

Are Animals in Tune with Music?

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We all have an animal inside of us. It cries with emotion and begs for irrational indulgence. It's part of what makes us human and not mechanical; the ability to experience pleasure. It's the neurological map that lets us find music rewarding to listen to. Consider you own an Amazon Alexa – a device that uses speech recognition to perform tasks on command – may at some point play music for you, but she will never, not once in her life, jive to that funk like you do.

A study by Salimpoor et al. in 2009 suggested that the rewarding aspect of music is related to the emotional arousal during the experience. The more arousal, the more reward, reflected by changes in heart rate, body temperature, respiration and so forth. Thus, our first clue: musical acoustic cues work with emotions to proportionately affect our sense of pleasure.

Listening to music; despite having no obvious biological value (Salimpoor, 2009), why is it that certain acoustic cues trigger significant and immediate physiological changes? Why is it that I cry to the violin theme of Schindler's List but not to the sound of a rock hitting a tree?

Perhaps it's our ability, whether learned or innate, to imagine ourselves in the context of *how the music feels*. For example, a fast rhythm stimulates pressure and urgency while a slow rhythm relaxation and passiveness. A minor chord is sad while a major chord is happy. A low pitch conveys power while a high pitch conveys light-heartedness. Perhaps this ability is a combination of our intuitive musical sense and our imagination that lets us translate the musical experience into emotion, thus pleasure; our second clue.

To ask if musical pleasure applies beyond our species, we must consider to what degree our intuitive musical sense is innate or learned. Given that the musical experience is universal cross-culturally (Nettle, 1983; Koelsch, 2014), it might partially be innate, but because it varies so much it must also be learned.

If our neurocognitive responses are learned, the pleasurable musical experience is likely to be unique to everyone since we all learn differently. Thus, we learn to appreciate unique types of musical genres and instruments over others. This may not come to you as a surprise. What might be surprising to you is how we understand music before we learn about it. Multiple articles “suggested that children below the age of 6 years do not readily associate major and minor keys with a mood” (Gerardi & Gerken, 1995; Gregory et al., 1996; Kastner & Crowder, 1990). This means we learn more than just different genres; we literally have to learn what sad and happy sound like.

Now if the experience is innate, then perhaps animals may have some degree of musicality in them. To do so, “animal studies have implemented a battery of tests to understand what animals think, perceive, and feel” (McDermott & Hauser, 2005). After all, birds sing and whales hum. Unfortunately, McDermott and Hauser provide us their answer that, “human and animal songs are neither homologous nor homoplastic,” essentially meaning birdsong is not musical in bird language, just communicative. On the other hand, rhesus monkeys can distinguish melodic versus non melodic sounds (Wright et al., 2000), and my dog Albert certainly has a keen taste in Beethoven when he howls along. Although, Albert may have learned this growing up in the household. The innateness of music perception still doesn’t seem natural to animals.

So, let us apply our two clues. Clue one: more emotional arousal relates to more pleasure. Clue two: innate and learned musical intuition together with imagination help shape our emotional response. Supposedly, all these variables exist on spectrums. Since animals are less cognitively developed than humans, they arguably have narrower limits to these spectrums which may in turn narrow their final perception of music, if it exists at all.

This is to say, without a high complexity of emotion, imagination, and experience hearing melodies, music remains almost exclusively a sweet pleasure that only you, and your very own human mind, can appreciate, savour, and enjoy.

Citations

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