Newly hatched chicks can instantly recognize objects with vision, even if they've only ever experienced them by touch

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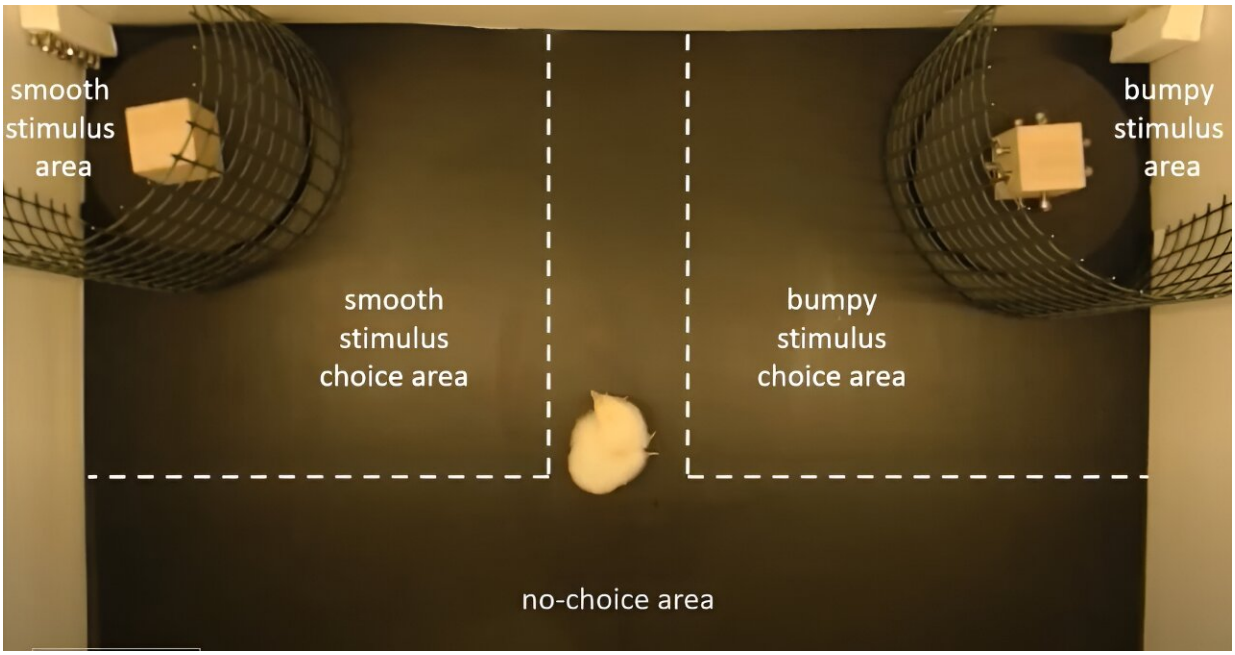

Credit: Prepared Minds Lab

In a study published in *Biology Letters*, researchers at Queen Mary University of London have cracked a centuries-old philosophical

question about sight and touch. Led by Dr. Elisabetta Versace, the team used chicks to finally answer the question posed by William Molyneux in 1688: Can someone born blind instantly recognize objects by sight after gaining vision?

Molyneux proposed a scenario where a person blind from birth learns to distinguish a cube from a sphere by touch. Would they then be able to recognize these shapes visually upon gaining sight? Studying this question in humans is ethically challenging. However, Dr. Versace and her team used chicks, which hatch with well-developed sensory systems.

"Unlike humans and other mammals," explains Dr. Versace, Senior Lecturer at the School of Biological and Behavioural Sciences, "chicks hatch with developed sensory systems. This allowed us to raise them in darkness and expose them to either a smooth or bumpy object for the first 24 hours of their lives—their first-ever tactile experience."

Remarkably, when exposed to light for the first time, chicks that had touched a smooth object preferentially approached the visual representation of a smooth object, and vice versa. This suggests that chicks can inherently link touch with sight, even without any prior visual experience.

"This finding contradicts traditional theories," says Dr. Versace. "It suggests our brains are pre-wired to make connections between different senses, even before we have ever used them together."

This breakthrough opens exciting new avenues in understanding how our brains process information across different senses. It could also lead to a deeper understanding of how our senses develop and interact with the world around us.

More information: First-sight recognition of touched objects shows that chicks can solve Molyneux's problem, *Biology Letters* (2024). DOI: 10.1098/rsbl.2024.0025. royalsocietypublishing.org/doi …1098/rsbl.2024.0025

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