

2012年MBA英语阅读：串联现在与过去的记忆力 PDF转换可能丢失图片或格式，建议阅读原文

[https://www.100test.com/kao\\_ti2020/646/2021\\_2022\\_2012\\_E5\\_B9\\_B4MBA\\_c70\\_646387.htm](https://www.100test.com/kao_ti2020/646/2021_2022_2012_E5_B9_B4MBA_c70_646387.htm) Researchers have long known that the brain links kinds of new facts, related or not, when they are learned about the same time. Just as the taste of a cookie and tea can start a cascade<sup>1</sup> of childhood memories, so a recalled bit of history homework can bring to mind a math problem. For the first time, scientists have recorded traces in the brain of that kind of contextual<sup>2</sup> memory, the kaleidoscope<sup>3</sup> of thoughts and emotions that surrounds every piece of newly learned information. The recordings, taken from the brains of people awaiting surgery for epilepsy<sup>4</sup>, suggest that new memories of even abstract facts are encoded<sup>5</sup> in a brain-cell sequence that also contains information about what else was happening during and just before the memory was formed. The new study suggests that memory is like a streaming video<sup>6</sup> that is bookmarked<sup>7</sup>, both consciously and subconsciously<sup>8</sup>, by facts, characters and thoughts. Experts cautioned that the new report falls short of<sup>1</sup> revealing how contextual memory and different cues interact. some words might throw the mind into a vivid reverie<sup>2</sup>, while others do not. “ It ’ s a demonstration of this very cool idea that you have remnants<sup>3</sup> of previous thoughts still rattling around<sup>4</sup> in your head, and you bind<sup>5</sup> the representation of what ’ s happening now to the embers<sup>6</sup> of those old thoughts, ” said Ken Norman who did not participate in the study. “ I think they have very good evidence that this process is crucial to recording your memories. ”

In the new study, doctors from the University of Pennsylvania and Vanderbilt University took recordings from tiny electrodes<sup>7</sup> implanted<sup>8</sup> in the brains of 69 people with severe epilepsy. The implants allow doctors to pinpoint<sup>9</sup> the location of the flash<sup>10</sup> floods<sup>11</sup> of brain activity that cause epileptic<sup>12</sup> seizures<sup>13</sup>. The patients performed a simple memory task. They watched a series of nouns appear on a computer screen, and after a brief distraction<sup>14</sup> recalled as many of the words as they could, in any order. Repeated trials, with different lists of words, showed a predictable effect: The participants tended to remember the words in groups, beginning with one and recalling those that were just before or after. This pattern, which scientists call the contiguity<sup>15</sup> effect<sup>16</sup>, is similar to what often happens in the card game concentration, in which players try to identify pairs in a grid<sup>17</sup> of cards lying face-down. Pairs overturned close are often remembered together. Recording from the electrodes, the researchers looked for a neural<sup>18</sup> pattern that had a very distinct signature<sup>19</sup> it updated continually. They found a strong signal in the temporal lobe<sup>20</sup> of the brain. When participants recalled a word “ cat, ” for example the pattern in this region looked identical to when “ cat ” was originally seen on the computer screen. “ Here we have shown that the word before ‘ cat ’ has influenced the encoding for ‘ cat, ’ just as ‘ cat ’ has influenced the encoding of the next word, ” said Michael J. Kahana, an author of the paper. The way the process works, the authors say, is something like reconstructing a night ’ s activities after a hangover<sup>1</sup>: remembering a fact (a broken table) recalls a scene (dancing), which

in turn brings to mind more facts like the other people who were there. Sure enough, the people in the study whose neural updating signals were strongest showed the most striking<sup>2</sup> pattern of remembering words in groups. “ When you activate one memory, you are reactivating a little bit of what was happening around the time the memory was formed, ” Dr. Kahana said, “ and this process is what gives you that feeling of time travel. ” (593 words) 1 cascade

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