

Comment and discuss the article Walker *et al.*(2010) “Preverbal Infants' sensitivity to synesthetic cross-modality correspondences” *Psychological Science*, 21, 21-25.

You can use the following questions, but you are encouraged to expound on any other aspect of the article that you think important.

1- Is the visual dimension of *hue* (the colors of rainbow) prothetic or metathetic? And what about the visual dimension of brightness (dark as opposed to light)?

2- In the study of Lewkowicz and Turkewitz (1980) referred to in the second paragraph, infants were shown to associate brighter objects with louder sounds. Why is it not necessarily synesthesia, according to the authors?

3- What is the “unlearning hypothesis”?

4- Why do the authors use *dynamic* stimuli?

5- In many experiments with preverbal infants, looking times are shown to be longer for “surprising” events. For instance, a typical study on number perception might consist in presenting repeatedly a set of N dots to a baby. At each new presentation of a set with the same numerosity, looking time is measured and typically decreases (showing habituation). Then a set of $N \pm d$ dots is presented, and if looking time increases, this is interpreted as evidence for the fact that the infant discriminates between N and $N \pm d$ dots. If the looking time stays at baseline, this is taken as evidence that the infant does not discriminate between these numerosities. In this kind of experiments, increased looking times are taken as behavioral evidences for violations of expectations.

Compare with the present experiment. Discuss.

6- Can you think of alternative interpretations of the results, that would not rely on the notion of synesthesia?

7- What would be the ultimate test of the synesthesia hypothesis? Can you think of other tests of the synesthesia hypothesis in preverbal infants?