duets CD, interprets his work. “Today, computers allow the development of instruments to realize the dreams of those modern artists. Using them, painters can now affect emotional experience in a dynamic way previously available only to musicians. By controlling forms and colors in continuous motion, they can create art as varied as music.” (Collopy, Unauthorized Duets: The Authorized Edition) His goal like many other visual musicians is to reach the same emotional space—with his visual art—as has been attained by music.

*Blue Glass*, (Collopy, Unauthorized Duets: The Authorized Edition) is designed to be viewed with 3D glasses and works with the extra spatial information that is possible with 3D. The content is dominated by geometric shapes, mostly circles. The movement and form maintain symmetry within regular spinning movements. These circular movements harmonize with the primary circular forms. The mid-section motion—with red and gold dots—create a symphony like dance. The geometric animation is generative—generating and morphing shape and movement to increased complexity—often working out from the center and back to the center. The movement and change—the rhythm—is in sync with the music bed it accompanies. *Film for Music* (Collopy, Unauthorized Duets: The Authorized Edition) also uses radiating circles moving out from the center joined by various colored waves joining throughout. Eno’s accompanying music defines the forms, giving meaning and direction to the viewer. Both of these pieces are symmetrical with their design and movement and the core of the action is centered on the
screen. The visual pieces rely on the accompanying music to bring a greater sense of rhythm, energy and meaning.

Rough-edged circles pulse and spin around the screen leaving multiple trails behind in *WeDDDing*. (Collopy, *Unauthorized Duets: The Authorized Edition*) These trails interact building and eliminating, transitioning to electronic sound waves, dancing and spinning lines and the final overlapping hexagrams. The usage of three-dimensional space (with 3-D glasses) adds fascinating depth, but again it is the music that secures the effect. When the music is added the movements and color changes become clearly motivated.

These examples of Collopy’s work demonstrate both the strengths and weaknesses of his visual music. These pieces are heavily dependent on the accompanying music—in fact they were all created with the music already in place. When his lumia accompany the music they are interesting and moving—but without the music they tend to lose their energy. These pieces have strong usage of form and color, but they all have the feel of computer-generated uniformity—even the imperfections of the circles in *WeDDDing* are repeated precisely rotation after rotation.

Collopy describes the parameters he chose to build into *Imager*—his software based instrument.

Because Imager is intended to facilitate the creation of dynamic graphic images that interact with musical performances, the temporal dimension plays an important role in its architecture. Rhythms can be produced through changes in any of the dimensions (e.g., color, shape, location, and orientation). Considerations of rhythm pervade Imager’s design. Manipulations of scale, location, and orientation are all ways in which objects become animated. Similarly, changes in the colors, textures, pen shapes, and other characteristics of objects can define rhythms. In short, dynamic changes in any attribute of a visual object contribute to the rhythm of the visual performance. (Collopy, Fuhrer and Jameson)
Just like a traditional instrument maker, Collopy is required to pay attention to a variety of formulas and mathematical codes to make the instrument work. Sobell, the instrument maker for all of the *Visual Music 8/8 Project* instruments, must pay attention to measurements so the frets match up to the divisions required to create the different string lengths required in traditionally toned music.

Collopy’s goal, with the creation of *Imager*, is to enable the artists to perform in real time alongside the playing of music. He recognizes the potential limits—especially to create the visual in real-time—this places on the artist due to hardware limitations. The design of Imager allows for the importing of previously rendered more complex visuals that can be played back with those created in real time. (Collopy, Fuhrer and Jameson) His design and dreams for Imager remain locked into the idea that it will be a performance that accompanies music.

**Miller: Creative Works**

Miller, is very productive, two albums in 2002, along with his catalog of remixes, film scores, and collaborations. *Asphalt (Tome II)*, from *Optometry*, (Spooky, *Optometry #4*) describes the experience of making music in the hip hop style. It starts with the sound of the street and the electronic waves of the radio putting out the beat to carry the interspersed poetry of Carl Hancock Rux. "

I got two turntables and Coltrane
and not just blue Coltrane
and not just Monk
and not just Miles
I’ve got a million musicians playing on in my head
a band of angels responding to the percussion…
I’m the anointed one turning them over to an urban space…
Reverb, echo, import, outport,
midi touch pad bends sampling skip,
to Matt, skip to Mary…
rhythmic bending jolt the head out of a temporary nap.”

(Spooky, *Optometry 4*)
Strange mixes, overlaid sounds, rhythm beats, voices mixed in without the typical lyrical flow sense, the random, the chosen, fire whistles, cell phones, ham radio samples, the found sound of the everyday, the sound from the masters, instruments of all kinds, even violins and cellos—there is no standard for what you will find on Miller’s (DJ Spooky) albums. These albums are full of the sounds of life and stuffed to overflowing with musical quotations—if you recognize them.

Early recordings give a hint at what was/is to come—all kinds of sources mixed together. *Grapheme (Remix of Sistrum)*, on *Necropolis: The Dialogic Project*, are like empty radio waves searching in space accompanied by the constant clicking of information processing. *(Spooky, Necropolis: The Dialogic Project #3)* *Journey (Paraspace Mix)* on the same CD has constantly running machines filling the planet. *(Spooky, Necropolis: The Dialogic Project #2)* *Interstital a*, from *File Under Futurism*, mixes the repetitive sound of the subway, building a “real life” rhythm, with the official announcers voices suggesting their own reality. These sounds open up the links between perceptions of life and the many identities floating at each stop. *(Spooky and Quartet #2)*

*Edison*, from *The Quick and the Dead*, takes sounds from the historical repository of Edison and mixes them with the electronic sounds, which are the offspring of those early historical sounds. (Spooky and Scanner #2) Putting Edison and the phonograph together with the cell-phone demonstrate change and their roots. *The Quick and the Dead* was a collaboration with Scanner. Miller describes this collaboration,

> Like the myth of nuclear fusion, we just sent elements back and forth until we came up with something we were both satisfied with. Exchange, dialog, multiplicity, and cultural dispersions were the basic informing motifs from my end of things, but I also like to refer to it as a "diacritical" response to an environment where almost everything is translatable and transmissible.

*(GV)*

Here again Miller uses technology, while at the same time critiquing it. Scanner describes their ways of working,
Through much of my work as Scanner, I have implicated myself in processes of surveillance, engendering access to both technology and language and the power games of voyeurism. Much of my soundscape scavenges through the electronic communications highways, using the indiscriminate signals drawn down from the ether, the acoustic data of the city, the wow and flutter our daily lives. Similarly DJ Spooky’s work sets up a virtual improvised space in which listeners are free to explore each the sonorous and acoustic strata of what is an intimate yet global expression of cyberspace, a simple, modest and moving translation of the social transformations wrought by the new technologies. A position evolves with this kind of work and production where the artist can play the role of intermediary, translating and making perceptible both the eternal constituents of our environment and its metamorphoses.” (GV)

Modern Mantra, (Spooky, Modern Mantra) is a twenty-six track mix tape. Miller expertly mixes his way through the Shadow Records and Instinct Records catalogs—with nods to the greats of electronic music and to new sounds. Miller, with Modern Mantra, provides the space for people to dance and think—although thinking seems to win out in much of Miller’s work. Optometry, the title cut from Optometry, mixes it up for over eleven minutes. The occasional voice—“we’re going to do now something that has nothing to do with an arranged piece of music…piece of music”—mixes with Herbie Hancock and a violin—a lonely wail layered against the steady rhythm of life. (Spooky, Optometry 5) Parachutes—a diatribe about the objectification of women—asks the listener to consider new options.

You’re in the crossroads,
standing in the intersection,
telling me to slow down,
but no you need to learn your lesson,
I don’t need a Smith and Wesson to blow your mind away,
I’ve got the mind framed that’s roofless,
cause a mind closed up is…useless."
(Spooky, Optometry 9)

For Dubtometry, (Spooky, Dubtometry) Miller gives other remixers the tracks from Optometry and lets them create their own visions. The title track from Optometry has several remixes—mixes of the mixes. Chris Nickson, in the All Music Guide, evaluates Dubtometry,

If you're expecting dub in the Jamaican way—a remix that's aimed at both feet and head, you won't find it here; this is strictly cerebral. But it's a very successful brain warp that often pushes all the way to the edge (stand up DJ Goo). It makes you wonder if remixes of the remixes might come next, like ripples moving out across a pool. It'd certainly be an interesting idea. In the meantime, be happy with this, a fabulous idea made flesh. (Nickson)

Conclusion

Collopy has made an important contribution to the quest of creating visual music—recognizing parameters around which to work. The visuals he creates are often too perfect, too symmetric, too simple in form and color to really get beyond the analytical viewing. They lack the organic fluid sense that Kandinsky was able to build up in his Compositions or the fluid repeated motions of Vertov. Collopy recognizes that this work is often symmetric but claims that “Even minor deviations from perfect symmetry can be used to substantially alter the emotional impact of an image.” Unfortunately these disruptions often match the symmetry of the generated visuals.

A huge challenge for the visual musician remains the third parameter that Collopy has dealt with—motion or rhythm. He compares what we can learn from music with what is difficult to translate from music. He says,

One example of a general principle from composition in dance and film is stated by Arnheim, who notes that “at any particular moment we may know what will come next, but we must not dismiss from our consciousness what we have heard or seen before.” It is only through memory that we experience movement, and in constructing a
coherent experience in time the artist must aid the viewer in making sense of the many successive images. Abstract filmmakers also turned their attention to the problem of rhythm. John Whitney noted that what works in music does not work in film. What is “often referred to as the drive of a piece of music, is almost automatically enhanced with metrical or cyclical consistency and repetition. Rock musicians know this—perhaps too well. On the other hand, the most difficult visual quality to compose into a composition, as every abstract filmmaker may know, is the same driving propulsive thrust with a visually rhythmic metrical cycle.” (Collopy, "Color, Form, and Motion: Dimensions of a Musical Art of Light")

In the Visual Music 8/8 Project, Visual Composition II has several sections that use rapid repeated motions in an attempt to capture the drive of music—they however blend into the visual presentation much more than music does with a rhythmic base section. Visual Composition III and IV are built from repetitive loops in much the same way as music cycles over and over through the same structures of music. The challenge is to create a sense of rhythm visually. Movement of the visual elements—like in Visual Composition VIII, which creates an up and down jolt or Visual Composition III, which simulates the movement of the instrument—gets close to the musical sense of rhythm. Comparing these visual compositions clarifies the extent to which the motion is successful as a form of rhythm. Anna G-I with layers of the instrument and the blur of motion contains in one image the hints of motion—when the same image is used in Visual Composition III with the same layers now actually moving on top of each other the motion becomes a temporal factor. The sense of motion extended over time adds to the sense of rhythm.

Miller is the master of the quotation, using word and musical quotes that connect and bring together disparate experiences and expressions. The Visual Music 8/8 Project brings together a variety of visual quotations—the psychedelic rock and roll colors and rock and roll posturing with the acoustic instruments in the Sara series, the jazz club lighting with the round Irish
instruments in the *Geoff* series or the gritty urban *Visual Composition V* created from the acoustic instruments and the blue metal clamps of the quite workroom—all meant to assist the viewer in connecting to the “sound” of the art. These efforts are similar to the re-contextualizing work of Miller. He works to link from one form or genre into another, from one culture to another, bringing new meaning to old symbols and styles. Within these works Miller always leaves some remnants of what was before so that the listener can follow the conversation. The visual composers, in the *Visual Music 8/8 Project*, left traces of the photographs at various levels of clarity. *Visual Composition VII* left only obtuse remnants of these images—as it builds the visual experience—with over sixty layers of blurred photographs combining and mixing to create what the viewer sees. The usage of quotations (visually) and the re-contextualizing of them will continue to be an important methodology of the visual musician.

Miller collaborates in his art in at least three ways—with other musicians in the creation of a project, by mixing other musicians work together to create a new experience and by inviting other mixers to re-mix his mixes. Collaboration must become a more important feature of the visual music project. Four of the visual music compositions are collaborative—with the dialogue between photographer and visual composer. The visual composers started with a common set of images but chose and manipulated these to match their vision of visual music.

Collopy is an example of how entrenched visual musicians are with the presupposition that auditory music will accompany visual music—in fact this presupposition carries with it the corollary that the visual will be composed with a musical bed already in place. The visual composer traditionally works in one of two ways: with a mapped set of sound and color parameters to go from the music to the visual, and less often composing music to match the emotion or temporal changes in the visual—like film music scorers. Tim Bowman, one of the visual composers in the *Visual Music 8/8 Project*, confessed, “Definitely fun to explore some of the not so commercial ideas I've been having. And also really hard to animate without some sort of auditory structure to hang things on. That was kind of a surprise. I forget how dependent we animators are on audio cues until they aren't
there." (Bowman) The visual musician must continually challenge this notion that visual music must be accompanied by produced sound and that it should be created in sync with already existent music. All of the visual compositions in the *Visual Music 8/8 Project* were composed without any audio reference to their creation. The system then goes a step further by composing the music based on a coded correlation with the visual—in other words the music is composed solely with the visual aesthetic. The visual and musical compositions are not designed to be played with each other but to be independent experiences for the audience—the visual composition should be experienced by itself and call forth responses similar to those given to music.
Synthetic images that have their referents in the real bore me, whether they be mimetic biologies, virtual studios, actors, or effects. I hope that the most creative computer artists will move heaven and earth into worlds that I do not know as yet, that will expand and enrich the horizon of my fantasy. For example, Catherine Deneuve's expression in Bunuel's *Belle de Jour*, when she looks into the Chinese man's box, I cannot quite imagine this as a simulation. If I feel in the mood for audiovisual leisure or for reading sound-image-text constructions, I will put a disk into the CD-ROM drive WHEN it surpasses the complexity that a book and a videotape and an MC offers me. For fast communication or extending my knowledge of the world (including the world of media), I am very happy to use the Internet or the World Wide Web (if I've got the time). But if I want a story about love or life or death that goes beyond my own powers of imagination and brings me into contact with the Other, then I do not turn to the delirious community of Net users who all consider themselves artists, but rather, I spend my time with an exceptional story-teller, I actually seek a long term confrontation with a single picture, or with a musical composition that enriches my time-experience. And I notice that I need this all the more when the attractors of knowledge, planning, and organisation accelerate at a frenzied pitch.

Siegfried Zielinski (Zielinski, *Media Archaeology*)
Observations of the increasing importance of the image within the electrate age promoted an exploration of the possibility of creating a media form—visual music—that would use the image in analogous ways to that of music. Schopenhauer—elevated music above the other arts—provided both a challenge and direction to pursue in this quest. The eight musicians and artists—that we have evaluated their compositional style especially as it might relate to the goal of creating visual music—have provided important clues and suggestions for avenues to pursue. Finally the Visual Music 8/8 Project has offered the visual palette and brushes to experience visual music as more than a theoretical construct, but as reality of experience.

This concluding chapter will summarize the most important contributions of Schopenhauer and the eight-artist/musicians. Then several of the images, visual compositions and musical compositions will be evaluated. From these sources will come two things: an overarching list of important parameters for visual musicians to consider as they carry on the continuing artistic endeavor of creating visual music and several suggestions for future visual music projects. This project demonstrates that the visual can be separated from the aural in the composition process—that neither must be subservient to the other in the process of bringing the visual into the musical. One form—especially the visual—does not remain a copy of the musical, but stands alone as visual music. Within the artistic project the visual music maintains separation from the aural music that is composed—each form is to be experienced by itself.

The visual composer has a number of parameters that continue to emerge from both Schopenhauer and other artists who have experimented in the same endeavors. 1) Form—an overarching principle for visual art—which the composers, in the Visual Music 8/8 Project, use over and over as they decide what will fill the screen at any given time. 2) Abstract form has been used in many of the Visual Music 8/8 Project compositions. Visual Composition I, V, VII and VIII move almost completely toward the abstract form—little of the original portrait form of the images that make up the composition are apparent to the viewer. This abstraction
allows for other types of motion and cycling than is readily available to the compositions that remain more tied to the portraits. 3) Motion—which can include changes in size (scale) and shape—is given the major role of rhythm in many of the *Visual Music 8/8 Project* compositions. *Visual Composition II* plays with a continual left-right vibration along with both horizontal and vertical movement. *Visual Composition IV* uses a fluid motion along with a building motion that adds parts to the whole in the bridge sequences. 4) Time versus space—like motion which functions as a temporal element—suggests that music has time based cycles while the visual has often been more influenced by the spatial dimension. The *Visual Music 8/8 Project* compositions are almost exclusively built out of repetitive cycles that repeat and combine to create the visual music. *Visual Composition III* and VI both use images that cycle on and off rapidly creating a rhythmic pulse. 5) Color—one of the major visual categories which is not as important as form and motion—can be explored as the images go beyond traditional color categories or enter into black and white photographic spaces. *Keith D-III* and *D-IV* have a monochrome palette and *Geoff A-III, A-IV, E-V* and *E-VI* have been excised of their photographic color and have been split toned which creates an image that has little relationship to the actual representation. All of the portraits in *Terry* series have been created to emphasize the pumpkin-red of the instruments. *Visual Composition I* builds the whole piece out of slowly changing browns with other colors moved in and out of the electronic canvas. 6) Symmetry—where the exploration continues to discover the role that symmetry plays in reaching to the Ideas. Many of the computer-generated experiments in visual music rely on symmetry in the composition. The *Visual Music 8/8 Project* compositions are much less based on symmetry. 7) Not concept based—the compositions should remain outside of the symbolic or imitative realm. The challenge for all visual composers—especially those who rely on computers to do much of the computations—is to not become overwhelmed by technique and forget the true essence of the visual compositions they are creating.
Schopenhauer: Pushing the Visual Musician On

Schopenhauer has posited the challenge: not only for artists going beyond the representational to the "real inner nature," but even more challenging is his placement of music as "the direct expression of the Will." The effect of music, for Schopenhauer, is more powerful than any of the other arts. Music is the essence while the other arts speak of the shadows. The challenge for the visual musician is to go to the essence rather than remaining in the shadows. Schopenhauer—in what you would not expect from someone so in tune with the word—offers a great deal of room for the arts to move into the realm of the unsayable, beyond what can be handled by words. The arts go beyond what the "reasoning faculty" can fully understand. Fortunately Schopenhauer does not allow music to become a symbol laden "universal language" even though music is accessible to many cultures.

Music is a language of feelings and emotions—which as noted is an opening for the visual musician to enter—and is understood by the deepest inner being of humans. Music though described as a universal language by some theorists, is assigned this position, by Schopenhauer, only in relation to emotions—not in any way related to it communicating with a symbolic code. In the electrerate age the image has begun to assume the status of universal understanding. The global impact of the image happens in at least two ways: the iconic/symbolic image that is meant to impart an immediate identification with a meaning and as an entry point into the universal emotion in the inner being. This second way aligns the image—and by extension the visual music project—to the emotions of music. The power/effect of the image is much closer to the power/effect music than it is to verbal language patterns. This emotional power is a most fruitful connection to music that the visual musician can use.

Schopenhauer’s explorations of musical syntax have proved less valuable in the attempt to create music visually—in fact this part of Schopenhauer’s writing does not offer a great deal of help to any seeking to create experimental forms of music. We have recognized similar theories and restraints affecting the history of visual music from Newton to Rimington with their color-sound mapping
projects—where the mappings were based on scientific constructs rather than an aesthetic understanding.

Schopenhauer warns that logic may have theoretical interest but it is not of value in the creation/composition process. Concepts—all of which are barren—should be avoided when creating art. Symbolism and allegory don’t serve the purpose of art—for they require the art to go through a decoding process to discern it’s meaning. We can’t create these artistic expressions in a scientific concept based manner if we expect them to have the power they are capable of. The artist/composer does not have control over the creation process. They are caught in aesthetic reflection—pure contemplation—or the self-denying suffering of the ascetic experience. The artist who suffers more deeply may find greater relief through aesthetic contemplation of the beautiful. The momentary suppression of the will is a common experience of those who compose music and even of those who listen to music. The challenges for the visual musician are to create visual experiences that draw viewers into this will-suppressed contemplation—and to remain connected to contemplation over the rush to embrace and create new and wonderful technologies.

Schopenhauer suggests an increase, for the visual musician, in the reliance on the temporal parameters—which are strong in music—and a decrease in concern with the spatial matters. The most fruitful direction will be an increase in temporality—rhythm, duration and movement—that is created by the forms that exist in spatiality. The change and movement that happens in clear divisions of time will assist the visual musician to achieve the emotional place of music.

**Important Learning From the Artists**

Kandinsky asserted the most important part of his quest was to reach the “inner meaning.” He emphasized this “inner meaning” over technique—over perfecting the usage of form—giving priority to finding the corresponding “spiritual vibrations.” Reggio brought together the aesthetic and ascetic paths—often a rarity among digital artists. Reggio also valued the spirit over the techne—and sought to turn the technology in on itself as a form of critical communication that goes
beyond the façade of the surface. For Kandinsky, connecting to the “pure emotion” was more important than any theoretical or conceptual construct. He pushed the visual artist to take seriously the connection of art to the deeper emotions and used different colors to connect with different emotions. Alexanian used black and white photography and Cockburn used the travelogue descriptions to move toward the more universal non-localized emotions—instead of those associated with the desires of the individual will.

Cockburn and Alexanian suggest that to create art that reaches the emotions—going beyond the capability of words to explain and express—the artist must experience life. Their method of experiencing life is to immerse themselves in other places, cultures and local people. They value travel and distrust an attachment to ideas and concepts. The valuing of travel is related to Reggio’s ascetic concerns—travel is often a denial of the comfort and security of home and the unquestioned ideas that flourish there. This travel goes beyond the tourist snapshots with the prepackaged notions and expects to be accompanied by pain and dis-ease as the artist gets to the universal passion and emotion that is found in these places. The control of words and ideas is set aside under the knife of the unfamiliar and the uncomfortable

Several of the artists demonstrated concern for the audience, viewer and spectator—considering how they can interact, cooperate, understand and participate. Cage gave preference to the performance of a composition over the creation of fixed-forms frozen in the media—recordings, videos, or books. Visual musicians—who often create fixed-forms must continue to evaluate how the audience experiences or receives their work. The visual musician is called to experiment with matching the experience of the “musical concert” with its variability’s and emotional resonances. The questions remains: can visual musicians do visual concerts without accompanying music that can take the audience to the “inner meaning?”

Collopy suggested three parameters that are important for the visual musician—form, color and motion. Kandinsky used color and form—with point and line to create his visual music. To this framework Collopy adds motion and
Holsopple, 212

demonstrates that for the visual musician this becomes the most important of the three. Motion allows the visual composition to become like music with its temporal dimensions.

Cage suggests that duration is the most important characteristic of music—rejecting pitch and amplitude, which are usually given precedence. For the visual musician duration is more attainable than pitch and amplitude would be. Parameters of duration allow the visual musician to go beyond the spatiality—that often limits painting—and break into the temporal domain of music.

Rhythm—another way to consider duration—is the breaking of time relationships into smaller units, and then dividing these into smaller units. The visual musician can use repetition, movement and repeating loops to create visual forms of duration and rhythm. The usage of loops will prove to be easier than creating visuals that replicate the percussion section of most popular music—attempts at flashing visuals within the temporal domain often become more annoying than emotion carrying.

Kandinsky used abstraction to assist him in going beyond the pictorial representation—as a way of adapting to the inner meaning. Cockburn uses the non-specific lyric forms and Alexanian uses motion in his photography to create a greater sense of abstraction. Abstraction becomes for the visual musician a way to go beyond the clearly representational—diving below the surface of the façade-reaching the universal quality of the emotion.

The visual musician is often enticed by an endless array of possibilities but both Reggio and Eno suggest that limits will make possible the creation of art. Eno uses limits—within a class of possibilities—to guide the generation of his soundscapes. Without limits the composer is unable to actually compose—the limits become something to push against, bounce off of, and constructively use. These limits become the edges against which the composer rubs and pushes to create the art.

Miller challenges us to mix a variety of sources together—quoting from the masters and adding the mix of the street life. More importantly for the visual musician is the recontextualizing that Miller does with his quotes. The visual
musician can be in the process of using the icons of the day—creating new visual systems that change the meaning systems that are attached to them. This recontextualizing brings together the style of Miller with the critique of Reggio. These recontextualizing efforts will often call the visual musician to an attitude of collaboration if the artistic goal is to be achieved.

**Evaluating the Visual 8/8 Project**

The *Visual 8/8 Project* creates a visual experience that—just like music—is able to connect with the emotional passionate idea that cannot be fully explained by words. The primary factors for this emotional response are caused by parameters of temporality—motion, duration, visual loops and rhythm—and by abstraction—in a variety of styles. Several parameters that were used in the move toward abstraction will remain important to visual music projects: the usage of limited color palettes—but not necessarily the solid colors of much computer generated visuals, alternative lenses and depth of field lengths for material created in camera—adding the distortion of the wide-angle and the limited view of the close-up, the usage of fragments of images and objects and the usage of motion and blurring. The visual compositions have multiples of images, events and movements happening on top of each other—which blend and clash creating visual consonance and dissonance just like music.

The two major accomplishments of this project are: creating a visual that can be experienced as music without any sound and breaking the typical mapping method used by other visual musicians. Most of the attempts to map sound and the visual in the recent past have created the visuals with an already existent music bed. The mapping is done by the composer comparing emotions and temporal features or by a computerized algorithm. The *Visual 8/8 Project*—going in the opposite direction—composed the aural experience from the visual compositions. The musical compositions are created using an aesthetic based on the visual not grounded in the oral culture like many contemporary musical composition enterprises. That is not to say that the visual composers were not aware of how music functions, but they all were primarily concerned with the way the composition
looked. They also had no awareness of the code that would be used to compose the music based on their visual composition. The mapping project also relied on the decision-making and imperfections of a human notating the music from the programming data of the visual compositions.

The acceptance and placing of limits allows for the creative process to flourish. By using only instruments that Stefan Sobell builds the pool of instruments is limited to the three-dozen he has built per year over the last twenty some years. The limits of the instruments then limits the people who have access to one of his instruments to play—which is further skewed by musicians like Terry Blankenship who have four of them. The lenses used limited the images to wide-angle and close-up macro shots. The images were primarily shot within the contexts where the people lived, worked and played rather than creating a studio setting—using also the light that was available in these various locations. Several of the portraits limited the usage of color within their creation. The Terry set made the pumpkin-red of the instruments the dominant color, the Geoff set used jazz-club colors, others like John E-IV had the color stripped and replaced or oversaturated like John A-VI. The visual composers were then limited to 330 images—of the thousands shot—to base their visual compositions on. The composers were further limited by the requirement to use Adobe After Effects® for their creative purposes. This program is confined to two-dimensional space except for some limited camera and lighting effects, which function in ways similar to three-dimensional space. Only two of the visual compositions even use this limited three-dimensional space possibilities—II and VII.

The Visual 8/8 Project demonstrates the value of collaboration. The players cooperated with the photographer to create the images that go beyond a pictorial representation. The visual composers then used these images to build their compositions and then the musical coder used the programming records of these composers to notate the final musical compositions. The variety of collaborators within the confines of the imposed limits was a fertile combination. These repeated stops where the human ability to add imperfection—and to make aesthetic decisions—kept the project from getting stuck in a computer generated world of
symmetry and organization. The images gave a base and a context, which most of the visual composers quickly recontextualized to their own purposes—using the power of technology to manipulate the images with complex calculations but guided by their aesthetic vision.

Decoding Several of the Portraits

Keith D-III was shot at such a slow shutter speed that the heads of the players begin to disappear leaving only instrument and body—only heart without the head. The bodies—player and instrument—remain without the conceptual restrictions of the idea. The mixed light sources—the inner and outer—challenge the eye in the final to find the true coloration. Flying Zouk—another example of a slow shutter speed—challenges the viewer to see the instrument in action without the aid of a human. This image is part of the Terry set, but is only used in a composite, Terry D-VIII—to bring it into the red palette of the full set. Terry D-IV captures the motion of the hand striking the strings—the outer vibration that matches the vibration of the strings—that vibrates with the emotion of the player.

Like many in the Stefan set, Stefan A-I, consists of an image and a sympathetic vibration—a matching sound but often from a higher octave—in this case an image that is taken from a closer angle. In this image the sympathetic vibration is fore-grounded and sounds visually over the deeper wider tone. Rounded shapes and the sound holes show the sensuous nature of the crafting of an instrument. Anna Chord, another image not in the final sets, attempted to create a chord-like experience visually—a variety of image parts playing together for the eyes.

Anna G-II emphasizes the hand—over the player or the instrument—caressing the sound from the constructed wood and string. The hand is also emphasized in several images in the Stefan set and in the Mel set. Anna D-IV adds the vestiges of where the hand is moving from adding a temporal dimension to the still frozen music. Anna E-VII removes the primary color information and emphasizes the red of the instrument—suggesting the persona of the instrument over the player. Anna E-VIII has the same instrument as Anna E-
VII, but the portrait is so close that the information becomes more about color and
form in the abstract than it is about a representation of the instrument. Mel G-I
emphasizes the instrument in a different fashion—the wide-angle lens distorts or
overemphasizes the curves of the instrument. Mel recedes into the background as
the instrument takes over the musical task. Anna A-VI brings together player and
instrument, the hand and the sound box work together to reflect the heart of the
player coming through the vibrations of the top.

The John set uses a number of methods to increase abstraction, so that the
player and instrument become shaped by color and general form. John III uses
two of these methods of abstraction—minimal color information and being blurred.
This image is split toned so the highlights are more cold-blue and the shadow
areas are more warm-brown. It becomes the struggle between technique and the
emotion of the world struggling to manifest itself.

Geoff E-V uses the light and shadows of a jazz-club to evoke memory
associations—evoking the sounds not typically associated with these instruments.
Just as the Geoff set quotes the lighting of the jazz club, the Sara set carries the
motifs of the rock star coming out of the black with the brightly colored clothing.
Acid Blue takes the psychedelic color patterns into a swirling eddy of blue around
the pumpkin color of the wood.

These images attempt—by adding motion and abstraction—to become more
concerned with temporality then the spatiality which photography is normally
concerned. They express the ‘inner meaning’ of the music and the players
emotion. They remain severely limited in the way that they can fully use the
temporal element. It is the more full usage of the motion and duration that enable
the visual compositions to mirror more closely the way that music gets to universal
emotion. For the purposes of this analysis we will explore four of the eight
compositions in closer detail. The first two use a minimum of images while the
other two are built from many layers and complex visual loop over complex visual
loop.
**Composition I**

*Visual Composition I* — the most simply composed of the eight — uses five images and a total of eight layers. No loops were created for this composition — which keeps the transfer modes and opacity set at a constant amount but uses changing anchor points to create the visual motion. The resulting interaction of the layers creates the predominately abstract final visual composition. Many of the layers move completely off of the viewing area and back in at various points in the changing time. A directional blur adds a sense of unity to the whole. (See After Effects Program: *Composition I* and After Effects Time-line Example: Composition 1 on pages 235 and 236 for a view of the timeline used to create the visual composition in Adobe After Effects®.)

*Visual Composition I* has a limited color palette and transforms slowly as the color forms move horizontally back and forth. The images have some artifacts of the human face and occasional bright landscape backgrounds come to the fore. *Musical Composition I*, the resulting musical composition, uses two instruments — a mandolin and a bouzouki. All of the portraits correspond to a mandolin, but the coding process — due to the stacked repeating layers — adds notes an octave lower on a bouzouki. (See *Composition I* on page 237ff for a paper copy of the forms of the musical composition resulting from the visual composition. This includes traditional notation and tablature for the mandolin and bouzouki.) The movement causes the speed and duration of notes to change — especially as the image uses less than 30% of the screen area. The notes move in and out of apparent sync with each other based on the direction of movement — left to right moves the notes out of the traditional beat location.

**Composition VIII**

*Visual Composition VIII* used five visual loops to create the final composition. Each visual loop is created from multiple layers of one image. The portrait *Anna G-II* is the visual base for three of the five loops. Tim Bowman — unlike many of the other visual composers — did not use any transfer modes but created most of this look using movement and scale. Many of the
layers were used at over 200% scale—which added pixelization to the final composition. The usage of scale created abstraction in two ways for Bowman: using only small parts of the image and the degradation caused by the pixelization. This composition has long cross over opacity changes, sudden panning motions and occasional vertical bumps which define and interrupt the visual tempo.

The resulting *Musical Composition VIII* uses two instruments—octave mandolin and mandola—with three foundation notes and the additional notes added due the large percentages used in the scale parameter. The music is sparse with repetitive sounds giving way to occasional variations and additions.

**Composition IV**

*Visual Composition IV* starts with a base of loops. *Composition IV-terry*—used twenty-four times in the final visual composition—is created from images of Terry playing the bouzouki layered on top of themselves with a difference transfer mode along with changing opacities and anchor points. The base built from these loops is unified with a gaussian-blur. Above this is a visual loop made from one Photoshop file containing eight layers—portrait *Mel D-VII*—which adds the images of the girl dancing as the image layers slides across the screen. (See *Composition IV-688* to experience the movement achieved without being merged with the other loops.) This visual composition is the only one of the eight to effectively use any of the layered Photoshop files to create movement. (*Visual Composition II* did use two layers, of image *Anna G-I*, to create a sense of motion with a rotating instrument.) This visual loop also uses a variety of motion and radial blurs that vary each time this loop is used within the final visual composition. *Terry D-VII* follows each of the *Mel D-VII* visual loops acting like a visual bridge back to the main movement.

Another loop, *Composition IV-instr*, is created from *Terry D-VIII* and *Geoff D-II*, which move back and forth horizontally over each other (anchor point and difference transfer mode). After all of these visual loops are implemented a wavy-motion adds fluidity to the project and unifies the base. At random intervals a
Musically this composition creates a looping layer upon which the other instruments build. (Listen to Composition IV-terry MIDI file to hear the base created by Composition IV-terry Visual.) Musical Composition IV uses a mandolin, mandola, octave mandolin and bouzouki—but requires six instruments to be able to play the complex parts of the composition. The Composition IV-688 creates the most melody-like part of this composition because the added images create a descending musical run at the intervals it used in the composition. (Listen to Composition IV-688 MIDI file to hear this progression.)

### Composition VII

Shawn Hunter started the composition process by creating eight visual loops—each using eight to fourteen layers of images from within one instrument/performer set. These visual loops are either fifteen or thirty seconds long. Of these eight visual loops Hunter used five—in paired stacks of ten layers—to create six different visual movements. These movements give visual priority to different of the five visual loops—using the screen and overlay transfer-modes, a variety of positions, opacities and motion movements—creating six similar but varied movements. These six movements were then arranged in order—with some overlapping—to create the final visual composition.

An evaluation of the individual instrument loops offers insight into the compositional style of Hunter. Composition VII-100—one of the three loops not used in the final composition—offers the clearest fragments of information from the original portraits used to create this loop. Although it has changed everything to black and white—the instrument shape, frets, and neck are apparent at many places and has more crisp edges than do any of the other instrument loops. Composition VII-200 also has vestiges of the instrument images from which it was created—but in this case the changing color forms do not appear to follow the information in the portraits as clearly. Composition VII-400 maintains some reference to the facial shapes from which it is constructed, but is primarily large
areas of black and white interacting with each other. The lighter values tend to draw the attention while the black is backgrounnded.

Composition VII-800 is the only one of the five instrument loops that is not mono-toned in character—the others accomplish this by adjusting the hue of the whole instrument loop. Composition VII-800 uses three-dimensional camera angles and movement along the z-plane to create vivid colors—that evolve and change—within the deep engulfing areas of black. All of these visual compositions use multiple image layers, a variety of transfer modes, and movement to create these largely abstract loops. Composition VII-600 has the banding—associated with polarization—in the transitional areas between the light and dark values. All of the instrument loops are formatted closer to a square shape than is the final composition—which means only part of the visual loop is used as they become part of the final composition.

Each of the six movements gives visual preference to different of the instrument loops—although each movement does use each of the five instrument loops twice. The instrument loops are layered on top of each other and use the screen and overlay transfer modes with no changes in opacity, scale or movement.

Within the visual composition, visual content can be obscured by what is layered above it—dependent of course on the opacity and transfer mode. Musical compositions however are capable of playing all the notes—which don’t obscure the sound by elimination but by creating such a large pool of sound that the individual sounds cannot be separated out—the sound looses any sense of definition. Hunter’s visual composition—when decoded following the standard set of rules puts all the looping music on top of each other creating a large pool of sound. This does not give the upper sound loops any preference, unlike the way the visual loops are used. When this preference is taken into account by giving preference to the higher-layered loops the music begins to have six more discrete movements. This pays closer attention to what Hunter is doing with the usage of the these loops and allows some of the loops that are lower and more obscured—possibly totally obscured visually—to disappear behind the other sounds. This version of the musical composition—the one used by the Visual
Music 8/8 Project—has more variety and vitality as the loops trade back and forth their dominance and the listener can hear the variations that Hunter has created visually.

The music coded by the individual instrument loops creates a very repetitive sound—the mandolin loop (Listen to Composition VII-400 MIDI file.) is the closest to resembling music with a traditional melody. In the Composition VII-400 the viewer is drawn to the lighter shades that move gracefully through the image—the instrument loop corresponds to a mandolin and results in the higher notes in the final composition. These higher notes also grab attention in the final music composition. Composition VII-200, on the mandola, is very repetitive but contains one of the least complex loops created by Hunter. Composition VII-300, also on mandola, has three discrete variations within the loop that repeats five times. Composition VII-800 has slow repetitions with occasional tempo changes to offer variety. Composition VII-600 is the most densely layered music—with occasional breaks in the relentless pace. The six movements give preference to different of these loops in pairs: 400/300, 800/200, 400/300, 300/600, 800/200, and 300/800. These preferences of Hunter—all based on his visual aesthetic preferences—create a varied piece of music with discrete movements that flow through the final composition.

Important Parameters for the Visual Musician

The cautions for visual musicians are: First) Be cautious of the attempts to create visual music with an already created musical bed—or of the desire to always use the visual and musical together—strive to make them work independent of each other. Second) Be careful about relying on mathematical algorithms which tend to bore the audience quickly—the visual musician needs to push beyond the easily generated. Combining the power of the technology and the ability of the human to make aesthetic decisions leads to interesting imperfections. Third) Visual composers should work to be unbound by technology. The limitations placed should not be only that imposed by the limits of technology. Pellegrino adds his caution,
Beware of pressure to immerse yourself completely in compositional mechanics, notation, and craft. Learning environments that unduly emphasize those approaches to the exclusion of an individual's creative development tend to be academic, grim, and lifeless. They also tend to steer people away from the joyful aspects of simply playing with the dynamic media of sound and light; it's the joyful aspects that generate the fuel for a lifetime of compositional work. Concentrate on compositional activities that build the foundation for a lifetime of involvement with dynamic media. Focus on experimental play both alone and with other artists of dynamic media such as sound, light, imagery, dance, poetry, and other inventive dynamic games. (Pellegrino, *Principles for Learning to Compose with Sound and Light*)

Fourth) Recognize that much of the work done in the pursuit of visual music is not great art—not nor is much of the art created with the new digital technologies. Although the software is full of options—many of which mimic the tools of the past—the artist still must create out of an experience of the idea.

The important parameters to keep in mind are: First) The purpose of the visual music is to get to the inner idea—not to reflect some concept. Second) Use all the parameters of temporality—duration, rhythm and motion—available to you. Barney Childs says about time,

The composer is of course peculiarly concerned with time; like the poet, dramatist, filmmaker, and choreographer, he is in the business of making structures that require real time to be fulfilled…Man traditionally searches to ‘make sense’ out of experience, and art provides one means by which he can choose to do this. In time art, he will then be paying attention to a part of his life that isolates and stylizes some of the shapes and rhythms of life, and this stylizing not only ‘makes sense’ to him as he deals with the familiar but may also challenge him with disorder with which he must come to terms. (Battcock 103)
Third) Embrace the idea of limits—all the while pushing to do what has not been done yet. Fourth) Value highly the imperfections that you as a human add to the project. Fifth) Abstraction can be a worthwhile pursuit—but this doesn’t limit you to geometric shapes and areas of solid color.

**Future Directions**

The composition of visual music is only at the beginning. Several follow-ups to the *Visual Music 8/8 Project* come to the fore as a way of continuing the logical trajectory of the project—some proposals work with the whole process culminating with a musical composition while others are only concerned with the visual composition process.

The *Visual Music 8/8 Project* used five visual composers—each with their own visual aesthetics—but only one decoding system to create the music. Alternate secret codes could be fashioned—considering how the parameters of the current system worked—to create new versions of the musical compositions from the same visual compositions. This could create alternate mapping to those used of—scale, position, rotation, movement, direction of movement, opacity, position in the layer stack, duration and size on the visual plane.

Variations on the Visual Music 8/8 Project could create a completely different experience by using another set of images—possibly including moving visual images—with another set of hidden codes and another set of musical instruments. The project could also use a much broader grouping of instruments—not limiting itself to one family of instruments. Using already moving images in this kind of exercise will require more carefully constructed codes to enable the musical composition process.

By ignoring the drive to compose aural music, visual composers can manipulate the parameters of duration, motion, color and form creating visual music that will elicit the same kinds of response that music does. The content used in this effort is practically limitless—and should include motion-containing media rather than creating the motion solely within the animation procedure.
Visual composers will want to work with issue of abstraction in the way that Kandinsky and others have.

Adding the desire to recontextualize images would open up the visual musician to quoting the visual texts of our culture in order to subvert their meaning and power. The visual composer would mix and manipulate the images in much the same way as do Reggio and Miller. These images could include images from advertising, iconic symbols, pieces of movies and television shows, visual media from the internet and other visual music projects. The visual music would deconstruct and reconstruct the images into a new visual experience.

Considering the powerful role that the live performance has within the musical world—a major step would be to move visual music into a live performance. The visual compositions in the Visual Music 8/8 Project take many hours to render before being experienced by an audience—therefore a different technological approach is required. The danger inherent in the attempt to move to a live performance is to step backward into a more symmetric geometric computer generated visual world. To avoid this pitfall would require both collaboration and the usage of technology outside the parameters for which it was created. Taking four to six non-linear video editing systems—like Avid, Media 100 or Final Cut Pro—and filling the drives with visual material would create six instruments for individual performers to play. The visual material could come from a common networked pool or it could be material shot and created by each individual performer. Each performer would then scrub—similar to scratching on a turntable—through a variety of pre-edited visual tracks. This scrubbing would allow the visual to change direction, change speed, go back and forth rapidly, making a sense of rhythm within the moving. The non-linear editors would also be capable of changing the speed of a clip and many visual pieces could be pre-rendered to mix into what each performer is doing. The performers would be linked to the conductor via a clear-com system so they can communicate with each other without audience interference. At this point there are more options. Each non-linear system could be attached to a video projector (or large monitor) arranged around the edges of the performance space. The audience can then see what
each visual performer is doing. The screens should be in close proximity to each other so the visuals interact with each other. An alternate to the multiple screens would to have the four to six performers send their video signal to the conductor who would control a switcher where the individual performer feeds can be layered on top of each, switched from one to the other or put within smaller boxes on the one screen. The audience would experience the total mix coming from the band.

These above proposals all pre-suppose that they will exist without any accompanying aural music. The last proposal could also easily be part of a mixed media band, with a group of jazz musicians playing aural sounds while the visual musicians play their own form of jazz. The audience would then receive two independently conceived and constructed experiences. This multiple-feed experience would fit well the matrix of the electrate age.

Another effort to create the atmosphere of a performance could be the composition of a “visual music symphony.” A visual music composition could be created with individual pieces playing on separate monitors set up in a spatial arrangement like an orchestra on stage. The monitors should be of various sizes and orientations. Each monitor would then function like a “visual instrument” offering it’s visual music to the mix of the whole piece. The viewer would be hit from different spatial locations with the mix of images. If a viewer moved through the space the different “visual instruments” would gain and lose their predominance in the same way that musical instruments would change volume based on their spatial relationships. This would be a complex and challenging experience to compose but could go far in drawing the contemplation of the viewer away from their individual emotions to the more universal experience. The visual material used for the base of the creative process could come from almost any number of sets of limitations—from travel, from instrument groups, from portraits or from moving image collections.

The Visual Music 8/8 Project is only one step on the endlessly varied path to a powerful form of visual music—which will influence other media forms as it generates and grows. With the strong influence of the image in the electrate age, the project of creating music visually cannot be ignored—and is achievable.
I sit at my work. These are my most beautiful hours. I work for myself, for myself alone and for my God. My elbows are very painful then. Often I nearly faint with pain. But my work is my prayer—a passionate prayer uttered in paint. I suffer. I must work a great deal and I do so. God knows how long I shall still be able to hold a brush. Oh God! I work with ecstasy and with tears in my eyes and I go on until darkness falls. Then I am exhausted. I sit there motionless, half-fainting and with terrible pains in my hands. Oh God! Oh God! I sit there, and the darkness envelops me, and black thoughts creep up on me. And the colours drain from all the walls. I am alone. The silence hums and I hear my heart tremulously beating. Alone! Alone!

Alexej von Jawlensky  (Roethel 52)
People and Instruments in the Portraits

Stefan Sobell

- Northumberland, England
- http://www.sobellinstruments.com

Stefan Sobell built his first cittern in 1973, and now builds a complete family of instruments (mandolin, mandola, octave mandolin, cittern and bouzouki—available with small or large bodies and in the traditional eight strings or special order of ten.). Sobell also builds a complete line of guitars as well. Martin Simpson describes his relationship to his Sobell guitar, “I used to be guitaristically monogamous…I tried to make the one Sobell work for everything. But now I play a lot of different guitars. Still, if it comes down to only one, it’s the Sobell.” (Carnahan 97) Sobell instruments are respected and copied by other builders. Andy Irvine comments, “Stefan's instruments have always been built with a rare dedication and love and are now better than ever. His world-wide reputation is more than justified.” Andy Irvine (Sobell) Sobell and his assistant Nigel Forster produce about three instruments a month. The instruments are built individually, by hand to Sobell’s own designs.

Anna Peekstok

- Seattle, Washington, USA
- www.telynor.com
- bouzouki/octave mandolin—GDAE—1988
- bouzouki/octave mandolin—GDAE/GDAD—2002

John Peekstok

- Seattle, Washington, USA
- www.telynor.com
• citern—EAEAE—1981

John and Anna Peekstok play arrangements of early and traditional music on a large collection of instruments. Niles Hokkanen comments about their music, “Combine the sounds of Pentangle, a medieval consort, a bit of Jethro Tull, and perhaps some acoustic Led Zeppelin tinged with Bulgarian influences and you’ve got a rough idea of Telynor’s music.” (Peekstok)

Mel Lee
• Bridgewater, Virginia, USA
• Octave mandolin/ bouzouki/ citern—GDAD

Mel Lee plays with several Irish music groups including *Frosty Morning*. In addition to bouzouki he plays the guitar.

Keith Whiddon
• Horsham, England
• http://www.flyingtoads.co.uk
• Bouzouki—GDAE—1998

Keith Whiddon is a member of *The Flying Toads*, a traditional Irish band who will get your feet taping. Whiddon is always up for a few Irish sessions on the weekend especially at the neighborhood pub, *The Coot*.

Geoffrey Hoebbel
• Cincinnati, Ohio, USA
• Large body octave mandolin—GDAD—1989
• Large body mandola—DAEA—1998

Terry Blankenship
• Mason, Ohio, USA
Terry Blankenship plays an assortment of Irish and Celtic music—having played in two traditional bands The Kells and The Gabriel Hounds. with an Irish music group, The Kells. Previous to his involvement with Celtic music, he played guitar in several rock bands—including touring with Robert Fripp. He has four Sobell instruments—two of which are built to his custom specifications. Blankenship continues to experiment, play and produce music.

**Sara Pharis**
- Staunton, Virginia, USA
- Mandolin—GDAE—1998

Sara Pharis performs silently with her band mate, Carrie, in the group SansDB (without sound).

**The instruments and the tunings used in the code.**
- Sara—mandolin—GDAE
- John—cittern—EAEA
- Geoff—mandola—DAEA
- Mel—octave mandolin—GDAD
- Keith—bouzouki—GDAE
- Anna—octave mandolin—GDAE
- Terry—bouzouki—GDAD
- Stefan—mandola—DAEA
The Visual Music Composers

Composition I, II, III, IV—Jerry L. Holsopple
Composition V—Chad Van Pelt
Compositions VI—Craig Litwiller
Composition VII—Shawn Hunter
Composition VIII—Tim Bowman
Notation Rules for Transcribing

1. Start at the bottom of the comp and work up through the layers. Check especially position/anchor(movement), opacity, rotation, the amount on screen, scale.

2. Find image number on the Photograph/Note/Fret Correspondence Chart. If the image number ends in 9, it reverts to equivalence with a 2. This gives the note and the string on which the note should be played.

3. The coding is using a match of 120 beats per minute so:
   - 30 frames=1/2 measure
   - 15 frames=1/4 measure

4. If the same note is played—on top of itself on the same instrument
   - 1\textsuperscript{st} time—add an octave lower whole notes
     - 3\textsuperscript{rd}—cut this note in half
     - 5\textsuperscript{th}—cut again
   - 2\textsuperscript{nd} time—cut original note in half
     - 4\textsuperscript{th}—cut again
     - 6\textsuperscript{th}—cut again

5. Multiple notes on the same string.
   - If another note is played on same string—split the notes back and forth.
   - If more than two notes on the same string add a second instrument of the same kind.
   - If the notes are from a Photoshop comp sequence—add the notes on top of the previous notes like a run and end the full comp with a complete 8\textsuperscript{th} note run.
6. Movement and Direction

- If the image is stationary—less than five seconds—use quarters—unless the total duration is less
- If the image is stationary—on for more than five seconds—half notes
- If the image is moving use quarter notes
- If the moving image is on less than 33% of screen use 8\textsuperscript{th} notes, less than 25% use 16\textsuperscript{th} notes.
- At the entrance/exit from the screen space—use two 16\textsuperscript{th} notes
- If the movement is left to right, bottom to top, a scale change functioning as a zoom in, a counter clockwise spin or lowering the position in the Z-space place the note/notes out of sync ahead by an 8\textsuperscript{th} note of where it would be otherwise placed.
- If the movement is right to left, top to bottom, a scale change functioning as a zoom out, a clockwise rotation, or increasing Z-space movement remain in normal sync.
- If there is a distinct position/anchor point bump insert a sixteenth note.

7. Opacity  (durations unless motion requires a faster note)

- If the opacity is less than 30% the note is not played unless the image is on at this level for more than 5 seconds
- If the opacity is changing but peaks under 30% do a 16\textsuperscript{th}, 8\textsuperscript{th}, 16\textsuperscript{th} note run at the peak point.
- If the opacity is between 30-60%—8\textsuperscript{th} note
- If the opacity is 61-80%—quarter note
- If the opacity is 81-100%—half note

8. Scale

- If the scale is more than 200% add a 16\textsuperscript{th} note an octave higher with a 16\textsuperscript{th} note slide up one pitch at every interval of the main note. Do not do this on the added octave if the image/note is being doubled.
• Scale should be noted with the same variables of 33 and 25% screen usage and the corresponding 8\textsuperscript{th} and 16\textsuperscript{th} notes stipulated in the movement section.

9. If multiple pre-formed sub-comps (of eight or more layers) are placed on top of each other give precedence aurally to the top two comps.
### Photograph/Note/Fret Correspondence Chart

<table>
<thead>
<tr>
<th>Anna</th>
<th>Geoff</th>
<th>Stefan</th>
<th>Sara</th>
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<tbody>
<tr>
<td><strong>GDAE octave mandolin</strong></td>
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<tr>
<td>Keith</td>
<td>Mel</td>
<td>Terry</td>
<td>John</td>
</tr>
<tr>
<td>GDAE bouzouki</td>
<td>GDAD mandolin</td>
<td>GDAD bouzouki</td>
<td>AEEA cittern</td>
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</table>
After Effects Program: Composition 1
After Effects Timeline Example: Composition I
Composition I - Jerry L. Holsopple - Mandolin and Bouzouki
Composition I - Jerry L. Holsopple - Mandolin and Bouzouki
Composition I - Jerry L. Holsopple - Mandolin and Bouzouki
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Holsopple, 246


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