

David Whitwell



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The Art of
Musical Conducting

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Musical
Conducting

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THE ART OF MUSICAL CONDUCTING
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DAVID WHITWELL
EDITED BY CRAIG DABELSTEIN
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The public was pouring into the Hall ... then began the extraordinary. For two hours the hearts of the friends of music were lifted higher and higher. Conductor, David Whitwell, conducted the entire concert from memory. Already from his very first motion, it was apparent that he conducts with an inimitable elegance and clarity. He shapes on a foundation of very precise pulse and attacks, sometimes with broad inviting gestures, sometimes with minute indications. The 52 young players follow, at the slightest wink, with discipline full of temperament.

One hears every note, even every little note! Everything is perfect: Intonation, Articulation, Dynamics, Rhythm and Tempo ...

The Schönberg Theme and Variations was a masterpiece masterfully interpreted. The Schmitt Dionysiaques was as fresh as if the notes had just come from the printer ...

Everyone said, 'It was an unforgettable evening.'

Schwäbische Zeitung, Germany, 20 July 1981

Foreword

IN THE BEGINNING it is composers who instigate the writing and publishing of books on conducting, as—indeed they are responsible for all in the creation of the whole of the music art. Coming to grips with rhythm of the body, together with that challenging science of mathematics, and the forever open-endedness of the human urge to create, the rash of books about conducting amidst the rise of music in the closing decades of the twentieth century was to be expected.

If you're on the hunt for endless graphic time signature aids, program and repertory suggestions or advice for proper length of baton be you long-armed at 6'2" you will find no such prescriptions in this book. But it *is* a unique narrative book about innumerable aspects of the art and about music education that are sure to find you hastening to copious footnote sources with ample reward.

Dr. David Whitwell has set out to assure, re-assure, entice, convince, convert, set-to-thinking and acting on the acceptance of his text as a positive plea for the truth of his belief that music is *feeling*. No innocent word, it is—to him and his legion of great thinkers and clear-headed listeners from Confucius (551–479 BC) to Georg Solti (1912–1997) the true essence of nature's incredible gift we call music.

In his life of work as a scholar, composer, conductor and teacher this book is his expression of belief in a subject that has been brewing in his mind these many years. It is this long, deep plunge into that most inhabited sea, of books on conducting, coupled to long-time observation, beginning as a player, of the conductor's art as it is taught and practiced which have made this a book he simply had to write.

Frederick Fennell
Miami
18 May 1998

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Part I

Some Preliminary Considerations

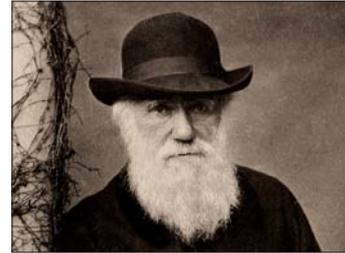
I *In The Beginning*

THE NATURE OF CONDUCTING has its basis in the physiological relationship of music to our species. We might therefore begin by asking, 'How old is Music?' Charles Darwin not only believed it very old, but believed the emotions we feel in hearing music today are a bridge to very remote ancestors.

Music has a wonderful power ... of recalling in a vague and indefinite manner, those strong emotions which were felt during long-past ages, when, as is probable, our early progenitors courted each other by the aid of vocal tones.¹

Our oldest extant records of music are in the prehistoric cave paintings of France and Spain, where we not only see musicians pictured but the visible prints of dancing feet, suggesting that music was involved in the rituals associated with these paintings. Contemporary with these caves are the Cro-Magnon humans, who played on percussion instruments made from mammoth bones, in addition to the flute-types pictured in the caves, so it seems clear these people were musical. They must have been perceptive listeners as well, for it has been observed that the most resonant caves have the most paintings.

Much more recent are the oldest surviving specimens of actual instruments. They are of a nature which one might associate with very early man, as they are all made from natural objects—flutes of clay, tree branches and bones; percussion instruments from shells; and trumpet-types from large sea shells. Curiously, there are surviving clay flutes with holes cut for *diatonic* pitches which are thousands of years older than Pythagoras, to whom we give credit for 'discovering' the overtone series. How is this possible? The answer is that Pythagoras only worked out the mathematics of describing the overtone series, while the overtone series itself, as a genuine physical law of nature, was of course always present. Early man needed to be able to hear only the fourth overtone to be able to be in touch with the principle of the major key tonal system.



Charles Darwin, artist unknown

¹ Charles Darwin, *The Expression of Emotions in Man and Animals* [1872] (New York: St Martin's Press, 1979), 219; also *The Descent of Man*, II, 336.

4 THE ART OF MUSICAL CONDUCTING

Simple vocal sounds reflecting emotions would logically seem to be the first recognizable oral sounds, as is suggested by Richard Cytowic, MD:

Consciousness, language, and higher mental functions are the *consequences of our ability to express emotion*.²

Richard Wagner, among others, suggested that these simple vocal sounds³ uttered in succession became melodic in character.

The primal organ of utterance of the inner man, however, is music, as the most spontaneous expression of the inner feeling stimulated from without. A mode of expression similar to that still proper to the beasts was alike first employed by man [and this we can demonstrate at any moment] by removing from our language its dumb articulations [consonants] and leaving nothing but the open sounds [of the vowels]. In these vowels, if we think of them as stripped of their consonants, and picture to ourselves the manifold and vivid play of inner feelings, with all their range of joy and sorrow, we shall obtain an image of man's first emotional language; a language in which the stirred and high-strung Feeling could certainly express itself through nothing but a combination of ringing tones, which altogether of itself must take the form of Melody. This melody, which was accompanied by appropriate bodily gestures in such a way as the gestures would also appear a simultaneous inner expression, and from these gestures we get rhythm.⁴



² Richard Cytowic, MD, *The Man who Tasted Shapes* (New York: Putnam, 1993), 196.

³ All modern languages use the same five vowel sounds.

⁴ Ashton Ellis, *The Prose Works of Richard Wagner* (New York: Broude), II, 224ff.

Richard Wagner, by Franz Hanfstaeigl, ca. 1870–1883

The great language scholar, Otto Jespersen, points out that in passionate speech the voice still tends toward pitch fluctuation, that civilization attempts to reduce this effect by reducing passionate utterance and that savages still use a sing-song manner of speaking.

These facts and considerations all point to the conclusion that there was once a time when all speech was song, or rather when these two actions were not yet differentiated.⁵

Perhaps the strongest evidence for this theory that music preceded language is found in the fact that we still form melodic contours with each sentence we ‘speak’ today. In this regard, Roger Bacon (b. ca. 1214), made the interesting comment that ‘accent is a kind of singing.’⁶

This topic continued to hold great interest for later philosophers. The fifteenth-century Scholastic philosopher, Nicholas of Cusa, found it interesting that lower animals still communicate emotions by vowel-like sounds.⁷ The impressive French writer, Jean-Baptiste Du Bos (1670–1742), placed great importance in the relationship of vocal sounds with Nature herself. It is a particularly important point he makes when he reminds his readers that spoken words are mere symbols of emotion, but carry no actual emotional content in themselves. Sung words, on the other hand, carry the direct emotional meaning of the music.

Just as the painter imitates the forms and colors of nature so the musician imitates the tones of the voice—its accents, sighs and inflections. He imitates in short all the sounds that nature herself uses to express the feelings and passions. All these sounds, as we have already shown, have a wonderful power to move us because they are the signs of the passions that are the work of nature herself, from whence they have derived their energy. Spoken words, on the other hand are only arbitrary symbols of the passions.⁸

Voltaire, who was very interested in this topic, suggested that language began with simple emotional utterances which were later clarified by the addition of gesture.

⁵ Otto Jespersen, *Language: Its Nature, Development and Origin* (New York: Henry Holt, 1922), 420. Deryck Cooke, *The Language of Music* (Oxford: Oxford University Press, 1990), 26, observes that in some cases little differentiation yet exists:

A groan of ‘Ah!’ uttered by a character in an opera on a two-note phrase of definite pitch is hardly different from a groan of ‘Ah!’ uttered by a character in a play at indefinite pitch; the effect is equally emotive in both cases.

⁶ *The Opus Majus of Roger Bacon*, trans., Robert Burke (New York: Russell & Russell, 1962), I, 259ff.

⁷ Nicholas of Cusa, ‘Compendium,’ XIV, trans., William Wertz, Jr., in *Toward a New Council of Florence* (Washington, D.C.: Schiller Institute, 1993), 539ff.



Jean-Baptiste Du Bos

⁸ Jean-Baptiste Du Bos, *Réflexions critiques sur la poésie et sur la peinture* [Paris, 1719], quoted in Peter le Huray and James Day, *Music and Aesthetics in the Eighteenth and Early-Nineteenth Centuries* (Cambridge: Cambridge University Press, 1981), 18.

May we not, without offending anyone, suppose that the alphabet originated in cries and exclamations? Infants of themselves articulate one sound when an object catches their attention, another when they laugh, and a third when they are whipped, which they ought not to be ...

From exclamations formed by vowels as natural to children as croaking is to frogs, the transition to a complete alphabet is not so great as may be thought. A mother must always have said to her child the equivalent of come, go, take, leave, hush!, etc. These words represent nothing; they describe nothing; but a gesture makes them intelligible.

He adds that he is astonished when he reflects on the ages it must have taken to go from this to sentences. He concludes his discussion by observing that as words were invented they soon became charged with subjective inferences, from their association with religion, from magic, from necromancy, etc., thus losing their value as invariable symbols. Thus, he says, ‘the alphabet was the origin of all man’s knowledge, and of all his errors.’⁹

William Shenstone (1714–1763) seemed to suggest that instead of saying speech developed after music, perhaps we should regard speech as a form of music.

Harmony of period and melody of style have greater weight than is generally imagined in the judgment we pass upon writing and writers. As proof of this, let us reflect, what texts of scripture, what lines in poetry, or what periods we most remember and quote, either in verse or prose, and we shall find them to be only musical ones.¹⁰

How old, then, is Music? Perhaps it is so ancient that we should perhaps think of its origin in biological terms. A very interesting proposal in this regard has been made by the French doctor, Alfred A. Tomatis. He once lived near the Solesmes monastery known to all musicians for their work in the notation of chant early in the last century. This Order, which today engages in agriculture work, had for centuries maintained the practice of chanting six hours a day. A new head man, an efficiency expert, proposed to the brothers that if they reduced their chanting to two hours a day they would have four additional hours for agriculture work and could thereby increase their income for needs of the monastery. So they began doing this and after a period of time they all began to get sick. A local doctor was called in, but could find nothing

⁹ The discussion is found under ‘The Alphabet,’ in his *Philosophical Dictionary*.



William Shenstone from the frontispiece of *The Works in Verse and Prose of William Shenstone, Esq.*, Vol. I, Second Edition (London, J Dodsley, 1765)

¹⁰ William Shenstone, *Men and Manners* (Boston: Houghton Mifflin, 1927), 49.

wrong. An engineer was called to check ventilation, etc., but could find nothing. Finally Tomatis volunteered to come by, looked everything over, and suggested they return to six hours of chanting. They did and they all got well, and of course accomplished more work in less time as a result of being well.

Tomatis then began to reflect on the fact that so many societies engage in some sort of chanting, began to wonder why this should be and began to study chanting throughout the world. He finally offered the proposition that perhaps music is a kind of ‘food’ for the brain, that it ‘warms up’ the brain for enhanced activity. A similar conclusion had been made by Disraeli, during the nineteenth century, when he observed that ‘Music is a stimulant to mental exertion.’ There is some clinical evidence for this kind of physical impact on the brain by music, for we know listening to music can cause the pleasant release of endorphins. Perhaps such dimly felt physical associations with music, together with the ancient observation that music is the only Art you cannot see, help explain why music from the earliest times was thought to have some association with the divine.¹¹

One physicist believes that music is so ancient as to be related to the very essence of nature itself.

Analyzing music from many different cultures and historical periods, Richard Voss of IBM’s Thomas J. Watson Research Center found that a simple mathematical relationship describes how the notes of any musical piece rise and fall in relation to the composition as a whole. This same mathematical relationship is also found in a wide variety of other natural patterns, such as the changes in the electrical patterns of brain cells, the fluctuations in sunspots and the growing of tree rings ...

Voss’s research suggests that the essence of music may be its subtle reflection of nature.¹²

Music, he says, is as old as nature. Perhaps so, for modern physics has discovered that every organ of the body, even every molecule, atom and subatomic particle actually vibrates to specific pitches which can be heard under great amplification. One of these physicists, Dr. Hans Jenny of Switzerland, believed that it is the combination of these pitches, our harmony if you will, which, together with gravity, accounts for our body being shaped as it is.¹³ It has been further suggested that, since we are made up of these vibrating systems, many

¹¹ The civilization of Sumeria, ca. 3,000 BC, believed music was of divine origin. They created temples for a number of gods, all of whom they believed had to be entertained, to keep them in good spirits, by singing and playing of instruments. Among these gods was one called *Enlil*, the father of humanity, who governed with a musical instrument called *al*. [See Alfred Sendrey, *Music in the Social and Religious Life of Antiquity* (Rutherford: Fairleigh Dickson University Press, 1974), 31]

¹² ‘The Musical Brain,’ op. cit.

¹³ This reminds us that some ancient Greeks thought of the lyre as a symbol of the human form, with strings representing the nerves and the player the spirit. See Manly P. Hall, *The Secret Teachings of All Ages* (Los Angeles: The Philosophical Research Society, 1972), 81-83.

health problems may have some relationship to our literally being ‘out-of-tune.’ Is this also why we use expressions such as muscle *tone*? Or we say, ‘She is *in tune* with everyone,’ or ‘I am *disconcerted*,’ or ‘I am *in concert with that decision*’ and why Aristotle once said, ‘Beauty is visible harmony.’ We should also mention that the late fifteenth-century scholar, Franchino Gaffurio, in his *Theorica musica*, quotes a remarkable passage from Cicero, who had apparently reached this same idea by deduction.

A certain tuning pitch exists in one’s body like that of the voice and instruments called harmony; just as sounds are made in singing, so out of the nature and form of the whole body issue various vibrations.¹⁴

So, if our very molecules and atoms produce pitches, then music must be older than them. Perhaps it was the pitch created by the vibration of the rotation of the earth which stirred that primordial ‘soup’ that began the chain of evolution. A vibrating pitch may have been the mid-wife of us all!

In view of this physiological connection between man and his music, it should perhaps be no surprise that many early philosophers believed that music was both genetic and universal in character. ‘Why,’ Aristotle asks, ‘do all men love music?’

Is it because we naturally rejoice in natural movements? This is shown by the fact that children rejoice in [rhythm and melody] as soon as they are born. Now we delight in the various types of melody for their moral character, but we delight in rhythm because it contains a familiar and ordered number and moves in a regular manner; for ordered movement is naturally more akin to us than disordered, and is therefore more in accordance with nature.¹⁵

The first century AD philosopher, Philodemus of Gadara, not only recognized the universality of music, but suspected that this universality was genetic in origin as well.

We have an innate affinity with the Muses, one which does not have to be learned. This is clearly shown by the way infants are lulled to sleep with wordless singing.¹⁶

¹⁴ ‘Tusculan Disputations,’ 1.9.19–20, quoted in Paolo Cortese, ‘De cardinalatu libri tres,’ quoted in Nino Pirrotta, in *Music and Culture in Italy from the Middle Ages to the Baroque* (Cambridge: Harvard University Press, 1984), 177ff.

¹⁵ *Problemata*, 92ob.28.

¹⁶ Quoted in Warren D. Anderson, *Ethos and Education in Greek Music* (Cambridge: Harvard University Press, 1966), 173.

Erasmus (1469–1536) also found the effect of music on children to be evidence of innate understanding.

[This is its nature] just as children too are affected by the modes of music through some natural affinity, even when they have no idea what music is.¹⁷

Believing that everything was made by God, it is no surprise to find the early Church fathers also mentioning the innate understanding of music found in man. St. John Chrysostom argued that the pleasure man finds in music is divinely implanted.¹⁸ St. Augustine makes a similar argument, discussing it from the perspective of both players and the listening public.

AUGUSTINE. How do you explain the fact that an ignorant crowd hisses off a flute player letting out futile sounds, and on the other hand applauds one who sings well, and finally that the more agreeably one sings the more fully and intensely it is moved? For it isn't possible to believe the crowd does all this by the art of music, is it?

STUDENT. No.

AUGUSTINE. How then?

STUDENT. I think it is done by nature giving everyone a sense of hearing by which such things are judged.

AUGUSTINE. You are right.¹⁹

The great Italian Renaissance theorist, Zarlino, thought it might be some genetic memory of the music of the angels which impels man to sing as a means of easing labor.

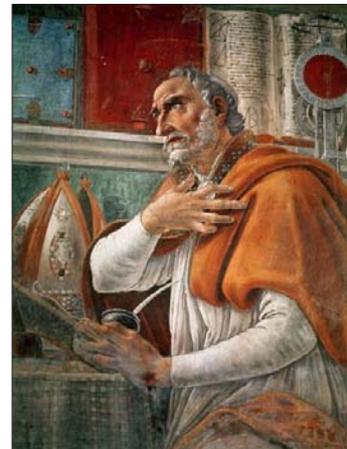
Many were of the opinion that in this life every soul is won by music, and, although the soul is imprisoned by the body, it still remembers and is conscious of the music of the heavens, forgetting every hard and annoying labor.²⁰

This idea of the genetic understanding of music being a kind of memory in us, was also mentioned by the great German philosopher, Gottfried Wilhelm Leibniz (1646–1716). He believed genetic knowledge explained why 'we need only the beginning of a song to remember it,'²¹ and why hearing a musical performance seems to create 'a sympathetic echo in us.'²²

¹⁷ 'Adages,' in *The Collected Works of Erasmus* (Toronto: University of Toronto Press, 1992), XXXI, 167.

¹⁸ St. John Chrysostom, 'Exposition of Psalm XLI,' quoted in Oliver Strunk, *Source Readings in Music History* (New York: Norton, 1950), 68.

¹⁹ *On Music*, trans., Robert Taliaferro in *Writings of Saint Augustine* (New York: Fathers of the Church), I, v.



St. Augustine in his studio, by Sandro Botticelli, 1480

²⁰ 'Le Istitutioni harmoniche.'

²¹ Leibniz, *New Essays Concerning Human Understanding*, in Leroy Loemker, *Philosophical Papers and Letters* (Dordrecht: Reidel, 1956), preface.

²² Leibniz, 'On Wisdom' (ca. 1690–1698), in *ibid.*, 425ff.

The Baroque writers tended to concentrate on the genetic understanding of specific elements of music. The brilliant thinker, Jean-Philippe Rameau (1683–1764), was absorbed for years with the idea that man is born with a genetic pitch template, something which modern research seems also to suggest.²³ In 1734, Rameau was clearly pondering observations which he had made along these lines.

In music the ear obeys only nature. It takes account of neither measure nor range. Instinct alone leads it.

Whether a novice or the most experienced person in music, the moment one sings an improvisation, one ordinarily places the first tone in the middle register of the voice and then continues up, even though the voice range above or below this first tone is about equal; this is completely consistent with the resonance of any sounding body from which all emanating overtones are above its fundamental tone which one thinks one is hearing alone.

On the other hand, inexperienced as one may be, one hardly ever fails, when improvising on an instrument, immediately to play, ever ascending, the perfect chord made up of the overtones of the sounding body, the major form of which is always preferred to the minor, unless the latter is suggested by some reminiscence.²⁴

Twenty-five years later he was still struggling with this idea. He begins by discounting the ancient explanations based on faith and wonders why these early philosophers did not pursue natural rules, that is, understanding based on Nature.

[The ancient writers] found the relationships between sounds in divinely inspired order; they discoursed a great deal on that subject, and every reason they were able to advance evaporated like a wisp of smoke. Finally the geometricians and the philosophers became disheartened. Can it be true that up to the present time man has always been so enthralled by this single inspiration that it never occurred to anyone to seek the reason why, despite ourselves, we should be compelled to prefer certain intervals to others after certain sounds, especially after the first sound? Allow your natural feelings to operate in yourself with no preconceived expectation and then try to see if you can ever ascend a semitone after a given semitone, and whether you can do the same thing after two successive tones. Why was this suggested to me in this way? Whence this sensation? What could have given rise to this sensation in me, if it was not in the moment itself? It was necessary to test the effect of the sound, and from it three sounds would have been distinguished which form that enchanting harmony, and from there one would have proceeded with certainty, as I believe I have done.

²³ St. Augustine, in his treatise, *On Music*, also suspected a genetic template:

I believe, while we were discussing these things, a fifth kind appeared from somewhere, a kind in the natural judgment of perceiving when we are delighted by the equality of numbers or offended at a flaw in them. [See *On Music*, trans., Robert Taliaferro in *Writings of Saint Augustine* (New York: Fathers of the Church), VI, iv]

²⁴ Jean Philippe Rameau, *Observations sur notre instinct pour la musique et sur son principe* (1734), quoted in Sam Morgenstern, *Composers on Music* (New York: Pantheon, 1956), 44.



Jean-Philippe Rameau, by Jean-Baptiste van Loo

The principle is inexhaustible and holds true for theology as well as geometry and physics. Anyone more enlightened than myself should be able to draw the most far-reaching conclusions from this and already I can envision the origin of that final knowledge which cannot be denied without denying the phenomenon from which it is derived.²⁵

Another French composer of the Baroque, Michel de Saint-Lambert, in his *Les Principes du Clavecin* of 1702, adds rhythm to pitch as genetic information. After briefly mentioning some of the abilities needed in performance, he says,

Though this at first sight may appear a large order, it is nevertheless sure that this extreme accuracy in intonation and rhythm is a gift given to almost all men, like sight and speech. There are very few who do not sing and dance naturally; if it is not with the delicacy and correctness that Art has sought, it is at least with the correctness which Art dictates and which Art itself has derived from Nature. It is already a great asset for those who want to learn music or to play some instrument that they know they have discernment of the ear by nature, that is, the first and most important of these aptitudes.²⁶

The French philosopher, Charles Batteux (1713–1780), in reference to the innate character of music, quotes, without source, a Latin expression, ‘We are led to melody by natural instinct.’²⁷

Modern medical research has identified in more specific terms the nature of the musical information we carry genetically into birth. For one thing, there is pitch awareness itself, which must have been critical to early man. The actual affinity for a musical language can also be tested at a very early age. Dennis Molfese of the University of Pennsylvania has conducted studies on infants less than forty-eight hours after birth.²⁸ University of California researchers believe that infants are born with a genetic ability to recognize and respond to music, even before language.²⁹ Psychologists have found that even before age *one*, infants can detect errors in music!³⁰ Among the most interesting findings are those which have to do with the acquisition of ‘perfect pitch.’

There is evidence that almost all musicians who began their training before the age of 6 possess absolute pitch, compared with none of those who began after the age of 11.³¹

²⁵ Letter to A. M. Beguillet, October 6, 1762, quoted in Gertrude Norman and Miriam Shrifte, *Letters of Composers* (New York, Knopf, 1946), 20.

²⁶ Michel de Saint-Lambert, *Les Principes du Clavecin* (1702), quoted in Carol MacClintock, *Readings in the History of Music in Performance* (Bloomington: Indiana University Press, 1979), 212.

²⁷ Charles Batteux (1713–1780), *Les beaux-arts réduits à un même principe* [Paris, 1746], quoted in Peter le Huray and James Day, *Music and Aesthetics in the Eighteenth and Early-Nineteenth Centuries* (Cambridge: Cambridge University Press, 1981), 50ff.

²⁸ Craig Buck, ‘Knowing the LEFT from the RIGHT,’ *Human Behavior*, June, 1976.

²⁹ *Associated Press*, January 23, 1992.

³⁰ ‘The Musical Brain,’ *U. S. News & World Report*, June 11, 1990.

³¹ D. Sergeant, ‘Experimental Investigation of Absolute Pitch,’ in *Journal of Research in Musical Education*, 1969, 17, 135–143.

Research by Dr. Jamshed Bharucha, of Dartmouth College has found that we have a biological affinity for *melodic patterns*. It is interesting that this idea of genetic preference for certain kinds of melody was mentioned by the great English philosopher, Thomas Hobbes (1588–1679).

That which pleases is called a tune [*air*]; but for what reason one succession in tone and measure is a more pleasing tune than another, I confess I know not; but I conjecture the reason to be, for that some of them imitate and revive some passion which otherwise we take no notice of, and the other not.³²

³² ‘Human Nature,’ VIII, 2.

This biological affinity for musical patterns is present in the brains of other species as well. A study by Stewart Hulse of Johns Hopkins University found that starlings have the ability to recognize a simple melody in different keys, and other studies suggest that dolphins recognize octaves. In another experiment, pigeons were trained to distinguished random excerpts of music by J. S. Bach from excerpts by Igor Stravinsky, and they were even able to correctly categorize music by other composers as being either ‘Bach-like’ or ‘Stravinsky-like’.³³

³³ ‘The Musical Brain,’ *U. S. News & World Report*, June 11, 1990.

Jay Dowling, of the University of Texas at Dallas, has discovered clinical evidence to suggest that ordinary people perceive these melodic patterns on the basis of the relationship between the notes themselves, and not on the basis of precise pitches. Thus, almost everybody can sing ‘Happy Birthday’ starting from any note on the piano.³⁴ But, with bad news for the twelve-tone composers, research by John Pierce at Stanford has demonstrated that the brain has little ability to recognize melodic patterns played backwards. For example, most people don’t realize that the sound of the word *we* is the reverse of the sound of *you*.³⁵

³⁴ *ibid.*

³⁵ *ibid.*

It would seem, then, that there is a great deal about the nature of music which cannot be explained as a learned art. And if none of this research existed, the point would still be obvious in the fact that people all over the world listen to music, even though they ‘know’ nothing at all about music.

Finally, there is the fundamental issue of the two hemispheres of our brain, a bicameral nature found already in the very earliest of ancient fossils. Every reader must be familiar with the medical research of the past forty years, research

which won the Nobel Prize in medicine, on the left and right hemispheres of the brain. While more recent research suggests there is some cross-over possible, nevertheless it does appear that the left hemisphere is best adapted for rational activity and the right hemisphere for non-rational activity. Written music, like any symbolic language, is found in the left; music performed, being experiential, is understood in the right.³⁶ While the most recent clinical findings suggest this is more complex in the brain, nothing yet departs from the basic division I have suggested.

These findings answer many questions, such as why it is difficult to *talk* about music or to write an adequate love letter, why Erasmus observed that one cannot listen to music if someone is talking³⁷ and why he also observed ‘My tongue is not adequate to my feelings’³⁸ and why Martin Luther found he could not write while his son, Hans, was singing.³⁹ Much is also explained by the fact that the left hemisphere (the talking and writing half) does not recognize the existence of the right hemisphere and therefore does not understand the world of the right hemisphere. Blaise Pascal (1623–1662) was thus prompted to comment,

The heart has its reason, which reason does not know. We feel it in a thousand things.⁴⁰

If we remember the fact that our left hemisphere controls the right hand and the right hemisphere the left, then we understand why the Indians of the American Southwest distinguished between the functions of the hands, the right for writing and the left for music, and why the French word for Law, one of the most conceptual, logical and left hemisphere oriented of professions, is *droit* (‘Right,’ as in right hand). For the same reason we have the traditional phrases ‘He received a *left*-handed compliment,’ or the more positive, ‘The Favorite sat on the *right*-hand of the King.’ Since sight and hearing cross to opposite brains, similar to the operation of the hands, we find most remarkable indeed a poem by Thomas Sheridan (1687–1738), a priest and schoolmaster friend of Swift. He was absolutely, and astonishingly, correct in his assigning of right or left eye and ear functions vis-a-vis their actual relationship with the brain hemispheres.

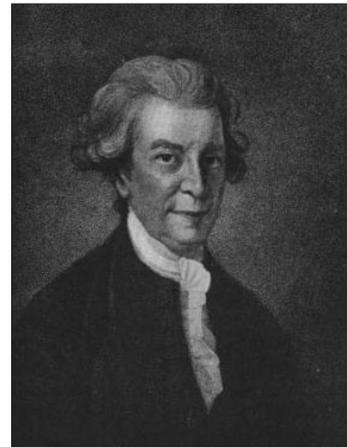
³⁶ See Craig Buck, ‘Knowing the LEFT from the RIGHT,’ in *Human Behavior*, June, 1976. Some research suggests that trained musicians who listen for conceptual detail hear music with the left hemisphere. Thus, among other things, music schools ruin musicians as listeners.

³⁷ ‘The Tongue,’ [1525] in *The Collected Works of Erasmus* (Toronto: University of Toronto Press, 1992), XXIX, 279.

³⁸ ‘A Congratulatory Poem [for] Prince Philip, Upon his Happy Return,’ in *ibid.*, LXXXV, 139.

³⁹ In a conversation of 1532 reported by Veit Dietrich, in *Luther’s Works* (St. Louis: Concordia, 1961), LIV, 21.

⁴⁰ Blaise Pascal, *Pensées* (New York: Modern Library, 1941), III, 277.



Thomas Sheridan, ca. 1700s

With my left eye, I see you sit snug in your stall,
 With my right I'm attending the lawyers that scrawl.
 With my left I behold your bellower a cur chase;
 With my right I'm reading my deeds for a purchase.
 My left ear's attending the hymns of the choir,
 My right ear is stunned with the noise of the crier.⁴¹

Since some remain concerned over the sometimes confusing and conflicting data of this research, perhaps for the moment we might simply all agree that man has his rational and experiential sides of his personality, however they are organized physiologically. Certainly this aspect of man has been observed and commented on by a wide range of writers. Roger Bacon (b. ca. 1214) wrote of the two sides of man being the 'cogitative faculty' and that of 'experience.'⁴² There were several fifteenth-century works of English literature which explored 'Reson and Sensuallyte.' Francis Bacon (1561–1626) believed the brain to be divided into understanding and reason on one hand, and appetite and affection on the other.⁴³ And Wagner wrote at some length on 'understanding' versus 'feeling.'⁴⁴ In another place, Wagner observed,

The Understanding tells us: 'So it is,'—only when the Feeling has told us: 'So it must be.'⁴⁵

Each of these two sides of our personality has its own form of communication. The 'understanding side' has language. The 'feeling side' has music. We chose between language and music depending on what we wish to communicate. A play communicates rational thought through language. An opera communicates feeling through music. This is why when we attend a great opera we don't pay much attention to the actual words of the libretto. The words can even be in a language we do not speak, yet it detracts little from our enjoyment of the music. It was this fact upon which Rossini once observed:

If the magic of music has really seized the listener, the word undoubtedly will always come off second best. But if the music doesn't seize the listener, what good is it? It is useless then, if not superfluous or even detrimental.⁴⁶

⁴¹ Quoted in *The Poetical Works of Jonathan Swift* (London: Bell and Daldy, n.d.), III, 245.

⁴² 'Experimental Science,' in *The Opus Majus of Roger Bacon*, trans., Robert Burke (New York: Russell & Russell, 1962), I.

⁴³ *The Works of Francis Bacon* (Cambridge: Cambridge University Press, 1869), VI, 258ff.

⁴⁴ 'A Communication to my Friends,' in William Ellis, *Wagner's Prose Works* (New York: Broude), I, 271ff.

⁴⁵ 'The Play and Dramatic Poetry,' in *ibid.*, II, 209.

⁴⁶ Reported by Wagner, in *ibid.*, VIII, 377.