New Research on Sensation and Perception From Psychological Science

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Read about the latest research on sensation and perception published in *Psychological Science.*

Discrimination and Categorization of Actions by Pigeons

Yael Asen and Robert G. Cook

Recognizing different types of behaviors is essential for an animal's survival. In this study, researchers examined if and how pigeons classify actions by training them to discriminate among walking and running animal models. Pigeons' knowledge of movement in one animal transferred into knowledge of movement in models of other animals. Additionally, pigeons' movement discrimination abilities remained intact even when the direction of the movement was reversed and the speed of the movement altered. However, inverting the images of the animal models, using static pictures of the models, or randomizing the order of the picture frames used to represent movement eliminated pigeons' movement discrimination abilities. These findings suggest that pigeons discriminated the different behaviors by recognizing the animal's sequence of movements over time, indicating that pigeons can categorize motion-based behavioral actions.

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Mapping the Invisible Hand: A Body Model of a Phantom Limb

Matthew R. Longo, Catherine Long, and Patrick Haggard

In this study phantom limb sensations were examined in C.L., a 38-year-old woman born without a left arm. At C.L.'s direction, an experimenter used a baton to mark the spatial locations of components of her right hand (which had been occluded) and of her phantom left hand. The researchers found similar distortions in her perception of the shape of her phantom left hand — such as underestimation of finger length and overestimation of hand width — as in perceptions of her real hand. The distortions reflected differences in the amount of somatosensory cortex relegated to each hand component. This indicates that phantom limbs reflect the organization of the somatosensory cortex and are not generalizations of other limbs.

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Interactions Between Apparent Motion Rivalry in Vision and Touch

Verena Conrad, Marco Pino Vitello, and Uta Noppeney

Although the brain can alternate between different perceptual explanations of sensory stimuli, we are still unsure whether this process can interact across different senses. Researchers attached 2 lights and 2 vibrators to participants' index fingers and had them hold their fingers so that the lights and vibrators marked the four corners of a square. The lights and vibrators were activated in various sequences to create unisensory (light or vibration), visuotactile incongruent (light and vibration on opposite sides), or visuotactile congruent (light and vibration on the same side) apparent motion. Participants were asked to report when the direction of the perceived motion switched between horizontal and vertical. The researchers found increased dominance times and an increased percentage bias on visuotactile congruent trials, which suggests visual and tactile senses were interacting.

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