## "Space-Time Hallucinations:" A Cognitive Poetic Approach to Time in Comics

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The field of comics studies has abundantly illustrated the creativity facilitated by the medium. However, the crucial questions of how words and images seamlessly meld within and between panels—what McCloud (1993) influentially called "closure"— remain under-theorized and problematic (Cohn 2010). A discussion of the construction of time makes evident the need for a more nuanced approach.

Time in comics emerges through imagic and textual prompts within or between panels (see Cohn's [2010] overview). Temporal understanding can be prompted through three basic configurations: panel specific prompts, inter-panel connections, and panel layouts and sizes. For example, single panels can have multiple time-frames invoked simultaneously (Eisner 1985), such as through complex dialogue (which could take minutes to actually occur) tied to a single static image (which captures only a fleeting moment). Similarly, a series of panels can create a sense of temporal stasis (through repetitive imagery or language) or rapidity (through dramatic changes between panels). The size of panels and the layout of the page also suggest durational qualities, such as of rapidity through a series of panels that vertically descend the page, concluding the reading process more quickly. These three intra and inter-panel configurations— which variably include blends of images, texts, and layouts-prompt an array of temporal qualities that complicate a simple notion of closure. To survey these types of temporal construction, I will examine panels and sequences from a few works, including Chris Ware's influential graphic novel, Jimmy Corrigan: The Smartest Kid on Earth (2000), which offers "a mind-boggling polyphony of space-time hallucinations" (Raeburn 2004: 9. Cf. Banita 2010; Kuhlman & Ball 2010).

To unpack the construction of these "hallucinations," I will suggest a cognitive methodology that illustrates the complex processes behind them, thereby offering a more nuanced view of closure. My proposed methodology will link the theories of embodiment, mental simulation, and conceptual integration (CIT or blending) to elaborate on how we make inferences and develop emergent understandings about time from visual and verbal prompts. These prompts are distinguished, selected, and crossmodally blended to create emergent understanding (Fauconnier & Turner 2003; Narayan 2012; Parrill & Sweetser 2004). Cognitive embodiment offers the infrastructure that creates coherence by maintaining connections to multimodal experience, grounding and constraining content mappings (Gibbs 2005). Mental simulation provides the inferential process that draws from embodied knowledge to facilitate the blending of modes for comprehension by distinguishing the salience of prompts and their applicability to the emergent meaning (Bergen 2005). This proposed methodology offers a means of tracing and explaining the three basic constructional strategies in comics, addressing the question of closure while promoting an explicit integration of these cognitive theories. This approach to comics further corroborates recent cognitive research on space-time (Casasanto & Boroditsky 2008), but also extends it to suggest the central role of mental

simulation as a mechanism for explaining the implicit judgments, intuitions, and mental recycling necessary for understanding. By drawing these theories together through an analysis of comics, I suggest an embodied and constructional view of temporal understanding.

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