

THE ELEMENTS OF EXPRESSION IN MUSIC. A PSYCHOLOGICAL VIEW

ROBERT TALLANT LAUDON
Emeritus Professor of Musicology
- University of Minnesota

924-18th Ave. SE
MINNEAPOLIS, Minnesota 55414
U.S.A.
E-mail: laudo001@tc.umn.edu

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Abstract — Résumé

Hanslick recognized the importance of the new auditory sciences of physiology and psychology for the study of feelings in music; but, in the auditory science of his day, he found no explanation of emotions within the complex art of music. A concept of the emotions given by William James in 1890 opened new possibilities. The so-called James-Lange theory proposed that emotions started in the motions and tensions of the body and were only later felt by the brain. Donald N. Ferguson in 1922 recognized

the similarity of music's elements of motion and tension to the bodily ones. He put forth a theory that music of great composers could represent, by its elements, an emotion or complex of emotions that humans feel. Two examples of Bach fugue subjects show his method. Reference is made to recent psychological studies.

Key Words: Emotion; Feeling in Music; Auditory Science; James-Lange Theory; Ferguson, Donald; Hanslick, Eduard; James, William

Eduard Hanslick, eminent musician-critic of Vienna, set out in mid-nineteenth century to consider whether it was possible to justify the common conception that music's aim was the expression of feelings. He concluded that while music was capable of stirring emotion, it could not represent specific emotions.¹ While he

¹ Hanslick used the terms, *die Empfindungen* or *die Gefühle*.

wrote partly as a polemic against Wagner's and Liszt's music,² and partly as a champion of the remarkable achievements of the musical »classics,« he also founded his essay on scientific principles as understood in the 1850s and for some decades thereafter.

In the fourth chapter of *Vom Musikalisch-Schönen*, *On the Musically Beautiful*,³ he considered what explanations of »feelings« aroused by music could be gleaned from psychology and physiology, two intertwined sciences of his day. This chapter and the following one—contrasting what he termed the aesthetic and pathological perceptions of music—were published in August of 1853 by the *Österreichische Blätter für Literatur und Kunst*, over a year before the complete treatise made its appearance;⁴ the early publication is an indication of the emphasis he placed on objective and scientific evidence. Later he prepared various editions of his larger essay and added details to this fourth chapter without significantly altering his conclusions.⁵

The »triumphantly progressing science of physiology«⁶ and its hybrid, psychology, were providing precise information on how the various senses received and relayed data, how the nervous system sent signals to the brain, and what the limits of discrimination for the various senses were. Anatomical evidence was showing human sensation to be based on common physical-chemical processes and not upon supernatural or spiritual forces as had been thought.

Hanslick found the work of the nineteenth-century physiologist-psychologists »of the utmost importance« and welcomed the advances of auditory physiology

² In the 1850s, the *Tannhäuser Overture* began to be frequently performed, Wagner's essays on the music-drama were published, and Liszt's symphonic poems were in preparation and performance. Hanslick's concern over these is forcefully expressed in the preface to the second edition of *Vom Musikalisch-Schönen* (1858) and in the preface to the third edition (1865)—by which time he had encountered *Tristan*, the *Nibelungenring* and Wagner's »doctrine of endless melody, raised to an exalted principle of formlessness, a systematic non-music [Nichtmusik] written in melodic-nervous fever on five lines.« See also E. HANSLICK, *Aus meinem Leben*, 2nd ed., 2 vols. (Berlin: Allgemeiner Verein für deutsche Litteratur, 1894), 1:236. Hanslick considered, as the title of his essay makes clear, *only* the »beautiful.« In mideighteenth century another aspect of art had developed and been recognized: the »sublime,« a wilder and more awe-inspiring type of expression, that continued to be the aspiration of many nineteenth-century composers. The beautiful and the sublime were regarded as the opposing poles of expression—the beautiful finding value in formal perfection and the sublime in the violent moving of the emotions.

³ The rendering of *Vom Musikalisch-Schönen* made by Geoffrey PAYZANT as *On the Musically Beautiful*, (Indianapolis: Hackett, 1986) based on the eighth edition is the first adequate English translation of Hanslick's famous work.

⁴ See the text in Eduard HANSLICK, *Sämtliche Schriften, Historisch-kritische Ausgabe*, ed. with commentary by Dietmar Strauß, vol. I/2 (Vienna: Böhlau Verlag, 1994), 232-46.

⁵ The variants in the editions from the first through the tenth have now been made available by Dietmar Strauß in his historical-critical edition of *Vom Musikalisch-Schönen* (Mainz: Schott, 1990).

⁶ G. PAYZANT, *Musically Beautiful*, 51; E. HANSLICK, *Vom Musikalisch-Schönen*, 8. verm. und verb. Aufl., (Leipzig: J. A. Barth, 1891), 133 (hereafter cited as VMS).

such as the »epoch-making *Lehre von den Tonempfindungen* of Helmholtz.«⁷ As a result of these researches one could understand the pathway of nerves, the structure of the inner ear, and even the external effects of acoustics. »The whole process of tonal sensation is now physiologically comprehensible,«⁸ Hanslick wrote. Yet despite this successful research, he realized that no science gave an explanation of how the brain interprets the musical elements but only the mechanisms by which sound reaches the brain—what was generally called *Gehörpsychologie*, auditory psychology.

Hanslick acknowledged that the »intensive influence of music upon our nervous system supports music's claim to a superabundance of power greater than that of the other arts.«⁹ He knew that psychology recognized the »mesmeric compulsion of the impression which certain chords, timbres, and melodies make upon the whole human organism;« but, within the psychology of that day, he could find only an explanation of how simple sounds are heard. Any interpretation of the complexity of sounds and the intricate relationships of actual music was lacking.

We could say that the sciences of his day were able to determine the vibration rate of A—the opening melodic note of Beethoven's *Pastoral Symphony*—they could measure its intensity and duration, they could trace its waves through the air to the auditory canal and the more intricate structures of the inner ear where that particular note would activate the proper part of the cochlea, they could follow the nerve pathway to the brain. Yet these scientifically-described pathways could not explain the relationship of that note to the accompanying bass drone of F and C, the continuation of the note A into a musical figure that dominates the whole first movement, nor the reaction of the listener to the melody and rhythm of that magical motive which sets both structure and mood.

Hanslick despaired of an answer.

What physiology has to offer the science of music is of the utmost importance for our comprehension of auditory impressions as such, but not as music. In this connection, physiology has gone about as far as it can go. But with regard to the central problems of music, this is not the case. The science of music has still a long way to go.¹⁰

⁷ G. PAYZANT, *Musically Beautiful*, 54; VMS, 141. Helmholtz's *Lehre* was published in 1863. Hanslick's reference first occurred in the third edition (1865) of *Vom Musikalisch-Schönen*. Hanslick's earlier opinion did not change but Helmholtz's work gave him a brilliant foil for his ideas.

⁸ G. PAYZANT, *Musically Beautiful*, 54; VMS, 141: »der ganze Vorgang der Tonempfindung physiologisch verständlich ist.«

⁹ G. PAYZANT, *Musically Beautiful*, 51; VMS, 132: »vindiziert ihr in der Tat einen Machtüberschuß vor den anderen Künsten.«

¹⁰ G. PAYZANT, *Musically Beautiful*, 56; VMS, 147: »Was die Physiologie der Musikwissenschaft bietet, ist von höchster Wichtigkeit für unsere Erkenntnis der Behörseindrücke als solcher, in dieser Beziehung kann durch sie noch mancher Fortschritt geschehen: in der musikalischen Hauptfrage wird dies kaum je der Fall sein.«

Some seventy years after Hanslick published his fourth and fifth chapters, Donald N. Ferguson approached the public with a theory based on principles of psychology, a newer psychology that showed a way out of Hanslick's impasse. Ferguson, in preparation for his Master's Degree examinations in 1922, studied many subjects. He »read with the interest which I am sure it must have evoked in every reader, William James's two volumes on the *Principles of Psychology*.«¹¹

James devoted a major portion of his second volume to movement, instinct, and emotion, three intertwined topics, subjects for which he is principally remembered today. He believed that sensations produced a movement, »a movement of the entire organism and of each and all its parts.« He thus was taking account of movements as subtle as shifts in size of the pupils of the eyes; conditions of the blood vessels; subtle motions of the moving parts; plus changes in circulation, respiration, sweat glands, abdominal viscera, and voluntary muscles.¹² In the last case, he quoted Féré's experiment on contraction of the muscles measured by a dynamometer. When certain stimuli were present, the subject's strength of grip was increased. Among these »the dynamogenic value of simple *musical notes* seems to be proportional to their loudness and height. Where the notes are compounded into sad strains, the muscular strength diminishes. If the strains are gay, it is increased.«¹³ In addition to such changes in tension, James also reported that »objects of rage, love, fear, etc., not only prompt a man to outward deeds, but provoke characteristic alterations in his attitude and visage, and affect his breathing, circulation, and other organic functions in specific ways.«¹⁴

From these observations, James propounded, along with the Danish physiologist, Carl Lange, a theory of the emotions—that placed their beginnings not in the brain but in the tension and motor impulses of the muscles, limbs, organs of sense, and internal organs. The basis for emotions themselves was indeed physiological, changes in the body that the brain sensed and felt. While this theory of emotions has a superficial similarity to the affections of the Baroque Era and even to the mechanism (though not through some imagined »animal spirits«), this newer concept realized that emotions changed quickly, affections were relatively static.

For James, it was the motions and the tensions of the body that gave power to emotions:

Without the bodily states following on the perception, the latter would be purely cognitive in form, pale, colorless, destitute of emotional warmth. We might then see the bear, and judge it best to run, receive the insult and deem it right to strike, but should not actually feel afraid or angry.¹⁵

¹¹ Donald N. FERGUSON, *Handwritten Autobiography*, 82v. and 83r.

¹² William JAMES, *The Principles of Psychology*, 2 vols. (New York: H. Holt, 1890), 2:372 ff.

¹³ W. JAMES, *Principles*, 2:379

¹⁴ W. JAMES, *Principles*, 2:442.

¹⁵ W. JAMES, *Principles*, 2:450.

As Ferguson studied James's *Principles*, he was seized by a sudden insight:

I realized from that reading something of the process of emotion as nervous tension and motor outlet; and one day it struck me that the nervous tension was possibly portrayable by the tonal tensions of music, and the motor outlet by its rhythm. I began to look into music of significance in that light; found that it seemed to illuminate the imaginative process which created the masterpieces I had been dealing with in my new course; [Bach-Beethoven-Wagner-Brahms] and have spent the rest of my life in trying to formulate a general hypothesis of musical structure in accord with that notion.¹⁶

In tonally-oriented music of those composers, the height or depth of pitch, its movement up or down, the use of rest tones of the tonic harmony or more active tones, and the inclusion of chromatic tones are some of the factors that awaken tension or relaxation. Tempo, meter, variety of note values, and various rhythms are some that arouse the feeling of motion. These two concepts of tension and motion, what Ferguson termed the »elements of expression in music,« were to him just as essential as the structural and formal elements of music.¹⁷

Two examples drawn from Volume One of Bach's *Well-Tempered Clavier* will show how Ferguson's theory can be applied. These are chosen because one can concentrate upon the fugue subjects themselves without more complex interplay of several themes and their dramatic presentation such as could be found in the Post-Baroque Era.

Fugue 17 in A-Flat Major and Fugue 24 in B Minor both avoid the force of an initial downbeat. They outline the notes of the tonic triad, the first, third and fifth notes of the scale, the tonal pivot around which the pieces will revolve. They both

¹⁶ D. N. FERGUSON, *Autobiography*, 82 v. and 83 r. Ferguson wrote an essay on the topic which he submitted to *The Musical Quarterly* which had already published his article on piano technique and expression. Oscar Sonneck found it »quite unsuitable.« Ferguson next expressed his ideas for national audiences at the 1925 convention of MTNA, the Music Teachers National Association, at that time still the organization which sheltered musicology. Later he addressed the 1940 convention of MTNA where the group gave him a standing ovation for his essay »What is a Musical Idea?« (*Music Teachers National Association Proceedings* for 1941, 113-120). His most important large-dimension work on this question is *Music as Metaphor, the Elements of Expression* (Minneapolis: University of Minnesota, 1960). Even at age 100 he was laboring on a book (never finished) to help listeners gain more sensitivity to music. Ferguson probably received some impetus for the study of psychology from his friend, Harlow Stearns Gale, a student of Wilhelm Wundt and other German physiologists who founded psychology based on experimental principles. As early as the late 1890s, Gale gave at the University of Minnesota a course in the psychology of music which considered music as a living art rather than as an auditory phenomenon, seemingly the first such course given anywhere—an event that remained lost on the greater world.

¹⁷ D. N. FERGUSON, *Metaphor*, Chapter Five, discusses in detail the role of emotion in life and thought. Psychologists of today who are exploring the evolutionary aspect of man's emotional self might be interested to observe that Ferguson recognized »not merely transient emotion but the whole nature of man's past emotional experience in the character (which is literally the engraving) of his facial expression« (D. N. FERGUSON, *Metaphor*, 61).

rise to the sixth degree, an active melodic tone, a note out of the tonal center, and they are constructed from a series of eighth notes. Despite these superficial similarities, they differ greatly in detail and in the type of feeling that they arouse.

Example 1: Fugue in A-flat Major



The meter of the A-flat Fugue, common time, 4/4, sets a straightforward marching background with none of the circular motion we might experience with triple meter. No tempo was indicated by Bach. That would be dictated by the performer who would judge by the Affect of the composition.¹⁸ The melodic motion within this meter is composed of two contrasting elements, (1) the Fugue Subject in skipwise motion of eighth notes and (2) the Countermelodies of continuous stepwise motion in sixteenth notes, double the speed of the Subject. These rhythms remain unchanging; even the Episodes are built from the same material. The Subject becomes a rhythmic foreground that suggests stability and assurance over the continuous running background of the Countermelodies¹⁹ particularly as well because the bright major mode predominates throughout most of the piece.

Bach chose a Fugue Subject of seven notes, all rest tones except the fifth and sixth notes—F and D-flat—which, however, do not move on to something new and exciting but act more as ornamental tones that circle around the dominant tone, the last note of the Fugue Subject, giving us a tension/relaxation component that is restful.²⁰ This Subject requires a tonal answer which means that the fundamental tonality will be sustained for extended periods of time (about 21 measures out of a 35 measure composition), another sign of a restful nature.²¹ The only break in the unfolding of the musical materials comes at the third measure from the end (measure 33) after which the inner voices become harmonic instead of melodic and the Subject in the soprano voice and its running Countersubject in the bass voice, the most basic elements of the musical structure of this piece, are given an impressive summation. If we were to consider the feeling quality that arises from

¹⁸ Tempo must be governed also by the number of different note values. If there were many different note values, it would be impossible to perform as fast as if there were few. The harmonic background also had to be considered.

¹⁹ An notable example of the nobility given to a slow-moving theme when set against a background of steady running notes of double the speed of the theme can be found in the setting of »Herr, Du bist würdig« in Movement 6 of Brahms's *Ein deutsches Requiem*.

²⁰ That is, outside of the basic tonic triad.

²¹ The fugue is worked out in four separate voices, a texture that could become rather thick, however this is relieved by many passages written for three voices alone.

this combination of assured movement and relative lack of tension then the primary emotion might be one of happiness with a prominent attendant feeling of well-being.

Example 2: Fugue in B Minor



The meter of the B Minor Fugue is also 4/4, again a steady marching background. The pace of the fugue was specified by Bach as *Largo*, an Italian term meaning »large« or »broad,« one of the slowest tempos in music. Such tempo markings are extremely rare in Bach's music and indicate something of unusual profundity, something far removed from the commonplace. This Subject consists of nineteen eighth notes—much more lengthy than the Subject of the A-flat Major Fugue. The Subject ends with a penultimate half note, a break in the movement, leading to a concluding resolution tone. Twelve of these notes are marked by Bach into slurred groups of two notes so that the steadiness of the consecutive eighth notes is broken. The second note of each pair is a half-step below the first creating the well-known rhetorical figure of sorrow known as the *Seufzer*, the »sigh.«²² Each *Seufzer* leaps up or down to the next *Seufzer* giving a jagged, tortured motion. While the countermelodies do have some running eighth notes, this movement is by no means steady and the motion is frequently interrupted by leaps and by a variety of note values, a more agitated motion than that of the A-flat Major Fugue. The disturbed motion of this composition might well arouse a feeling of unease.

The minor mode of this composition gives a darker, more unsettled quality than that of the major mode of the A-flat Major Fugue.²³ An extreme tension is found in this Fugue Subject. The constant use of chromatic semitones negates the stability of the tonic notes, the rest tones. Three tones of the Subject do not even belong to the key of B Minor: C natural, E sharp, and B sharp, the last belying the keynote itself.²⁴ In measure 2, the Subject moves upward by large leaps, the higher notes bringing greater and greater tension, especially when they go to unexpected

²² The feeling tone of the Crucifixus of Bach's B Minor Mass is set by a slowly revolving triple meter and an ostinato bass with chromatic motion above which the word *cru-ci-fi-xus* is set with a *Seufzer* on the accented syllable, a well-accepted topos of tragedy in the Baroque Era.

²³ Musicians working within the tonal system have long recognized that the minor third is less stable than the major third and based on this recognition have allowed the minor third to be doubled in other voices to give it more stability whereas the brighter major third is not doubled. In Bach's B Minor Fugue, the minor third would not have made a stable and definitive conclusion and so Bach used the major third for the final cadence (measure 76), a practice known as the *tierce de Picardie*.

²⁴ That note is really the dominant of the dominant.

active tones.²⁵ Even though Bach dwells on the subject almost relentlessly, he does give the listener some relief and contrast (measures 17-20, 26-29, and 65-68) when he constructs episodes in major keys. None of these is extended in length to the point of alleviation.²⁶ Such a fixation upon elements of disturbance intensify the feeling tone of this composition. The Fugue Subject and its treatment arouse a primary feeling of sadness and are tense enough to suggest suffering and grief.²⁷

In discussing emotion and feelings, we always are confronted with questions of terminology. Some believed, as Mendelssohn did, that music itself was more definite than any verbal expression.

People often complain that music is too ambiguous; that what they should think when they hear it is so unclear, whereas everyone understands words. With me it is exactly the reverse, and not only with regard to an entire speech, but also with individual words. These, too, seem to me so ambiguous, so vague, so easily misunderstood in comparison to genuine music, which fills the soul with a thousand things better than words. The thoughts which are expressed to me by music that I love are not too indefinite to be put into words, but on the contrary, too definite. And so I find in every effort to express such thought, that something is right but at the same time, that something is lacking in all of them.²⁸

Emotions and feelings as experienced by humans are seldom something simple that can be adequately explained in one word such as sad, happy, or even in a short phrase. The two fugue subjects just discussed derive a major portion of their impact from their Countersubjects and their use in the total fabric as they do from their intrinsic nature. It is the arts that have been most successful in conveying attendant feelings in all their complexities. A poet or novelist may take a whole

²⁵ Climaxes in music are made by upward motion. The greater tension of higher pitches can even be found in the human voice where cries of alarm are made with the higher pitches of the tense vocal cords. One can observe a similar quality in the high pitches and fast repetitions of the cries of threatened birds or in the tense yelps of a wounded or alarmed dog. Darwin noticed the changes in voice of Jenny Orang from the silent laugh to the agitated whine. The French philosophes were aware of the close connection of sounds of speech and feeling—especially Diderot who saw in this fusion a *langue du coeur*.

²⁶ One is reminded of the Lutheran preoccupation with death at this time evident in such phrases as »Liebster Gott, wann werd' ich sterben« [Dearest God, when will I die] or »Welt, gute Nacht« [World, good night] in the Bach cantatas, frank recognition balanced by the conviction of resurrection.

²⁷ In the analysis of Bach fugues, offered above, I have made reference to some of the accepted thoughts in the society of Bach's day, beliefs constituting a topos made concrete by the musical symbols of sorrow and tragedy. Ferguson, well aware of changing societal beliefs and conventions which would impact the elements of expression, studied history and wrote a work significantly titled *A History of Musical Thought* (New York: Crofts, 1935) in which he tried to describe not only the techniques of various composers but a valuation of their works within the larger historical perspective. This history went through a number of printings and two further editions. It appeared at a time when a one-volume work in English was lacking. It remained for many years a standard in the field.

²⁸ Mendelssohn to Marc-André Souchay from Berlin, 15 October 1842, in: G. Selden-Goth, ed., *Felix Mendelssohn: Letters*, (New York: Vienna House, 1973), 313-314.

passage that involves many diverse matters to portray the depth of emotion. Juliet indeed says »parting is such sweet sorrow,« but this bald statement—almost a commonplace, a maxim—only sums up a whole scene half-hidden by night which cloaks her feelings and ours in the wonder and uncertainty of young love.

Ferguson, as a historian and classical scholar, wanted to answer Aristotle's query: »How is it that melody and rhythm express ethos?«²⁹ As a teacher, performer, composer, and lecturer in aesthetics, Ferguson had to confront this problem daily. Above all, he wanted to explain something of the depth of understanding that he received from music of his great heroes, something that would show music to be of the same high level as literature. He recognized various levels of music and could enjoy entertainment and lighter music but his major interest lay in the well accepted keyboard, chamber, symphonic, and operatic works—the repertory considered by the philosophers who have debated this matter.³⁰

Ferguson's theory must stand or fall upon the validity of the James-Lange theory of emotions. For that question, we must turn to present-day psychology which, after a long hiatus, has turned once more to research pertaining to emotion. Antonio Damasio, prominent researcher in the relationship of neurological processes and emotion, recognizes the complex nature of body-brain events attendant upon emotion. He maintains that emotions are frequently »nested« within each other. Even his divisions into background emotions, primary emotions, and social emotions do not have, in his view, completely distinct dividing lines,³¹ a view similar to that of artists.

The arts—visual literary, and auditory—have remarkable resources for mirroring the shifting emotional life of mankind. They can introduce contrast, can shade the material, can employ metaphor, and can color the art work with various hues; in short, they can act with the same richness and subtlety as the emotions themselves.

It was Ferguson's contention that music and the arts dealt more with emotion than with the representation of objects. If we accept that view and couple it with the psychological view of complex/nested emotions, then we can understand

²⁹ ARISTOTLE, *Problems*, Chapter 19, Problem 29.

³⁰ Recently Geoffrey MADELL in *Philosophy, Music and Emotion* (Edinburgh: Edinburgh University Press, 2002) has shown, to his satisfaction, that Hanslick was wrong, that music in its own properties of tension and release can arouse emotional reactions in the listener. Madell, like Ferguson, places major attention upon the musical fabric itself although he does not relate his ideas to a unified theory such as the James-Lange theory. Aaron RIDLEY has written extensively on this topic, and in his *Music, Value and the Passions* (Ithaca: Cornell University Press, 1995) evaluated Ferguson's theory as shown in *Music as Metaphor*. Ridley acknowledged that Ferguson's theory is less vague than Hanslick's although Ridley is perturbed by the question of description, the problem that Mendelssohn raised. None of these philosophical writers seem to acknowledge fully that Hanslick was writing in response to a contemporary quarrel, that his essay was a polemic against a specific type of music, the so-called New German School.

³¹ Antonio DAMASIO, *The Feeling of What Happens* (San Diego: Harcourt, 1999), 51-53.

Mendelssohn's statement that music—an art of infinite gradation—is more precise than words. Likewise the modern view of emotions surely helps us to understand the difficulty we have often found in trying to explain music's effects in words.

The James-Lange theory of emotion—upon which Ferguson based his own theory—has been subjected to severe criticism in the twentieth century particularly after Walter Cannon showed that bodily states occur quite slowly, after one or two seconds, whereas the emotional state is recognized much quicker; factors which he thought negated James's theory that it was the body that was the basis of emotions.³² More recent work has confirmed that feelings »occur over several seconds, two to twenty seconds being common.«³³ But the actual process involves *both* bodily response and brain response to what Damasio calls the perception of an emotionally competent object, in this case the music. Damasio concludes that James's theory still holds but must be modified in light of advancing knowledge.

Even in the most typical course of events, the emotional responses target both body proper and brain. The brain produces major changes in neural processing that constitute a substantial part of what is perceived as feeling. The body is no longer the exclusive theater for emotions and consequently the body is not the only source for feelings, as James would have wished.³⁴

Damasio continues:

One might say that there is no need to respond to the critics of William James since his seminal idea is so plausible, but that would be a mistake for several reasons. First, the account offered by William James was understandably incomplete and it must be extended in modern scientific terms. Second, part of the account that was complete was not correct in the detail. For instance, James relied exclusively on representations arising in the viscera, gave short shrift to skeletal muscles as a source for the representation of feelings, and made no mention of the internal milieu. The current evidence suggests that most feelings probably rely on all sources—skeletal and visceral changes as well as changes in internal milieu. The third reason is that the misconceptions that are part of the critique and that are still cited stand in the way of a comprehensive understanding of emotion and feeling.³⁵

³² Walter CANNON, The James-Lange Theory of Emotions: A Critical Examination and an Alternative Theory, *American Journal of Psychology*, 39 (1927), 106-124.

³³ Antonio DAMASIO, *Looking for Spinoza: Joy, Sorrow, and the Feeling Brain* (Orlando: Harcourt, 2003), 112 with reference to Antoine LUTZ, Jean-Philippe LACHAUX, Jacques MARTINERIE, Francisco VARELA, Guiding the Study of Brain Dynamics by Using First Person Data: Synchrony Patterns Correlate with Ongoing Conscious States during a Simple Visual Task, *Proceedings of the National Academy of Science*, 99 (2002):1586-91.

³⁴ A. DAMASIO, *Feeling of What Happens*, 288.

³⁵ A. DAMASIO, *Feeling of What Happens*, 288-289.

Just as the physiological-psychological knowledge of the brain and body have been modified from mid-nineteenth century till the present day, so the scholarly study of music has changed greatly. More and more, researchers have recognized that purely technical analysis is inadequate. They have expanded their vision and have attempted an interpretation—the connection of musics with their societies and with their histories—what Ferguson was attempting to do in his study of the elements of expression and his *History of Musical Thought*.

Ferguson's theory of the two basic elements of expression in music adds rigor to the ongoing musicological search for meaning and adds one more facet to the body-brain considerations of modern psychology. Music can be »expressive of defined emotion«—even as we recognize the limitations of our nomenclature—through the elements of tension and motion, shared elements both of the body and of music.

Sažetak

ELEMENTI EKSPRESIJE U GLAZBI. PSIHOLOGIJSKO STAJALIŠTE

Godine 1853. i kasnije Hanslick je priznao važnost koju su nove znanosti fiziologije i psihologije sluha mogle imati za glazbu. Istraživao je objašnjenje koje su one mogle dati za »emocije« ili osjećaje u glazbi. Zaključio je da — premda ove znanosti mogu objasniti proizvodnju, prijenos i dolazak vibracija na pužnicu uha te njihov ulazak u živčani sustav — one ne mogu objasniti složenu umjetnost glazbe.

Godine 1890. William James iznio je novu ideju o emocijama, poznatu kao James-Lange teoriju. On početak emocija nije smjestio u mozak, nego u napetost i motoričke impulse mišića, udova, organa osjeta i unutarnjih organa, odnosno tjelesnih napetosti i akcija koje je mozak osjećao sa snažnim posljedicama.

Godine 1922. Donald N. Ferguson proučio je Jamesovo djelo *Principles of Psychology* (*Načela psihologije*) i iznio teoriju da glazba ima elemente glazbenih napetosti i ritmova koji su paralelni s tjelesnima, te koje se pomoću tih elemenata može dovesti u vezu s bilo kojom emocijom ili kompleksom emocija. Pronašao je da takav pristup može razjasniti djela velikih skladatelja. Analiza može tako ići s onu stranu čisto tehničke analize.

Da bi ilustrirao Fergusonovu teoriju, analizirao je dvije Bachove fuge, jednu s mirnim kretanjem i napetošću, a drugu s uzbuđujućim kvalitetama. Fergusonova teorija mora se priznati ili odbaciti prema tome važi li ili ne James-Langova psihološka teorija. Kako je ova teorija još uvijek prihvaćena u modernoj psihologiji s izvjesnim modifikacijama, sada možemo govoriti o zajedničkim elementima ekspresije koji istodobno pripadaju tijelu i umjetnosti glazbe.

