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Forum 6 – 24 April 2008 - moves08**Digital synaesthesia: hearing colour / seeing sound / visualising gesture**

Contribution type: practice based research / historical context

Abstract

Starting with Merleau-Ponty's theories of multi-sensory perception, this paper will examine the concept of synaesthesia, in which the senses are cross-wired, and the computer as a synaesthetic medium.

An overview of a century of artists and animators from Kandinsky to the MTV generation who have been fascinated by the relationship between colour / form and music will be presented. This will feature experiments that have been done to map colour values onto musical scales and to play colour through 'light organs' derived in design from musical instruments.

A few animators have gone so far as to create visual elements that translated into sound. For example, Norman McLaren, Oscar Fischinger and the Whitney bros all experimented in generating sound from visual media. In the contemporary digital environment, however, the possibilities for interchange between colour and sound are vastly increased.

Colour as represented by a computer is an entirely synthetic process. A computer user creates colour through the use of algorithms (vector graphics) and /or a matrix of pixels (bitmaps) enabling an average desktop computer to potentially create approximately seventeen million distinct colours. The computational power now available on an average machine is capable of instantly processing centuries of knowledge about theories of colour.

Just like colour information, digital audio can have a relationship with the real if it has been sampled from a natural source or it can be created entirely synthetically within the digital environment. Audio is often represented in software as a waveform – representing a natural pattern of vibration. Audio can also be represented by a colour spectrum. Indeed, in a digital environment both colour and sound information are stored as a series of digits – the same basic building blocks. Thus, digital technology now enables colour and sound to be linked as never before.

Birgitta will present some of her own projects in which colour has generated sound and gesture has been visualised as imagery. She will also show work-in-progress on a series of automata activated by light and physical proximity.

Biography:

Birgitta Hosea is a digital artist, freelance animator and Course Director of the Postgraduate Diploma in Character Animation at Central Saint Martins. She also works as a presenter and consultant for Adobe and is the author of 'The Easy Guide to Flash' series for Focal Press. She is currently registered for a PhD/MPhil at Central Saint Martins.