

# The Continuity of Geometric Intuition between Monkeys and Humans

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## Abstract

Recent research portrays humans as the only species with a unique ability to detect geometric shapes with Euclidean features (e.g., parallel sides), a phenomenon known as the regularity effect. Studies show humans exhibit this effect across ages, cultures, and educational levels, while non-human primates do not. One interpretation credits this human advantage to symbolic representations, whereas non-human primates rely on low-level visual features. Our findings challenge this theory: with sufficient experience, non-human primates also show the regularity effect, and their accuracy is predicted by “symbolic” geometry models, as in human children. Notably, performance in both monkeys and children is accounted for by a mixture of symbolic and non-symbolic models of geometry. These findings question the claim that symbolic models are language-based or exclusively human, and strongly imply that humans and monkeys share abstract mechanisms to represent geometry. Ultimately, this overlap underscores the continuity between species.