Children’s Story Authoring with Propp’s Morphology

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Overview

1. Propp’s morphology
2. Exploratory, paper & pencil study
3. Computer prototype
Propp’s morphology
Propp’s morphology as a story construction kit for children
Break up plots into their constituent “functions”:

- An eagle carries the boy to the top of the highest mountain.
- A magical animal leads Suçenko to the lake at the heart of the forest.
- A fish tells Kelandra the way to the villain’s castle.

→ The hero arrives at the whereabouts of his object of search.
Propp found 31 functions in 1000 Russian wonder tales.
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Interactive Narrative

- **Kashani**, *Dynamic Storylines in Interactive Virtual Environments*.
- **Fairclough**, *Story Games and the OPIATE System*.
- **Grasbon, Braun et al.**, *GEIST*.
- **Peinado et al.**, *ProtoPropp*.
- **Prada et al.**, *TEATRIX*.
- **Tomaszewski & Binsted**, *The Limitations of a Propp-based Approach to Interactive Drama*. 
Story Writing: Propp’s Cards


Propp’s Morphology

- A tool for **constructing plots**.
- To allow children to create well-structured stories of their own.
- To help to structure children’s ideas, and to generate ideas.
- **Interact** with plots at different structural levels.
Research Questions

1. Can children use Propp’s morphology to construct stories?
2. How successfully do they use it?
3. What do they do with it?
Exploratory, paper & pencil study
Two week study at Collingwood Primary School, Newcastle.

Using paper story maps and story cards.

Children wrote their stories on the story cards with pencils.

42 participants aged 7-11.

Quantitative and qualitative data.
VILLAINY!
The villain steals an object, kidnaps a victim, or puts a spell on a victim.
Story Map

The Beginning, The Build Up: Things happen that make way for the villain to do villiany.

The Build Up
- 2 Someone Leaves
  Parents or elders leave home because of work, travel, business, war, death, or another reason.
- 3 Warning or Request
  The hero gets a warning or request that has been given to him.
- 4 Ignored
  The hero ignores a warning or request.
- 5 Spying
  The villain spies or asks questions about the object or person he wants to get.
- 6 Information
  The villain gets the information he wants.
- 7 Trick
  The villain puts on a disguise and plays a nasty trick on the hero or victim.
- 8 Fooled
  The hero falls for the villain's trick and helps the villain.

The Problem or The Obstacle:
- 9 Villainy!
  The villain steals an object, kidnaps a victim, or puts a spell on a victim.
- 10 Need or Want
  The hero or someone else needs or wants something.
- 11 Help
  The hero leaves the villain, need or want from a call for help, a request, a command, a threat, or news.
- 12 Deciding
  The hero decides or agrees to go on a journey to search for it and bring it.
- 13 Leaving
  The hero leaves on a journey.
Week 1: Recasting a story

Sample Story → Story Map → New Story

Week 2: Generating a story

Propp Cards → Story Map → New Story
Quantitative Results
**Function**: Arrival, the hero arrives at the whereabouts of the object of search.

**Species a**: The hero uses a mobile means of transport: animal or vehicle, magical powers, etc.

**Plot Event**: A tsar gives an eagle to a boy. The eagle carries the boy to the top of the highest mountain.

**Plot Event**: A princess gives Ivan a ring. Young men appearing from out of the ring carry Ivan away to another kingdom.

**Species b**: The hero is guided: another character shows or leads the way, the hero follows a trail left by another character, the hero follows a sign, etc.
How closely do the stories written match the Propp functions used?

Week 1, recasting: 86.96% - 90.20%
Week 2, generating: 77.32% - 79.28%
The accuracy measure alone does not account for the quality of the stories.
Qualitative Results
Week 1: Recasting a story

Sample Story → Story Map → New Story
Week 1: Recasting a story
“Then the super hero saw Bonanza and threw a knife at his throat and his throat split open ... Then Bonanza started to come alive and started to chase them.”
Writing is hard work.
Practical Limitations
A paper interface is too inflexible.
A paper interface is too limiting.
Computer prototype
Story Cards

My Story
The Future
1. Can children use Propp’s morphology to construct stories?

- Generate story maps without ever having seen a sample story.
- Use multiple forms of assessment:
  - Accuracy measure.
  - Teacher’s assessment.
  - Peer assessment.
Order of Difficulty

• Some Propp functions are easier than others.
• More constraints is easier: e.g. order of cards.
• Some constraints can be challenges: e.g. start with a difficult card.
Summary

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