

Narrative Intelligence

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presented by Stephen G. Ware



Context

- Intro to AAAI Fall Symposium in 1999
- Survey is a who's who of NI past and future



“Have you heard? Frank and Barb had a fight. She's sick of him letting the dog on the bed. I always told him he'd get in trouble with his permissive ways with that beast.”

What Composes a Narrative?

- Characters
- Events
- Conflict
- Context
- Common Sense
- Audience
- Purpose



What is Narrative?

- Tightly woven story
- Internal imposition of coherence
- Overarching worldview



Roger Schank's Early Work on NI

- Natural language and story understanding
- Scripts: stereotyped situations we follow in everyday life
- Context
- Goals



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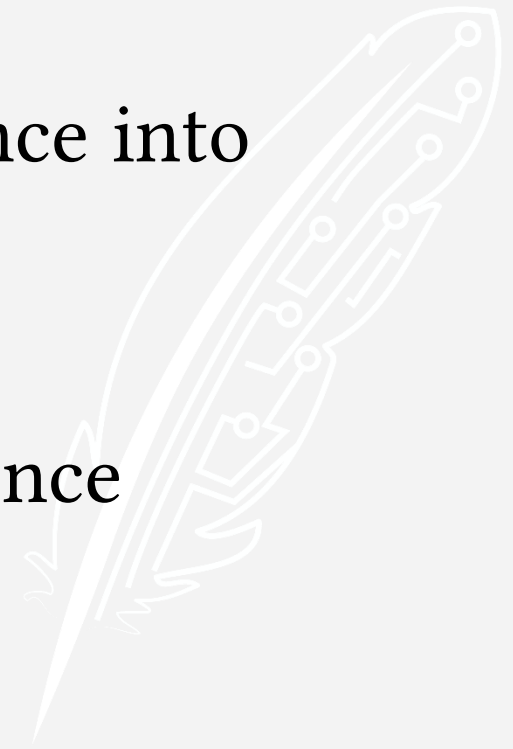
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Thus, during the same time period in which AI research abandoned studying complex, culturally grounded phenomena such as meaning in favor of narrowly defined problems with decisive, measurable results, other fields of CS moved in the opposite direction, borrowing and adapting modes of knowledge production from the humanities, design and the arts in order to tackle the complexities of designing computational artifacts for and within cultural contexts.

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Narrative is Interdisciplinary

- **Art** subverts tropes and expression for cultural self-consciousness
- **Psychology** discusses how we assimilate experience into narrative for memory and reasoning
- **Literary Studies** categories tropes and structures
- **Drama** studies how to perform stories to an audience

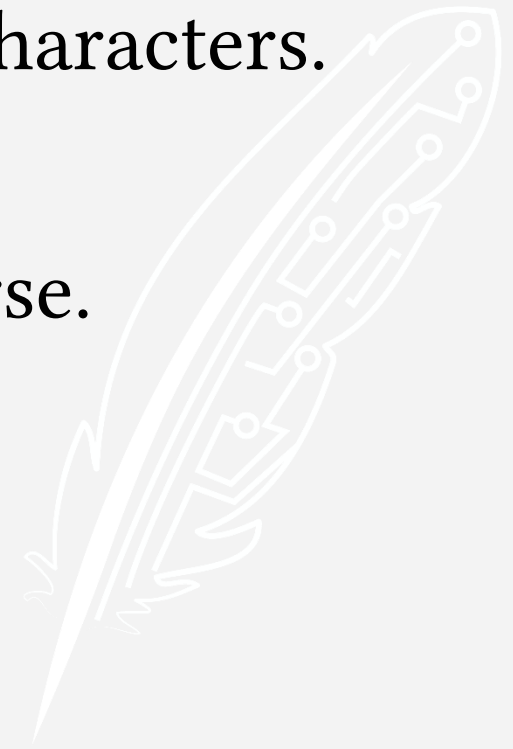


Themes in the 1999 Symposium Papers

- Since we assimilate experience into narrative, use narrative as a guide for interface design.
- Story databases (as opposed to relational, etc.).
- Story understanding helps us connect different stories, answer questions, and measure the importance of content.
- Narrative can help to make artificial agent more readable.
- Narrative can help to make agents more intelligent and human.
- Computer-assisted storytelling.

Bailey's Taxonomy for Storytelling Systems

- Author-Centric models the thought process of an author.
- Character-Centric models the goals and plans of characters.
- Story-Centric models the structure of the story.
- Experience-Centric (Crawford) models the discourse.



Methods in Narrative Intelligence

- Intelligent selection of pre-defined paths
- Reactive action selection
- Combinatorial search over atomic story units

Not yet included:

- Machine learning



Early Themes Emerge

- Goals and plans
- Emotion
- Context
- Author structure vs. character autonomy
- Reactive vs. planned
- Logical and coherent plot
- Conflict
- Story structure / story types
- Generative models (e.g. scripts, grammars)



Why Narrative?

- Entertainment
- Self-Expression
- Self-Discovery
- Training
- Art (questioning structure)



Another challenge will be to remain true to the richness of narrative. AI, like the rest of computer science, tends to prefer general and abstract formulations. Applied to narrative, this will result in the attempt to assimilate all narrative phenomena to a single, simplified formulation. In order to build systems, abstraction and simplification are necessary tools. The danger lies in forgetting for what purpose a simplification was made or perhaps that a simplification has even occurred. With a concept as complex and evocative as narrative, there will be particularly strong pressure to elide simplification. If this were to happen, the original richness of narrative, an endless source of inspiration and delight, would be lost.

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Bonus Background Reading

- *Possible Worlds, Artificial Intelligence, and Narrative Theory*, Ryan 1992
Considers the value of hypothetical narrative reasoning and how we might involve computers
- *Experiencing Narrative Worlds*, Gerrig 1993
Surveys research on psychology, linguistics, and philosophy to discuss how we can organize observations into narrative and how imaginary narrative worlds affect our real world
- *Tell Me a Story*, Schank 1995
AI should be based on human intelligence, applying narratives of past experience to new situations