LINE ON LIFE

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Do You Remember? *

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Most of us have heard that memory fades with aging. (You don't remember hearing that?) However, recent studies indicate that only one type of memory suffers with aging.

Psychologists agree that there are at least three types of long-term memory. **Semantic** memory includes the knowledge and facts that we have accumulated over our lifetime – our personal identity, address, street names, relatives and all of our general information. **Episodic** memory covers specific life events – what happened on our first day of school, our first day, what we had for lunch yesterday and who was with us during these events. Lastly, **procedural** memory deals with certain ingrained skills – speaking grammatically, tying our shoelaces, driving a car, typing or swimming.

New studies indicate that semantic and procedural memories do not decline with age. Episodic memory declines, but some of this may be due to situational factors. As one psychologist, David Mitchell of Southern Methodist University, says –

> *"The idea that memory inevitably deteriorates as you age came from studies that only tested one kind of memory. Now we see that there are multiple memory systems, and they each hold up differently as you age."*

Only episodic memory declines significantly in old age. This memory of specific life events may drop, so you don't remember what happened at a meeting yesterday, the name of someone you have just met or where you put your car keys. Stable through the mid-60s, episodic memory shows a pronounced drop for most people in their 70s. One possible explanation relates to retirement. Because the demands of their jobs have stopped, most people don't continue to exercise their mental abilities.

Even with the decline in episodic memory, many of us can compensate by using various strategies. You can write notes to yourself. (Of course, to remember where you put the notes, you need to put them someplace obvious that you pass repeatedly. How about the refrigerator door?) You can also organize your week's events into a pattern. If you repeat this pattern enough, it becomes part of your semantic memory. (However, notice how a weekday holiday can upset your usual memorized behavior pattern.)

Findings from more recent studies helped us understand why the elderly remember events from the distant past better than events from the last few hours or days. Recent research clearly shows that "*it was semantic memory that the elderly rely on for distant memories, while it is a failing episodic memory that interferes with remembering recent events*." These older memories involve stories or emotional moments that people have thought about or talked about repeatedly. This repetition eventually takes the events from episodic memory and stores them in semantic memory. The memory lapses of the elderly are for everyday recent events like "*Where did I put my glasses?*" These events are still part of episodic memory.

Even with a strong drop in episodic memory for people in their 70s, procedural memory only declines slightly among healthy, elderly adults. The difference between episodic and procedural memory became evident by studying people with amnesia. In 1983, psychologist Daniel Schacter at the University of

Arizona noted some peculiar responses from an avid golfer who had developed amnesia from a brain lesion. While playing golf, he forgot having played each hole or making a stroke within a few minutes after doing so. However, his playing indicated that he knew exactly what had occurred. He would reach for the appropriate club for each stroke. Over several days, his game improved steadily from his practice, but he could not remember playing the previous days.

The healthy elderly can still learn new information and skills as well as when they were younger, if the conditions for learning are favorable.

In later studies, Schacter found that amnesiacs could learn new facts, but they could not remember where or how they learned these facts. He called this "***source amnesia***." For example, if taught a made-up fact like "*Michael Jackson loves oatmeal*," later they could answer the question, "*What food does Michael Jackson love?*" as well as people with intact memory. However, they did not remember how they learned this.

Schacter observed a similar phenomenon in studies with the elderly. Like amnesiacs, those in their 60s and 70s could answer informational questions as well as younger people. Unfortunately, they had much more trouble remembering when and where they had gotten this knowledge. This indicates that the elderly can still learn from experience like younger people. However, they are less likely to remember the source of their new knowledge or skill. In Schacter's words –

> *"Part of the problem in the elderly may be in switching attention. If things come too quickly or in a confusing fashion, it may not register well. But if older people are able to focus on what is happening without distractions, their memory may be just as good as ever."*

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* Adapted from Daniel Goleman's "Studies Offer Fresh clues to Memory," *The New York Times*, March 29, 1990. Reprinted in Worchel and Shebilske's *Psychology: Principles and Applications*, Prentice Hall Publishers, 1992, pages 264-265.