

The Sound/Colour Relationship in Artistic Practice: Visualising Synaesthetic Principles

The idea that there is a natural correspondence between our perception of sound and colour exists throughout the history of art and philosophy. Some artists and composers have even claimed that they could ‘see’ music or ‘hear’ colours, such as Olivier Messiaen, Alexander Scriabin, and Wassily Kandinsky. It is only in the last century that synaesthesia, the experience of multiple senses from a single sensory input, has gained recognition as a legitimate (but rare) neurological condition, due to the advancements in the neurosciences. In the proposed presentation, I will introduce and discuss the phenomenon of synaesthesia in music, present the related experiments conducted as a part of my PhD research, and showcase the possible audiovisual solutions in integrating the synaesthetic sound-colour relationship in the interdisciplinary performance practice. This will be done through a demonstration of a live electronic audiovisual work. The aim of the research is to address the lack of a comprehensive method of relaying musical ideas in visual ways, and to improve musical performance practice through an exploration of synaesthesia and our cognitive connection between colour-based and musical perceptions. While there have been attempts at reconciling music and colour (as seen in the Colour Music movement and the works of Wallace Rimington), none employ cognitive means, instead relying on comparing the mathematical properties and applications of the two elements. As shown in the research of Sun Xiufen [Sun et al. (2018), PeerJ, DOI 10.7717/peerj.4443], semi-synaesthetic sound-colour pairings have strong positive influences on cognitive tasks. My research consists of a study on the artistic and scientific literature on synaesthesia, and experimentation on the cognitive effects of semi-synaesthetic colour-music pairings in the artistic practice. Existing claims on the sound-colour relationship and the effects of the synaesthetic associations on musical performance and musical perception are tested in experiments where the effects of coloured musical elements (graphic scores, lighting) on the musical practice (sight-reading, improvisation) is assessed. The outcome of the research will be beneficial to artists and artistic researchers in understanding how our senses interact when concerning interdisciplinary artistic performance, and in applying interdisciplinary and inter-sensory concepts to their performance practice.



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Umut Eldem is a composer, musician, and researcher. He started his composition education in the Mimar Sinan State Conservatory. He continued his Master’s studies in the Royal Conservatoire of Antwerp. In the same institution he has done his Post-graduate research, *‘Foundations of Cross-Modal Analytic Thinking’* on the applicability of synaesthesia and colour as an inter-sensory musical concept. He has given lectures on his research of synaesthesia, and had his audiovisual works combining sound and colours performed in Belgium, Turkey, and Luxembourg. His research project *‘Synaesthesia and Sound-colour Associations as An Interdisciplinary Metaphor’* has explored using synaesthesia as an interdisciplinary analysis and performance method. He is currently a PhD researcher in the Royal Conservatoire of Antwerp, and musical director of the theatre collective Mixed & United. His current PhD research intends to take the results of his previous research and develop them into an inter-sensory theory of audiovisual art.