

Music-colour Synaesthesia: A Review

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Background

Synaesthesia is a relatively rare condition that manifests itself in approximately four percent of the population, occurring automatically and, generally, with consistency over time. Described as a 'union of the senses' (Cytowic, 1989) it typically arises as result of stimulation in one sense (an inducer) triggering a reaction in an unstimulated second sense (a concurrent).

Aims

The aim of this paper (see Curwen 2018) is to provide a commentary on the existing literature that explores a form of coloured-hearing, arising on hearing music: music-colour synaesthesia.

Main contribution

The main neurological hypotheses: the hyperconnectivity theory and the disinhibited feedback theory advocate synaesthesia to be entirely perceptual resulting from either a hyperconnectivity between sensory areas of the brain, or a diminution of inhibition through feedback pathways, respectively. Although some support has been evidenced for each in the examination of grapheme-colour synaesthesia (Neufeld et al., 2012) direct evidence categorically supporting either hypothesis is currently lacking. Later theories promoting the notion of 'ideaesthesia' (Nikolić, 2009) have highlighted the importance of the role of concept and meaning in the understanding of synaesthesia and have pushed for the move away from the purely perceptual sensory to sensory explanations for its cause and towards further research into the role of concept as inducer. Commonalities between synaesthetic experience and normal cross-modal perceptions in non-synaesthetes suggest that non-synaesthetic people appear to use comparable mental processes to make associations between colours and music, and to make similar pairings at a conceptual level. From this it has been argued that certain types of synaesthesia may simply be developed as a useful method for a child to more easily process its first encounter with abstract concepts, such as music unfolding over time afforded by the 'extra qualia' (Wager, 1999) of their synaesthetic experience.

Implication

The different types of phenomenological experience in music-colour synaesthesia and the individual differences between synaesthetes, together with the implications this has for the current methods used to verify the condition, reinforce an existing argument that a single mechanism is not sufficient to explain the phenomenological experiences that arise on hearing music, either from a sensory musical stimulus, or from a non-sensory musical concept (Auvray & Deroy, 2015).

References

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