

Dual-recollection theory as a new approach in research on episodic memory: Specificity of perceptual and semantic features processing

In cognitive psychology two components of human recognition memory are differentiated. The first, called recollection, refers to situations in which past events are reinstated in our mind. The second component is consciously experienced as feeling of familiarity without retrieval of target event details. The nature of recollection and familiarity has been a topic of debate for decades. Recently Charles Brainerd and his colleagues have noticed that many experimental observations are hard to explain using just two components of recognition memory. Hence they proposed a new approach that divides recollection into two separate processes, namely target recollection and context recollection. The general aim of this project is to face some important questions in research literature from this new perspective of the *dual-recollection theory*.

The first research task is devoted to description of the influence of the level of processing during learning phase of memory task on subsequent context recollection, target recollection, and familiarity during memory retrieval. We suppose that previous ambiguities in research results concerning the effects of semantic encoding on familiarity and recollection came from differences in categorization of target details retrieval. Applying a theory that precisely differentiates and attributes retrieval of context and target information to defined process should help in establishing a reliable pattern of levels-of-processing effects.

The second issue addressed in this project, is to test whether the dual-recollection model can be generalized to processing of pictorial stimuli and perceptual relations between targets and distractors. To date this theory was based on research using verbal materials and semantic relations between items. It is particularly interesting what is the role of perceptual relatedness between targets and distractors in fomenting false recognitions. In our project we are going to examine whether the same processes are responsible for false memory of semantically and perceptually related items.

The most important task of our project is to test whether human episodic memory “commits” a fallacy of base-rate neglect. Such a fallacy is well-known in research on human probabilistic judgments and it refers to the tendency to underweight or even neglect base-rate probabilities in favour of diagnostic information about a particular event. In our research we are going to find if an analogue of this fallacy occurs in episodic memory. We will apply the dual-recollection theory to explore relationship of such a fallacy with basic memory processes. We hypothesize that the more target recollection contributes to memory performance the more salient will be this fallacy. In contrast, the more context recollection will be engaged the less base-rates will be underweight.