Colour Categories in Infancy and Early Childhood

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The origin and nature of colour categories in language and cognition has been the concern of researchers from a range of disciplines such as psychology, anthropology, cognitive science, linguistics and philosophy for many decades. One major issue is whether the colour spectrum is arbitrarily carved up into categories, or whether there are universal constraints on where these categories form. In support of the argument that there are constraints on how language categorises colour, there is converging evidence for categorical responding to colour before the acquisition of colour terms (e.g., Franklin & Davies, 2004; Franklin, Pilling & Davies, 2005). This talk will outline a series of studies which have attempted to establish the nature and underlying mechanisms of these pre-linguistic categories. In one study the Event-Related-Potential technique is used to identify the neural markers and underlying mechanisms of categorical responding to colour in 7-month old infants (Clifford, Franklin, Davies & Holmes, 2009). Another set of studies have considered how pre-linguistic colour categories are lateralized in the human brain. Whilst categorical responding to colour in adults is stronger in the left hemisphere (e.g., Gilbert, Regier, Kay & Ivry, 2005), in 4-6 month-old infants the category effect is lateralised to the right hemisphere (Franklin, Drivonikou, Bevis, Davies, Kay & Regier, 2008). The change in lateralization appears to be related to language as there is a right hemisphere bias for toddlers who do not know the terms for the relevant categories, yet a left hemisphere bias for those who have learnt the terms (Franklin, Drivonikou, Clifford, Kay, Regier & Davies, 2008). These findings suggest that there is a right-hemisphere substrate for categorical responding to colour that is replaced or suppressed by the mechanisms of language once colour terms learnt. The implications for our understanding of the origin and nature of colour categories in language and cognition are discussed.

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