Congenitally Blind Individuals Theories and Inferences About Object Color

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Abstract

Locke argued that persons born blind do not possess true knowledge about color. While prior studies find some knowledge of color among blind individuals, questions remain about the depth of this knowledge. Do blind individuals merely learn inferentially shallow verbal associations (e.g., bananayellow)? We hypothesized instead that blind individuals are more likely to acquire causally-relevant color information. Blind (n=20) and sighted adults (n=20) reported colors of natural kinds (e.g. banana) and artifacts (e.g. car) and judged the likelihood that two instances of a type have the same color. Relative to the sighted, blind participants were less likely to know specific object colors (e.g. banana-yellow), but made identical inferences about color consistency (more consistent colors for natural kinds). Inferences were similar across groups even for novel objects. Further, blind individuals gave detailed and coherent causal explanations of color origins. Inferentially rich knowledge of sensory categories can develop without first-person experience.