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Narrative is a Key Cognitive Competency

Mark Alan FINLAYSON [a,1] and Patrick Henry WINSTON [a]
[a] *Computer Science and Artificial Intelligence Laboratory*
Massachusetts Institute of Technology

Abstract. The ability to generate, narrate, and understand stories allows humans to accomplish tasks they would otherwise find difficult or impossible. We draw on observations of human narrative to identify a number of capabilities underlying the narrative faculty that we assert must be integrated into any cognitive architecture intended to achieve human-level performance. In particular, we identify sequencing, gap-filling, and plot pattern extraction as key capabilities, and detail two systems under development in our research group that unify a number of cognitive functions to achieve those abilities, functions including multi-representationalism, dynamically-produced commonsense knowledge, and analogical reasoning. Interestingly, in humans, the narrative faculty is intimately tied to cultural transmission and understanding. We speculate that culture is, in fact, a necessary cognitive resource (akin to commonsense, or the lexicon), and that any cognitive architecture intended to achieve human-level performance will need to have a 'culture' of its own.

Keywords. Narrative, Plot Patterns, Knowledge Representation, Commonsense Knowledge, Culture, Cognitive Architectures

[1]Corresponding Author: 32 Vassar Street Room 32-258, Cambridge, MA 02139; E-mail: markaf@mit.edu.