

ATIA – Sample English Text for Part 2 Translation Exam

Music and the Brain

Although interest in music and the mind dates at least as far back as Plato, the neuroscientific study of music is a young discipline. Our approach reflects the belief that research on music has the potential to illuminate fundamental aspects of human brain function, including language, the active nature of perception, and the processing of complex sequences that unfold in time.

Both music and spoken language feature rich rhythmic and melodic structure. Furthermore, both employ a finite set of basic elements (such as tones or words), which are combined in principled ways to create novel, hierarchically organized sequences. That is, music and language share the crucial feature of being syntactic systems.

Perception is not just a passive registering of what is “out there” in the world, but a constructive process involving active interpretation, as well as integration across brain systems. The phenomenon of a musical beat nicely illustrates this fact. Every human culture has some form of music in which listeners perceive a regular beat, and in every culture, people move in synchrony with the beat of music. Musical beat perception and synchronization may seem like simple abilities since they are so widespread, but appearances can be deceptive. Humans are the only species to spontaneously move in synchrony with a musical beat, and can extract a beat from complex rhythmic patterns. Understanding how the auditory and motor systems are coupled in beat perception and synchronization could help in the development of treatments for certain motor disorders, such as Parkinson’s disease, in which rhythmic music is known to help people initiate and coordinate movement.

267 Words

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