

## MUS 775

### Discussion 4 - Gordon Preface & Chapter 1 (and parts of Chapter 3)

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#### 2.4.21

#### [How Music Benefits Your Brain](#)

We've seen studies on how music makes you smarter, but this video affirmed that point. Using an FMRI, researchers studied people performing tasks such as reading or doing math problems to observe how those tasks engaged their brains. When they studied people listening to music, they observed multiple parts of the brain firing simultaneously. Next, the scientists studied the brains of people playing music, and the results were even more dramatic. Multiple areas of the brain lit up.

Playing a musical instrument engages practically every area of the brain at once, especially visual, auditory and motor cortices. Disciplined and structured practice in playing music strengthens those brain functions, allowing us to apply that strength to other activities. That statement really spoke to me, as it really is the academic way of saying that playing music makes you smarter. Playing music engages both hemispheres in your brain, increasing the volume and activity in the bridge between the hemispheres, which may allow musicians to solve problems more effectively, and may contribute to the fact that musicians tend to have a higher level of executive function. Musicians tend to have better memory functions as well, given that they tend to add multiple tags to memory. A musician might add a conceptual tag, contextual tag, and audio tag. This was very interesting to me, as I hadn't ever heard of tagging memories like this.

#### [Dementia video](#)

This video highlighted a nursing home resident, Henry, who wouldn't respond to any stimuli. He was having seizures and couldn't even recognize his own daughter. Music was introduced to him via an iPod and headphones. Immediately, his feet started moving, his face lit up, and he started singing and dancing. He literally came alive! When the headphones are taken off and Henry is asked some questions, he is talkative and aware, when before he was quiet and sullen. "I'm crazy about music!" was his first answer on the video. He enjoyed Cab Calloway, and even started singing some of his favorite songs. What a testament to the power of music in sparking decades-old memories and restoring life to someone, where other methods had failed.

#### [Gabby Giffords – 2011 \(Diane Sawyer & Bob Woodruff\)](#)

[The first video](#) highlights the story of congresswoman Gabby Giffords, who was shot in the head at close range. Her husband decided to record her entire recovery, so we are able to witness

the process. Recovery of this nature isn't measured in days and weeks, but rather in weeks and months. At first, Gabby wasn't able to talk at all. Her condition is called expressive aphasia, meaning she understood the words she wanted to say, but she couldn't get them out. The bullet damaged the left side of her brain, where speech is produced. The comprehension part of her brain was undamaged, but the signals between the two parts were disrupted. When I watched this part of the video about Gabby, I couldn't help thinking about how her situation was similar to Henry's situation from the dementia video. He, too, had the thoughts and memories, but struggled to convey them verbally.

[The second video](#) covered more of the process of Gabby's recovery. When shown a picture of a motorcycle, Gabby came up with "medical" and "scary," suggesting that the words were scattered in her brain, and she was struggling to find them. She found words that sounded like motorcycle, and had some of the same letters, but she couldn't quite find the word. Gabby struggled in the early stages of recovery, expressing great frustration in early therapy sessions. She felt trapped in her own mind, and struggled to say anything at all. Her therapist started singing "This Little Light of Mine," and Gabby just started singing right along with her. She couldn't say the word "light," but she could sing it without a problem. This is because music is accessed in both hemispheres of the brain, and music therapy has the potential to rebuild language on Gabby's uninjured right side. I found it interesting that this was so mind-blowing, even to the experts in the field, being such a new area of study.

[The third video](#) provided a brief update nine months into Gabby's recovery. She was walking with assistance, forming small sentences, and shared a message that she was getting better and wanted to get back to work. I wanted to see if there was a more recent update, so I thought I'd share what I found. Here is an update and interview with Gabby and Scott four years into her recovery: [https://www.youtube.com/watch?v=4\\_kTv2t2hIY](https://www.youtube.com/watch?v=4_kTv2t2hIY). You can really see the dramatic improvements she has made in this video.

**Edwin Gordon would say that whether we believe it or not, all people have an aptitude for music and audiation. Discuss your thoughts about the preface and Chapter 1 and your understanding/use of audiation. ([www.giml.org](http://www.giml.org))**

Gordon states that every aspect of our lives originates in theories, from religion, to politics, to shopping. Academic courses also originate in theories, and through Music Learning Theory, so too does music. Gordon believes that through MLT, everybody can learn and interact with music just as they would interact with language. This applies to babies, children, adolescents, and adults.

Audiation is something that everyone is born with. We teach children how to audiate by providing knowledge and opportunities to do so. Audiation is thinking and assigning meaning to music in our mind. We can audiate music that we are currently listening to, music that we have heard in the past, or music that we haven't heard, but are instead reading via music notation. When we listen to music and assign meaning to it based on previous experiences, we are audiating. When we read a piece of music, and assign meaning to it based on previous experiences, we are audiating. This made more sense to me after reading Gordon's explanation that an audience who is not audiating will be less likely to know when a piece of music is approaching its ending, as they are not listening and assigning meaning to it based on their previous musical experiences.

Notational audiation is audiating written music notation. It is different from decoding notation, as decoding is simply reading individual written notes and symbols, and not the larger patterns and context that make it more musical. Audiation is taking written notes and making music out of them. Gordon states that notation and theory are often taught to students in place of audiation, and that was my experience as a public school student and undergraduate student. I was taught notes and rhythms, then dynamics and articulation, then phrase shaping, and somewhere in that process I began audiating. I would guess that most of us who went to school in the 20th century went through a similar process.

Imitation and audiation tend to be interchanged, but are not interchangeable. Imitation, or inner hearing, is a product of rote learning, whereas audiation is a process of learning by understanding. I appreciated Gordon's explanation that imitation is learning through someone else's ears, where audiation is learning through your own ears (or eyes). Imitation is superficial and temporary, whereas audiation is never forgotten, and is continuously applicable to new music and musical experiences. The process of audiation involves listening, playing, reading, composing, and improvising music while at the same time focusing on key and tonality, meter and rhythmic patterns, and tempo.

There are eight types of audiation, which are not hierarchical, though some of the types serve to prepare for other types.

**Type 1: Listening to Familiar or Unfamiliar Music**

This is the most common type of audiation, where the listener focuses on essential pitches and essential durations that contribute to essential patterns and provide meaning to the music.

**Type 2: Reading Familiar or Unfamiliar Music**

This is notational audiation, where we read a score silently, perform a piece of music from sight, or conduct from a full score. The key here is that we are audiating the music before hearing a recording of it.

**Type 3: Writing Familiar or Unfamiliar Music from Dictation**

This is still considered audiation, even though it is the opposite of reading music from a score. We audiate what we have first aurally perceived, then we create a visual representation of that audiation via music notation.

**Type 4: Recalling and Performing Familiar Music from Memory**

This includes recalling familiar patterns vocally or on our instrument, conducting something that we hear in our head, or just silently reflecting on a piece we've heard before.

**Type 5: Recalling and Writing Familiar Music from Memory**

This type of audiation also involves notational audiation, where we write familiar patterns in familiar music we recall through audiation. Where Type 4 culminates in a performance, Type 5 is finalized in a written format.

**Type 6: Creating or Improvising Unfamiliar Music while Performing or in Silence**

This type of audiation occurs in silence or in performance.

**Type 7: Reading and Creating or Improvising Unfamiliar Music**

This type of audiation is very similar to Type 6, but it involves notational audiation.

**Type 8: Writing and Creating or Improvising Unfamiliar Music**

This type of audiation involves notational audiation. Type 8 could become Type 5. Type 7 and Type 8 are the same, except that where Type 7 is finalized in reading, Type 8 is finalized in writing.

There are six stages of audiation, and they are sequential. One stage serves to ready the listener for the next stage.

**Stage 1: Momentary Retention**

In this stage, we retain short passages of notes and rhythms that we immediately heard. This is done without meaning, and is technically not audiation, but imitation. This is a needed stage for the meaning that will be given to the sound in Stage 2.

## **Stage 2: Imitating and Audiating Tonal Patterns and Rhythm Patterns and Recognizing and Identifying a Tonal Center and Macrobeats**

This stage begins with listening and identifying pitch and durations, identifying tonal center(s) and macrobeats by imitation (Stage 1). Then, through audiation, the sounds are organized into essential pitches and durations, and essential tonal patterns and rhythm patterns, based on the tonal center(s) and macrobeats previously identified.

## **Stage 3: Establishing Objective or Subjective Tonality and Meter**

Stages 1 and 2 help to establish tonality and meter. If the tonality and meter are agreed upon, they are objective. If there is not a consensus on tonality or meter, they are subjective. Stages 1 through 3 can happen very quickly, seemingly simultaneously.

## **Stage 4: Retaining in Audiation Tonal Patterns and Rhythm Patterns That Have Been Organized**

In Stage 4, we recognize and identify sequence, repetition, form, style, timbre, and dynamics to the musical components identified and organized in the first three stages. Stages 1 through 4 function in a cyclical process, as we continue to refine our decisions about tonality and meter.

## **Stage 5: Recalling Tonal Patterns and Rhythm Patterns Organized and Audiated in Other Music**

As our experiences and vocabulary grow, we function in Stage 5 more effectively. In this stage, we recall tonal patterns and rhythm patterns we have audiated from other music, and compare them to the music we are audiating in stages 1 through 4. This is added to the cyclical process of the previous stages.

## **Stage 6: Anticipating and Predicting Tonal Patterns and Rhythm Patterns**

As we participate in the first five stages, we begin to better anticipate and predict what we will hear next in the music, with regard to essential tonal patterns and essential rhythm patterns. Anticipation refers to foretelling what will happen next in *familiar* music, while prediction refers to foretelling what will happen next in *unfamiliar* music. The better we anticipate and predict, the better we understand the music we're hearing.

**Music Aptitude** is the measure of a person's potential to learn music, whereas **Music Achievement** is the measure of what has already been learned in music. While there is a misconception that one is either born with musical ability or not, studies show that music aptitude is distributed pretty normally among people. It follows the traditional Bell curve. No person is without some level of musical aptitude, which means everyone is musical to some extent. Every child is born with a certain musical aptitude, and a child's musical environment can affect their music aptitude until about age nine (with the most critical time being between

birth and eighteen months), so neither nature nor nurture are solely responsible for a person's music aptitude.