Figuring out what a memory looks like in the brain

[Janice] Chen and her colleagues found something odd when they scanned viewers' brains: as different people retold their own versions of the same scene [of BBC's Sherlock], their brains produced remarkably similar patterns of activity.

Chen is among a growing number of researchers using brain imaging to identify the activity patterns involved in creating and recalling a specific memory. Powerful technological innovations in human and animal neuroscience in the past decade are enabling researchers to uncover fundamental rules about how individual memories form, organize and interact with each other.

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[I]n humans, studies have identified the signatures of particular recollections, which reveal some of the ways that the brain organizes and links memories to aid recollection. Such findings could one day help to reveal why memories fail in old age or disease, or how false memories creep into eyewitness testimony. These insights might also lead to strategies for improved learning and memory.

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"It was a surprise that we see that same fingerprint when different people are remembering the same scene, describing it in their own words, remembering it in whatever way they want to remember," says Chen. The results suggest that brains — even in higher-order regions that process memory, concepts and complex cognition — may be organized more similarly across people than expected.

Read full, original post: How to see a memory