Music as Knowledge

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Is music a form of knowledge? Is music a source of knowledge? Since "music" and "knowledge" can be taken in a variety of senses, and since the identifiable senses of these terms are slippery at best, the concept of music as knowledge is rich with possibilities. One might argue, for example, that some form of knowledge is imparted by each kind of music, or only some, or by every kind of music in combination, or by the very fact of music's existence. Following this, one could argue that music imparts knowledge to music makers, or to some of the listening public, or to all music makers and listeners everywhere, and so on. Furthermore, music's status as a source of knowledge might be considered its primary value, or a secondary value, or merely incidental.

It is not my intention to rehearse the major themes from music as knowledge. Neither will I trumpet a new theme of my own composition. Instead, I intend something akin to what a jazz pianist might do given a classic bass line as the impetus for a solo. I will highlight the importance of a fundamental line of thought about music by spinning out some of its vertical and horizontal possibilities. Put directly, my purpose here is to explore the epistemological implications of one particular sense of music.

The following discussion is divided into three parts. Part one states my "bass line" sense of music together with the tenor of my thoughts on its importance to music educators. Part two examines this grounding sense of music as a *form* of knowledge. Part three pursues music as a *source* of knowledge.

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Part One: A Basic Sense of "Music"

There is a doctrine about the nature and value of music education that has become so widespread among scholars during the last forty years that it deserves to be called music education's official philosophy.[1] It is more commonly known as the philosophy of "music education as aesthetic education" (or MEAE).

At the core of the MEAE philosophy is a cluster of eighteenth-century theoretical concepts original to that small group of thinkers (including Baumgarten, Shaftesbury, and Hutcheson) who founded aesthetics and the aesthetic concept of art. According to the aesthetic concept, music is a collection of autonomous pieces, works, or aesthetic objects that exist to be contemplated in abstraction from their contexts of use and production. On the basis of these idiosyncratic social/historical notions, the MEAE doctrine claims that the payoff of aesthetic listening is a specific kind of knowledge. To explain the nature of this knowledge, MEAE repeats the central claims of Susanne Langer's widely disputed theory of music.[2] According to Langer, musical works are "presentational symbols" that offer "insight" into the general forms of human feeling. On the official view, then, music=objects, and the goal of music education is to develop the ability of listeners to gain the knowledge these objects are alleged to offer.

As I argue elsewhere, the philosophy of music education as aesthetic education is severely flawed.[3] Its central claims do not pass the test of critical analysis. In short, music education's official doctrine fails to provide a reasonable explanation of the nature and value of (i) music and (ii) music education.

Nevertheless, and in the absence of any alternative philosophies of music education, the practice of music education in many localities has shifted its focus from musical performing to musical consuming: from the active making of music in accordance with standards of excellence to the perception of recorded music during "listening episodes" (some of which include musical "producing" activities). Again, the official doctrine claims that the knowledge to be gained from music is to be found *not* in the actions of musical performing, but exclusively in the "aesthetic qualities" of musical aesthetic objects. In fairness, MEAE does proffer that "performance is a creative act and that the performance curriculum exists to involve students in that act."[4] But the logical weaknesses of MEAE's concept of "musical creation"[5] together with its insistence that performing is an "actualization process"[6] (something that serves "a piece awaiting actualization") only reaffirm that, on the official view, musical performing is secondary and subservient to "music-as-object." Moreover, in an attempt to bolster the notion that performing ought to remain secondary and subservient to awaiting pieces of music (that performing ought to be a means rather than an end

in music education), one advocate of the doctrine takes it one step farther. In the proceedings of *The Crane Symposium* on the teaching and learning of music performance, Harry Broudy maintains that musical performing conceived as an end in itself is merely a matter of "skills" in the sense of "using a wrench or piling brick upon brick."[7]

In sum, music education's official philosophy, like aesthetics in general, neglects the epistemological significance of music making. It fails to acquit the *art* of music. Due to its myopic focus on music as a collection of isolated and autonomous objects, MEAE overlooks the more fundamental and logically prior consideration that music is something that people do and make. Put another way, music is a verb as well as a noun. As Nicholas Wolterstorff reminds us, "Before ever there were *works* of music, there was music."[8] Indeed, even in the West where the composing of "works" is an important aspect of what music *is*, composing and its outcomes exist *not* in isolation from musical performing, but *in relation to* the elaboration and development of musical performing.

The failure of MEAE in the above ways is unfortunate for at least three reasons. First, music is unquestionably an *art* in the classical Greek sense of the term. Music is an organized set of informed actions and understandings, transmissible by instruction, directed to making changes of a certain kind in materials of a certain kind.[9] Music, at root, is what musicians know how to do. On this view, the art of music is both a form of knowledge and a source of knowledge. For it is the art of music that potential music makers must learn. And to the aspiring music maker (performer, improvisor, composer, arranger, conductor, and so on), music is the body of knowledge that is the source of what he or she will know. More broadly, and as I will attempt to explain in a moment, musical performing offers an even more fundamental kind of knowledge.

Second, to many music educators in North America (and to many educators outside North America) music is equally a verb and a noun. Musical performing is conceived as a viable educational *end* for *all* children—something worth doing for its own sake. In terms of the MEAE philosophy, however, performing is never more than a *means*, even in performance-based programs. Performing, says Bennett Reimer, is "*the* major means for musical experience" in the performance program; in the general music context "it is a major means."[10] The aesthetic doctrine does not allow the possibility that musical performing could be an *end* in itself: that musical performing could be a form of thinking and knowing valuable for *all* children. Again, MEAE conceives performing as something that *serves* music by actualizing awaiting pieces of music.[11] In educational terms, then, MEAE conceives performing as a "*means* behavior,"[12] something that *supports* the development of aesthetic sensitivity.

Despite the dominance of the official philosophy, a large number of music educators (perhaps the majority) continue to see themselves as choral music educators, jazz educators, band directors, Suzuki string educators, and so on. The focus for many of these music educators continues to be music education through musical performing and the concomitant achievement of recognized standards of musicianship and musical excellence. Indeed, according to *The Crane Symposium*, music education conceived as musical performance is still "the biggest single preoccupation" of the profession."[13]

Unfortunately, many music educators continue to labor in the absence of a critically reasoned position on the rich and complex nature of musical performance. Put differently, many teachers for whom musical performing is a central pursuit have been left cold, or out in the cold, by music education's official philosophy.

Is it possible to argue that musical performing is an educationally viable *end* for all children? I believe it is. Moreover, and in addition to the possibility of providing alternative justifications for music education, more attention to music as *musicing* may offer something of equal importance: an improved understanding of what "performance" really is.

Third, and much more broadly, consider that what professional music schools offer in rigor they often fail to offer in practical relevance. For example, an important part of what aspiring music educators need to learn—namely, how "to music" and how to teach others "to music"—is just what too many professional music schools have the most difficulty teaching. Of course, music schools are not alone. Parallel forms of this difficulty haunt professional schools of medicine, architecture, law, engineering, and so on. Where do the problems lie? The central problem, says Donald Schon, is "an underlying and largely unexamined epistemology of professional practice."[14] In other words, there is a critical lack of understanding about what successful practitioners actually "know" when they *know how* to do something well. On one hand, we have little difficulty identifying surgeons, basketball players, singers, teachers (and so on) who *perform* well. We recognize quality in practical performances when we see it. On the other hand, we understand little about the nature of such performances. The tendency in the literature is to dismiss such practical "doings" in one of two ways: either coldly, as matters of mindless "skill" (in Broudy's reductionist sense of "using a wrench or piling brick upon brick"), or warmly, as the outcomes of talent, intuition, inspiration, and so on.

Unfortunately, such weak forms of thinking do nothing to open inquiry; they simply close it off. They are a convenient means of junking phenomena that elude our traditional assumptions and methods of research. More fundamentally, they combine to support a longstanding but false assumption:

that the physical actions involved in practical performances do not involve thought.

For the above reasons, it seems appropriate to spend a few moments considering "the art of music" as it manifests itself in musical performing (or what I will often call "musicing") as both a form of knowledge and a source of knowledge.

Part Two: Musicing as a Form of Knowledge

If musicing is a matter of making changes of a certain kind in materials of a certain kind, then the actions involved in musicing are neither natural nor accidental. The actions of musicing are taken up deliberately or "at will." But to act intentionally is to do something *knowingly*. For if (say) Jessye Norman is engaged in singing a song, then she knows she is doing it. She knows it because she decided to do it. And once having decided to do it, her choice of a particular course of action (singing a certain song in a certain way) necessarily required her to select a particular pattern of actions from many possibilities.

Now deciding and selecting require that options be considered and judgments be made. More importantly, deciding, selecting, and judging are all aspects of thinking. Deciding, selecting, and judging require a person to conceptualize what counts (and what does not count) in a certain context. In other words, the intentional actions involved in any kind of musical performing are thought-*full*.

More specifically, the thinking-acting relationship involved in musical performing is *not* a simple two-step sequence of think-act, think-act, and so on. Contrary to popular wisdom, action is not a matter of alternating mental and physical events.[15] If it was, then thinking would count as a primary action which would, in turn, demand its own preceding action thereby creating an endless regress.[16]

In musical performing, thought and action are interwoven like themes in a fugue. Intention not only governs action, it accompanies action. Saul Ross makes the same point in this example.

> A surgeon operating on a patient, moving his [or her] scalpel, is engaged in a form of behavior which is both theoretical and practical at the very same time. Each thrust of the scalpel, a movement which is done intentionally, is one wherein thought and action work tog' ther, not as two separate additive components nor as two consecutive events, one mental and the other material, but as one where the mental and the material components are interwoven. An action is a piece of overt behavior that cannot be detached or separated from the thought which motivates and directs it.[17]

John Macmurray describes intentional action as a process integrating the whole Self:

> The Self that reflects and the Self that acts is the same Self; action and thought are contrasted modes of its activity. But it does not follow that they have an equal status in the being of the Self. In thinking, the mind alone is active. In acting the body is indeed active, but also the mind. Action is not blind. When we turn reflection to action, we do not turn from consciousness to unconsciousness. When we act, sense, perception and judgement are continuous activity, along with physical movement. . . . Action, then, is full concrete activity of the Self in which all our capacities are employed.[18]

In musical performing, and in every case of intentional action one might care to name, the knowledge of the agent or practitioner (musician, surgeon, sculptor, skier, and so on) is *not* manifested verbally but *practically: it is manifested in the actions themselves.* Intentional actions are practical, nonverbal manifestations of thinking and knowing. Gilbert Ryle makes the point succinctly: "Overt intelligent performances are not clues to the workings of minds; they are those workings."[19]

That the intentional human action we call musical performing is cognitive, or thought-*full,* is the first step in expanding our understanding of what counts as knowledge. It leads us to a new epistemology, one in which knowing is not restricted to words and other symbols, but is also manifested in *doing.* In such an epistemology, one's actions are an expression of one's intelligence. Indeed, knowing, thinking, and conceptualizing are *not* limited to verbal means of expression. People know many things and hold many concepts that cannot be reduced to conventional language terms. On this view, music makers need not translate their practical form of knowledge into words to be deemed "knowledgeable" or "intelligent."

The above reflections bring us to a crucial distinction.

Knowing How and Knowing That

Almost fifty years after Gilbert Ryle published his seminal paper on "Knowing How and Knowing That,"[20] the concept of procedural knowledge (or knowing how) still lacks a secure place in philosophy generally and in music education philosophy particularly. The notion that thinking is a purely "mental" phenomenon, that thinking is only expressed verbally, still dominates many philosophical considerations of epistemology and cognition.

More broadly, centuries after the nature of practical knowledge was probed by Plato in *The Statesman* and by Aristotle in his writings on *acrasia,* and years after it was singled out for attention by William James, John Dewey, and Martin Heidegger (among others), practical or procedural

knowledge remains secondary to propositional or declarative knowledge in the minds of many educators. Accordingly, music is most often conceived as a "branch of knowledge" in the traditional sense: as something one learns *about* and cognizes purely "in the mind." What these notions overlook is the concept of "knowledge" as a body of practice or a form of rational action. Let me explain.

Procedural knowledge and propositional knowledge are logically separable: one does not imply the other. For example, although knowing how to perform a composition on the trumpet requires that I understand how certain procedures produce certain results, such knowing does not imply or require that I be able to *say* why or how my actions produce the desired results. Understanding in the sense of verbalizable knowledge or propositional knowing-that may or may not be a feature of someone's overall understanding of what they know *how* to do. Indeed, no less an authority than Plato reminds us that the consistent quality of a person's doing and making is the only valid criterion of a person's rationality, not his or her ability or inability to *explain* his or her actions.

Of course, knowing how to do something effectively always implies an understanding, either tacit or verbal, of the *principles* that underpin the repetition of successful actions. Our ability to do something successfully on succeeding occasions demonstrates that we are able to distinguish, select, and redo what it is that works in our successful actions. Understanding, then, makes it likely that we can both apply and extend our proficient actions in future situations which will inevitably combine both old and new challenges. These ideas lead us to two important points.

First, the integration of a specific body of informed actions and understandings is the essence of "music" conceived as a verb. For whatever kind of musicing it is—Gregorian chanting or chamber musicing; blues singing or bluegrassing; ragtiming or rock and rolling—the musical outcomes we call chants, string quartets, blues, rags, "works of art," and so on are possible *only* because particular sets of informed actions and understandings are *portable.*[21] Every form of music (in whatever product forms we find it) is possible only because specific sets of informed actions and principles are carried over and adjusted from one situation or occasion to another. Every form of musical outcome owes its existence to actions that are "informed" in the fullest sense of being reliable, flexible, and *critical.*[22] The person who really knows *how* to sing or play the trumpet possesses *critical* competencies of assessment and adjustment.

Clearly, the proficient musical performer, like the proficient surgeon, must learn by experience and practice how to put principles into action. For, as Gilbert Ryle observes, "the intelligence involved in putting the prescriptions into practice is not identical with [and cannot be reduced to] that involved in verbally grasping the prescriptions."[23]

People who make music well through performing or improvising certainly have rules and principles in mind (either in the foreground or background of their awareness). But they also have broader and more flexible understandings which enable them to transfer and adapt what they know to meet the demands of new musical performance challenges and opportunities. In sum, it is not the case that for every informed action of musicing there is one verifiable principle that always applies and always works, and that can always be reduced to words.

The second important point here is that what we have been calling musical know-how involves a wide array of actions and understandings that mesh together like the wheels of a gear to impel us forward in our doing and making. Although the doublets skill and knowledge, rational action, cognitive skill and procedural knowledge suggest sharp distinctions, the suggestion is misleading.

The form of knowledge that musical performing represents is more aptly thought of as a continuum of knowing ranging from what can only be demonstrated in action ("sing the phrase like this . . .") to what can be fully explained in words ("the reason for doing this is that . . ."). In other words, says Vernon Howard, musical performers understand how to do something by their actions, by what works in their actions, and propositionally as their knowledge is expressed in the jargon of their practice or in more formal or scientific explanations.[24] Additionally, however, a music maker's understanding includes more than can ever be formulated in words (either technical or theoretical) and more than can ever be reduced to so-called "trained procedures."

The contrast between knowing-how and knowing-that has to do with the different contexts in which they are validated. Both Francis Sparshott and Vernon Howard suggest that to count as propositional knowledge, a person's beliefs must be supported by logical reasoning; to count as procedural knowledge, a person's ability must be exercised successfully in the appropriate circumstances.[25] Logical evidence validates knowledge *that*; practical success validates knowledge *how*. Unlike propositional knowledge, then, rational action cannot be assessed in abstraction from its context of use.

In sum, to continue talking in terms of musical know-how, or procedural musical knowledge, is both awkward and incomplete. Though useful, these double terms only perpetuate the misconception that musical performing is a matter of thought followed by action. They fail to communicate the complex *integration* of knowings that underlie artistic musical performances. Is there a single word that will do? Five possibilities come to mind.

Aristotle's single term was *techne*: "the ability to execute something with apt comprehension."[26] Unfortunately, we have no single word in English today that captures Aristotle's concept completely. The modern term "tech-

nique" will not do because one *techne* (one form of know-how) includes many techniques as well as many habits, routines, facilities, abilities, and so on. Similarly, although "skill" (from the Old Norse *skil* for understanding or competence) comes close to what we need, one kind of know-how involves a wide array of procedural and critical skills. "Art," in the original Greek sense, would be ideal. But the tendency today to use "art" as shorthand for "fine art" in the aesthetic sense only blurs the important distinction we are trying to make. Craft, from the Teutonic word *kraft*, meaning strength or manual dexterity, is a subset of skill.[27] Although craft later came to mean practical knowledge as well as discrimination and understanding, its old-fashioned sense of manual dexterity persists to the point that "musical craftsmanship" seems less than an appropriate term to communicate the wide range of capabilities (from habits to critical skills to problem-finding abilities) that the fluent demonstration of procedural musical knowledge includes.[28]

Perhaps other terms ought to be considered. I would be grateful for suggestions. Until then, I propose musicianship as the most apt term to cover both the horizontal range of capacities that constitute procedural musical knowledge and the vertical sense of competency, proficiency, or artistry we intend when we say that someone "really knows how" to make music. On this view, a masterful level of musicianship, or musical artistry, would be distinguished not only by a higher level of proficiency, but by an even wider range of abilities on the horizontal plane of musicianship (principally in the area of critical abilities).

At this point we have much of what we need to explain why and how musical performing is not only a form of knowledge but also a source of knowledge. The next requirement is an understanding of what it is that musicianship actually achieves.

The Concept of Performance

To cognitive psychologists, musical performances are quintessential examples of cognition in action because they require a performer to match a detailed cognitive representation of an auditory event with an equally complex mental plan of action. Nigel Harvey explains:

> A singer is to perform a song. She must learn the score (the stimulus array) off by heart as she will not have the opportunity to sightread it during the performance (resulting action). Here action cannot be directly controlled by a parameter that has been directly extracted [perceived immediately] from the environment. An internal representation (memory for the score) must act as a mediator. It is this internal representation that specifies the parameters that tune the function generators subserving singing performance.[29]

What Harvey's description leaves out, and what this essay has omitted until now, is an explanation of musical performing as something in and of itself. For musicianship is not organized and deployed merely to *produce* musical sounds. Musical performing clearly involves more than producing or actualizing awaiting "pieces" of music. What more?

A useful way to answer this question is to compare what a performer does when performing a composition with what a speaker does when he or she speaks in certain ways. Thomas Carson Mark has explored this comparison in a previous publication.[30] It is to him that I am indebted for several points in the following discussion.

Suppose I am playing tennis with a friend called Terry. After winning the third of three straight sets, Terry runs to the net and says: "David, do you give up now?" In reply, I utter these immortal words: "I have not yet begun to fight!"[31]

What have I actually done? First, I have quoted John Paul Jones. Quoting has two aspects: (i) producing another person's precise words and (ii) deliberately intending that one's own words match those of another. It is the deliberate *intention* to match someone else's precise words, says Mark, that makes an utterance a quote rather than merely a statement or an accident.

Second, in deciding to reply to Terry with the words, "I have not yet begun to fight!" (instead of simply saying "Yes" or "No!"), I am not merely quoting John Paul Jones, I am doing something more. I am using his precise words to *assert* something. I want my partner to understand clearly that I will not surrender as easily as she might think. Thus, says Mark, for a quotation to be also an assertion the speaker must deliberately intend that his or her quotation be understood as making some sort of pertinent point.

Quoting and asserting have important parallels in musical performance. When we say that a pianist is performing Bach's English Suite no. 2 in A Minor what we mean, in part, is that the performer is producing the precise sounds indicated in the score and deliberately intending that the sounds he or she makes are those that Bach stipulated. To this extent what a musical performer does is analogous to what a speaker does when he or she utters a quotation.

But there is obviously more to a performance than this. Producing music in the sense of quoting the score of Bach's English Suite no. 2 (or producing a musical work completely from memory) by actually sounding the indicated (or remembered) sounds is only part of what makes something a performance.

The "more" lies in the distinction between quoting something and asserting it. To be a performance, a performer must not merely quote what a composer has indicated, he or she must also intend to assert it in the sense

that a speaker intends that a quotation be taken to mean something to his or her listeners. Mark explains:

> As is the case of assertion in language, the principal requirement for assertion [in musical performance] is intentional: . . . in music, the performer intends that the sounds he produces will be taken as having cogency, as articulating how things musically are. . . . The intention of a performer—the intention that makes his production of sounds a performance—is that his listeners will take the sounds produced to have this authority, this claim to attention which is analogous to the claim made on our belief by sentences that purport to be true.[32]

Quoting John Paul Jones to assert a point demands that I first understand what Jones means (that I interpret Jones correctly) and that I consider how Jones's words will be understood in context when I quote them to my tennis partner. Merely repeating words that one does not understand, or using them inappropriately in a given context, does not count as an assertion. Here is the critical point.

Performing a musical work, says Mark, is parallel to quoting someone else's words in order to assert something.[33] One produces the notated sounds of a musical composition (as one might speak Jones's precise words) in order to express one's concept or interpretation of the composition (as one might assert one's understanding or interpretation of what John Paul Jones meant by his words). Performing a musical work, then, is matter of understanding and interpreting as well as producing.

From this we see that what a musical performance offers is *not* simply an audible reproduction of what a score indicates or what a previous performer has done. Musical performing is not the auditory equivalent of reproducing a numbered copy of an original print. If it were, then any competent production of a musical composition would be deemed as important as any other. And this is not the case in actual performance practice or listening practice. Performing is not merely a means of actualizing musical compositions for people who cannot hear notation in their heads.

Musical performing, like asserting a quotation to make a point, projects a particular conception of a remembered or previously notated composition into a specific context in such a way that the performance *itself* is open to the criticism of others. A musical performance is something in and of itself: it is a personal conception of a composition projected through a performer's intentional actions which can be focused upon and scrutinized in terms of the actions themselves.[34]

So, in addition to knowing how to produce a given composition, a performer/conductor must build an informed and personal conception of a composition which he or she then "asserts," or projects, or communicates

not verbally, but in his or her musical actions. Although Peter Kivy does not talk in terms of assertion or projection, he means something akin to this when he characterizes the musical performance of a composition as the "ultimate nonverbal description of the work."[35] Similarly, Alan H. Goldman calls the musical performance of a composition a nonverbal "explanation" of what a performer considers to be the important relations and values in a composition: "[A] performance . . . instantiates, exemplifies, or implicitly conveys the performer's interpretation. What it exemplifies or implicitly conveys is an explanation of the work and its elements, one that reflects the performer's view of the values inherent in the piece."[36]

A musical performance is a setting forth of a performer's/conductor's personal understanding and evaluation of a given composition. Through performing, a performer conveys his or her overall conception of a composition in relation to (a) what the composer must/could/should have intended, or (b) what past performers must/could/should have intended, or (c) what one thinks one's audience would expect to be brought out in a composition, or enjoy hearing brought out in a composition, or (d) some combination of all of these.

Altogether, then, a musical performance (in the classical Western tradition, at least) involves not one but *two* works of music. When pianist Ivo Pogorelich performs Bach's English Suite no. 2 in A Minor we have (i) the musical composition which is Bach's English Suite no. 2 in A Minor (BWV 807) and (ii) the musical work of Pogorelich: the knowledgeable, informed actions of the artist-pianist Pogorelich which project the Pogorelich performance/interpretation of Bach's English Suite no. 2. Thomas Carson Mark sums the point: "The performance is not simply an interpretation (though it requires or involves one) or a presentation (thought it requires that too since it includes producing an instance of the work): it is *another* work of art."[37]

Part Three: Musicing as a Source of Knowledge

The most common belief underlying the pursuit of music performance in music education is that musicing or performing is a *means* to an end. According to official doctrine, if students re-construct the steps involved in producing a musical work, then students will enhance their perception of and response to the work. As far as it goes, this notion of performing gets some things right. Producing, reproducing, or re-constructing a musical work (like quoting or reading lines from a play) *does* give students a sense of the intelligence involved in the construction of a musical work. Second, producing a musical work may also provide a basis for understanding the basic structure of similar works or aspects of dissimilar works. In this way, being able to produce sounds

from notated scores, as students might learn in general music contexts, does breathe life into what might otherwise be studied and misunderstood as a collection of precious but distant objects. Unfortunately, the aesthetic concept of performing as a means overlooks some key points.

A person who deploys his or her musicianship in performing a score follows rules and principles developed by previous practitioners, but he or she is also free to adapt these principles. During performances, unforeseen circumstances are always a possibility. Therefore, every action or idea conceived must be evaluated in relation to a host of criteria that are not strictly aesthetic but social, practical, historical, artistic, and so on.

Something akin to this back-and-forth interaction of idea and outcome exists in all types of performances and in all fields of endeavor. In every human performance deserving the name, deliberate intentions are mobilized in actions that are at the mercy of possibilities beyond rules and predictions. Thus, while *producing* musical sounds provides an understanding of the predictable procedures of a practitioner's practice, interpreting and performing a musical composition enlighten students about how a musical performer copes with musical decision making, unpredictable opportunities, problems, influences, and so on. In short, real musical/interpretive performing involves both *generative* thinking and *evaluative* thinking.[38] Because the results of performing cannot be guaranteed in advance, the understanding gained during musical performance is not merely a duplication of procedures, it is a *live* deployment of the *whole* Self. The performer deploys musical thinking-in-action, knowing-in-action, and reflecting-in--action.

The upshot of this is that the educational value of music-as-musicing, or music as musical performing, is *not* secondary to the aesthetic concept of "music" as a collection of autonomous objects. If we shift our focus back to performing itself—to interpretive musical doing and making conceived strictly as the outcome of the doing and making in question[39]—we realize something rather important. We realize that the teaching and learning of musicianship provides students with *direct* knowledge of that "other" musical work: the interpretive musical performance itself. To understand, appreciate, and evaluate the intelligence or stupidity of a given musical performance requires an understanding of musical performing itself. This understanding, in turn, comes from learning how and knowing how to perform musically. Gilbert Ryle makes the same point: "Understanding is a part of knowing how. The knowledge that is required for understanding intelligent performances of a specific kind is some degree of competence in performances of that kind."[40]

In other words, learning to listen to music only by listening, without the benefit of learning how to perform music in the ways discussed above,

provides only indirect knowledge of music as a "performative presence."[41] Although one can learn what to listen for in a composition without knowing how to perform music, learning what to listen for in a musical *performance* of a musical composition requires musicianship.

John Dewey makes a similar point in *Art as Experience.* To Dewey, what holds for the education of the musical performer holds also for the education of the listener. Dewey points out that in contrast to someone who is merely *able* to do something, the cognitive action abilities of the person who really knows *how* to do something renders the latter's perception of a given situation "more acute and intense and incorporates into it meanings that give it depth."[42] "But," says Dewey, "precisely similar considerations hold from the side of the perceiver."[43] To know what to listen for in a musical composition requires what Dewey calls "readiness" on the part of the listener's cognitive action abilities (or, in Dewey's words, "motor equipment").[44] Dewey puts it this way: "A skilled surgeon is the one who appreciates the artistry of another surgeon's performance; he [or she] follows it sympathetically, though not overtly, in his [or her] own body. The one who knows something about the relation of the movements of the piano-player to the production of the music from the piano will hear something the mere layman does not perceive."[45] To Dewey, the development of cognitive action abilities or procedural knowledge (or "motor preparation") is "a large part"[46] of any form of arts education.

In sum, as Dewey points out and as Vernon Howard reminds us, proficient performers embody within themselves the attitudes and critical skills of perceptive listeners as they deploy their musicianship in practical performances.[47] Proficient performers know what to listen for in a given work and, also, what to listen for in a musical *performance* of that work.

If we sustain our attention on music *as* performance a moment longer we gain another important perspective. To borrow an example from Israel Scheffler, consider that a child learning to play baseball will view the game quite differently if he or she understands what we mean when we say: "It's not whether you win or lose, it's how you play the game."[48] To be aware and give attention to *how* things are done—to deportment, style, quality of action, to traditions of performance practice, to one's actions as "a performance"—is to modify one's perception and understanding. Students so informed shift their sense of responsibility and the locus of their energy. A game is no longer simply a means to an end, but something in itself: *a process to be lived.* Playing a game takes on added meaning if one does it with style, sportsmanship, innovative strategies, and discipline. Even a game lost in the context of such awareness has value because it was played properly and well.

The above thoughts point us toward an understanding of why and how

musical performing may be conceived as a source of knowledge that is both necessary for all and available to most through music education.

Musicing for Its Own Sake

The human species is defined, in part, as the species that "musics." Ethnomusicologists inform us that regardless of time and place, significant numbers of people in all cultures take up and pursue music making and the form of knowledge that music making involves. More often than not, music makers around the world are not professional musicians. In short, regardless of what kind of musicianship is involved, people tend to find musicing an enjoyable and absorbing experience for its own sake. Why?

To answer, we must consider a subject that is more fundamental than music education's official philosophy has considered: the existence and role of the conscious Self in human action.

According to Mihalyi Csikszentmihalyi, the evolution of individual consciousness depends upon our engagement in active pursuits that order consciousness or increase "constructive knowledge." These pursuits are experienced as more satisfying than normal experience because they are congruent with the goals of the Self. By investing our powers of attention, awareness, and memory in challenges that are not based exclusively on purposeful drives for biological and social satisfaction, "we open up consciousness to experience new opportunities for being that lead to emergent structures of the self."[49]

Now the conditions required to bring order to consciousness are essentially two: something to do (a challenge), and the capability to do it (know how). Put another way, the universal prerequisite for achieving constructive knowledge and its affective concomitant, enjoyment, is a *match* between the challenges one sees in a given situation and the know-how one brings to it.[50]

True, any challenge to which a form of know-how can be matched has the potential to yield constructive knowledge to the participant. At the same time, says Csikszentmihalyi, no activity can continue to offer constructive knowledge or sustain enjoyment for long unless both its challenges and its requisite know-how become more complex. For an activity to continue to offer constructive knowledge it must have an inner dynamism: it must be capable of providing the participant with increasing levels of challenge to match the increasing levels of know-how that come with pursuing the actions one enjoys. In other words, enjoyment occurs more often in endeavors that have a clear structure and progression of complexity. These conditions allow for the control and balance of challenges and developing know-how.

Musical performing is a major source of constructive knowledge because musicing provides progressive levels of challenge and complexity together with ways of improving one's musicianship to meet musical challenges. Musical performing provides the performer with knowledge about his or her own actions—their quality and affect—and, therefore, a sense of who he or she *is*.[51] The kind and quality of the actions an agent deploys, and the changes that his or her actions make in materials, contexts, audiences, and so on, provide "constructive knowledge" to the agent about his or her personal Self and the relation of that Self to others. Csikszentmihalyi explains: "Constructive knowledge is information about agentic powers (one's power to control one's life). Constructive knowledge is perhaps the most meaningful information that any of us can get."[52]

The musicianship one acquires and deploys in musical performances is the key to ordering consciousness, to gaining constructive knowledge. Through musical performing, students learn that their intentional actions result in significant changes and, therefore, produce achievements that would not have existed without their efforts. In each instance of performing/interpreting done musically, students invest their whole selves (including their cognitive action abilities) in the pursuit of molding a medium that has the possibility to model the whole range of ways that humans think about and experience reality.

The paradox of constructive knowledge lies in the fact that many of the things that people do to achieve it—to achieve the enjoyment of doing things for their own sake (e.g., musical performing, painting, writing, inventing, and so on)—produce practical outcomes of great interest, satisfaction, or usefulness to others.

On this view, one of the major contributions music education can make to students is to develop their musicianship. Because musicianship is a unique form of procedural knowledge, it is also a unique source of constructive knowledge. In this sense, making music for its *own* sake means making music for the sake of the Self. Moreover, musicing is limitless in the amount of constructive knowledge it can provide and, therefore, in the amount of *enjoyment* it can provide.

In sum, there are at least three general conditions to consider in music curriculum development. First, dabbling in musical producing activities will *not* yield any valuable knowledge about the Self.[53] Growth in constructive knowledge is correlated with growth in procedural knowledge: "The more refined and diversified one's skills are, the more information about the self's existence one can produce."[54] In a word, *depth* ought to take precedence over breadth in music education.

Second, music education ought to make the development of musicianship meaningful by enabling and permitting students to generate and evaluate musical performances that are personally meaningful and sequen-

tially developmental. When student musicianship is carefully challenged with musical opportunities for personal interpretation, students are likely to achieve the enjoyment that comes with doing something that is worth doing for its own sake.

Third, it is essential that students develop their musicianship in the contexts of specific musical practices. That is, students must receive appraisals about their developing musicianship from teachers who *know how* to make music musically and who are themselves *connected* with the music-making procedures and principles of a given musical practice (e.g., choral singing, jazz improvisation, and so on). This might be called learning by "induction." That is, in the process of developing their musicianship, students become inducted into specific ways of musical thinking and specific goals and standards of music making.

Indeed, as Nicholas Wolterstorff points out, the internal goods (intrinsic values) of musical practices are available only to those who take part actively in the relational knowledge formed *around* and *for* the musical practice in question.[55] This is also what Csikszentmihalyi means when he says that "the most effective kind of constructive knowledge is that provided by the social environment."[56] Experienced members/teachers of a given musical practice legitimate the actions of each other and their students through their knowledge and preservation of appropriate reference norms, standards, and ways of being musical.

From this perspective, to enter into and take up a musical practice is also to be inducted into "a musical world." The musical world as a whole, and each musical world on its own (the jazz world, the choral world, and so on), rests on long traditions that provide the musical practitioners/teachers/students of these practices with constructive knowledge about who they are in relation to themselves, to each other, and to past others.

Indeed, the musical actions underlying the performances we value are themselves connected to long traditions of practice. To learn to make music is to resonate with the purposes, efforts, trials, and achievements of musicians and musical learners past and present. In learning how to perform/interpret music well, students not only come to understand the objective "aesthetic" qualities of works, they do much more: they connect with the efforts and contexts of composers and performers present and past. Hence they tend to empathize with these efforts and to connect with these musical practices and practitioners.

Conclusion

Is music a form of knowledge? Is music a source of knowledge?

Taken as a verb, music in the fundamental sense of musicing or musical performing is both a form of knowledge and a source of knowledge. To

know how "to music" musically, to possess musicianship, is to possess a rich form of procedural knowledge. People who know how to interpret and perform musical compositions know these compositions as both products and performative presences. Musicianship provides direct access to the musical work (the composition) and to the art of *musicing* the musical work (the performance-interpretation of the composition).

Even more fundamentally, musicing is a major source of the most essential kind of knowledge a human being can gain: constructive knowledge. In this sense, musicing is an end in itself. Musical performing is something worth doing for its own sake. What this means, in turn, is that musicing is worth doing for the sake of the individual Self. A central task of music education is to make constructive knowledge accessible to students through the development of individual musicianship.

Can this be done? It is already being done; it has been done for decades by music educators who conceive musical performing not merely as a means, but as something worth doing by all students for its own sake. Such practices only need to be carried out more widely and more effectively.

How can music education philosophers contribute? If it makes sense to teach "music" as a complex process-product continuum, as a diverse human practice, then perhaps it is time for music education philosophers to help practitioners by paying more scholarly attention to the nature and value of musicing. Perhaps it is also time for music education philosophers to give more consideration to the kind of knowledge possessed by those music educators who already know how to induct students into the interplay of informed musical actions, understandings, practices, and traditions through the development of individual musicianship. More fundamentally, perhaps it is time for music education philosophers to put forth alternatives to music education's official doctrine.

In conclusion, consider the following words of Israel Scheffler. In emphasizing the vital connection between making and understanding in all areas of education, Scheffler provides an eloquent summary of the epistemological importance of musical performing in music education.

> To view past works—whether of art or science, or architecture, or music, or literature, or mathematics, or history, or religion, or philosophy—as given and unique objects rather than incarnations of process is to close off the traditions of effort from which they emerged. It is to bring these traditions to a full stop. Viewing such works as embodiments of purpose, style, and form revivifies and extends the force of these traditions in the present, giving hope to creative impulses active now and in the future. To value such traditions requires an emphasis on process. Conversely, the strength of our emphasis on process is a measure of the values our education embodies. Appreciating the underlying process does not, by any means, exhaust

the possibilities of understanding. But the understanding it does provide is a ground for further creativity in thought and action.[57]

NOTES

1. The resemblance between this sentence and the first sentence of Gilbert Ryle, *The Concept of Mind* (London: Hutchinson, 1949), is intentional for reasons that will become apparent shortly.
2. For a critical examination of the philosophy of music education as aesthetic education, as well as Langer's theory, see my article "Music Education as Aesthetic Education: A Critical Inquiry," in *The Quarterly of the Center for Research in Music Learning and Teaching*. In press.
3. Ibid.
4. Bennett Reimer, *A Philosophy of Music Education*, 2d ed. (Englewood Cliffs, N.J.: Prentice Hall, 1989), p. 193.
5. For a critical examination of MEAE's concept of creativity, see my article, "Music Education as Aesthetic Education: A Critical Inquiry." See also David J. Elliott, "The Concept of Creativity: Implications for Music Education," in *Proceedings of the Suncoast Music Education Forum on Creativity*, ed. John W. Richmond (Tampa: Music Department, University of South Florida, 1989).
6. Reimer, *A Philosophy*, p. 187.
7. Harry Broudy's statement appears in *The Crane Symposium: Toward an Understanding of the Teaching and Learning of Music Performance*, ed. Charles Fowler (Potsdam: Potsdam College of the State University of New York, 1988), p. 196.
8. Nicholas Wolterstorff, "The Work of Making a Work of Music," in *What Is Music? An Introduction to the Philosophy of Music*, ed. Philip Alperson (New York: Haven Publications, 1987), p. 115.
9. Cf. Francis Sparshott, *The Theory of the Arts* (Princeton, N.J.: Princeton University Press, 1982), pp. 25-57.
10. Reimer, *A Philosophy*, p. 169.
11. Ibid., p. 169, 187.
12. Ibid., p. 167ff.
13. Fowler, *The Crane Symposium*, p. viii.
14. Donald A. Schon, *Educating the Reflective Practitioner* (San Francisco: Jossey-Bass, 1987), p. 8.
15. Ryle, *Mind*.
16. Saul Ross, "Epistemology, Intentional Action and Physical Education," in *Philosophy of Sport and Physical Activity*, ed. P. J. Galasso (Toronto: Canadian Scholars' Press, 1988), p. 135.
17. Ibid., pp. 134-35.
18. John Macmurray, *The Self as Agent* (Atlantic Heights, N.J.: Humanities Press, 1957), p. 86.
19. Ryle, *Mind*, p. 57.
20. See *Proceedings of the Aristotelian Society*, vol. 46 (1945/46): 1-16, reprinted in volume 2 of Ryle's *Collected Papers* (London: Hutchinson, 1971), pp. 212-25.
21. Cf. Sparshott, *Theory*, p. 31.
22. Ibid., p. 26.
23. Ryle, *Mind*, p. 49.
24. V. A. Howard, *Artistry: The Work of Artists* (Indianapolis: Hackett, 1982), pp. 49-50.
25. Sparshott, *Theory*, p. 33; Howard, *Artistry*, pp. 49-50.
26. C. B. Fethe, "Hand and Eye—The Role of Craft in R. G. Collingwood's Aesthetic Theory," *British Journal of Aesthetics* 22 (Winter 1982): 43.
27. Arnold Whittack, "Towards Precise Distinctions of Art and Craft," *British Journal of Aesthetics* 42 (Winter 1984): 47.

28. Howard, *Artistry*, p. 26.
29. Nigel Harvey, "The Psychology of Action: Current Controversies," in *Growth Points in Cognition*, ed. Guy Claxton (London: Routledge, 1988), p. 70.
30. Thomas Carson Mark, "Philosophy of Piano Playing: Reflections on the Concept of Performance," *Philosophy and Phenomenological Research* 41 (1981): 299-324.
31. Ibid., p. 309. The example of quoting I use here is original to Mark.
32. Ibid., p. 312.
33. Ibid., p. 317.
34. Sparshott, *Theory*, p. 41.
35. Peter Kivy, *Music Alone: Philosophical Reflections on the Purely Musical Experience* (Ithaca, N.Y.: Cornell University Press, 1990), p. 122.
36. Alan H. Goldman, "Interpreting Art and Literature," *Journal of Aesthetics and Art Criticism* 48, no. 3 (Summer 1990): 207.
37. Mark, "Philosophy of Piano Playing," p. 321.
38. Israel Scheffler, "Making and Understanding," in *Proceedings of the Forty-Third Annual Meeting of the Philosophy of Education Society* (Normal: Illinois State University Press, 1988), p. 73.
39. Sparshott, *Theory*, p. 154.
40. Ryle, *Mind*, p. 53.
41. Howard, *Artistry*, p. 124.
42. John Dewey, *Art as Experience* (New York: G. P. Putnam's Sons, 1934, 1958), pp. 97-98.
43. Ibid., p. 98.
44. Ibid.
45. Ibid.
46. Ibid.
47. Dewey, *Art*, pp. 48, 50; Howard, *Artistry*, p. 185.
48. Scheffler, "Making and Understanding," p. 74.
49. Mihalyi Csikszentmihalyi, "Introduction," in *Optimal Experience: Psychological Studies of Flow in Consciousness*, ed. Mihalyi Csikszentmihalyi and Isabella Csikszentmihalyi (Cambridge: Cambridge University Press, 1988), p. 29.
50. Ibid., p. 30.
51. Mihalyi Csikszentmihalyi, "Phylogenetic and Ontogenetic Functions of Artistic Cognition," in *The Arts, Cognition, and Basic Skills*, ed. Stanley Madeja (St. Louis: CEMREL, 1978), p. 122.
52. Ibid.
53. Ibid., p. 124.
54. Ibid.
55. Cf. Wolterstorff, "The Work of Making a Work of Music."
56. Csikszentmihalyi, "Phylogenetic," p. 125.
57. Scheffler, "Making as Understanding," p. 77.