

The Representation of Spatial and Temporal Extent: Evidence for Structural Similarity in Infancy

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How do we represent and reason about abstract concepts such as time? Linguists have long noted that when we describe our temporal experience, we co-opt the language of space (as in *The movie was long*). This has raised a provocative proposal: perhaps we use the same language for space and time because of structural similarities they share. We evaluate this proposal, focusing on whether structural similarity exists between representations of temporal duration and spatial extent. Experiment 1 asks whether adults are better able to associate spatial entities (lines) with temporal entities (tones) when these are positively correlated in 'length'. Experiment 2 asks whether the structural similarity is itself motivated by shared language by testing pre-linguistic 9-month-old infants. Results suggest that structurally similar representations exist prior to language acquisition and are continuous into adulthood. These studies help to advance the debate over the representation of abstract concepts.