Explaining consciousness: These 2 brain networks show how we turn experiences into memories

One of the most recent studies showed a clear relationship between two brain networks critical to consciousness. In a paper published [March 11] in Science Advances, a team from the University of Michigan described their finding that the default mode network (DMN) and the dorsal attention network (DAT) are anti-correlated, meaning that when one is active, the other is suppressed. The team also found that neither network was highly active in people who were unconscious.

These findings suggest that the interplay of the DMN and the DAT support consciousness by allowing us to interact with our surroundings then to quickly internalize those interactions, essentially turning our experiences into thoughts and memories.

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The default mode network (DMN) is active when we're internally focused, thinking about ourselves and using our memory and imagination. The dorsal attention network (DAT), on the other hand, is activated when we're aware of and paying attention to the environment around us.

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The relationship between the two has been studied before, but the Michigan team's research yielded the first definitive proof that the DMN and DAT are, in fact, anti-correlated.

If you think about it, it makes sense; it's hard to be fully engaged with your surroundings and be deep in thought about yourself at the same time.

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