

Heart in Hand

5

The Metaphysics of Music

There are no wrong notes.

Thelonious Monk

One of my most memorable nights at the theater was a new production by the Seattle Opera of Sergei Prokofiev's *War and Peace*, an opera based on the novel by Tolstoy. General director Speight Jenkins mounted this widely acclaimed production in 1990 during the Goodwill Games with the former Soviet Union that took place in Seattle that year.

What happened at the nine performances of this work, which Manuella Hoelterhoff of *The Wall Street Journal* described as one the most "poetic and powerful" productions that she had seen in a long time, was remarkable. Many people who went to see this four-hour-long work were not regular operagoers. They went, some with trepidation, primarily because it was part of an arts festival that was connected with the Goodwill Games.

When the curtain went up the audience knew right away that they were in for a treat. It was the most expensive single production Seattle Opera had ever done, and the

sets and costumes showed why. They were splendid. The ball in Scene Two was stunning. The music was poignant and lyrical. Julian Patrick in the role of Napoleon sat imperiously in his red tunic on an elevated platform at his headquarters, eating his dinner and drinking his vintage wine while he received reports from his generals. People who did not particularly relish the prospect of sitting through a long, rarely performed twentieth century Russian opera with a large cast of characters got caught up in it. There was very little audience coughing. No one fell asleep. One lost track of the passage of time, and many in the audience were surprised to find, when it was over, that more than four hours had elapsed.

Although set in the time of Napoleon's invasion of Russia in 1812, the audience soon realized that this opera was something more than just a story about some long ago war in Russia. One got the feeling not that it was about events that affected specific people at a particular point in time but was rather a work about all of us, at all times. The audience was transported from the confines of one's individual self into a larger community. I suspect that there were few people who were able to get through the performance of this fully realized opera without shedding tears. When in the final scene the massed chorus of two hundred and twenty pressed down a stage raked towards the audience, with arms outstretched and fists clinched, singing "We've faced death for the Fatherland, and we've saved it with our blood.... Day of joy, arise our country, thou art delivered," an audience of 3,000 and the performers, if only for a few moments, merged, with their separate identities forgotten. At that moment of transcendence we all became a *genuine* community, audience and performers alike. As the Kremlin's bells rang (the Russian conductor had made a tape recording of the actual bells in the Kremlin) and the chorus was singing its final affirmation of deliverance, the entire audience rose in unison to its feet and let out a collective roar. This is what art, at its best and most profound, can do to and for human beings.

The jazz pianist Bill Evans was asked, "What is it all about, this music that mankind makes? What is it for?" He answered:

I don't want to express just my feelings. All my feelings aren't interesting to everybody. My creed for art in general is that it should enrich the soul; it should teach spiritually by showing a

person a portion of himself that he would not discover otherwise... That's the real mission of art. The artist has to find something within himself that's universal, and which he can put into terms that are communicable to other people. The magic of it is that art can communicate this to a person without his realizing it. Enrichment, that's the function of music.¹

According to Bryan Magee, and other scholars, there are three principal features of an aesthetic experience: 1) seeing the *universal in the particular*; 2) having a sense of *time standing still*; and 3) a feeling, if only for a moment, of *being taken out of oneself and of no longer being a separate entity*.

When contemplating great art the spectator is able to see individual things in all the fullness of their universal significance. Kant used the term “aesthetic universality” to describe this feature of the aesthetic experience, which he distinguished from the “objective validity” which belongs to our analytical scientific judgements.

Our sense of time is a species-specific biological software application that we use to view the world. According to Kant and Schopenhauer, time—past, present, and future—as we perceive it, is not part of the basic reality of things. When we contemplate a powerful work of art, one that goes deep into the heart of things, it should therefore not surprise us that we have a feeling of time standing still. I have this feeling when I contemplate a painting by Van Gogh. His work has a tenseless, ethereal permanence that seems to exist outside the boundaries of time. Three thousand people experienced this sense of time standing still together at that wonderful performance of *War and Peace* I heard in Seattle in 1990.

The music critic Andrew Porter describes the profound effect that inspired productions of great operas can have on the spectator. He attended the new production of Gluck's *Orpheus and Eurydice* mounted by Seattle Opera in 1988. In his review, which appeared in *The New Yorker* magazine, he wrote:

They [inspired productions of great operas] touch the heart of a listener's being; reveal music's power to sound every string of a psyche; make the theatre what it should be, a place of, at once, ecstasy, entertainment, and moral and political enlightenment; and join the spectators with all those who through twenty-five centuries have discovered in contemporary stage enactments of the ancient myths new ways of understanding the world they live in.²

Operas based on historical events like Prokofiev's *War and Peace* and Handel's *Julius Caesar* can do the same thing. I will always remember the New York City Opera's production of this rarely performed Handel opera in the late 1960s, starring Beverly Sills and Norman Treigle at the height of their powers. When they sang their duet, she on one side of the stage slowly walking up a set of stairs and he on the opposite side of the stage walking up a matching set of stairs, I felt like I was being pulled out of myself into the middle of their glorious enveloping sound and that I was at that moment no longer a distinct and separate individual. As I sat in the back row of the orchestra, uninterrupted by emergencies, the singing of these two great artists in this magnificent new production touched my heart.

Among the arts, Schopenhauer thinks that music is the most important. That is certainly the case for me personally. This judgment is not original with him. The Pythagoreans in the Greece of the sixth century BC and thinkers in ancient China and Egypt also considered music to be the most universal art form.

Music is intrinsically non-representational. The visual arts—architecture, sculpture, drawing, painting, collage, and photography—and the mixed media arts that have a visual component—song, dance, mime, drama, films, and opera—communicate insights into the beauty and universality of such phenomena as mass, extension, light, space, color, texture, balance, poise, and movement. The verbal arts—poetry and literature—articulate insights into the universal aspects of human character, our thoughts and feelings, and into human destiny. All of these aspects of the human condition are derived from perceptions of life and things in the material world. But according to Schopenhauer, the auditory art of music communicates insights directly from the Noumenon, the basic reality that underpins everything. Music gives us a keyhole glimpse into heaven, to paraphrase one writer on the subject. The age-old belief that music comes from another world is in essence correct. Music is a unique art form that we experience without the intermediacy of verbal or visual ideas.

In contrast to the more representational visual and verbal arts, the intuitive sense that music communicates comes to us via a language of unseen airborne vibrations. The conductor Willem Mengelberg puts it this way:

The art of musical composition is the most abstract of all the arts. She is less bound than any of her sisters to tangible reality. In contrast with the plastic arts or with poetry, music originates neither from the material nor from the intellectually comprehensible; but is generated in the mystery of sound.³

The *New Grove Dictionary of Music and Musicians* is twenty volumes long and contains reams of detailed musical analysis, but as the music critic Bernard Holland puts it, “the words we weave around [music] offer our logic-bound minds a rational firmness of footing in a basically irrational art.” Judgements as to the worth, beauty, and universality of a work of art, including music, rest ultimately on nonrational, intuitive criteria

Music is transmitted to our eardrums by vibrations of the gas molecules—nitrogen and oxygen, and a tiny amount of carbon dioxide—in the atmosphere. The airborne sound waves that hit the eardrum are mechanically transmitted through a chain of small bones into the inner ear where they are transformed into electrical signals. These signals are then carried by the auditory nerves straight to the root of the brain, to the brainstem, and from there up through the center of the brain directly to the highest levels of the cerebral cortex. Vision takes a more circuitous route. Electrical signals from the eyes travel first through the optic nerves to the back of the cerebral cortex and then down to the main nerve processing stations in the center of the brain. From there the signals go back up to the cerebral cortex. As Schopenhauer wryly points out, although we often see double with our two eyes, we never *hear* double with our two ears. Does the anatomic centrality of our sense of hearing give empirical justification to the intuitively held belief that music is the most important art form?

In vertebrate evolution from fish to amphibians to reptiles and then to mammals, hearing was the last sense receptor to fully evolve. While all amphibians, birds and reptiles have “ears” with which they can detect sounds, the development of this sense organ lagged considerably behind that of sight, taste, and smell. Our mammalian ancestors lived for many millions of years in fear of their predators, the dinosaurs. One important consequence of living among such fearsome predators was that these early mammals evolved a finely tuned hearing apparatus. Their acute, stereoscopic sense of

hearing enabled them to gauge the location of their predators in the dark from the sounds that they made and thus safely forage for food at night. And now purely by chance, of course, more than a hundred million years later, our highly developed mammalian sense of hearing, coupled to the big brain that our species has acquired, enables us to appreciate music.

Investigators have determined that the unborn child's sense of hearing is essentially fully developed by the third trimester of pregnancy. After the twenty-fourth week the fetus responds to an auditory stimulus in such measurable ways as kicking its legs, raising its heart rate, and blinking its eyes (this can be observed through the use of high-resolution ultrasound imaging). Before birth we float in the warm, dark security of our mother's womb tethered to an umbilical cord. Ultrasound imaging shows that the unborn child will actually grasp the umbilical cord and hold it with its hands.⁴

As all scuba divers can attest, sound conducts well in water, and this intrauterine environment is a relatively noisy place. We hear our mother's heart beating loudly in synchrony with the rhythmic whooshing sound of the blood flowing through her arteries, and we hear her respirations. The vibrations of her voice are also readily conducted through this watery "cradle."⁵ Consequently, as the violinist Yehudi Menuhin so nicely puts it:

[The baby] carries a sharp memory of that warmth, comfort and safety he knew in the aquatic womb. The mother's heartbeat remains deep within long after we emerge into the light of day, imprinted on us like our identity. We feel its loss and must replace it with other sounds.⁶

We replace the loss of the reassuring intrauterine sound of our mother's heart beat, with its constant repetition and promise of continuity, with the vibrating sound of our own voice—and with music. Presented with a choice, as studies have shown, a person will instinctively set a metronome ticking at a rate between 50 and 80 beats a minute, which lies within the standard range of the human resting heart beat.

The psychiatrist John Diamond surmises that "our first appreciation of music comes through the sounds of the mother, especially her voice and her lullaby." A mother talks to her baby in a special songlike voice, and Diamond contends that the genesis of

music lies in the mother's communication with her baby. According to this observer—and others—the human appreciation of music starts in the mother's womb, with the beating of her heart and the lilting vibrations of her voice. Soon after birth the infant hears the rhythmic and melodic sounds of her lullaby. These comforting and soothing cradlesongs that a mother sings to her newborn infant are found in the folk music of all cultures. Diamond writes:

There is no sound more loving, more comforting, more divine, than the sound of the special voice that the mother uses for her baby. It is pure love...and out of it arises the basic and greatest of all songs, the lullaby... Music is part of the mother's world. It is the great therapy. Music invokes the divine love of the mother. It is her breath, her pulse, her spirit.⁷

Studies have shown that the newborn infant can indeed distinguish his or her mother's voice from that of other people. In one ingenious experiment, newborn infants were given a nonnutritive nipple that, by sucking it in different ways, enabled them to elicit either the voice of their mother, or that of another woman, reading a story. The newborn infants consistently would suck the nipple in such a way so that it would activate the voice of their mother rather than the stranger's voice.⁸

The language of music has three basic elements: *rhythm*, *melody*, and *harmony*. Rhythm is not unique to music, of course. It is also a basic element in various athletic activities, like running, and in a host of natural phenomena. Both the accented back beat of a rock drummer and the revolutions of planets around the sun are events that maintain a certain rhythm.

Irrespective of whether it is with sounds, arms and legs, or various natural phenomena, rhythm can be best defined as an ordered recurrence of events in time. Four rhythmic planetary events govern the patterns of existence for all earthly life: the 24-hour period during which the earth completes one rotation on its axis (it is slowing down, however; 500 million years ago when our ancestors left the oceans and invaded the land the earth's day was only 20.5 hours long); the diurnal ebb and flow of tides (due to the complex gravitational effects of both the moon and the sun on the planet's oceans); the 29.5-day lunar month, which is the time it takes the moon to make one complete

revolution around the earth; and our 365.25-day year, during which the earth completes a single revolution around the sun. (The annual cycle of the four seasons is due to the fact that the earth's axis is tilted in the solar orbit.) In addition to these near term planetary rhythms, our solar system as a whole is also subject to a series of cosmic rhythms. It bobs up and down through the plane of our galaxy one full cycle every 26 million years, and it makes a single revolution around the center of the galaxy approximately once every 250 million years. Likewise, the throb of life is governed by a number of biological rhythms. Along with the internal pacemakers that regulate our breathing and heart rate (and other "biological clocks" of varying duration), we are notably subject to circadian rhythms, which operate on a 24-hour cycle. These internally operated 24-hour clocks control fluctuations in body temperature, hormone secretion, and our need for sleep. (Although entrained by the cycle of daylight and dark, the circadian oscillations of the body actually can have a frequency that ranges from between 20 to 28 hours in duration.) The language of music embodies and reflects these natural pulsations of life and the cosmos in its rhythmic beat.

The rhythmic organization of a piece of music includes its *tempo* (number of beats per minute), *meter* (where two to twelve or more beats are grouped together into bars, or measures), and within meter *syncopation*, both of the melodic line and its percussive components. Rhythmic expression in music is especially prominent in jazz.

I used to be a jazz musician, playing the alto and baritone saxophone and the flute. We had a group in college, at Dartmouth, called "The Modern Men." We played a style of jazz termed "hard bop," best typified by Horace Silver and by Art Blakey's Jazz Messengers. On weekends we played for fraternity and sorority parties at a number of colleges in the region. Our group achieved such notoriety that we played in two intercollegiate jazz festivals—the first one at Notre Dame, where the jazz luminary Stan Kenton was the judge. Renamed "The Al Houser Quintet," we were one of five groups selected for the Second Annual Intercollegiate Jazz Festival at Georgetown in 1961, billed as "A National Competition Among College Jazz Groups," where Dizzy Gillespie was the judge.

Al Houser and I went to high school together in Bethesda, MD. We had a jazz group there and played for functions in the Washington D.C. area, including a ten week summer gig at a rundown resort at Orkney Springs in the mountains of Virginia, where we played jazzed up versions of “Tea for Two” for its elderly patrons. We attended Dartmouth College from 1958-1962.

The highlight of our group’s musical life was when we were asked to play at a party given for Louis Armstrong in 1961. He had come to town with his All Stars to give a concert. After the concert a party was held for him at one of the local restaurants. As we finished our first set, Armstrong, one of the greatest artists in the history of jazz, if not the greatest, came up to us, put his arm around our leader, Al Houser, and said, with his usual big grin, “You boys are like little lost sheep playing that kind of music.” (Armstrong had an admitted dislike for the direction that jazz had taken into the melodically and rhythmically complex realm of bop and hard bop.)

The winner of the 1961 Georgetown festival received an invitation to play for President and Mrs. Kennedy in the White House, a recording contract with Columbia Records, and a State Department-funded tour of South America. Unfortunately, our group didn’t win. The Paul Winter Sextet from Northwestern University won, and this Festival launched that group onto a long-term, successful professional career. Although tempted to pursue a career in jazz, I stuck with my original goal of becoming a physician.

I had the good fortune to hear the bop pianist Thelonious Monk play at the Five Spot in 1958. After a prolonged forced absence from the New York jazz scene (because of the loss of his cabaret card) he made a triumphal return to this rundown nightclub in the Bowery. Monk’s historic engagement at the Five Spot turned jazz on its ear. This introverted quirky unorthodox musician played music in an entirely new way, like no one else, and musicians from all over, including me, made a pilgrimage to the Five Spot to hear him.

Thelonious Monk probes the depths of rhythm, melodically expressed, to a level that is perhaps unequalled in music. One writer describes him as jazz’s “mysterious shaman.”⁹ With a jagged, spare style, he is given to playing behind the beat, and he sometimes seems to disregard bar lines altogether. His work is infused throughout with a

wry sense of rhythmic anticipation and delay, and he juxtaposes uncanny rhythmic accents with unexpected moments of silence. One is taken aback at how he seems to go right to the essence of melody and rhythm, in what turns out to be a very simple fashion. Listen to his recording of “Bag’s Groove” with Miles Davis recorded in 1954 on the Prestige label. It is available on CD and is in *The Smithsonian Collection of Classic Jazz (Revised)*. He pares rhythm down to a rock bottom, universal level. One commentator describes Monk’s solo on “Bag’s Groove” as “one of the purest moments of beauty in the history of jazz.”¹⁰

Readers who are not familiar with Thelonious Monk’s music should rent the video *Straight No Chaser*, an excellent documentary about Monk’s life and music. It contains rare archival footage, including film of him playing during that famous engagement at the Five Spot. I recommend that you listen to his Blue Note and Riverside recordings, all available on CD. See also the excellent Thelonious Monk Website, at www.achilles.net/~howardm/tsmonk.html.

I did not pursue a career in music. Perhaps if our group had won the Georgetown Jazz festival and played for Jacqueline Kennedy in the White House and made that State Department Tour of South America, like the group that won, I would have. But *rhythm*, a key element in jazz, also plays a crucial role in my work as a heart surgeon. We monitor the rhythm of the patient’s heart on several TV monitors positioned around the operating room. When we stop the heart to effect the necessary repairs, the electrocardiogram displayed on the monitor becomes a straight line. When the repairs are completed we place sterile paddles on the heart and administer an electrical current to jolt it back into its normal rhythm. Sometimes the heart’s rhythm becomes erratic, or too slow, and we have to use a pacemaker, like a metronome in music, to keep the heart beating in a regular fashion. Rhythm is an integral aspect of life and music probes its metaphysical aspects.

Melody is a temporal succession of tones. One of the supreme masters of improvised melodic invention is the jazz saxophonist Charlie Parker. He probes melody to a depth that is unequaled in the history of music.

According to Schopenhauer, melody discloses “all the deepest secrets of human willing and feeling.” He likens melody to the vicissitudes of human nature, with its

constant oscillations between happiness, suffering, and boredom. *Happiness* is realized in the “transition from desire to satisfaction, and from this to a fresh desire, such transition going forward rapidly.” *Boredom* is “the empty longing for a new desire,” and *suffering* results from “the non-appearance of satisfaction.” Meandering through a wide range of harmonic and dissonant intervals, melody expresses the essence of human desire and its satisfaction—“by ultimately finding again a harmonious interval, and still more the keynote.” Languor and boredom are expressed in melody by the “sustained keynote, the effect of which would soon be intolerable; very monotonous and meaningless melodies approximate to this.” Schopenhauer also notes that “rapid melodies without great deviation are cheerful... [and] slow melodies that strike painful discords and wind back to the keynote only through many bars are sad.”¹¹

Richard Wagner’s opera *Tristan und Isolde* provides a striking illustration of this Schopenhauerian view of melody. Wagner (1813-1883) discovered Schopenhauer in 1854. In subsequent years he kept a copy of *The World as Will and Representation* with him and read it repeatedly, and he urged all his friends to read and study Schopenhauer as well. He meant *Tristan* to be a poetic and musical exposition of Schopenhauer's philosophy, particularly the part that deals with sexual love. The poem—libretto—for *Tristan* was published in 1858 (the opera was first performed in 1865—after six months of daily rehearsals). Wagner sent a copy of the poem to Schopenhauer but received no response. This opera has an “unending” melody that goes on for more than *four hours* before it finds its way back to the keynote and finally resolves itself (predating analyses in this vein by Heinrich Schenker). This work reaches down to a level of yearning and longing and passion that is very profound.

The German language has a word for this, *Sehnen*—to long for, to yearn for, to crave for, to wish for. It connotes, as is so well illustrated in Wagner’s works, a desire for the attainment of the unattainable. It is a yearning of such sustained degree that it leaves one in a constant state of frustration. There no comparable word for this state in the English language, at least none that I can think of.

In music one obtains harmony by sounding two or more different pitches—or tones—simultaneously. For the sound to be harmonious, however, the tones must have

frequencies of vibration have a pleasingly proportionate relationship to each other. The principle harmonic intervals in Western music are the octave, where one note vibrates twice as fast as the other (at a 2:1 ratio); a fifth (3:2 ratio), the fourth (4:3), the major and minor third (5:4 and 6:5), and the major and minor sixth (5:3 and 8:5). The further away one gets from small number ratios the greater the discord and dissonance of the sound. The relatively dissonant interval of the second (such as a C and a D played simultaneously on the piano) has a ratio of 9:8.

The Pythagoreans knew about these numerical relationships in music more than 2,500 years ago, and they believed that these intervals and harmonies mirrored the geometry of the heavens. They believed that a “music of the spheres” governs the motion of the planets, and that all things in nature have a harmonious relationship with each other that can be expressed numerically. Also, Chinese philosophers at the time of Confucius regarded the four numbers 1, 2, 3, and 4—the numbers that in various combinations define the ratios of the octave, fifth and fourth—as the immanent source of all perfection.

Schopenhauer likens four-part harmony, with its four principal voices of soprano, alto, tenor, and base to nature divided into human beings, animals, plants, and inorganic matter. The ground-base corresponds to the inorganic mass of the planet, and the higher voices correspond to plant, animal, and human life respectively. Just as a base note has natural harmonic overtones that are proportionate outgrowths of this note, so is plant, animal, and human life constituted and derived from inorganic elements that make up the planet. Typically, the highest voice leads this quartet of harmonically related voices and sings the temporally successive notes of melody, progressing, as Schopenhauer puts it, “with unrestrained freedom, in the uninterrupted significant connection of *one* thought from beginning to end.” In this schema, therefore, the highest (soprano) voice reflects the intellectual and intuitive endeavors of human beings, the highest form of life.

Composers employ a mixture of rhythmic, melodic, and harmonic elements in their compositions. They also employ a fourth element, tone color. The composer, for example, will write a particular melody for a violin or a clarinet, or perhaps for the trumpet. The relative complexity of one of these musical elements is usually counterbalanced by the relative simplicity of one of the other elements. For example,

complex and dissonant harmonies tend to be associated with simple rhythms, and complex rhythms with relatively simple harmonies.

The great conductor Wilhelm Furtwängler (1886-1954) describes the interrelationships between melody, rhythm, and harmony, and their counterbalancing simplicities this way:

Bach's horizontal melodic line and polyphony appear to be complicated, his harmony relatively complicated, and his rhythm perfectly simple. Beethoven's melodic line and harmony are very much simpler, but his rhythm and therefore the whole structure of his compositions is very much more complex. Wagner, Strauss, Debussy, Stravinsky—each is complex in a different way, that is to say, the relative complexity of one element of composition is counterbalanced by the relative simplicity of another, an inevitable consequence of the fact that man's faculties of apperception are limited.¹²

Nevertheless, over the last four hundred years all of the elements of music in Western culture have increased substantially in their complexity.

Over the last fifty years composers and performers have increasingly focused on technical perfection. Less emphasis has been placed on the “spiritual” aspects of the art in music.¹³ This development is partly the result of recordings. Thomas Edison first recorded recognizable sounds on a hand-cranked cylinder phonograph in 1877.

Recordings were first made on shellac-covered flat discs in 1888. In contrast to Edison's cylinders, which could only be duplicated on a one-to-one basis, a stamper process could reproduce flat discs more easily. Throughout the first quarter of the twentieth century music was recorded acoustically, whereby sounds were gathered by a large cone-shaped horn and transmitted as physical impulses to a cutting stylus. The stylus engraved complex grooves onto a master shellac disc that was rotated at 78 revolutions per minute electrically. The development of the electric microphone in 1925, along with other electrical refinements in the recording process, made possible electrically amplified and transmitted analogue recordings. Recordings were still limited to the four minute playing time of the 78 rpm shellac-covered disk, but large and complex orchestral sounds could now be reproduced with much greater fidelity. Long playing

records were introduced fifty years ago, in 1948. This innovation was made possible by recording music onto newly developed magnetic tape and by the refinement of techniques for pressing discs on synthetic vinyl. Stereophonic vinyl recordings became commercially available in 1958. Digital recording techniques were developed in the late 1970s, and digitally encoded, laser-read compact discs were introduced in early 1980s. A number of collectors and audiophiles, myself included, consider the period from 1958 to mid-1960s to have been the golden age of recorded music. This period spans the advent of stereo to the phasing out of vacuum tubes, with their natural warm sound, in lieu of transistorized solid state circuitry. (To a number of audiophiles like me, the advent of digital recordings was a further step backward.)

Blemishes and mistakes are revealed for all to hear on a recording, and an increasingly sophisticated audience holds performers to the high level of technical proficiency that is readily found on commercially released recordings of a given work.

A number of observers have expressed concern about the swing of the pendulum towards the technical aspects of music and away from its spiritual aspects. As Furtwängler puts it, “In the former we may be titans and heroes, but in the latter we are surely nowadays nothing more than children.”

A simple fool can best lead us into the noumenal realm of compassion. “*God’s fool*,” the mystic, also shows us a way to enter the castle of underlying reality—the Noumenon. Music is another avenue into this realm. And here too, with music, we find that *simplicity*—the hallmark of a fool—is an essential component of music at its most profound and insightful level.

According to Furtwängler, our best composers write music that has two essential qualities: 1) “even in the grip of the loftiest and most sublime ideas an artist [the composer] never loses a foothold on his native earth,” and 2) “the nobility of the divine spark manifests itself at the humblest and most popular level.”

Universality in art embraces timeless concerns and a genuine fellowship of humanity. It may come as a bit of a surprise to learn that striving for such wholeness is borne out of simplicity.

In a lecture on the composer Anton Bruckner (1824-1896), given in Vienna in 1939, Furtwängler presents this view of the creative process:

If we look at the historical evidence, we see that such a universality was far more prevalent in early naive periods than in later ones. The more evolution advances, and the more self-conscious the artistic ideas and techniques, the rarer it becomes. And now gradually the paradoxical situation arises that it is no longer the artist who comes from and represents the masses who can make a simple and universal statement, no longer the “simple soul” submitting to contemporary taste. In periods that have lost their innocence—and that applies above all to our own period—only the hardest spirit can penetrate beyond the riot of received and inculcated ideas. Complex works have become a current cliché. Only the very great do not become bogged down in the cliché, only they fight their way through to simplicity.

Furtwängler considered Anton Bruckner to be *Music’s Fool* of symphonic composition, and rightly so. The self-doubting, naive Bruckner, who lived like a monk in the sophisticated atmosphere of late nineteenth century Vienna, composed nine symphonies. The last six of them are of unsurpassed depth. These symphonies, particularly the fifth and the eighth, bespeak the fruits of a lifelong search for wholeness of being. In his lecture on Bruckner, Furtwängler says:

There is not one note in his music, ranging over the whole gamut of human sensation, which is not genuinely and directly connected with timeless concerns. He has proved to us that even modern Man can aspire to universality in the higher sense, that the striving for simplicity is still possible, as too are purity, grandeur and strength of expression.¹⁴

A good example in the realm of popular music of how simplicity embraces universality can be seen in the music of the Beatles. Their tunes, lyrics, and musical style, with their smooth blend of ensemble singing, have a natural and seemingly effortless charm. It has an inspired and refined simplicity. Another example where true art can be found in popular music is in the reggae music of the Jamaican singer, guitarist, and songwriter Bob Marley. His music has a universal and timeless simplicity. It is simultaneously consoling-uplifting-relaxing-energizing-and sensuous. Listen to his song, “Three Little Birds,” where he sings, in a relaxed syncopated cadence, “Don’t worry

‘bout a thing, ‘cause every little thing gonna be all right.” Listen to only this one song by Bob Marley and you will understand why 100,000 people showed up to attend a performance he gave in Milan in 1979 during his record-breaking European tour (two years before he died, at the age of 36, from lung cancer).

Over the last two centuries in Western music, with the advent of large-scale symphonic works, a new type of performer has risen to prominence—the conductor. A conductor interprets the composer’s intentions from the written score and communicates this interpretation to the players of the orchestra, and through them, to the listener. How the conductor does this remains, despite all attempts to analyze it, basically unfathomable and mysterious. The conductor’s role in the presentation of symphonic and operatic music is an art unto itself.

To my mind Wilhelm Furtwängler is probably the greatest conductor of this century. He was a tall, gangly, visionary who has been described as “an ambassador from another world...[with] a message to impart.”¹⁵ Conductor of both the prestigious Berlin Philharmonic and Vienna Philharmonic Orchestras from the 1920s to the 1950s, he was an awkward man who lived his everyday life in a relative fog. Furtwängler was a *musical mystic*, for whom music was an otherworldly calling.

Furtwängler led the Berlin Philharmonic Orchestra from 1922, when he was 36 years old, until his death, from pneumonia—and despair over his growing deafness—in 1954. (Herbert von Karajan succeeded him.) He conducted the New York Philharmonic in successive appearances in 1925-26-27 to great acclaim and was offered a permanent position, but declined. He stayed in Germany after the Nazis came to power in 1933 and continued to conduct the Berlin Philharmonic, shorn of its Jewish musicians, during the war years, from 1939-1945, a decision which has been widely condemned. After the war the Allied authorities occupying Germany absolved him of any Nazi sympathies and allowed him, in 1947, to return to his post with the Berlin Philharmonic and resume his conducting career.

The play “Taking Sides” about Furtwängler’s decision to stay in Nazi Germany had long runs in both London and New York. The play was written by the South African Jewish playwright Ronald Harwood. Daniel Massey played Furtwängler to great

acclaim in both productions. The London production was directed by Harold Pinter and the New York one by David Jones. I saw the play with my wife, Linda, and son, Daniel, in both cities.

Although Furtwängler never became a Nazi party member and gave extensive financial and other help to the Jewish members of his orchestra, I believe that he made a serious mistake in not leaving Germany when the Nazis took over. He can be criticized for staying and allowing his art, however great, to be associated with the totalitarian thugs of that regime. But the thugs are gone and the art remains. This brings up a point that also applies to Woody Allen. An artistic work of high quality will remain after the artist has passed from the public eye. What that artist did in his or her personal life should not influence our contemplation of the work itself.

In contrast to his contemporary Arturo Toscanini, who evoked a kind of “demonic perfectionism” and gave fast-paced and tense performances that delivered what one critic describes as a “visceral impact,” Furtwängler’s performances had a “hushed mystery” about them. Combined with an unbridled and loving spontaneity, his performances were spiritually uplifting and went straight to one’s heart. People I have talked with who had the good fortune to hear him live (I was fourteen when he died and never had that opportunity) all say it was an experience they will never forget. One former patient of mine said that as a young woman living in Berlin she would sometimes camp out in line all night to get a ticket to one of his concerts. Yehudi Menuhin, a violinist who performed as a young man with Furtwängler, puts it this way:

In listening to his music it is the impression of a vast pulsating space which is most overwhelming. Compared with this infinity so many other conceptions seem willful, arbitrary, narrow and repetitive. For Furtwängler music was a world, a cosmos, which encompassed all others. He was really complete and himself only when immersed in this ethereal medium of pure energy and pure light. He almost suffocated when submersed within the day-to-day world, as would we if we were plunged into the ocean.¹⁶

His beat was purposefully vague, and by blurring the edges and seemingly erasing bar lines he let the music naturally cohere in long arcs of sound. Rather than impose his

will on the players, like many conductors who wield a commanding and precise beat, he releases a spiritually uplifting power in the music that seems to live and breathe on its own, even in the relatively poor-fidelity recordings of his work that we have. He draws the performance out of the players themselves rather than autocratically imposing it on them. In a profound and mysterious way he probes the inner meaning of a work, and his flexible interpretations of the printed score—particularly those of Beethoven, Schubert, Brahms, Wagner, and Bruckner—can have an almost mystical effect on the listener. As one observer has put it, audiences of the day, who were accustomed to hearing great conductors, came to Furtwängler for “revelation and truth.” David Cairns reflects this view of Furtwängler’s art in this description of a recording of his 1952 Berlin performance of Brahms’s First Symphony:

The music breathes and moves like a living thing; the work is alive, almost frighteningly so. The grandeur and poignancy of the first movement, the impassioned, uniquely flexible Andante, the orchestral tumult at the great return of the horns’ bell-like theme (where Furtwängler, by the use of a very dense, vibrant string sound, achieves an effect of towering cloudlike textures), and the surging double-bass phrases, that herald the thunderous coda—these things seem to come from another world, or rather they come out of the work itself, heard on a level of re-creation unknown before in my experience.¹⁷

Furtwängler and other great conductors like Willem Mengelberg, Pierre Monteux, and Dimitri Mitropoulos take us to another world. They show us that the music of the great composers is like a living organism. Its life energy is built from melody, rhythm, harmony, and tone color; and their music can exert a powerful, spiritually uplifting hold on us. Such music nourishes us with a sense of harmony and well being which goes deeper than language can express.

Music can exert a strong effect on behavior. In myth, when Orpheus sang and played the lyre his music was so marvelous that all creatures would follow him, and even trees and stones were said to come to hear his music. The powerful effect that music can have on human beings, however, is not always positive and life affirming.

Music can have a destructive influence on human behavior as well as a positive healing effect. In Woody Allen’s *Hannah and her Sisters*, for example, Mickey recalls a

date that he had with Hannah's sister, Holly, when they went to hear a punk rock band at a local club. The smoke-filled club is populated with people sporting pink hair and spiked mohawks, and over the loud band, with a microphone screeching feedback, they have this exchange:

Mickey: I, I, my ears are experiencing a meltdown! I can't hear anything.

Holly: Look, can't you feel the energy? It's tangible energy! The room's alive with positive vibrations!

Mickey: Holly, I'm frightened! I'm— After they sing they're gonna take hostages!

When the Rolling Stones played "Sympathy for the Devil" at their rock concerts people would go wild. At one of their concerts, in Altamont, a young man was fatally stabbed in the neck by the side of the stage and his assailants then proceeded to stomp on his face while the music played on.

Heavy metal rock music advocates violence and rebellion, and in its most extreme form it espouses, among other things, satanism, necrophilia, and suicide. The "shock-rock," heavy metal group Venom, for example, makes this statement on one of its album covers: "We are possessed by all that is evil, the death of you, God, we demand. We spit at the virgin you worship, and sit at Lord Satan's right hand."

These demonic, life-negating aspects of music are yet another manifestation of its power. Music emanates from a deep source that, by virtue of its basic and undifferentiated nature, can be manifested in the material world of individual living things in either a positive or a negative way. The mystical, primal power of music can have both beneficial and destructive effects.

Music can make us feel relaxed, romantic, patriotic, and happy, or it can make us feel angry, sad, and self-destructive. Advertisers use it to persuade us to buy things, and totalitarian leaders like Hitler have employed it as an important agent for controlling thought and behavior. The historian Paul Johnson, in his book *Modern Times*, notes how Adolf Hitler was the first person—politician or performer—to employ amplified music and lighting at nighttime mass rallies, like a savvy, modern rock star. Arnold Perris, in

his book *Music as Propaganda: Art to Persuade, Art to Control*, quotes Hellmut Lehmann-Haupt, who said that Hitler “does not think of art as a luxury or a pastime, a pleasant embellishment of life... He knows that there is hardly a better way of getting hold of a person—his inner life, the subconscious, his hidden personality—than through art.”

People who wish to live healthy, productive, and relatively tranquil lives, like a George Crosby, would do well to steer clear of heavy metal rock music, with its “hidden death wish,” as one author describes it. It is certainly a sad commentary on the history of rock music that four of its superstars—Janis Joplin, Jimi Hendrix, Jim Morrison (lead singer with the Doors), and Brian Jones (guitarist with the Rolling Stones)—all died at the age of 27 from drug-related causes. Jones died in 1969. He drowned in his swimming pool while apparently “stoned” on a variety of drugs, including amphetamines and alcohol. Joplin and Hendrix both died in 1970 from drug overdoses. Janis Joplin gave exuberant, demonic, trance-like performances, where, like a shaman, she seemed to be completely possessed by the power of the music. And Jimi Hendrix, the first rock star to set his guitar on fire (with lighter fluid) during a concert, once wrote:

Before our heads go under we take a last look
At the killing noise
Of the out of style, of the out of style,
The out of style.

Joplin and Hendrix died within three weeks of each other, and on hearing of their deaths, Jim Morrison allegedly told a friend, “You’re drinking with Number Three.” He died nine months later.¹⁸

Not all hard rock music, of course, promotes satanism and self-destruction. Much of it is simply rebellious and liberating, particularly in a sexual context, and it attacks the twin evils of pretense and deceit that infest “the establishment.” As John Rockwell, a highly respected music critic now happily back with *The New York Times*, puts it, “the human need for aggressive, liberating music is eternal.” Rock only happens to be one of the latest manifestations of that need.¹⁹

The waltz was Rock's counterpart in the 19th Century. A hundred years ago the waltz was the aggressive and liberating music of the day. One commentator at the time had this to say about the waltzes of Johann Strauss: "African and hot-blooded, crazy with life. Restless, unbeautiful, passionate... he does it with waltzes, which are the modern exorcism... capturing our senses in a sweet trance... lust let loose... Typically African is the way he conducts his dances; his own limbs no longer belong to him when the thunderstorm of his waltz is let loose...the melody waves champagne-glasses in his face and the devil is abroad... A dangerous power has been given into the hands of this dark man; he may regard it as his good fortune that to music one may think all kinds of thoughts, that no censorship can have anything to do with waltzes, that music stimulates our emotions directly, and not through the channel of thought."²⁰

Richard Wagner explores the bipolar nature of the elemental force that music so directly reflects in his opera *Die Meistersinger*. This opera is about a singing contest in a sixteenth century German town where the winner is entitled to marry the beautiful daughter of the town's wealthiest burgher. A mysterious, dashing suitor happens to show up who endeavors to compose a song that will win the contest and the maiden. This work is basically a study about the nature of artistic creativity. Wagner tells us that artistic creativity is fueled by a force he terms *Wahn*—an ambivalent, primal force that has both creative *and* destructive facets. This primal force is the source of artistic inspiration and creativity, but it is also the source of madness, delusion, and folly. *Wahn*, as it is objectified in the phenomenal world, contains a mad streak that "runs through human nature like some tragic flaw in bright metal." Wagner tells us that this irrational, potentially destructive mad streak that we have within us can be channeled, with an appropriate degree of self-discipline and study, into creative works of art. But people who become caught up in its grip, while they may create insightful and wonderful works of art, can also be destroyed by it in the process.²¹

Unfortunately, some of our greatest artists, as a result of being so well tuned in to this bipolar creative/demonic force, have met with untimely deaths. This is true of artists in all of the visual, verbal, musical, and mixed media arts, but it is nowhere more painfully evident than in the world of jazz. Self-destructive behavior has led to the

deaths, at a relatively young age, of a number of the greatest artists in this medium, such as Bix Beiderbecke (age 28), Charlie Parker (34); Bud Powell (42), Serge Chaloff (33), Billie Holiday (44), John Coltrane (40), and Bill Evans (51). And many other artists who have been caught up in the beneficial and destructive effects of Wahn have not died young but have otherwise led disruptive and troubled lives.

From a scientific perspective, airborne musical vibrations mirror the vibrations of atoms that make up all the matter in the universe. As the science writer K. C. Cole points out, “planets and atoms and almost everything else in between vibrate at one or more natural frequencies.” Quantum physics shows us that matter has wavelike characteristics. Waves wiggle at specific frequencies. Since matter vibrates at a given frequency it has a musical-like character. Every atom has a specific and unique vibrational state. In contrast to the vibrations of the notes on a piano, however, which range from 27 up to 4096 cycles per second, the electromagnetic waves that atoms emit vibrate at 10^{14} to 10^{15} cycles per second.

Things in the material world, from atoms to violin strings, have what Cole terms a spectrum of “sympathetic vibrations.” She explains it this way:

It is part of the natural complementarity of matter that it has both wave and particle characteristics. Since matter has wave properties, it has frequencies, too. Each particle wave, for that matter, has a specific frequency, and that frequency corresponds to a specific energy. Energy (according to $E = mc^2$) equals mass. So in a very fundamental sense, the way something “vibrates” seems to determine what it is. And when the physicists at, say, the Stanford Linear Accelerator Center tune their beams of electrons and positrons so they collide with a burst of energy that vibrates at exactly 7.5×10^{23} cycles per second, then presto! They have created a particle (or really pairs of particles) in much the same way as you can create a tone by blowing with precisely the right energy over the top of a Coke bottle.²²

All matter in the universe is in essence a “symphony of submicroscopic chiming bells,” as one writer puts it. Werner Heisenberg, author of the famous uncertainty principle in quantum physics, said that *the universe is made out of music, not matter*. And long before the discovery of quantum physics Schopenhauer said that we could just as well call the world embodied music as embodied Will (Noumenon). Audible sound is

an earthly reflection of the vibratory activity that forms the basis of all things in the universe.

Music, more so than physics, takes us to a metaphysical dimension where we can sense the innermost reality of the world. In my opinion, music that best gives us an intuitive glimpse of this realm is the following (in no particular order):

- Thelonious Monk's Blue Note and Riverside Recordings (the complete recordings from both labels remain in print on compact disc)
- Charlie Parker's Savoy and Dial studio recordings (also available on CD)
- These recordings by Wilhelm Furtwängler (all available on CD):
 - His wartime recordings with the Berlin Philharmonic, 1942-1944, various composers (issued in a ten CD box set by Deutsche Gramophone)
 - All his recordings of the Bruckner symphonies
 - His 1942 and 1951 recordings of Beethoven's Ninth Symphony
 - His 1952 studio recording of Wagner's *Tristan und Isolde*
- Willem Mengelberg's 1940 Phillips recording of Bach's *St. Matthew's Passion*
- The Beethoven piano sonatas, particularly as interpreted by Artur Schnabel and Richard Goode
- The late Beethoven string quartets
- Wagner's *Parsifal*, conducted by James Levine, Reginald Goodall, or Hans Knappertbusch

Put twenty music lovers in a room and you will get twenty different lists like this. But you can't go wrong, if you don't have strong preferences of your own, starting with these recordings. There is much else worth listening to of this nature, of course. One can't go wrong listening to all the symphonies of Beethoven, Brahms, and Mahler done by different conductors, and to the Cantatas of Bach. And listening to Bill Evans and Billie Holiday from time to time is balm for the soul. Thinking about all of these wonderful recordings brings to mind this statement that Beethoven reputedly made about music:

Those who understand it must be freed by it from all the miseries which the others drag about with themselves. ... I am right in saying that music is the one incorporeal entrance into the higher world of knowledge which comprehends mankind but which mankind cannot comprehend.²³

One of the great composers is Ludwig van Beethoven. Plagued by growing deafness, and with many struggles, he wrote music straight from the heart, irrespective of how it might be received by his patrons.²⁴ His music plumbs the furthest depths of the realities of life. The nineteenth century American conductor Theodore Thomas wrote this about him:

The man who does not understand Beethoven and has not been under his spell has not half lived his life. The master works of instrumental music are the language of the soul and express more than those of any other art.²⁵

The conductor Sergiu Celibidache once said: “The question is, what is behind thinking? The answer is reality. But thinking has no access to reality.”²⁶ Schopenhauer points out that the composer “reveals the innermost nature of the world, and expresses the profoundest wisdom in a language that his reasoning faculty does not understand.” He likens this mysterious process to a man who gives information about things in a hypnotic trance that he has no access to when he is awake.²⁷ In Allen’s *Manhattan* Mary proudly recalls the names of the satellites of Saturn to Ike at a planetarium:

Mary: Facts. Yeah, I’ve got a million facts on my fingertips.

Ike: That’s right. And they don’t mean a thing, right? Because nothing worth knowing can be understood with the mind, you know. Everything really valuable has to enter you through a different opening, if you’ll forgive the disgusting imagery.

Mary: I really don’t agree at all. I mean, where would we be without rational thought? Come on.

Ike: No, no, you--you rely too much on your brain. It’s a -- the brain is the most overrated organ, I think.

Sex, which Ike, of course, is alluding to here—and music—both provide us with a deeper, intuitive sense of reality. Sex and music are not constrained by the *left* brain—the logical, intellectual, analytical, and technique-oriented side of the brain that can list the satellites of Saturn. The *right* brain—the intuitive, artistic, creative, and inspiration-oriented side of the brain—gives us a deeper sense about things, which our feelings with sex and music can tap into.

Richard Wagner, in his monumental *Der Ring des Nibelungen*, sought through music and a reworking of Scandinavian and German myths to find answers to the universal questions about the forces that rule the world and the nature and meaning of life. The Ring consists of four operas, *Das Rheingold*, *Die Walküre*, *Siegfried*, and *Die Götterdämmerung* that are designed to be performed on successive nights. In these operas, Wagner grapples, first, with the love of power, in *Das Rheingold*; then the power of love, in *Die Walküre*; conscious individuation and the myth of the hero, in *Siegfried*; and finally, in *Die Götterdämmerung*, with redemption and the emergence of a new form of consciousness, one which is grounded on compassion. In this epic masterpiece of more than fourteen hours of music, gods and dwarfs and giants vie for possession of a golden ring that gives its bearer power over the world. Both the god Wotan tearing a branch off the world ash tree to make a spear, on which the treaties and rules of the world are inscribed, and the dwarf Alberich stealing the gold from the Rhinemaidens to make the all-powerful ring symbolize the wresting of consciousness from nature.

This whole work is basically a tragedy about the fatally flawed nature of human consciousness and rational thought. After discovering Schopenhauer in September or October of 1854, Wagner, who worked on *Der Ring des Nibelungen* on and off from 1848 to 1874, changed his focus from a somewhat political view of the world's evolution to a more philosophical meaning. He fervently acknowledged, in a letter to Liszt in December 1854, that Schopenhauer “has entered my lonely life like a gift from heaven.” Wagner wrestled with the ending of the cycle and wound up going through six versions of the text. Myth and words ultimately failed him. His final insight into the nature and meaning of life is given to us, not in words, but in music.

From an analytical, scientific perspective, Einstein's demonstration that matter and energy are equivalent gives us an important insight into the nature of physical reality. But Wagner's immolation theme, as it brings to a conclusion the many hours of music in the *Ring*, tells us intuitively, in a heart-felt way, in a way that language and mathematical equations cannot, what life is all about.²⁸ As Beethoven himself puts it, "music is a higher revelation than all wisdom and philosophy."

Analysis is the principal method of science, but intuition also plays an important role in this discipline. Intuition is the principal method of art, but analysis also plays an important role in art. Analysis breaks down the properties of an object into separate elements that are common both to it and to other objects that are already known. It employs reasoned discourse and mathematical theorems, measurements and calculations, and the findings that one obtains are subject to independent verification. As the twentieth century philosopher Henri Bergson puts it, analytical knowledge "implies that we move round the object," and the knowledge that we obtain "depends on the point of view at which we are placed and on the symbols by which we express ourselves."²⁹ Scientists have now amassed a vast body of such knowledge. But despite its initial promise, science has not been able to provide us with answers to important questions about the realities of life. Woody Allen puts the point this way in "My Speech to the Graduates:"³⁰

[Science] has failed us. True, it has conquered many diseases, broken the genetic code, and even placed human beings on the moon, and yet when a man of eighty is left in a room with two eighteen-year-old cocktail waitresses nothing happens. Because the real problems never change. After all, can the human soul be glimpsed through a microscope?

Analytical knowledge is rooted in the principles of what Schopenhauer calls "sufficient reason."³¹ These principles include our innate concepts of cause and effect and our logically derived mathematical laws. Analytical knowledge provides us with a useful model of reality that can make accurate predictions of events in the material world. It can be used in a predictive, utilitarian, and purposeful way. Such knowledge has provided us with a model of reality that has given us transistors, microprocessors, and lasers.

Intuition addresses such manifestations of the human condition as compassion, beauty, and sexual desire. Bergson points out that intuition is the means by which we get to the heart of a matter. We know that something is *beautiful*—such as a particular woman, or melody, or scene in nature—only by intuition. We can, of course, analyze why we consider a woman, or a given melody, to be beautiful, but the actual judgement as to what is or is not beautiful is made intuitively. Intuitive “knowledge” does not rely on language or logic or cognitive schemes. It is not amenable to objective verification. It deals with the nonrational subjective dimensions of emotions and feelings. Consider pity. As J. Huizinga so well puts it, “*One drop of pity is enough to lift our doing beyond intellectual distinctions.*”³²

Bryan Magee, in his book *The Philosophy of Schopenhauer*, describes the intuitive creative process this way:

The artists who create these works that make such a difference to our lives are people who perceive things differently from the rest of us, either seeing what we do not see or commanding a sustained vision where we, unaided, catch only glimpses. As Schopenhauer once put it, the man of talent is like a marksman who hits a target others cannot hit, but the man of genius is like a marksman who hits a target others cannot see.

Schopenhauer terms this sense of things, this kind of “knowledge,” intuitive perception. What we must recognize that the mysteries of innermost reality are revealed only by intuition, ill defined as this sense may be, not by analysis.

Our lives are fraught with struggles, illusion, deception, and pretense—and the inevitability of death. Great art, especially music, lifts us out of ourselves, if only momentarily, out of the material world of space and time. It elevates us out of the confines of our own self-interested willing to a vantage point where we see things in a broader perspective. From this vantage point we can intuitively sense that we have an inseparable, vibratory bond with a unifying substratum of energy that underpins everything in the universe. Music helps us to appreciate that there is a deeper level of connectedness and universality that binds us not only to the rest of humanity but to all things in the world.

Music, of course, also serves more practical, less philosophical purposes. Beginning with the mother's lullaby, music fosters and cements loving relationships between people. Art in general gives us considerable pleasure. Some of the greatest pleasure that I have derived from music is to hear my daughter, Elizabeth, play a Bach three part invention on the piano with her young woman's perspective, or to hear my son, Daniel, play a recently memorized medley of tunes from the James Bond films with an innocent exuberance that only an eleven-year-old can muster. Without music, and the arts in general, life would be much less interesting and less rewarding.

ENDNOTES

- ¹ From Martin William's article titled "Homage to Bill Evans," in *Bill Evans: The Complete Riverside Recordings* (R018).
- ² This review appeared in the February 15, 1988 issue of *The New Yorker*.
- ³ From his speech on the occasion of receiving the Honorary Degree of Music from Columbia University on January 9, 1923, titled "The Essence and Effect on Music."
- ⁴ See Birnholz, J. C. and Benacerraf, B. B., "The Development of Human Fetal Hearing." *Science* 222: 516-518, 1983.
- ⁵ See Walker, D., et al., "Intrauterine Noise: A Component of the Fetal Environment." *American Journal of Obstetrics and Gynecology* 109: 91, 1971.
- ⁶ From Yehudi Menuhin and Curtis W. Davis, *The Music of Man* (Methuen, New York, 1979) Page 3.
- ⁷ From John Diamond, *The Life Energy in Music*. (Archaeus Press, Post Office Drawer 37, Valley Cottage, NY 10989) page 25
- ⁸ See DeCasper, A. J. and Fifer, W. P., "Of human bonding: Newborns Prefer their Mother's Voice." *Science* 208: 1174-1176, 1980.
- ⁹ From Gerald Early, *Tuxedo Junction: Essays on American Culture* (New York: Ecco Press, 1989), page 265. This author also describes Charlie Parker as jazz's "existential hero," John Coltrane as its "patron saint," Art Blakey as its "raconteur," and Miles Davis as its "brooding, arrogant *artiste*."
- ¹⁰ From *The Smithsonian collection of Classic Jazz (Revised)*, Selected and annotated by Martin Williams (:The Smithsonian Collection of Recordings, Washington DC, 1987). "Cross-Cross" and "Bag's Groove" are included in this collection.
- ¹¹ See *The World as Will and Representation* vol. 1, pages 262 and 259.
- ¹² From Wilhelm Furtwängler, *Concerning Music* (Westport, Connecticut: Greenwood Press, 1953) page 26.
- ¹³ See *Concerning Music*, page 56. See also David Horowitz, *Understanding Toscanini: How he Became an American Culture-God and Helped Create a New Audience for Old Music* (Alfred A. Knopf, Inc., New York, 1987) for an in-depth discussion of this concern.

-
- ¹⁴ These quotes on Anton Bruckner are from a lecture by Wilhelm Furtwängler on him which appeared in *Music and Musicians* Volume 23, pages 26-30, September, 1974.
For a more detailed discussion of the concept of simplicity see the excellent article titled “The Aesthetic Equation” by Hans Christian von Baeyer, in the January/February 1990 issue of *The Sciences*.
- ¹⁵ This was said by the artist Kokoschka. See David Cairn’s article on Furtwängler in *The New Grove Dictionary of Music and Musicians* (MacMillan Publishers Ltd., London, 1980), and also his article titled “A Supreme Musician,” in the Dec 1979 issue of *Hifi News and Record Reviews* (England).
- ¹⁶ In *Furtwängler Recalled*, Edited by Daniel Gillis (Meredith Press, New York, 1965) page 40. This quote is from a memorial broadcast given by Yehudi Menuhin on December 7, 1954.
- ¹⁷ This review by David Cairns appeared in the Sunday *Times of London*, Jan 9, 1977.
- ¹⁸ See John G. Fuller, *Are the Kids All Right?: The Rock Generation and its Hidden Death Wish!* (New York: Times Books, 1981). See also Robert Duncan, *Only the Good Die Young: The Rock’n’Roll Book of the Dead* (New York: Crown Publishers, 1986) and David Henderson, *Jimi Hendrix: Voodoo Child of the Aquarian Age*. (New York: Doubleday, 1978).
Some musical psychologists theorize that the self-destructive effects of rock music are due to two major causes: its near-deafening volume and its “stopped anapestic beat.” This kind of music is amplified to such high decibel levels that those who perform it and those who listen to it can, with repeated exposure, damage their hearing. Rock rhythm emphasizes the back beat--the second and fourth beat in each four beat measure. But as with Voodoo music, the emphasis on the backbeat is greatly enhanced by the anapestic rhythmic cadence of da-da-Da, with the two short syllables falling on the first (and third) beat and the long syllable on the second (and fourth) beat. In songs like the Rolling Stone’s “Sympathy for the Devil” that have a relatively fast tempo the da-da-Da cadence falls on the first, second, and third beat respectively, with the fourth beat of the measure being essentially “stopped.” The natural rhythmic flow of the music is thus being continually disrupted (in contrast to the comforting, continuous Da-da rhythm of the maternal heartbeat). As with voodoo rituals, the driving anapestic rock rhythm can in some instances induce an almost trance-like, hypnotic state in the listener. John Diamond has shown that the stopped anapestic rhythm weakens one’s muscles and, in effect, reverses “body morality,” so that what is good is bad and what is bad seems good. One can easily demonstrate this muscle-weakening effect by applying firm downward pressure to a person’s outstretched arm while he or she listens to the different rhythms that can be selected on a synthesizer. When the rock rhythm is selected the (deltoid) muscle that holds out one’s arm immediately goes weak and it takes relatively little force to push the arm down. The other rhythms on a synthesizer, such as a samba, swing, waltz, and foxtrot, do not have this effect, and a person can continue to firmly hold his or her arm outstretched even when a relatively strong downward pressure is applied. See John Diamond, *Your Body Doesn’t Lie* (Alfred A. Knopf, New York, 1973), and John Fuller’s *Are the Kids All Right?: The Rock Generation and its Hidden Death Wish!* pages 130-135.

-
- ¹⁹ From John Rockwell's article "Why Rock Remains the Enemy," in the January 21, 1990 issue of *The New York Times*.
- ²⁰ See Allan Janik and Stephen Toulmin, *Wittgenstein's Vienna* (New York: Simon and Schuster, 1973) page 34, about the Waltz.
- ²¹ See Robert Donington, "Wagner and Die Meistersinger," *Opera News*, Vol. 40. no. 21 (17April 1976), page 19.
- ²² K.C. Cole, *Sympathetic Vibrations: Reflections on Physics as a Way of Life* (New York: Bantam Books, 1985) page 265.
- ²³ See J. W. N. Sullivan, *Beethoven: His Spiritual Development* (New York: Mentor Books 1927/1949).
- ²⁴ Some of Beethoven's highest energy and most metaphysical works are the Piano Sonatas Opus 106 (*Hammerclavier*), 109, 110, and 111; the Diabelli Variations and Bagatelles of Opus 119 and 126; the String Quartets 127, 130, 132, and 135, and the Grosse Fuge (Opus 133); the Ninth symphony; and the *Missa Solemnis*. (See John Diamond's *The Life Energy in Music*, pages. 124-132.)
- ²⁵ From Joseph Horowitz, *Understanding Toscanini* (New York: Alfred A. Knopf) Pg. 136.
- ²⁶ From an article about Celibidache in April 20, 1989 issue of *The New York Times*.
- ²⁷ *The World as Will and Representation*, Vol I, Pg. 260.
- ²⁸ Except possibly for Bryan Magee's relatively short *Aspects of Wagner*, arguably the best one volume study of Richard Wagner is Barry Millington's *Wagner* (Vintage Books, New York, 1987).
- ²⁹ Henri Bergson, *An Introduction to Metaphysics*, translated by T. E. Hulme (G. P. Putman's Sons, New York, 1912).
- ³⁰ "My Speech to the Graduates" is in Woody Allen's book *Side Effects* (Random House, New York, 1980).
- ³¹ The first book Schopenhauer wrote is titled *On the Fourfold Root of the Principle of Sufficient Reason*.
- ³² From J. Huizinga, *Homo Luden* (Beacon Press, Boston, 1950), page 171. (This is a wonderful book.)