

## Examining the Mapping Problem in Multi-mode Models

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Multi-mode models have proposed several criteria to divide the realm of mental processes into two (e.g., Sloman, 1996; Strack & Deutsch, 2004), three (Leventhal & Scherer, 1987), or four categories or modes (Conrey, Sherman, Gavronski, Hugenberg, & Groom, 2005). Examples of criteria (and categories obtained with these criteria) are operating conditions (automatic/nonautomatic), formal process or mechanism (sensori-motor/associative/rule-based), format of the representations or codes on which the process operates (sensory/analog/conceptual/propositional), content of the representations on which the process operates (heuristic/systematic), and neurophysiological routes (neocortical/subcortical). Construing categories on the basis of one or another criterion is legitimate. Most multi-mode models, however, choose two or more criteria and make a priori assumptions of overlap among the categories obtained with these criteria. For example, the category of associative is often mapped onto the category of automatic and the category of rule-based onto the category of nonautomatic (e.g., E. R. Smith & DeCoster, 2000). The question one may ask is whether these mappings are justified. I propose to investigate the mapping problem in a step-wise manner. A first step is to engage in the conceptual analysis of a pair of criteria and see whether they can be defined in non-overlapping terms. If it turns out that theoretical overlap is not mandatory, a second step is to investigate empirically whether there is actual overlap among both categories in the real world.