



## Deriving Narrative Morphologies via Analogical Story Merging

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### resumen:

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Narratives drawn from a single cultural setting share structure that has long been suspected of being diagnostic of cultural participants' assumptions, norms, and values. One example of such structure, first identified by Vladimir Propp in 1928, is the *morphology* of a set of narratives, which describes the plot elements in common between stories in the set, and their allowed sequences. Until now, the extraction of morphologies has remained a manual task, the purview of anthropological virtuosos (e.g., Propp, Levi-Strauss, Dundes, Campbell); reproduction or validation of their analyses is a time-consuming, prohibitively difficult endeavor. I demonstrate a new technique called *Analogical Story Merging* that derives a morphology given a set of stories. It is a combination of the machine learning technique of Bayesian Model Merging (Stolke & Omohundro) with the machinery of the analogy-finding Structure Mapping Engine (Forbus & Genter). I will present the output of the basic implementation when applied to a small example story corpus, a set of summaries of Shakespearean plays, and show how its output is isomorphic to a morphology for the input. Along the way, I will also demonstrate and outline my annotation tool, the Story Workbench, which has made this work possible.

### sobre Mark Finlayson:

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Mark Finlayson is a doctoral candidate in the Electrical Engineering and Computer Science Department at MIT where he is finishing his thesis, entitled "Learning Narrative Morphologies from Annotated Folktales" in the Computer Science and Artificial Intelligence Lab (CSAIL) under the supervision of Professor Patrick Winston. Mark's research interests are in computational models of human intelligence, in particular, the effect of culture and narrative on cognition. He has published research papers at the Annual Meeting of the Cognitive Science Society, Symposiums of the AAIL, and the Annual Meeting of the Association for Computational Linguistics, and is chair of the upcoming AAIL 2010 Symposium on Computational Models of Narrative. He holds a B.S from the University of Michigan (1998) and an M.S. from MIT (2001), both in Electrical Engineering.