

## Role-Governed Categorization and Category Learning as a Result from Structural Alignment: The RoleMap Model

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**Abstract :** The paper presents a symbolic model for category learning and categorization (called *RoleMap*). Unlike the other models which implement learning in a separate working mode, role-governed category learning and categorization emerge in *RoleMap* while it does its usual reasoning. The model is based on several basic mechanisms known as reflecting the sub-processes of analogy-making. It steps on the assumption that in their everyday life people constantly compare what they experience and what they know. Various commonalities between the incoming information (current experience) and the stored one (long-term memory) emerge from those comparisons. Some of those commonalities are considered to be highly important, and they are transformed into concepts for further use. This process denotes the category learning. When there is missing knowledge in the incoming information (i.e. the perceived object is still not recognized), the model makes anticipations about what is missing, based on the similar episodes from its long-term memory. Various such anticipations may emerge for different reasons. However, with time only one of them wins and is transformed into a category member. This process denotes the act of categorization.

**Keywords :** analogy-making, categorization, category learning, cognitive modeling, role-governed categories

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