



Thinking, Reasoning, and Development

30 June – 2 July 2010

Uni Mail – Geneva

19th Advanced Course

Thinking, Reasoning, and Development

30 June – 2 July 2010

Thursday morning, July 1, 2010

9h00

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***Dual processes and mental models in the development
of conditional reasoning***

Abstract:

Conditional reasoning is of particular importance for hypothesis testing, scientific reasoning, but also understanding of causal relations and social rules. Thus, the way children understand conditionals and how this understanding develops with age is one of the main questions of the developmental psychology of reasoning. In this presentation, I will outline a new theory of the understanding of conditional and its development that integrates Evans' heuristic-analytic theory within the revised mental model theory proposed by Barrouillet, Gauffroy, and Lecas (2008). According to this theory, the interpretation of a conditional sentence is driven by unconscious and implicit heuristic processes that provide individuals with an initial representation that captures its meaning by representing the cases that make it true. This initial model can be enriched with additional models through the intervention of conscious and demanding analytic processes. However, because these processes are optional, they construct representations of cases that are only compatible with the conditional, leaving its truth-value indeterminate when they occur. This theory predicts the successive developmental levels in several tasks evaluating the truth value of the conditional or its probability, as well as how this development is modulated by contents and types of conditionals. Several studies will be presented that verified these predictions, suggesting that the integration of the dual-process approach of reasoning within the theoretical framework of the mental model theory is particularly heuristic.