**Introduction**

With each saccade, a visual object shifts its eccentricity on the retina and so dramatically changes the form of its cortical representation. Some form of learning undoubtedly associates these different forms to produce a constant perceived shape.

Indeed, several studies claim that the visual system adapts the percept to better match the foveal view. Recently Herwig et al. (2015) found that the perception of shape demonstrates this saccade-contingent learning effect.

The present study further examined this calibration of peripheral perception. More precisely, we replicated the earlier study and so dramatically changes the form of its cortical representation. Some form of learning undoubtedly associates these different forms to produce a constant perceived shape.

**Methods**

- **Learning phase:** associate a peripheral shape with a modified foveal shape, with or without saccades

**Experiment 1:** Are saccades required?

- Fixation 500-1000 ms
- Max. latency 700 ms
- Delay 0-1000 ms

**Experiment 2:** Is a strict temporal contiguity required?

- N = 16
- N = 32
- Test phases (Expt. 1 & 2)

**Results**

The match of the foveal test shape to the perceived shape in the periphery is biased toward the shape associated during the learning phase. The bias is similar with and without saccades.

**Condition order**

Condition order had no significant influence on judgements.

**Conclusion**

During peripheral object recognition, the perception of shape was biased toward the previously associated post-saccadic foveal shape (cf. Herwig et al., 2015). We found that the learning of the correspondence between the pre- and post-saccadic retinal stimulations persists even with a 1000 ms delay.

Most importantly, a saccade was not required in this learning. This suggests that a general associative learning process contributes to the peripheral perception of shape – and to our impression of object constancy across saccades.

**References**


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Contact: celine.paeye@gmail.com