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All about Audiation and Music Aptitudes

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# ALL ABOUT AUDIATION AND MUSIC APTITUDES

*Edwin E. Gordon discusses using audiation and music aptitudes as teaching tools to allow students to reach their full music potential.*

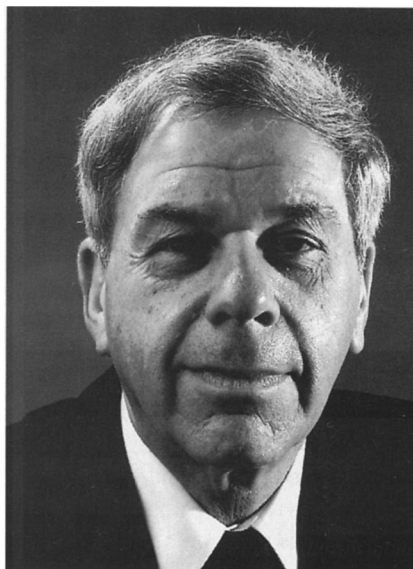
BY EDWIN E. GORDON

*The "Grand Master" series offers the opportunity for MEJ readers to learn more from or become acquainted for the first time with those special individuals who have led our profession with distinction during their music careers. It is also an opportunity for senior members of our profession to share their insights relative to what they have seen, experienced, and predicted in music education. The response to this series has been overwhelmingly positive, and it is a pleasure to offer this current installment.*

*Edwin E. Gordon, a recent inductee into the MENC Hall of Fame, is a distinguished lecturer, author, researcher, and teacher. His four most well known books are The Psychology of Music Teaching; Learning Sequences in*

*Music; The Nature, Description, Measurement and Evaluation of Music Aptitudes; and A Music Learning Theory for Newborn and Young Children. He is also the author of seven standardized tests, including The Musical Aptitude Profile and the Iowa Tests of Musical Literacy. Before becoming committed to his research, Gordon played string bass with the Gene Krupa Band. He has taught at the State University of New York at Buffalo, the University of Iowa, and Temple University in Pennsylvania, where he held the Carl E. Seashore Chair for Research in Music Education. He is currently a Distinguished Professor in Residence at the University of South Carolina.—Mark Fonder, series editor*

**T**hink for a moment about when and how you learned language. The most important time in your life for developing language readiness was probably before you can remember—from birth, if not prenatally, until about age three. Without the background that those formative years provided, you probably would not be able to read this article with comfort and comprehension, nor would you be able to adequately com-



Edwin E. Gordon

municate to others your interpretation of the information you have assimilated. To understand the "how," you must view language as a process of acquiring new levels of understanding, one built upon another.

During the first year of life, you listened to everyone around you who spoke. You probably engaged in some vocal sounds, but your primary need was in acquiring a listening vocabulary of sounds and words (your first vocabulary), even though you did not understand everything being said. Between nine and eighteen months old, your larynx dropped, and you were able to begin to speak. This allowed you to develop your second "word stock," your speaking vocabu-

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lary. Much of what you said was what you had heard before, and you continued to learn and to speak new words as you continued to listen. By age three, you were improvising, that is, you enjoyed rearranging familiar words in unfamiliar order as you spoke and asked and answered questions. The more you spoke, the better you listened, and the more you listened, the better you spoke. Think of it—you listened and spoke for at least five years before you received systematic formal instruction in reading when you entered school.

It was when you began learning to read that you developed your reading vocabulary. Without your first two vocabularies (developed by age three) serving as a basis, your ability to learn to read would have been severely jeopardized, because you first learned to read the familiar words that were in your listening and speaking vocabularies. Finally, you developed your fourth repertoire of communication—your writing vocabulary—and it wasn't until a later time that you learned the theory of language (the parts of speech and grammar). Some persons, especially those who have developed a rich listening vocabulary, can use language quite well even though they do not formally understand its theoretical structure.

Now, think about music. Although music is not a language in the strictest sense of the word (since it has no grammar—only syntax—and it expresses emotion but not precise meaning), the process of learning language and music is very similar. Ideally, we sequentially develop four music vocabularies: listening, performing (which is the speaking of music), reading, and writing. Having acquired these, we are then prepared to be taught the theory of music. The whole of that musical process can be summed up with one word: audiation.

### **Audiation and the Music Vocabularies**

Audiation is to music what thought is to language. Consider language, speech, and thought. Language is the result of the need to communicate. Speech is the way we communicate. Thought is what we communicate.

Music, performance, and audiation have parallel meanings. Music is the result of the need to communicate. Performance is how this communication takes place. Audiation is what is communicated. Imitation, memory, and recognition are part of the audiation process. Alone, however, they are not audiation. Audiation takes place when we hear and understand in our minds music that we have just heard performed or have heard performed sometime in the past. When we merely recognize or imitate what we have heard, or memorize what we intend to perform, we live in the past. In audiation, the past lives in us.



*Audiation is to music  
what thought is to  
language.*



We also audiate when we hear and understand in our minds music that we may or may not have heard but are reading in notation or are composing or improvising. We may audiate while we are listening to, recalling, performing, interpreting, composing, improvising, or reading music. Though it may seem contradictory that we can listen to music and at the same audiate that music, the process is similar to when we automatically think about what is being said as we are listening to or participating in conversation.

When you listen to music, you are aurally perceiving sound. It is not until a brief moment after you hear the sound that you audiate and give meaning to that sound as music. You are, of course, also aurally perceiving and then giving meaning to the additional sounds that you are following in the music. That is, you are doing more than one thing at the same time

when you are audiating music. You are attending to and also comprehending the music and, depending on your knowledge and experience, perhaps you are doing more. Sound itself is not music. Sound becomes music only through audiation, when, as with language, you translate the sounds in your mind to give them context. The meaning you give to these sounds will be different on different occasions, as well as different from that given to them by another person.

Just as you will begin to give syntactical meaning to these words that you are reading now only after you have read them, so you give syntactical meaning to music notation not as, but only after, you have seen it. The audiation of music notation is called notational audiation. If you are able to hear the musical sound of and give syntactical meaning to what you see in music notation before you perform it, before someone else performs it, or as you write it, you are engaging in notational audiation. We may read or write notation without audiating the music that it represents. However, when that occurs, we are simply decoding symbols, not audiating music. To notationally audiate, we need to transcend the printed symbols and audiate the music that the symbols represent. Just as aural perception is different from audiation, so the process of decoding notation is different from notational audiation.<sup>1</sup>

It would seem imperative that students be guided informally in developing a music-listening vocabulary as a foundation for being formally taught music in school—that is, before or at least at the same time that they are expected to sing and to play musical instruments. Ideally, the listening vocabulary of music should begin to be formed in early childhood, before a child is eighteen months old and not later than three years of age—the same time period in which verbal language background is acquired. Realistically, however, many children enter school without a music-listening vocabulary and, therefore, that deprivation should be attended to as soon as possible.

My research and teaching of very young children has made me keenly aware of the necessity of singing and chanting to and for children, not ask-

ing them to sing before they have learned to listen. Again, think of language. An adult begins to speak to a child on a one-to-one basis as soon as the child is born and soon after tells stories and reads to the child. A parent knows intuitively that playing recordings of someone speaking for the child is not nearly as beneficial as the child hearing live speech. Analogously, being exposed to music through the media will not be as efficient as introducing children in a personal manner to the music of their culture.

Also, think of the time spent in teaching children how to use their singing voices. Do children need to be taught how to use their speaking voices? The reason children learn how to speak without being given speaking lessons is because they have heard a great deal of speaking, and thus they are able to model the speaking voice quality. Unless children hear singing along with speaking in their formative years, their speaking and singing voices will become one, and as they increase in age, it will become more and more difficult to separate the two voices so they will be able to learn to sing. To learn to sing is a matter of audiating a singing voice quality, not necessarily learning to sing "high."

Further, in regard to the listening vocabulary, three words should be kept in mind: repetition, variety, and silence. Children should have the same songs and chants sung to them in the same way (i.e., the same key and tempo) many times on different occasions, but that is not sufficient. They must also hear a variety of songs and chants in various tonalities (i.e., minor, dorian, and mixolydian, as well as major) and in various meters (i.e., triple, 5/8, and 7/8, as well as duple). The reason is that we do not learn what something is, we learn what it is not. What is high? We know what high is because it is not low. Think of good and bad, justice and injustice. In music, without hearing minor, for example, for comparative purposes, we can only talk about and theoretically explain major, but it will prove difficult to audiate major. The same is true for triple and duple meters. Now, what about silence? Without the time to absorb and audiate (think about)

what was heard, what was heard will vanish without adding value for future learning in terms of generalization, the cornerstone of all mature learning.



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I feel it is necessary to emphasize that by the time children enter school at the age of five or six, the most important time for them to develop their music listening vocabularies has passed. Nevertheless, with care and understanding, they can be given compensatory, not remedial, guidance and instruction as a group in the formal classroom. The fact must be confronted that the majority of children who enter school lack the readiness to profit fully from general music instruction. The case becomes even more extreme when students are expected to learn to play an instrument and to theorize and read music notation at eight or nine years of age, when many have not yet developed a music listening vocabulary or other fundamental audiation skills necessary for learning to perform well on an instrument. This situation may contribute to the high dropout rate in beginning instrumental music. However, with proper understanding, educators can remedy the situation.

### **Music Aptitude**

Whether teaching children of preschool age or those already in school, the importance of audiation

requires prime consideration. One of the main reasons for this is that audiation is the basis of music aptitude. Specifically, all of us are born with the potential to develop our audiation, but to make use of that potential we must have an appropriate musical environment. Thus, how well we develop our audiation and are able to understand and enjoy music is in large part dependent upon how well we are taught music. And how well we are taught music depends a great deal on how our individual musical needs are met, and those needs are rarely met when students in a class are taught as if they all have only average potential to achieve in music. It is to everyone's advantage when students with high music potential do not become bored and students with low music potential do not become frustrated with the way they are being taught. To paraphrase Plato, there is nothing so unequal as the equal treatment of students of unequal potential.

The best way to account for musical differences among children is to adapt the musical guidance and instruction they are receiving to their individual musical strengths and weaknesses. A profile of each child's musical potential is best determined through the use of a valid music aptitude test. To assess a child's "musicality" on the basis of the child's music achievement, which is not an uncommon procedure, is usually misleading. It should be understood that although a child who demonstrates high music achievement has high music aptitude, the reverse is not necessarily true. Many children who display little or no evidence of music achievement have above average music aptitudes. In fact, it has been found that almost half the number of students in our schools who score in the upper 20 percent on a valid music aptitude test have never received any special instruction in music beyond that of what is required of them in general music. In reality, a test can "hear" what a teacher cannot see.

Having been associated with four major universities during my more than forty years of university teaching, I know firsthand that the concept of music aptitude is not adequately

explained to the majority of undergraduate and graduate music students. I hope that, in some small way, I have expressed the importance of learning about and using music aptitude as a tool in music education. I would like to pique your interest in learning more about the nature and description of music aptitude in the hope that the information will have a positive effect on your instructional procedures.

People are born with different degrees of every aptitude. Thus, no two persons are born with equal gifts. Moreover, each person tends to excel in some pursuits but not in others. Research offers compelling substantiation of the importance of the environment, while at the same time recognizing the role of nature and genetics in determining various aptitudes, including music aptitude.

Music aptitude is a product of both innate potential and early environmental experiences. These two factors contribute in unknown proportions to music aptitude. It is not known whether one factor is more important than the other, or if they are of equal importance. I would like to make clear that although I have said that music aptitude is innate, there is no evidence to suggest that it is inherited. This means that the level of music aptitude with which a child will be born cannot be predicted on the basis of ancestry.

Nonetheless, what seems to be the case is that, regardless of the level of music aptitude with which children are born, they must have early formal and informal experiences in music in order to maintain that level of potential. Otherwise, the level of music aptitude they may be born with will never be fully realized in achievement.

However, it seems that children's early formal and informal experiences in music cannot prompt their music aptitude to reach a level higher than that with which they were born. Therefore, it appears that a child's *innate* level of music aptitude cannot be raised under any circumstances. If anything, his or her level of innate music aptitude, be it high or low, will diminish, possibly vanishing to almost nothing, without an early stimulating music environment.

The higher the level of music aptitude with which children are born, the more varied early experiences are required if they are to maintain that level. The lower the level of music aptitude with which children are born, the fewer early experiences are required to sustain that aptitude. Effectively, innate aptitude must either be maintained or lost.

The level of developmental music aptitude a student acquires by age nine stabilizes and remains the same throughout life.<sup>2</sup> That should not be interpreted to mean that after age nine a person cannot successfully be taught music. What it does mean is that the level at which persons can be expected to reach their full music achievement is no higher than that at which their potential to achieve has stabilized. Unfortunately, the majority of us have not developed our music aptitude to its highest possible level by age nine, and thus we do not achieve in music at as high a level as our stabilized music aptitude will allow.

Thus far, I have discussed music aptitude as if there was only one general music aptitude. That can be misleading, because not only are there multiple intelligences, but music aptitude itself is multidimensional. Each student has different degrees of various music aptitudes, each of which is related to overall music aptitude, and students differ in these aptitudes both normatively (as compared to others) and idiosyncratically (as compared to themselves). With the exception of average scores, it is rare for a student to have the same level for several dimensions of music aptitudes, especially if a student scores extremely high or low in any of them. In that sense, nature has a way of compensating for one's weaknesses by enhancing one's strengths. All music aptitudes are interrelated, and a substantial portion of each constitutes a unique aspect of overall music aptitude.<sup>3</sup>

Considering the events that surround all of us as we continue on our serious and respected mission of teaching, it is possible that some of my ideas may sound unrealistic. I imagine you will have some points of disagreement with my argument, and I expect responses of that type. Though you

need not agree with what I have said, what I ask is that you please think about it. It is my belief that a mind that is exposed to a new idea can never revert to its original shape.

## Notes

1. There are eight types and eight stages of audiation. For a detailed discussion, see chapter 1 of Edwin E. Gordon's *Learning Sequences in Music: Skill, Content, and Patterns* (Chicago: GIA, 1997).

2. Edwin E. Gordon, "Three-Year Longitudinal Predictive Validity Study of the Musical Aptitude Profile," *Studies in the Psychology of Music*, no. 5 (Iowa City, IA: University of Iowa Press, 1967); Edwin E. Gordon, *The Manifestation of Developmental Music Aptitude in the Audiation of "Same" and "Different" as Sound in Music* (Chicago: GIA, 1981).

3. For a detailed discussion and the history of music aptitude, see chapter 2 of Edwin E. Gordon's *Introduction to Research and the Psychology of Music* (Chicago: GIA, 1998). The most recent research on the subject can be found in the manual for the *Harmonic Improvisation Readiness Record* and the *Rhythm Improvisation Readiness Record*, Part 7 (Chicago: GIA, 1998). ■

## Call for Nominees

The "Grand Masters" series welcomes suggestions for featured writers. If you have a nominee who you believe should be recognized by this series, please contact Mark Fonder, Music Education Department, School of Music, Ithaca College, Ithaca, NY 14850. E-mail: fonder@ithaca.edu. Nominees should have a distinguished record in teaching, publication, and leadership.