

The Voices in the Brain

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In recent decades, phenomenal advances in brain research have revolutionized many fields. Today we speak easily of neuro-economics, neuro-theology, neuro-biology, and so on. Visual art is also now studied from a neuroscientific perspective (Ramachandran & Blakeslee, 1998). This is because when we understand more about how our brain works, we can understand much more about ourselves. We should focus on developments not only in neuroscience itself, but also in psychology, to understand that why we behave in a certain way is a consequence of how our brain makes sense of what we call “art”.

Music is also part of this phenomenon. Important research in the field of music perception and cognition help us make sense of our musical experience (starting with Meyer, 1961). To understand the huge development of this field we need only mention recent best-selling books like Daniel J. Levitin’s popular “This is Your Brain on Music” (2006), to name only one.

We suggest that these developments can also be applied to the field of choral music. Can recent brain research (neuroscience and psychology) help us improve the performance of our choirs? We think it can. Only a few papers (Porfiri, 2010) have addressed the issue of neuroscience and other fields in connection with choral music, but these show that with a broader mindset, conductors and singers can be offered materials to make their musical activities more meaningful and effective. Indeed, we know our concept of knowledge is often very narrow. We think of knowledge as only those phenomena

internal to our field of practice. For example, we think everything we need to know about choral music relates necessarily only to the choral activity itself. But worldwide changes teach us that knowledge is indeed holistic. There is only one knowledge and many ways to look at it. Thus, we strongly believe it is time to start a new discipline, which we may call neuro-chorality, because choral singing includes notions beyond those connected to singing alone. Every good conductor knows he has to manage the choir as a psychologist, as a manager, as a business person, as a marketing strategist, as a nutritionist, etc. The pure musician is nowadays a sort of mythological figure; even the musician of the past, whom we tend to idealize, had to fulfill various roles beyond that of pure music-maker.

So how can we make our choral singing more brilliant in light of recent developments in science, especially neuroscience? Thankfully, today we have enormous resources that help give us a clearer picture about how our brains make sense of music. For example, when we are dealing with very difficult choral works, we may be helped by knowing how the brain learns or memorizes melodies. We have to understand that our brain is a pattern-making system. Nothing is in itself impossible for our choristers, but we should work with them to help them make sense of their auditory perceptions and categorize a given piece of music (see Thompson, 2009). No one is born liking or disliking a style of music. Why, then, do people in certain countries find some kinds of music not to their liking, or even very annoying? Because their brains cannot make sense of particular auditory signals, they are not able to make sense of those melodies or pieces.

Educational research tells us that the first thing the brain asks when it receives information from outside is: Is this important for me? How is this relevant to me? (Sousa, 2006).

Thus some compositions that we think are important may not be important for our choristers. What then do we need to do? Do

we give up? Not at all. But we have to go along with the way the brain is able to learn. In this regard, we may say that we have to help the process of categorizing a particular musical style so students will no longer find it unfamiliar. (Categorization is the process the brain uses to understand external signals.)

Another application of recent research to the field of choral music is in handling problems with adolescent singers. We know very well that when conducting a high-school choir, for example, you have to deal with a lot of emotional outbursts: crying, mood swings, inconsistency (Santrock, 2008). These drive us crazy. But we should know that such adolescent behavior is part of the process of the brain growing. Indeed, at that age, the amygdala (the seat of emotions) plays a huge role in behavior because the frontal lobe (the seat of our rational thinking) is not yet fully developed (Papalia, Olds, & Feldman, 2009). Knowing this and many other things will help us to deal with problems with more awareness of their real nature. It will probably suggest that we look for psychological support rather than simply shout more. We know also that recent discoveries can help us make our practices more effective by knowing the right colors for the environment and knowing that some humor really helps the process of learning.

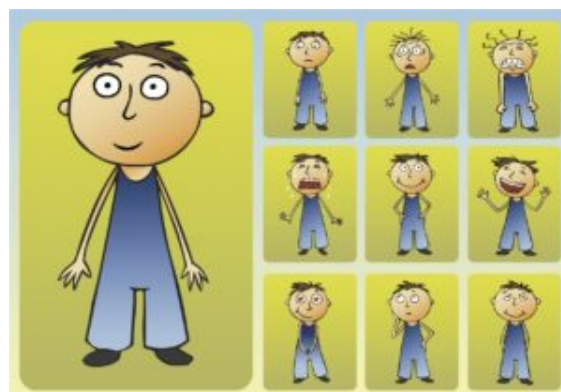


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These are only a few examples of the potential of this new approach to our choral music-making. New papers and research findings present us with new perspectives about our brain and the potential to use and develop it for any human activity, including music. Connecting science and art can give potentially surprising results. And indeed this is not a new thing, because we know this was the medieval view of music, a reflection of a superior perfection and order.

Many of these new discoveries are well accepted and have already been implemented in educational settings. We really think that it is seriously time to transpose these research findings into the choral field. Indeed, we know that many musicologists have already started to analyze musical compositions from the perspective of the listener's cognitive process (Marsden, 1987). We need to be aware now that we cannot simply turn away, at a time when the world is changing so dramatically. We know we must accept this challenge and start looking at our choristers as more than just voices, because voices are the product of the brain's work. Thus conductors conduct brains, and the more they are aware of how those brains work, the more they will obtain the good results they struggle to achieve.

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