

Strange Brew

Strange Brew:
Metaphors of Magic and Science in Rock Music

By

Victor Kennedy

**CAMBRIDGE
SCHOLARS**

P U B L I S H I N G

Strange Brew: Metaphors of Magic and Science in Rock Music,
by Victor Kennedy

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INTRODUCTION

In 1959, at the age of six, I discovered rock and roll. Like most kids, I liked songs that told a story. I also loved the sound of Buddy Holly's jangly guitar on "That'll be the Day" (1957), the atmospheric background vocals in J.P. Richardson's "Running Bear and Little White Dove" (1959), and singing along with my dad to "Alley Oop" (1960) on the radio. Over the next few years I listened to novelty songs like "My Boomerang Won't Come Back" (1961) and "The Monster Mash" (1962), songs with music and sound effects that fit and enhanced the lyrics. Then in 1964 The Beatles came along. The whole family watched them perform "She Loves You" (1963) on the Ed Sullivan Show. Everybody liked The Beatles, but I was intrigued by my parents' negative reaction to The Animals' performance of "House of the Rising Sun" (1964) on Ed Sullivan. There was more to these bands and their songs than just the music; there was image and attitude as well.

I grew up listening to rock and roll, but the music that changed my world arrived with psychedelia in 1967. The crunch of the electric guitars and the pounding of the drums on Cream's *Fresh Cream* (1967) were mesmerizing, and soon I was listening to Jefferson Airplane's *Surrealistic Pillow* (1967), Jimi Hendrix's *Are You Experienced?* (1967) and Iron Butterfly's *Heavy* (1968), and dreaming of being a guitar player someday.

The interplay between words and music is fascinating, and as an English teacher, I find that song lyrics make a good introduction to both the elements of poetry and the culture that produced them. Close attention to song lyrics can reveal an intelligent and serious response to the social, moral, and intellectual issues of the time they were written; in the sixties and seventies, song lyrics dealt with the Vietnam War, experimentation with drugs and Eastern religions, and even science fiction, in an attempt to expand consciousness and awareness. Experimentation with new instruments and recording technology paralleled and augmented the effect of the lyrics. Popular art, literature and music have always reflected events and movements in culture, but the effect of the music of the 1960s was and is so widespread that it has had a deep and lasting influence on Western culture.

Song lyrics are supported by added musical elements, which sometimes raises the question, are lyrics themselves of less value than the

words of poems, which have to stand on their own? This argument is much like the old distinctions between “serious” and “pop” literature and music, or “high” and “low” art. Listen to some pop songs and the argument seems persuasive, but like most songs, most poems are seldom read and soon forgotten.¹ A student mentioned to me one day that a well-known conductor had told her that song lyrics are not real poetry. This reminded me of my high school music teacher, who told us that rock and blues were not real music. When I was an undergraduate in the 1970s, there was a widely accepted canon of serious literature, developed by F.R. Leavis (Leavis 1948) and championed by Harold Bloom (Bloom 1994), to which works of popular writers were not admitted. Since the advent of critical theories of deconstruction and cultural studies in the 1970s, however, the line drawn between popular and serious literature and music has been blurred, maybe even erased. Scholars now criticize art more for its craftsmanship and effect than for the approval of authorities (Sacks 2013).² My high school English teacher was more like Dewey Finn in *School of Rock* (Linklater 2003) than our music teacher; she asked us to write about Beatles songs. Today my department, like English departments in many other universities, offers courses in teaching English using songs in the classroom. The “canon wars” of the mid-twentieth century are over, and literature studies and cultural studies have grown together.³ For many English teachers today, class discussions about novels, poetry and songs are as much about cultural studies as they are about literature. We talk about comparative and world literature, just as in music we listen to not only European Classical and Romantic music, but such diverse styles as English, Irish and Scottish folk music, American jazz, blues, rock and roll, and many others, all with their own mix of instruments, stories, and themes. Every country and every culture has its own distinctive music, and one of the most interesting developments in our time is the blending of these different styles into “world music.”

Some song lyrics are great art that can stand on their own even without musical accompaniment, while others are integral parts of larger works. Shakespeare wrote songs for his plays; Robert Burns wrote songs as well as poems; many of William Blake’s poems were set to music; Schubert set Goethe’s poems to music; Tolkien’s *The Hobbit* (Tolkien 2001) and *The Lord of the Rings* (Tolkien 1999) are both full of song lyrics. Poetry textbooks nowadays contain lyrics by modern popular songwriters such as Bob Dylan, Leonard Cohen, Bruce Springsteen, John Lennon and Paul McCartney alongside the poems of Keats, Yeats, and the Beats, and we study them the same way, looking for imagery, symbolism, metaphor, rhyme, rhythm, story, character development, theme, cultural background,

and what is sometimes forgotten, poetic effect. Cohen's "Suzanne" (1967) and Lennon and McCartney's "Eleanor Rigby" (1966) are often anthologized in poetry textbooks. Compare Lennon's "Nowhere Man" (1965) to W.H. Auden's "The Unknown Citizen" (1939); Lennon's lines may be simpler than Auden's, but both works convey a message of isolation and alienation, and create a similar effect. Looking at a selection of rock and pop songs from the 1950s on shows that many of the lyrics of these songs are as meaningful and evocative as great poetry.

Song lyrics by themselves can be read as poetry, but much of their effect comes from the music; there is a deep relationship between words and music. Poetry by itself can have powerful effects, but the combination of words and music adds another dimension. Ernest Harburg, a lyricist who co-wrote 537 songs with 42 different composers, including "Over the Rainbow" (1939), "Brother, Can You Spare A Dime?" (1932) and "April in Paris" (1932), said that

...words make you think thoughts. Music makes you feel a feeling. But a song makes you feel a thought. That's the great advantage—to feel the thought. You rarely feel a thought with just dialogue itself. And that's why song is the most powerful weapon there is. You can teach more through song and you can rouse more through song than all the prose in the world or all the poems. (Meyerson and Harburg 1993)

Many books and essays have been written about rock, rock and roll, and psychedelia. This one will focus on some of the themes that fired the imaginations of songwriters in the second half of the twentieth century and the effect of the new sounds developed by musicians and recording engineers in order to see what makes the rock music of that time so compelling. The 1960s saw huge changes in the way songs were created and listened to, but we will also look at some of the music that inspired the sixties songwriters, early rock and roll and the blues, and at their influence on some of the music that followed afterwards. We'll also look at some of the places where the songwriters got their ideas, from literature and especially the movies, and at how this experimental counterculture music lives on today. In the second half of the twentieth century, rock music and the movies went hand in hand, reflecting and influencing just about everybody's daily life.⁴ Songs and movies were what people spent their money on, and they chose to buy what spoke to them.

The effect of the combination of words and music is hard to analyze and explain. Songwriters talk about "hooks," riffs or phrases that make a song memorable. We all know a good catchy riff when we hear one, but coming up with a good hook isn't easy. Some songwriters can produce

them year after year; on the other hand, there are so many one-hit wonders that one can speculate whether writing a good song is a skill or if it sometimes just happens by accident. The poet and literary critic John Hollander wrote of the difficulty of understanding how a piece of music works in *The Untuning of the Sky: Ideas of Music in English Poetry, 1500-1700*, “the power of musical sounds to affect a hearer has always been... as much a literary idea as an observed phenomenon...” (Hollander 1961). Words can be used to describe the effect of music, but this is a one-way description; music doesn’t describe the effect of words.

People have been trying to describe the effect of music for a long time. Karl Paulnack, director of the music division at The Boston Conservatory of Music, said in his welcoming address to new students on September 1, 2004,

One of the first cultures to articulate how music really works were the ancient Greeks. And this is going to fascinate you: the Greeks said that music and astronomy were two sides of the same coin. Astronomy was seen as the study of relationships between observable, permanent, external objects, and music was seen as the study of relationships between invisible, internal, hidden objects. Music has a way of finding the big, invisible moving pieces inside our hearts and souls and helping us figure out the position of things inside us. (Paulnack 2004)

As Paulnack shows, music and science have had a long history together. He talks about three related concepts: music, science and feelings. In order to understand the effect of a song, we have to consider each of its main parts, words and music, and we need an account of feelings—emotions. Feelings can be hard to explain, and when people try to account for things they don’t understand, especially “invisible, internal, hidden” ones, they sometimes give up and say “it must be magic”; magic was a popular theme in the blues and in rock music of the sixties and later. From a more analytical perspective, researchers in psychology, neuroscience, linguistics, anthropology and philosophy have developed the field of cognitive science, which has recently been applied to music: Mark Johnson, Steve Larson, and Christopher Peacocke make a convincing argument that music creates its effect in many of the same ways that metaphors in language create their effects (Johnson and Larson 2003; Peacocke 2009). If this is true, then the combination of effects in music and language can be understood as complementary. Some musicians and scholars have argued that there is no such thing as metaphor in music, but the theory of conceptual metaphor suggests that metaphors can be used to understand music, and that music and metaphor share similar structures.

Peter Doyle explains some of the ways that modern technologies in recording and sound effects use and create aural tropes, which create feeling and meaning in music (Doyle 2005).

The English conductor Simon Robinson, echoing Harburg, summed it up when he said, “As a tool for activation of specific thoughts, music is not as good as language. As a tool for arousing feelings and emotions, music is better than language. The combination of the two is the best courtship display of all” (Robinson 2013).

Discography

- Anon. “The House of the Rising Sun.” (Single recorded by The Animals). Columbia/MGM, 1964.
- Arlen, Harold and Ernest Harburg. “Over the Rainbow.” From the film *The Wizard of Oz*. (Dir. Victor Fleming). Metro-Goldwyn-Mayer. USA, 1939.
- Bruce, Jack, Ginger Baker, and Eric Clapton. *Fresh Cream*. (Recorded by Cream). RSO Records, 1967.
- Cohen, Leonard. “Suzanne.” *Songs of Leonard Cohen*. Columbia, 1967.
- Drake, Charlie. “My Boomerang Won’t Come Back.” Parlophone Records/United Artists, 1961.
- Duke, Vernon and Ernest Harburg. “April in Paris.” From the Broadway musical *Walk a Little Faster*. New York, 1932.
- Frazier, Dallas. “Alley Oop.” (Single recorded by The Hollywood Argyls). London Records, 1960.
- Gorney, Jay and Ernest Harburg. “Brother, Can You Spare a Dime?” From the Broadway musical *New Americana*. New York, 1932.
- Hendrix, Jimi, Noel Redding, and Mitch Mitchell. *Are You Experienced?* (Recorded by The Jimi Hendrix Experience). Polydor/Reprise, 1967.
- Holly, Buddy, Jerry Allison, and Norman Petty. “That’ll Be the Day.” (Single recorded by Buddy Holly and The Crickets). Brunswick, 1957.
- Ingle, Doug, Ron Bushy, Jerry Penrod, Darryl DeLoach, and Danny Weis. *Heavy*. (Recorded by Iron Butterfly). Atco, 1968.
- Lennon, John and Paul McCartney. “Eleanor Rigby.” *Revolver*. (Recorded by The Beatles). Parlophone, 1966.
- Lennon, John and Paul McCartney. “Nowhere Man.” *Rubber Soul*. (Recorded by The Beatles). Parlophone, 1965.
- Lennon, John and Paul McCartney. “She Loves You.” (Single recorded by The Beatles). EMI, 1963.

Pickett, Bobby and Leonard L. Capizzi. "The Monster Mash." (Single recorded by Bobby "Boris" Pickett and the Crypt-Kickers). Garpax/Decca, 1962.

Richardson, J.P. "Running Bear and Little White Dove." (Single recorded by Johnny Preston). Mercury Records, 1959.

Slick, Grace, Jorma Kaukonen, Jack Casady, Marty Balin, Spencer Dryden, and Paul Kantner. *Surrealistic Pillow*. (Recorded by Jefferson Airplane). RCA Victor, 1967.

CHAPTER ONE

IS METAPHOR THE MAGIC OF MUSIC?

Music, like poetry, makes use of sound effects. Music has themes, and different composers have their own styles, while major and minor keys, extended harmonies and modes can all help create a mood. It is debatable whether music can contain images, symbols and metaphors, but clearly some sound effects in music work like metaphors, and musicians and songwriters can create sonic tropes that have effects similar to their counterparts in literature. The theory of conceptual metaphor, first developed in the 1980s by George Lakoff and his colleagues, broadened the way we think about metaphor, and looking at it from this perspective, sound effects can function like musical metaphors, and at the very least we can make a distinction between metaphors about music and metaphors in music.

The sounds of words are often used to create effects in poetry and song lyrics, from the obvious devices of rhyme, rhythm, meter and onomatopoeia, to subtler effects that many readers may not even notice. Poets often note the similarity between music and poetry. T.S. Eliot claimed in a lecture entitled “The Music of Poetry” (1942) that the structure of poetry is like the structure of music (Eliot 1975). Poet and critic John Hollander wrote in an essay, also entitled “The Music of Poetry” (Hollander 1956), that “the effects of a poem operate on a reader in ways in which the words of a telegram do not.” A large part of the effect of poetry is created by sound effects similar to the kinds of sound effects used in music:

In general, the stock of musical expressions with which we attempt to describe the so-called “music” of poetry testifies to our unstated commitment to two beliefs. The first of these is that the sound-patterning in poetry, and even the suggestions of formal patterns which cannot be heard, affect us as music does. The second entails our assent to the proposition that these workings of verse must remain, as most of us feel that music must remain, rather like a kind of magic. (Hollander 1956)

Hollander's "patterns which cannot be heard" include devices such as enjambment, caesura and end stopping, where the structure of stanzas can be seen on the page but not heard when the poem is read aloud. Hollander provides a concise history of the theories of prosody and an account of the attempts that have been made to link poetry and song, which both contain words and images and patterns of sound, usually a regular meter, and often rhyme. A poem contains some indications of timing and pauses in its punctuation and in the way the lines are set out on the page, while the other elements are left to the reader's imagination, taste and judgement. A song lyric, on the other hand, is accompanied by a musical score that provides precise indications of time, pitch, volume and harmony. Hollander describes efforts to provide poetry with the missing elements, but in his opinion they all fall short compared to modern musical notation. He points out that there are many misconceptions about the relationship between music and poetry: "the power of musical sounds to affect a hearer has always been... as much a literary idea as an observed phenomenon..." (Hollander 1961). Hollander is right in noting that poets and authors often write about the power of music, but this is not just a literary conceit; psychologists Daniel Levitin (Levitin 2007) and Gary Marcus (Marcus 2012) and neurologist Oliver Sacks (Sacks 2008) have measured, analyzed and quantified the effects of music on the brain.

Reciting poetry well is an art that few people master, although it can be learned, like singing or playing a musical instrument. Most people I know are reluctant to read poetry, especially aloud and in public. My students seldom read or write poetry outside of class. When pressed to read a poem aloud, they inevitably rush through it as quickly as they can to get it over with, the way they learned to recite in elementary school. Great actors like Richard Burton or Simon Callow, on the other hand, have trained, mellifluous voices that add a wonderful dimension to poems such as Coleridge's "Kubla Khan" and "The Rime of the Ancient Mariner" (Coleridge 1982). With well-timed pauses, and rising and falling pitch, volume and inflection, they can turn the reading of a poem into a dramatic event, but this quality of reading is exceptional; the bar set by the many bad recordings of poetry uploaded to the internet is very low. Poets themselves often have idiosyncratic ways of delivering their poems. Dylan Thomas chanted, rather than recited his poetry and stories, with a falling pitch toward the end of every line (Thomas 2003). Hearing Thomas read his works, such as *A Child's Christmas in Wales* (Thomas 1954), adds a dimension not found on the printed page.

One of the similarities between poetry (and drama) and music is the way that actors and musicians add expression to their performances.

Actors learn how to deliver their lines by watching plays, listening to recordings, reading stage directions in scripts and attending acting school, and experienced actors use other cues from posture, observation and the environment (Bollinger, Boyd, and Sacks 2008). Like actors, musicians play notes and phrases, paying attention to the dynamic markings in the score, but experienced musicians add their own emphasis. Classical guitarists, for example, are sometimes encouraged to add embellishments not written in the score. Professor of music and classical guitarist Stanley Yates notes that this is part of the tradition of the classical guitar (Yates 2008). Reading poetry, like any other performance art, involves a set of learned skills, but performances vary between readers, and readers vary their reading from one performance to the next. Edwin Morgan's reading of his poem "The Loch Ness Monster's Song" is delivered in a delightful Scottish accent that, like Dylan Thomas's cadences, adds an enjoyable dimension to the poem that would be difficult for a non-Scot to duplicate (Morgan 1990).

In addition to sound effects, poems and songs contain verbal metaphor, and some of the sound effects they use can be metaphoric; this brings us back to the question, can there be metaphor in music? Aaron Copland, one of the greatest twentieth-century composers and a prolific writer about music, says yes:

All of us... can understand and feel the joy of being carried forward by the flow of music. Our love of music is bound up with its forward motion.... Musical flow is largely the result of musical rhythm, and the rhythmic factor in music is certainly a key element that has simultaneous attraction on more than one level. (Copland 1959)

There are two metaphors of time and space implied here: that music has, first, a kinaesthetic element of motion and, second, a spatial element.

On the other hand, the eminent pianist and conductor Daniel Barenboim says no:

I have never liked the idea that you cannot understand the 'real' message of music unless you understand it in non-musical terms.... To me the only valuable definition of music is Busoni's, when he said that music was sonorous air, nothing more and nothing less. Everything else that people say about music, that it is mathematical, that it is emotional, that it is rational, that it is given to hysteria, actually says nothing about the music as music. It says a lot about our reaction to it, but it does not say much about the music. (Barenboim 2001)

argue that the theory of conceptual metaphor has been taken too far into reductionism, in the process misrepresenting abstract thought, and “fail[ing] to account for significant cognitive phenomena that are often presupposed by the theory of conceptual metaphor” (Vervaeke and Kennedy 1996; Vervaeke 2004; Vervaeke and Green 1997). Most readers and writers know that the tenor and the vehicle of a metaphor are not the same thing but appreciate the creativity of the connection (Richards 1936). Describing something metaphorically has its place in literature, but can cause misunderstandings in other contexts, as the novelist George Eliot wrote in 1860:

It is astonishing what different results one gets by changing the metaphor! Once call the brain an intellectual stomach and one’s ingenious conception of the classics and geometry as ploughs and harrows seems to settle nothing. But then it is open to someone else to follow great authorities and call the mind a sheet of white paper or a mirror, in which case one’s knowledge of the digestive process becomes quite irrelevant. It was doubtless an ingenious idea to call the camel the ship of the desert, but it would hardly lead one far in training that useful beast. Oh, Aristotle, if you had had the advantage of being ‘the freshest modern’ instead of the greatest ancient, would you not have mingled your praise of metaphorical speech as a sign of high intelligence with a lamentation that intelligence so rarely shows itself in speech without metaphor that we can so seldom declare what a thing is except by saying it is something else? (Eliot 1996)

In their system of classification of conceptual metaphors (Lakoff and Johnson 1980; Lakoff 1987), Lakoff and his colleagues claimed that metaphors are not merely linguistic phenomena: they are among the basic foundations of thought. However, if this is a metaphorical claim, then it is false, because by definition, all metaphors are false, just as all similes are true. Richard did not in fact have the heart of a lion, although he may have behaved as if he did. If it is a literal claim, then it is contradictory. Rather, as Eliot showed, metaphors influence many parts of our lives, for example, in our understanding of love and charity. We often think under the influence of common metaphors, about such things as friendship, politics and money.

Although it may not be a theory of everything, there are still valuable insights in the notion of conceptual metaphor. One of the innovative features of Lakoff’s system is its classification of metaphors into families derived from a basic “root metaphor.” One might say relations between topics involve a basic claim that can be hinted at in a metaphor; for example, argument involves different analyses, which we can describe as conflicting sides in a game or a war. To understand a metaphor is to find

the relations of interest between the topics. The relations can always be expressed in many metaphors—families of metaphors, if they are variations on a theme (Vervaeke 2004). Some of the metaphors we use to inform our worldview show up in song lyrics, and some root metaphors such as “love is magic” devolve into other related metaphors like “she cast her spell on me.”⁵

Mark Johnson, co-author with Lakoff of *Metaphors We Live By*, analyzed metaphors of musical motion, like those described by Copland, with Steve Larson in an essay entitled “‘Something in the Way She Moves’: Metaphors of Musical Motion” (Johnson and Larson 2003). Johnson and Larson argue that the way we perceive time and space is metaphoric, and this results in our perception of motion in music being metaphoric as well. Time passes. Time flies. Music goes faster or slower. “The metaphorical logic of music motion is based on the spatial logic of physical motion”; music has “passages” and orchestral “pieces” have “movements.” A “piece” of music is an object that moves. Musicians sometimes refer to the way music is written on the page as “vertical” or “horizontal.” Horizontal pertains to sounds moving through time, such as a melody, and vertical to sounds happening simultaneously, like chords. Vertical describes the visual depiction of chords on a page because the notes are stacked vertically on the staff, and horizontal describes melody, with the notes moving in a horizontal or linear fashion. Imagine an example on a music staff; chords stand like towers and melody flows left to right like a river:



Fig. 1-3. Bach’s “Jesu, Joy of Man’s Desiring,” arranged for guitar.

In addition to the “movement” of music, music “moves the listener.” Lakoff and Johnson argued that “states are locations,” and so even common prepositional phrases create metaphors such as “he was in a coma” and “she is in love”; Johnson and Larson apply this concept to music. Lower pitch is down; higher pitch is up; lower volume is down; higher volume is up. “Based on this generic metaphor for causation, musical forces are conceived as acting on listeners to move them from one state-location to another along some path of metaphorical motion” (Johnson and Larson 2003). Aside from the questionable assertion that any sort of causation is involved, this is a result of the combination of two

central and related root metaphors: “music moves” and “music moves us.” Music does move through time, and some of it inspires listeners to tap their feet or get up and dance.

In a discussion of the development of musical ability in *Guitar Zero*, Gary Marcus describes some of his experimental observations in support of this connection between metaphors, which he calls cross-modal matching: “babies like it when information in any two senses goes together (such as when a set of sounds click in synchrony with a set of flashing lights). The coupling between music and motion may be just one more specific instantiation of this broader tendency...” (Marcus 2012). Maybe. One wonders whether babies really do like it, or just notice it, or just notice it sometimes. This combination of multiple sensory inputs may explain the appeal of music videos and why people continue to attend live performances, though.

The concept of synesthesia, in which stimulation of one sense appears to result in a response in another, was popular in the 19th century, and perception studies in the 20th and 21st centuries have reexamined the idea. As Aaron Copland put it,

Tone color is another basic element in music that may be enjoyed on various levels of perception from the most naïve to the most cultivated.... The color of certain instruments holds an especial attraction for certain people. I myself have always had a weakness for the sound of eight French horns playing in unison. Their rich, golden, legendary sonority transports me.... An infinitude of possible color combinations are [sic] available when instruments are mixed.... (Copland 1959)

Copland’s qualitative observations have been quantitatively tested; perception psychologist John Kennedy and his colleagues established a correspondence between sight and touch in their work with blind people, including blind artists (Kennedy 1993), and between visual and verbal symbolism in several different languages (Kennedy 2003). Kennedy, however, makes a crucial distinction between synaesthesia and metaphor: the basis for metaphor is a common feature, as in Black’s interaction theory, but synesthesia is based on no common feature, just a quirky pairing, such as middle C as blue, for some people. However, a metaphor such as “he has a hard heart” is based on resistance as a common feature. In another recent study that confirms Vervaeke and Kennedy’s findings, Peter Walker measured cross-sensory correspondences and found congruity between hardness, pitch and brightness (Walker 2012).

Christopher Peacocke supports the idea that there can be conceptual metaphor in music, agreeing with Lakoff that metaphor is essentially non-

linguistic and present in many types of mental states and events, including thought, imagination and perception, so that music can be heard metaphorically, just as pictures can be seen metaphorically and language can be interpreted metaphorically (Peacocke 2009). John Kennedy, on the other hand, points out that it is a metaphor to say a picture is metaphoric. Metaphor is defined with respect to language, specifically to sentences making claims. Other uses are metaphoric extensions, since pictures do not make claims (Kennedy 2008).

Daniel Putman argues that Lakoff and Johnson's "orientational metaphors," in which concepts are spatially related to each other, as in "When I Get Low I Get High" (1936), which uses the "sad-is-down, happy-is-up" metaphor, fit the description of music more closely than "ontological metaphors," in which an abstraction such as an activity, emotion, or idea is represented as something concrete such as an object, substance, container or person, as in "Running on Empty" (1977), which uses the "my life is empty" metaphor (Putman 1989). These concepts, easily conveyed in words, are not so easy to express in music. Musicians refer to low tones as dark and high tones as bright, but again, as John Kennedy points out, these are more like synaesthesia than metaphor, based on nothing more than "quirky pairings." Roger Scruton claims that music is based on spatial metaphors but Malcolm Budd disagrees, saying that "the intrinsic natures of rhythm, melody (and harmony) are not owed to concepts the primary application of which is to space and its occupants and which are applied metaphorically to the basic musical processes, capturing their essence: the concept of movement in space is not implicated in them" (Budd 2003). What follows from Budd's argument is a useful distinction: descriptions of music, in language, often depend on metaphor; music, in itself, does not. Budd's distinction anticipates and provides a foundation for Nick Zangwill's persuasive argument, echoing Barenboim, against the idea that music contains emotion: in Zangwill's opinion, music can arouse emotion in the listener, but to argue that music contains emotion is to take metaphor literally (Zangwill 2007).

Charles Forceville developed a system based on what he calls "multimodal metaphors" which, like Marcus's observations of babies' reactions to synchronized sounds and lights, deals with "metaphors whose target and source domains are predominantly or entirely presented in different modes, these modes including minimally visuals, written language, spoken language, non-verbal sound, and music" (Forceville 2009). Forceville analyzes examples taken mainly from advertisements to show that sound effects and snippets of music can be used to set the context for the verbal portion of a metaphor. Film studies theorists

distinguish between diegetic and non-diegetic sound and music, and Forceville uses a similar distinction in his definition of multimodal metaphor. Diegetic sound or music exists within the fictional world of the film or television program, for example, when a character sings or plays an instrument; non-diegetic sounds or music are external to the action, heard by the audience but not by the characters, like the ominous “dum-dum” on the soundtrack when the shark is approaching in *Jaws* (Spielberg 1975). This leads to the inference that music functioning in or as metaphor must be used in connection with the other elements of the metaphor, and that the music, or at least certain elements of it, must be recognizable by the audience.

While a piece of music may not *be* a metaphor for anything besides another piece of music, it can use sound effects as metaphorical elements to complement the meaning and effect of lyrics; sound effects such as echo and reverberation can, like onomatopoeia in poetry, help evoke emotions and images. Imagined landscapes are common in classical program music and contemporary popular music (Robinson 2013). Instruments can mimic natural sounds, such as the flutes imitating baby chicks in Ravel’s orchestration of Mussorgsky’s *Pictures at an Exhibition*, while natural and artificial sound sources can be used as if they were musical instruments, like the (real) cannons written into the score of Beethoven’s *Wellington’s Victory*. More recently, electric and electronic instruments such as synthesizers and guitars mimic the sounds of alien spaceships in Jimi Hendrix’s “Third Stone from the Sun” (1967) and Aerosmith’s “Spaced” (1974), while recorded sounds are used as sound effects, such as the footsteps, door slamming, creaky garden gate hinge and the annoying cricket in Paul Barrère’s “Down on the Farm” (1979). Other effects are similarly evocative, such as the shuffle snare drum or acoustic guitar patterns used to evoke the image of train wheels passing over the joints in railroad tracks, as in Mississippi Fred McDowell’s “Freight Train Blues” (1960) and Steve Goodman’s “City of New Orleans” (1972), and the harmonicas used to mimic the sound of train wheels and whistles in blues, folk, and country songs and ballads, as in Doc Watson’s recording of “Freight Train Boogie” (1972). Combined with lyrics, they can have a powerful effect. While not metaphors, these sound effects are mimicry because two separate domains are not overlapped, and the listener is invited to appreciate the artistry of the execution.

Martin Kutnowski, in contrast, argues that sound effects and music coupled with action can create metaphoric effects in music (Kutnowski 2008). To illustrate the difference between sound effects and musical mimesis, we can compare Robert Gordon’s “Too Fast to Live, Too Young

to Die” (1982) to Ronnie Montrose’s “Bad Motorscooter” (1973). Both songs are about motorcyclists, but in “Too Fast to Live, Too Young to Die,” Gordon used the recorded sound of a Harley-Davidson to complement the lyrics, while in “Bad Motorscooter,” Montrose used a highly distorted, feedbacking electric slide guitar to mimic the sound of a motorcycle engine accelerating and changing gears. Years earlier, Jimi Hendrix had also used “onomatopoeic guitar” to create the sound of motorcycles and police sirens for the ending of “House Burning Down” (1968). In the same year, Iron Butterfly guitarist Danny Weis used distortion, feedback and note-bending to make his guitar simulate the sound of an airplane crash for the ending of the instrumental “Iron Butterfly Theme” from the album *Heavy* (1968). Another noteworthy feature of this song was that the plane crash sonic trope replaced the fade-out ending typical of most popular music since the early 1950s. After the plane represented by the electric guitar augurs into the ground, the keyboard and drums emulate the sound of the crash, and finally the organ plays a single note spelling “SOS” in Morse code, a note which fades out, indicating loss of power.

We can easily see how these sound effects work, but music has other emotional effects that are more difficult to explain or quantify. Google “music” and “magic” and you will turn up thousands of hits linking the two words in many ways.⁶ There are thousands of song lyrics about magic, songs with magic in their titles, or lyrics that use magic as a metaphor for love and loss, and musicians, critics, teachers and fans all talk about the “magic” of music when the effect created by a song is difficult to explain or analyze. Nick Bromell writes that the “distinctive sound” of Elvis Presley’s “Heartbreak Hotel” (1956) “is its magic” (Bromell 2000). “Magic” is a label some people use to describe an operation or effect that they do not understand. Alexandra Kertz-Welzel notes that “Rock and pop music draw significantly on these religious, magical, and ecstatic aspects of music,” although “Western European art music, especially since the eighteenth century, tends to eliminate this sensual ‘magic’ of music only to replace an ecstatic way of experiencing music with a more intellectual approach” (Kertz-Welzel 2005). She writes that “Music is used in various religious rituals to connect the world of human beings with the sacred, particularly because of its ability to evoke ecstasy and trance,” and claims that music in the Age of Romanticism partook of some of the transcendentalism of earlier, shamanic musical rituals, while emphasizing “the significance of feeling and imagination for cognition and aesthetic judgements.”

Rock musicians often talk about the transcendental power of music; for some, drugs enhance the music, but for others, notably Carlos Santana, the

music itself is the transformative experience. Gary Tomlinson, in *Music in Renaissance Magic: Toward a Historiography of Others*, compares music to magic: magic is “the art of manipulating natural or supernatural forces to produce desired results” while music is “the art of manipulating sounds to achieve desired expressive effects” (Tomlinson 1992).⁷ This similarity in basic structure lends itself to the manipulation of either forces or sounds, one as a metaphor for the other, and by extension, of the metaphor “musician as magician,” and vice versa.

Santana has long advocated a relationship between music and spirituality. In an interview in *Guitar Player* magazine after the release of his 2002 album *Shaman*, the follow-up to his 1999 album, *Supernatural*, he elaborated on this belief:

If you want to start healing yourself, you have to start feeling, because nothing is real to you unless you feel it. There’s something about bending a string that gets inside your vitals—your *cojones*—and works its way to your brain. The next thing you know, you feel like you’re worth more than what’s in your wallet or bank account. Sometimes people get so intellectual, cute, and clever with music that only *they* understand it. To me, music shouldn’t be such a mystery. It should be something that all humans can say, “Wow, I *feel* it—you’re touching me in a place I haven’t been touched before.” (Ellis 2003)

For Santana, the main reason people listen to music is that it makes them feel not just better, but different. There are many ways music can do this, and for him the mystery is explained by technique. That “something about bending a string” is one of the bases of blues music; the other is the “blue notes,” the flatted third and seventh notes of the scale used by blues musicians, not just guitarists but vocalists and harmonica players as well, to create the “blues feel.”⁸ Santana uses the technical terminology commonly employed by musicians to describe the feelings produced by music. Scholars such as Peter Doyle (2005) explain it in a different way, using analogies and terminology from art, architecture, acoustics and mythology. Santana himself resorts to analogy to describe how the works of other musicians affect him:

You know “People are Strange,” the Doors’ song? Sometimes you walk around, and it’s this weird day and people look like old potatoes or apples. Their features are so exaggerated—even if you’re straight. But then you hear a certain kind of music, and it makes everything beautiful. You remind yourself on a molecular level that there’s goodness in everyone. Beauty, elegance, excellence, grace, and dignity—they’re more important

than what key you're in, or what chord or what scale you're playing. These qualities transcend what you learn in music school. (Ellis 2003)

Santana's description of perceptions uses terminology drawn from biology, aesthetics and ethics to describe musical effects, and contrasts them to abstract music theory.

Musicians (and audiences) have often used drugs in conjunction with music to try to "alter consciousness" and "raise awareness" (Lachman 2001). Santana argues that music by itself can have such an effect, if the listener is properly attuned to it, and he also suggests that the ability to both create and experience the effect can be learned:

You have to learn how to articulate emotion. When I first heard Jimi Hendrix, I thought, "My God, this guy has a different kind of brush." His was much thicker than everyone else's. They were using tiny little brushes and doing watercolors, while he was painting galactic scenes in CinemaScope. We're working in a field of mystical resonance, sound, and vibration. That's what makes people cry, laugh, and feel their hair stand up. (Ellis 2003)

Jimi Hendrix was the pioneer of a new kind of music in the 1960s. Like great classical composers, Hendrix is revered today as a genius who changed the way people hear and think about music. However, Hendrix was ahead of his time, and it took other musicians a while to understand how he created his effects; struggling to explain Hendrix's genius, Santana falls back on visual metaphors, first from painting and then from film, and then back to the word "mystical."

When the word "magic" is used to describe the effect of music, literature and art, it is a synonym for "mysterious" to describe something that has an effect that is difficult to explain (Eckhardt 2003). J.R.R. Tolkien, a master of the art of casting spells with words, distinguished between the clumsy use of the word "magic" to describe artistic effect and the term he preferred, "Enchantment":

Magic should be reserved for the operations of the Magician. Art is the human process that produces by the way (it is not its only or ultimate object) Secondary Belief. Art of the same sort, if more skilled and effortless, the elves can also use, or so the reports seem to show; but the more potent and specially elvish craft I will, for lack of a less debatable word, call Enchantment. Enchantment produces a Secondary World into which both designer and spectator can enter, to the satisfaction of their senses while they are inside; but in its purity it is artistic in desire and purpose. Magic produces, or pretends to produce, an alteration in the

Primary World. It does not matter by whom it is said to be practised, fay or mortal, it remains distinct from the other two; it is not an art but a technique; its desire is power in this world, domination of things and wills. (Tolkien, Flieger, and Anderson 2008)

Looking at it this way, referring to the “magic” of music is a misnomer.

Metaphor and magic work in a similar way; metaphor invokes a comparison of two dissimilar objects or qualities, while magic depends on a belief that two dissimilar things are in some way identical. John Kennedy explains it this way:

Metaphor relies on two different things having a feature in common, a feature that is of interest. We do have to supply features: we have to pick the key one out from many common features. The author of a metaphor has a feature in mind that the topic and comment have in common, and the metaphor is based on that feature. Belief in magic requires belief in identity, not belief that the two items of interest are fully identical, just that they have key features in common so that an effect on A (a voodoo doll, for example) becomes an effect on B (the target person). (Kennedy 2012)

The connection between music and magic goes back much farther than the hippie or New Age eras of the twentieth century. In Restoration drama, music often accompanied scenes depicting magic: “in many cases, music was regarded as a critical element of the magic” (Plank 1990). That is, music not only accompanied scenes of magic, it was regarded as an integral element of the magic. For example, many scenes in Restoration dramas were accompanied by music featuring prominent pedal points accompanied by triadic outlining, especially in opening passages. The degree of dissonance invited by the pedal point heightens the strangeness of spirit, devil or witch. Even farther back in time, one such triad is the tritone, an interval that was particularly associated with black magic in the Renaissance. It should be familiar to anyone who has heard the introduction to the song “Black Sabbath” (1969) by the group Black Sabbath. Also, certain instruments such as “flat” trumpets and serpents functioned as supernatural symbols in sound.

Santana’s use of metaphor to verbally articulate the effect created by music is similar to the way that sounds can be used in music to mimic other sounds. His comparison of music to science, art, painting and movies to explain how it evokes feelings in listeners is similar to the way that musical tones, timbres and effects have become associated with tropes in film, television, and even novels and stories. The theremin, for example, is an electronic instrument developed in the 1920s. Through metonymy it became the signature sound of disorientation and defamiliarization in