**Fachbereich Psychologie & Salzburger Gesellschaft für Psychologie
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Non-constructive reasoning and conditionals

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Dual process theories of the mind are increasingly popular in several parts of psychology. These theories are found in work on perception and attention, skilled performance, learning and memory, social cognition, and reasoning and decision making. In all these areas, the claim is that we can distinguish two quite different categories of mental processing. These have been given many different names: stimulus controlled/goal driven attention, procedural/declarative knowledge, implicit/explicit learning, semantic/episodic memory, impulsive/reflective thought, heuristic/analytic inference, System 1/System 2, type 1/type2. I will follow the suggestion of Jonathan Evans in recent papers that the type 1/type 2 terminology is to be preferred, because it is the most general and does not imply the existence of separate mental systems. As Evans shows, type 1 processes are generally characterized as being fast and automatic with high capacity and low effort, and type 2 processes as being slow and controlled with limited capacity and high effort. He also argues that the only part of the mind that has type 2 processes is working memory. I will argue that non-constructive reasoning is the best example of a type 2 mental process. Studying this reasoning helps us to understand the nature of this processing. Our capacity for non-constructive reasoning depends on general logical abilities that are not domain specific. This general capacity is useful in a number of ways. One of these is inferring a conditional from disjunction. For the ordinary natural language conditional, it cannot be logically valid to infer "if not-p then q" from "p or q". This inference is only valid for the material conditional, and there is very strong evidence that the ordinary conditional is not the material conditional. It would obviously be unjustified to infer "if not-p then q" from "p or q" after inferring "p or q" from p. The inference from p to "p or q" is an example of type 1 constructive reasoning: "p or q" is inferred from p and so from "below". However, sometimes "p or q" can be inferred from "above", given more general propositions, in type 2 non-constructive reasoning. We can be justified in inferring "if not-p then q" from "p or q" when "p or q" has itself been inferred in such non-constructive reasoning.