

The Goal

Annotation of narrative that would be of interest for the purpose of research into narrative generation

Contents

- Representing stories
- Concepts of narrative discourse
- An example
- Difficulties
- A practical approximation
- Conclusions

Once upon a time it was the middle of winter; the flakes of snow were falling like feathers from the sky; a Queen sat at a window sewing, and the frame of the window was made of black ebony. As she was sewing and looking out of the window at the snow, she pricked her finger with the needle, and three drops of blood fell upon the snow. And the red looked pretty upon the white snow, and she thought to herself:

"Would that I had a child as white as snow, as red as blood, and as black as the wood of the window-frame!" Soon after that she had a little daughter, who was as white as snow, and as red as blood, and her hair was as black as ebony; so she was called Little Snow-white. And when the child was born, the Queen died.

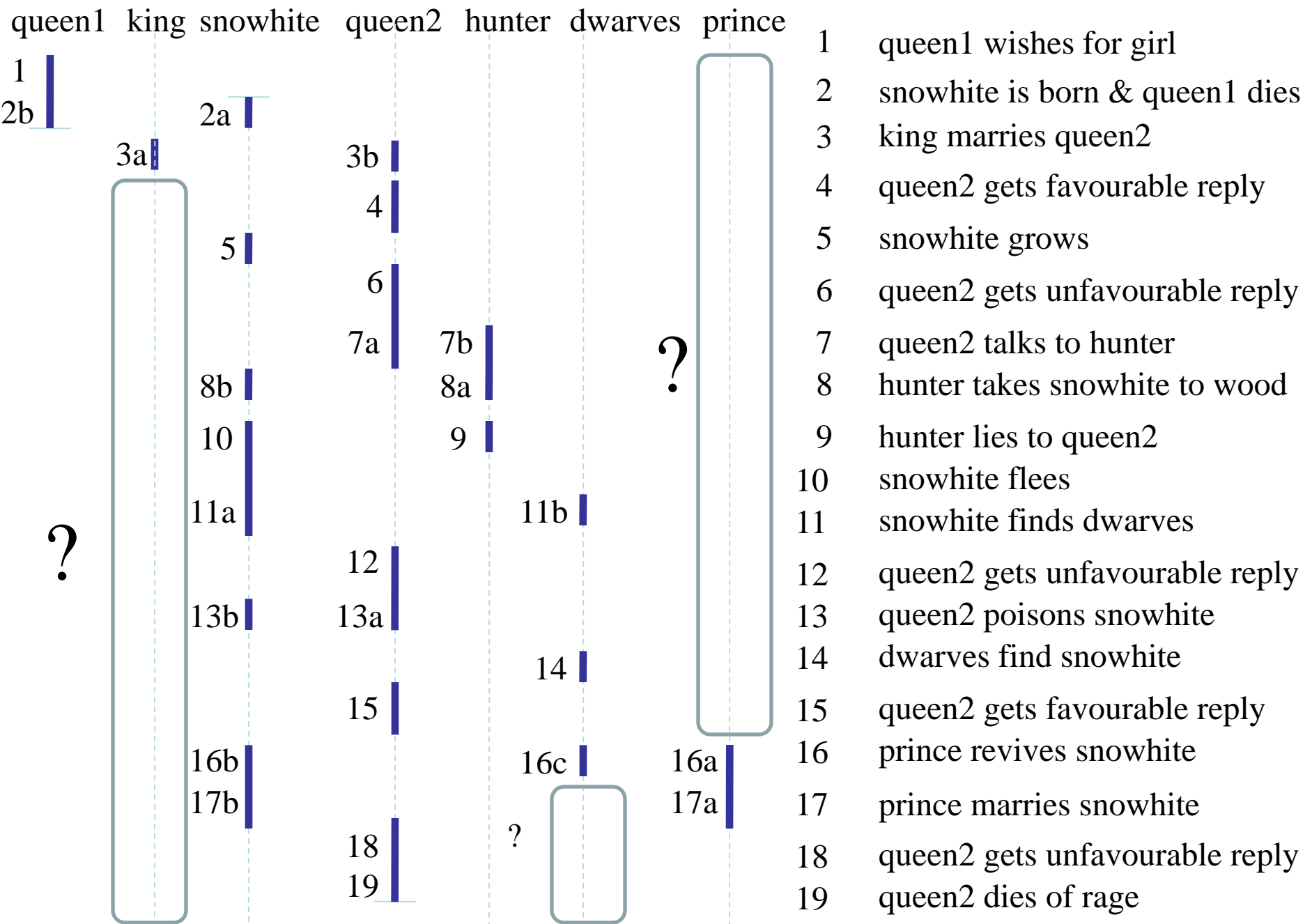
A year after, the King took to himself another wife. She was beautiful but proud, and she could not bear to have any one else more beautiful. She had a wonderful Looking-glass, and when she stood in front of it, and looked at herself in it, and said:

"Looking-glass, Looking-glass, on the wall.
Who in this land is the fairest of all?"

the Looking-glass answered:

- 1 queen1 wishes for girl
- 2 snowwhite is born & queen1 dies
- 3 king marries queen2
- 4 queen2 gets favourable reply
- 5 snowwhite grows
- 6 queen2 gets unfavourable reply
- 7 queen2 talks to hunter
- 8 hunter takes snowwhite to wood
- 9 hunter lies to queen2
- 10 snowwhite flees
- 11 snowwhite finds dwarves
- 12 queen2 gets unfavourable reply
- 13 queen2 poisons snowwhite
- 14 dwarves find snowwhite
- 15 queen2 gets favourable reply
- 16 prince revives snowwhite
- 17 prince marries snowwhite
- 18 queen2 gets unfavourable reply
- 19 queen2 dies of rage

1		1	queen1 wishes for girl
2		2	snowwhite is born & queen1 dies
3		3	king marries queen2
4		4	queen2 gets favourable reply
5		5	snowwhite grows
6		6	queen2 gets unfavourable reply
7		7	queen2 talks to hunter
8		8	hunter takes snowwhite to wood
9	10	9	hunter lies to queen2
		10	snowwhite flees
	11	11	snowwhite finds dwarves
	12	12	queen2 gets unfavourable reply
	13	13	queen2 poisons snowwhite
	14	14	dwarves find snowwhite
	15	15	queen2 gets favourable reply
	16	16	prince revives snowwhite
	17	17	prince marries snowwhite
	18	18	queen2 gets unfavourable reply
	19	19	queen2 dies of rage



Layers of Representation of a Story

- **text representation** the linguistic realisation of the story
- **explicit representation** the linear sequence of facts mentioned in the story (in some kind of conceptual representation)
- **underlying selected representation** all facts relevant to the story that are mentioned in the explicit representation (the set of facts that are mentioned in the story, but not necessarily organised in a linear sequence and following a chronological partial order not necessarily equivalent to the one in which they appear in the story)
- **underlying extensive representation** all possible facts relevant to the story (including causes, effects, emotional reactions, common knowledge, and generally all the additional material that will be inferred by a reader on reading the story)

Once upon a time it was the middle of winter; the flakes of snow were falling like feathers from the sky; a Queen sat at a window sewing, and the frame of the window was made of black ebony. As she was sewing and looking out of the window at the snow, she pricked her finger with the needle, and three drops of blood fell upon the snow. And the red looked pretty upon the white snow, and she thought to herself:

"Would that I had a child as white as snow, as red as blood, and as black as the wood of the window-frame!" Soon after that she had a little daughter, who was as white as snow, and as red as blood, and her hair was as black as ebony; so she was called Little Snow-white. And when the child was born, the Queen died.

A year after, the King took to himself another wife. She was beautiful but proud, and she could not bear to have any one else more beautiful. She had a wonderful Looking-glass, and when she stood in front of it, and looked at herself in it, and said:

"Looking-glass, Looking-glass, on the wall.
Who in this land is the fairest of all?"

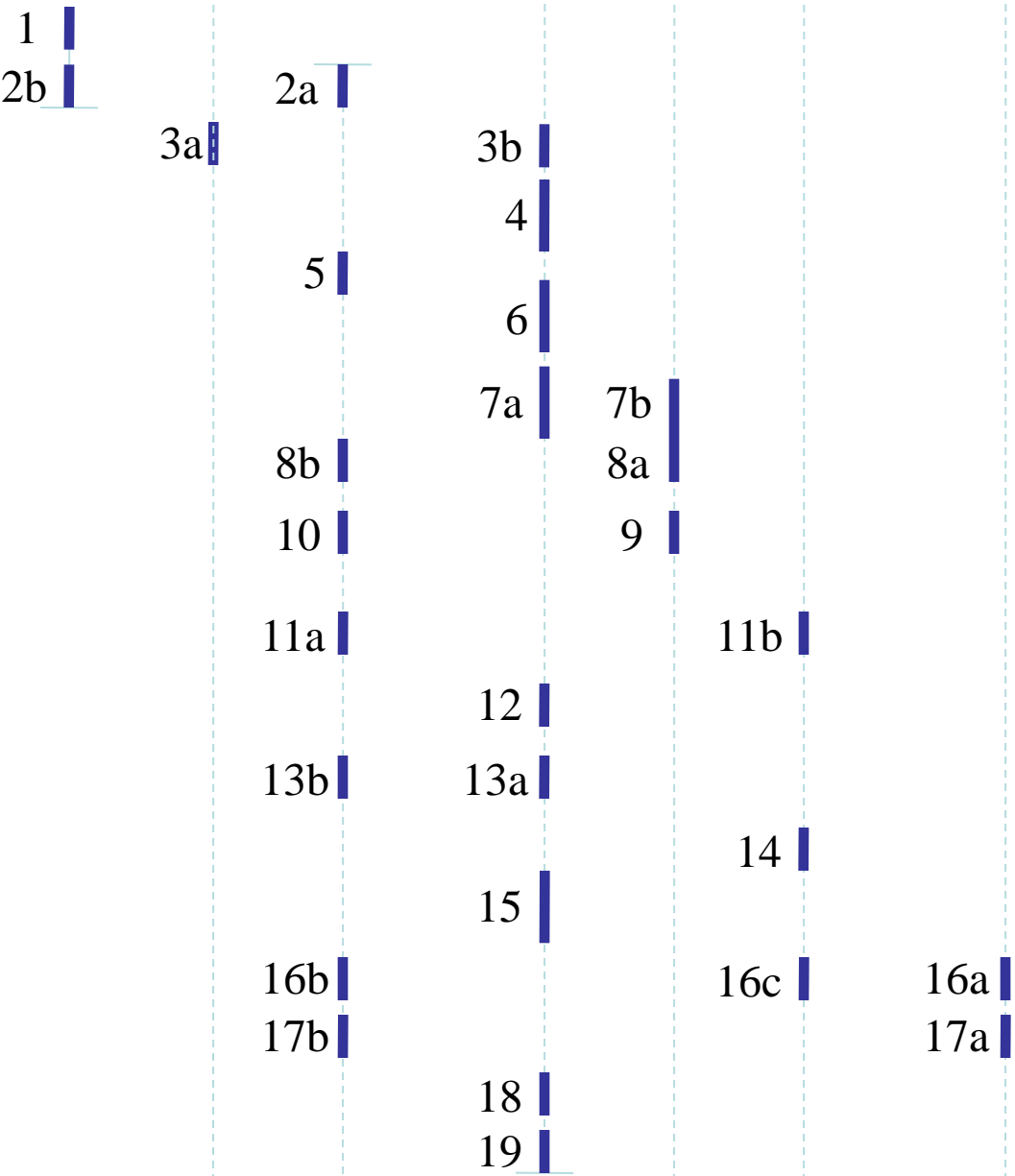
the Looking-glass answered:

text representation

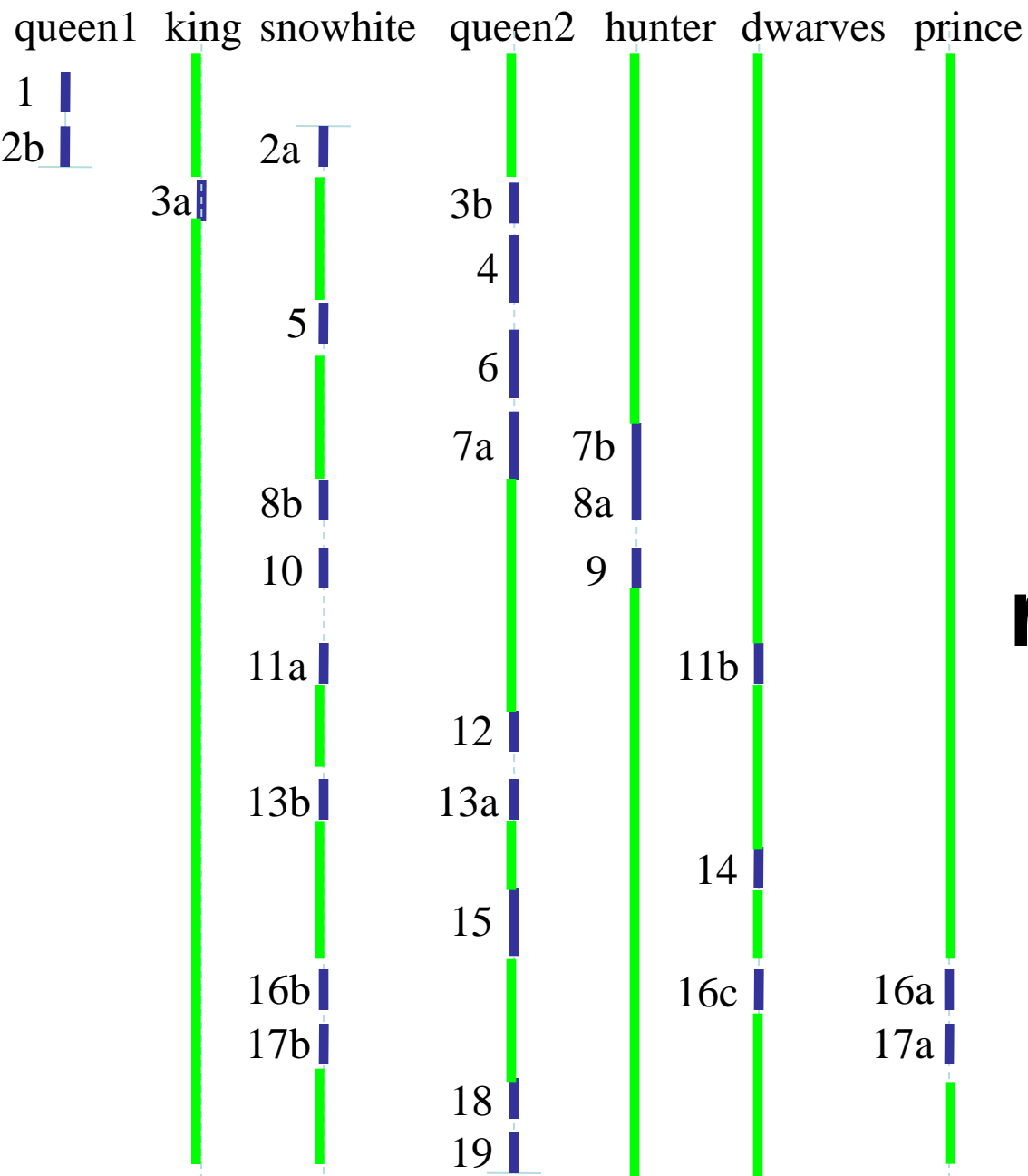
explicit representation

- 1 queen1 wishes for girl
- 2 snowwhite is born & queen1 dies
- 3 king marries queen2
- 4 queen2 gets favourable reply
- 5 snowwhite grows
- 6 queen2 gets unfavourable reply
- 7 queen2 talks to hunter
- 8 hunter takes snowwhite to wood
- 9 hunter lies to queen2
- 10 snowwhite flees
- 11 snowwhite finds dwarves
- 12 queen2 gets unfavourable reply
- 13 queen2 poisons snowwhite
- 14 dwarves find snowwhite
- 15 queen2 gets favourable reply
- 16 prince revives snowwhite
- 17 prince marries snowwhite
- 18 queen2 gets unfavourable reply
- 19 queen2 dies of rage

queen1 king snowwhite queen2 hunter dwarves prince



**underlying
selected
representation**



**underlying
extensive
representation**

- A story with the four layers of representation explicit and in which all the relevant narrative parameters fully annotated.

...might yield...

- Decision procedures for choices in transitions between representations (for generation)
- Disambiguation procedures for interpretation (for understanding)

Caveat

- No claim of cognitive plausibility.
- The human brain probably deals with these problems in radically different ways.
- A computational analysis of the problem must handle such elements as we can represent and handle in symbolic terms.

Contents

- Representing stories
- Concepts of narrative discourse
- An example
- Difficulties
- A practical approximation
- Conclusions

Genette's Narrative Discourse

Narrative mood

- Narrative distance
- Function

- Narrative levels

Narrative instance

- Narrative voice
- Time of narration
- Focalization

Narrative time

- Order
- Speed
- Frequency

Function

- Narrative function
 - he just tells
- Directing function
 - he interrupts the story to comment on its organization
- Communication function
 - he addresses the text's potential reader in order to establish or maintain contact with him or her
- Testimonial function
 - he comments on the truth, precision, or sources of the story, or his emotional involvement with it
- Ideological function
 - he interrupts his story to introduce instructive comments or general wisdom concerning it

Order

Relation between the sequencing of events as they actually occurred and their arrangement in the narrative.

Departure from chronological order is called anachrony.

- analepsis (the narrator recounts after the fact an event that took place earlier than the present point in the main story) and
- prolepsis (the narrator anticipates events that will occur after the present point in the main story).

Speed

Introducing differences between the time the story takes to happen and the time taken to tell it.

Four narrative movements:

- **pause** (the event-story is interrupted to make room exclusively for narratorial discourse such as static descriptions),
- **scene** (narrative time corresponds to the story's time, as in dialogue),
- **summary** (some part of the event-story is summarized in the narrative, creating an acceleration), and
- **ellipsis** (the narrative says absolutely nothing about some part of the event-story).

Contents

- Representing stories
- Concepts of narrative discourse
- An example
- Difficulties
- A practical approximation
- Conclusions

LRRH pull bobbin

latch go up

LRRH push door open

LRRH step inside cottage

FUNCTION : NARRATIVE

SPEED: SCENE

Then she pulled the bobbin, and the latch went up, and Red Riding-Hood pushed open the door, and stepped inside the cottage.

SPEED: PAUSE

It seemed very dark in there after the bright sunlight outside, and all Red Riding-Hood could see was that the window-curtains and the bed-curtains were still drawn, and her grandmother seemed to be lying in bed with the bed-clothes pulled almost over her head, and her great white-frilled nightcap nearly hiding her face.

FUNCTION: COMMUNICATION

SPEED: PAUSE

Now, you and I have guessed by this time, although poor Red Riding-Hood never even thought of such a thing, that it was not her Grannie at all, but the wicked Wolf, who had

FUNCTION : NARRATIVE

SPEED: SCENE

hurried to the cottage and put on Grannie's nightcap and popped into her bed, to pretend that he was Grannie herself.

And where was Grannie all this time, you will say? Well, we shall see presently.

Wolf hurry to cottage

Wolf put on Grannie's nightcap

Wolf pop into Grannie's bed

Wolf pretend to be Grannie

LRRH pull bobbin

latch go up

LRRH push door open

LRRH step inside cottage

FUNCTION : NARRATIVE

SPEED: SCENE

Then she pulled the bobbin, and the latch went up, and Red Riding-Hood pushed open the door, and stepped inside the cottage.

SPEED: PAUSE

It seemed very dark in there after the bright sunlight outside, and all Red Riding-Hood could see was that the window-curtains and the bed-curtains were still drawn, and her grandmother seemed to be lying in bed with the bed-clothes pulled almost over her head, and her great white-frilled nightcap nearly hiding her face.

FUNCTION: COMMUNICATION

SPEED: PAUSE

Now, you and I have guessed by this time, although poor Red Riding-Hood never even thought of such a thing, that it was not her Grannie at all, but the wicked Wolf, who had

FUNCTION : NARRATIVE

SPEED: SCENE

ORDER: ANALEPSIS

hurried to the cottage and put on Grannie's nightcap and popped into her bed, to pretend that he was Grannie herself.

FUNCTION : COMMUNICATING/DIRECTING

And where was Grannie all this time, you will say? Well, we shall see presently.

SPEED: PAUSE

Contents

- Representing stories
- Concepts of narrative discourse
- An example
- Difficulties
- A practical approximation
- Conclusions

Difficulties

- Consensus representation formalism for the conceptual knowledge involved
- Chronology of the underlying facts of a story is usually underspecified in the text
- Very low values of inter-annotator agreement to be expected
- Extensive representation may not be available

Contents

- Representing stories
- Concepts of narrative discourse
- An example
- Difficulties
- A practical approximation
- Conclusions

text representation

syntactic parsing,
semantic role labelling,
named entity recognition,
coreference resolution
word sense disambiguation

explicit representation

identification of
spatial expressions
and spatial relations,
temporal expressions
and temporal relations

**underlying selected
representation**

identification
of the omitted information
that a human reader
might reasonably
infer

**underlying extensive
representation**

Helpful NLP Technologies

Hand Annotation

Automated Annotation

text representation

user
input

NLP tools



explicit representation

narrative
parameters

spatial information
temporal information



**underlying selected
representation**

additional
sources?

?

**(underlying extensive
representation)**

A Practical Approximation

Conclusions

- Narrative involves complex relations between events, time and text.
- Resources covering all the data involved a difficult to acquire.
- Text annotated with factual information AND concepts of narrative discourse would be a very good starting point.

thank you!

<http://nil.fdi.ucm.es>



nil
natural interaction based on language