

Do humans have two systems to be creative?: Asymmetric underlying mechanisms of relation-based and property-based conceptual combination

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Abstract

We investigated the time course of property- and relation-based conceptual combination by showing asymmetric activations of intrinsic and extrinsic semantic features in the two different combination types. Participants made lexical decisions on modifier or head associates at two different time points followed by sensicality judgments on noun-noun compounds constructed to facilitate either property- or relation-based interpretations. For property-based compounds, lexical decisions on modifier associates (intrinsic features) were facilitated, whereas those on head associates were inhibited. For relation-based compounds, however, lexical decisions on head associates (extrinsic features) and modifier associates were equally facilitated. These asymmetric activations of intrinsic and extrinsic semantic features appeared only when the combinatorial processes were completed. Our findings suggest that combinatorial processes can be considered as facilitation and inhibition of specific semantic features to form new concepts.