Synaesthetic Colour Responses to letters of the Alphabet: an investigation through Fine Art Textiles

My PhD is a practice and theory based study on colour and grapheme synaesthesia. This paper deals with the methods implemented to realise this research. The condition called Synaesthesia occurs when information that is normally processed separately in the brain is evidenced/revealed simultaneously, producing visual and haptic sensations concurrently (Robertson & Sagiv 2005; Dann 1998; Cytowic & Eagleman 2009). Some synaesthetes experience particular colours when presented with the alphabet or text and it is this category of synaesthesia (Robertson & Sagiv 2005; Dann 1998; Cytowic & Eagleman 2009; Ward 2008) that I focus on.

This paper is concerned with ways in which grapheme colour synaesthetes experience colour and the potential of that experience through its reconstruction within a fine art textiles practice. In order to unravel some of the complexities that this area presents, it needs to be established whether the colour sensations perceived by grapheme synaesthetes can be reconstructed, so that non-synaesthetes have an opportunity to gain more awareness of the colour photisms/personal colour perceptions a grapheme synaesthete experiences. Synaesthesia has been defined “as occurring when stimulation of one sensory modality automatically triggers a perception in a second modality” (Harrison and Baron-Cohen, 1997, p3). A letter of the alphabet may for example
involuntarily trigger a specific colour for an individual with grapheme synaesthesia.

In this paper I will be addressing the problem of colour reconstruction from the perspective of my practice as a colour specialist within the field of fine art textiles. The methods implemented for the process of colour reconstruction for this study combined the personal verbal colour descriptions of the five synaesthete participants with the analogue colour chips from the Munsell Book of Color vols 1&2 (serial number 55627021109). These books contain nearly one thousand six hundred colour chips that are arranged according to the Munsell colour-order system of value and chroma, value being the lightness or darkness of a colour and chroma being the relative intensity of a colour. Each page represents one hue with colour chips that can be removed from the page to facilitate colour comparison. There are numerous colour systems such as Pantone, NCS and Oswald for example, and all of them have their particular strengths and weaknesses. For this study, I have found the Munsell colour system to be helpful and easy to use. It establishes a link between the physical/visual colour examples alongside the verbal colour descriptors of the experienced/conceptual colour, reducing the possibility of any ambiguity of language facilitating the transition between the visual and conceptual colour experience. The precise colour notation and reconstruction could only commence once this process of verbal and analogue evidence had been satisfactorily established.

It might be helpful at this stage to explain that earlier on in my career I was a free-lance colour matcher for the textile industry and this along with my early training at art school enabled me to be able to assess a colour with visual accuracy and thereby replicate/match a colour to a sufficient level of precision.
The methodology for reconstructing the individual colours of each of the synaesthete’s personal letter colours was a systematic process of deconstruction to reconstruction, a breaking down of the constituent parts that represented each letter colour. By visually calculating the percentages of each colour that made up the colour/shade, it was possible to reconstruct an approximation of each colour and through a process of refinement and adjustment arrive at a visual conclusion.

Once the matching process was completed, the colour would be sent to the synaesthete for critical analysis. The length of this process varied considerably and in a few instances took up to five attempts before the shade matched the colour experience of the participant. Each colour matching has been recorded and notated so that the process of matching can be tracked. The relatively small scale of the working group of participants underlines and reinforces the qualitative nature of this study.

This is a study in which each of the participant’s experience is critical and central. It does not aim to quantitatively analyse grapheme synaesthesia, but rather to work qualitatively with a small number of participants to understand/establish the stability and specificity of their letter colour photisms/ personal colour perceptions. Each participant in this study is/becomes their own ‘constant’ as only they can verify whether their particular photisms have been reproduced accurately and to their specification. The collaborative nature of the work with case studies, questionnaires and conversations, requires constant reflection and projection; the research is naturally “practical and applied”, and has been “undertaken as part of practice rather than a bolt-on addition to it” (Denscombe, 2014 p123).
I have utilized my long-term experience as a dyer and weaver to establish a series of art works that relate to the data gathered from the participants in this study. To date I have designed a series of five limited edition Alphabet colour books. All the pages will be loose leaf, allowing them to be arranged in specific but variable orders for letter colour nomenclature and colour classification comparisons with each participant. This facilitates the possibility of cross-referencing the description variance on colours that fall into the same colour classification. Thus enabling multiple arrangements of data to be visually accessible at a glance. With the five sets of coloured alphabets that were matched to the synaesthete’s specifications, I have begun to produce a series of woven textiles that reflect my responses to the colours that have been reconstructed. These take the form of a series of woven paint charts that set out to explore classifications of colours extracted from the combined alphabet sets. For example, I have calculated that there were eleven colour classes, with some borderline classifications such as blue/green, yellow/orange, red/violet, etc. From the one hundred and thirty letter colours matched I was able to identify the following colour classes:

1) twelve yellows,
2) nine oranges,
3) eleven reds,
4) nine pinks,
5) five violets/purples,
6) thirteen blues,
7) fourteen greens,
8) eleven blacks,
9) sixteen greys,
10) nine whites,
11) nineteen browns,
The intention is to weave these classified colour sets into the form of paint charts so that each block of colour will be separated by a neutral non-coloured field, enabling each letter colour to be identified without being compromised or altered by the colours that surround them.

The first woven paint chart will take each participant’s set of colours in order A-Z. Each woven panel will be presented vertically, ‘A’ being at the top and ‘Z’ at the bottom. Neutral panels will separate each vertical strip/panel of letter colours. There will be eleven panels/strip in total, five ‘A-Z’ and six neutral panels. This first chart then sets the reference for all the remaining charts, enabling easy visual cross referencing of the colours. In this way the participants should be able to identify their personal letter colours within the first chart, as the order of the colours will reflect the order of their alphabet letter colours. I am interested in discovering whether the participants will remain able to identify their letter colours once they have been taken out of context. For example, the second paint chart will consist of the twelve yellow shades identified for the first colour category previously identified. As already mentioned, I have identified eleven classifications of colours from within the five alphabets matched.

One of the intentions for separating the individual participant’s colours into the classifications listed above was to test how strong the colour photisms of each participant were once their colours had been taken out of context and to test whether the grapheme synaesthetes I have been working with were able to automatically over-ride the usual colour perceptions that shift according to the colours that they are surrounded by. In Joseph Albers Interaction of Colour (1963), he devised a series of colour exercises that demonstrated how, and as he put it “... color deceives continually”. The second intention was to test whether the participants had
different opinions regarding their colours, as some of them have remarked that they did not like a lot of their colour photisms, and seemed to have no control over the colours that they perceived when stimulated by text. I am interested to take this idea further by testing whether their attitude towards their colours shifts/alters once their colours are situated amongst a sea of related shades that are not theirs.

I will be gathering data from the synaesthetes on their responses to the textiles produced which are my visual responses to their colours. This is a new departure in my practice as an artist, as I have never before used other people’s colours or readymade colours to produce art work, always preferring to manufacture my own, and I am interested to record my responses alongside those of the participants in an attempt to square the circle. Once the series is completed I intend to exhibit the work alongside the participants’ responses and draw together the complex threads and connections that have manifested over the course of the research. The methods of recording the participant’s responses to my work will be through dialogue that may be filmed and written notes, so that a commentary of the participant’s thoughts and perceptions can be recorded alongside the work that I produce.

References:


Munsell Colour Atlas

NCS Colour Atlas


Bibliography:

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