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Toward a Formal Model of the Shifting Relationship between Concepts and Contexts in Associative Thought

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Abstract: According to contextual focus, a dual processing theory, we shift between an analytic mode to apply conventional perspectives to a situation, and an associative mode to see things anew (Gabora, 2003). We present a model of this using the State-Context-Property (SCOP) theory of concepts. A concept is modeled as existing in a state of potentiality until it interacts with a context, which causes it to collapse to an exemplar state. By defining measures of exemplar robustness and context relevance, and introducing an exemplar typicality threshold, we show the conditions under which varying this threshold enables collapse to exemplars of the concept that are atypical but appropriate to the context. Support for the model was obtained using data from an experiment in which participants were asked to rate the typicality of exemplars of a concept for different contexts. The research constitutes an important step toward a formal model of contextual focus.