The proper treatment of strcutured representations

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Abstract: Accounts of human mental representation typically posit either the sole existence of structured (i.e., totally symbolic) representations, or the sole existence of holistic (i.e., totally sub-symbolic, or connectionist) representations. We argue that systems that implement structured representations are not necessarily as different form those that represent holistic representations as they appear at first blush. In fact, when a connectionist system is augmented with a single source of information, it becomes functionally symbolic. The resulting system addresses many of the problems associated with traditional symbolic approaches to cognition