

How the brain maps out ideas and memories

As the philosopher Immanuel Kant put it, the concept of space serves as the organizing principle by which we perceive and interpret the world, even in abstract ways. “Our language is riddled with spatial metaphors for reasoning, and for memory in general,” said [neuroscientist] [Kim Stachenfeld](#).

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[F]or at least two of our faculties, memory and navigation, those metaphors may have a physical basis in the brain. A small seahorse-shaped structure, the hippocampus, is essential to both those functions, and evidence has started to suggest that the same coding scheme — a grid-based form of representation — may underlie them. Recent insights have prompted some researchers to propose that this same coding scheme can help us navigate other kinds of information.

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[I]n [one recently published paper](#), [neuroscientist Thomas Wolber] and his colleagues examined how the spatial navigation grid code changes in elderly people. They found that the signal became less stable, with the grid fluctuating between orientations — and that people with less stable grids were also much less adept at keeping track of their relative location when blindfolded and led along a circuitous course. Wolbers suggests that if the grid code is used to process many kinds of information and memories, it's possible that a pathology that destabilizes the spatial grid system might have a more general effect on the stability of memory and other areas of cognition.

Read full, original post: [The Brain Maps Out Ideas and Memories Like Spaces](#)