Seeing dual percepts in apparent motion quartets during passive and volitional perception

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INTRODUCTION

Apparent Motion Quartet (AMQ)

Experienced as moving vertical (V) and/or Horizontal (H) depending on the aspect ratio (height/length)

Are V and H mutually exclusive percepts?

We show it is possible to experience “both” or dual percepts in the AMQ where each dot splits into two paths.

Two paradigms: passive and volitional perception

Passive: dual percepts and the point of subjective equality (PSE)
Volitional: effects of instruction and dual percepts at the PSE

METHOD

Experiment 1: Passive Perception

One-Shot Paradigm:
A single frame transition was presented at different aspect ratios, ranging from .25 to 3. Participants reported V, H or “Both”

Experiment 2: Volitional Perception

Intentional Cue Paradigm:
Same as above except AMQ is presented at participant’s PSE and they are instructed to “intend to see” either V or H at start of trial.

RESULTS, N=34

Passive Perception

Example Participant PSE

Volitional Perception

Volitional Control at PSE

“Both” While Intending

CONCLUSIONS

Passive Perception: Dual (split) percepts cluster around the point of subjective equality.

Volitional Perception: Control is more effective for horizontal intention, while dual percepts are more likely during vertical intention at a participant’s point of subjective equality.