

Bases psicofisiológicas dos fenómenos de consciência visual

Results:

1. Activity in hMT+/V5 (the human motion complex) is related to the perception of real surface motion, apparent motion (AM), and illusory motion aftereffects (MAE). We have found that the network within hMT+ that creates a continuous motion percept from discontinuous inputs can interact constructively with the network that integrates real moving surfaces and destructively with MAE processing.
2. We have found that the hMT complex directly encodes and triggers decision processes related to surface segmentation, even when perception is dissociated from veridical stimulus properties.
3. Visual surface integration is asymmetrically modulated by contextual surround coherence: we asked observers to report whether they perceived transparent or non-transparent surface motion under multiple contexts. Surprisingly, only transparently perceived surrounds induced significant perceptually congruent central bias, thereby vetoing motion integration. These results are consistent with findings suggesting partially separable and hierarchically distinct neurophysiological substrates of pattern (non-transparent) and component (transparent) motion processes.
4. Genetically determined neuroretinal impairment in Williams Syndrome predicts systems-level deficits independently of cortical dorsal stream integration deficits: our findings of independent mechanisms of damage in WS that explain separate sensory contrast sensitivity and local motion deficits, challenge theories that explain coherence deficits based on magnocellular impairment, such as in dyslexia.
6. Our work separates for the first time retinal and cortical mechanisms underlying visual functional asymmetries : and shows that they are distinct in temporal and spatial vision.

Published Work:

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