



# Thinking, Reasoning, and Development

30 June – 2 July 2010

Uni Mail – Geneva

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## 19th Advanced Course

### Thinking, Reasoning, and Development

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Thursday afternoon, July 1, 2010

15h 30

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*False Memory Across the Life Span*

#### **Abstract:**

It is widely held that false memories decline steadily between early childhood and young adulthood. This belief is even enshrined in the law, where it is used to judge the reliability of memory reports that children give during investigative interviews and sworn testimony.

Piaget challenged this pervasive belief in his work on memory intelligence. He conjectured that false memories increase with age when they are based on constructive processing of logical principles (e.g., serial order). Recently, such reverse age trends have been extensively documented in the literature on forensic memory. The counterintuitive possibility that false memory, whether spontaneous or pursuant to suggestion, can increase dramatically with age is now well established.

The impetus for this work was provided by fuzzy-trace theory (FTT), which posits that humans store dissociated episodic traces of the surface form (verbatim traces) and meaning content (gist traces) of experience. Processing gist traces foments false memories of meaning-consistent events, while processing verbatim traces suppresses such errors. FTT predicted that false memories would increase with age on specific types of tasks, and that prediction has been confirmed in over three-dozen experiments. In addition to consistent detection of predicted age increases in false memory, those increases have been tied to experimental manipulations that embody FTT's process assumptions. Most surprising of all, FTT predicts that when false memories increase with age, net memory accuracy (total true memory divided by total true memory plus total false memory) will sometimes decline with age. These developmental declines in overall memory accuracy have also been detected in several studies.

Other counterintuitive patterns are predicted late in life, when healthy adults transition to mild cognitive impairment or dementia. Although the key diagnostic criterion for these cognitions is a decline in episodic memory, it is now well established that these conditions also exhibit reduced false memory.