



Thinking, Reasoning, and Development

30 June – 2 July 2010

Uni Mail – Geneva

19th Advanced Course

Thinking, Reasoning, and Development

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14h 30

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Risk, Rationality, and Development: A Fuzzy-Trace Theory Approach

Abstract:

Approaches to reasoning and rationality are contrasted, including Piagetian logicism (thinking as logic), information-processing formalism (thinking as computation), and intuitionism (thinking as intuition) as exemplified in fuzzy-trace theory and other dual-process models. By “intuition” I mean fuzzy, impressionistic thinking using vague gist representations, but I distinguish mindless impulsive reaction from insightful intuition that reflects understanding. Thus, there are two kinds of fast and simple ways of thinking: a stupid kind that represents the most primitive form of thinking and a smart kind that represents the highest form of thinking, insightful intuition. In the foundations of mathematics, intuition is a similarly advanced form of thinking. Fuzzy-trace theory draws on evidence for independent gist and verbatim-memory representations of information, but differs from other dual-process models in emphasizing that there are degrees of rationality and that intuition is an advanced form of reasoning. Such claims are based on empirical evidence comparing reasoning by children and adolescents to that of adults and reasoning of adult novices to that of experts. The theory predicts parallel development of verbatim-based analysis and gist-based intuition, which produces developmental reversals (e.g., children outperform adults) under specific circumstances. As an example, despite increasing competence in reasoning, some biases in judgment and decision making grow with age, producing more “irrational” violations of coherence among adults than among adolescents and younger children. The latter phenomena are linked to developmental increases in gist processing with age. Implications for health and well-being, especially regarding adolescent risk taking, are discussed.