SEPITIN

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Initial idea

- Short stories, roughly 1500-2500 words
- NaNoGenMo (2019 entries)

Narrative generation challenges

- Coherence
- Appeal

Initial program structure idea

- Twofold design: plot generation & NLG
- Plots are generated using a tree-based approach
- An interpreter writes out the plot as a short story

Initial plot generation idea

- (Insert picture of example trees)

Action pairs

	A	B	C	D
1	**Action Pair**	**Before**	**Link**	**After**
2	abandon:are_pursued_by	*abandon*	and	*are_pursued_by*
3	are_feared_by:overthrow	*are_feared_by*	and	*overthrow*
4	underestimate:are_suppressed_by	*underestimate*	and	*are_suppressed_by*
5	turn_against:are_attacked_by	*turn_against*	and	*are_attacked_by*
6	are_inspired_by:imitate	*are_inspired_by*	and	*imitate*
7	are_bought_off_by:settle_with	*are_bought_off_by*	and	*settle_with*
8	turn_against:are_beaten_by	*turn_against*	and	*are_beaten_by*
9	take_up_with:are_impressed_by	*take_up_with*	and	*are_impressed_by*
10	pursue:are_taunted_by	*pursue*	and	*are_taunted_by*
11	take_up_with:are_flattered_by	*take_up_with*	and	*are_flattered_by*
12	are_manipulated_by:cede_power_to	*are_manipulated_by*	and	*cede_power_to*
13	kill:are_cursed_by	*kill*	and	*are_cursed_by*
14	are_lured_by:surrender_to	*are_lured_by*	and	*surrender_to*
15	turn_against:are_underestimated_by	*turn_against*	and	*are_underestimated_by*
16	are_moved_by:fall_in_love_with	*are_moved_by*	and	*fall_in_love_with*
17	indoctrinate:are_trusted_by	*indoctrinate*	and	*are_trusted_by*
18	sympathize_with:fall_in_love_with	*sympathize_with*	and	*fall_in_love_with*
19	release:are_forgotten_by	*release*	and	*are_forgotten_by*
20	seek_forgiveness_from:are_pitied_by	*seek_forgiveness_from*	and	*are_pitied_by*
21	enlist:are_trusted_by	*enlist*	and	*are_trusted_by*
22	fall_in_love_with:are_worshipped_by	*fall_in_love_with*	and	*are_worshipped_by*
23	abuse:are_bitten_by	*abuse*	and	*are_bitten_by*
24	enlist:are_respected_by	*enlist*	and	*are_respected_by*
25	look_for:are_trusted_by	*look_for*	and	*are_trusted_by*
26	supervise:are_trusted_by	*supervise*	and	*are_trusted_by*
27	are_obeyed_by:lead_astray	*are_obeyed_by*	and	*lead_astray*
28	supervise:are_respected_by	*supervise*	and	*are_respected_by*
29	are_obeyed_by:profit_from	*are_obeyed_by*	and	*profit_from*
30	disfigure:are_disgusted_by	*disfigure*	and	*are_disgusted_by*
31	fall_in_love_with:are_concerned_about	*fall_in_love_with*	and	*are_concerned_about*
32	admire:are_encouraged_by	*admire*	and	*are_encouraged_by*
33	campaign_against:are_deceived_by	*campaign_against*	and	*are_deceived_by*
34	spy_on:are_shocked_by	*spy_on*	and	*are_shocked_by*
35	blackmail:are_bought_off_by	*blackmail*	and	*are_bought_off_by*

Figure 1: Tony Veale's action pairs

Existing plot generation models

- Many models and purposes, big differences
- Templates, neural nets, tree search

Propp's morphology

- "Function must be taken as an act of dramatis personae, which is defined from the point of view of it's significance for the course of action of a tale as a whole"
- 31 different functions split into different categories

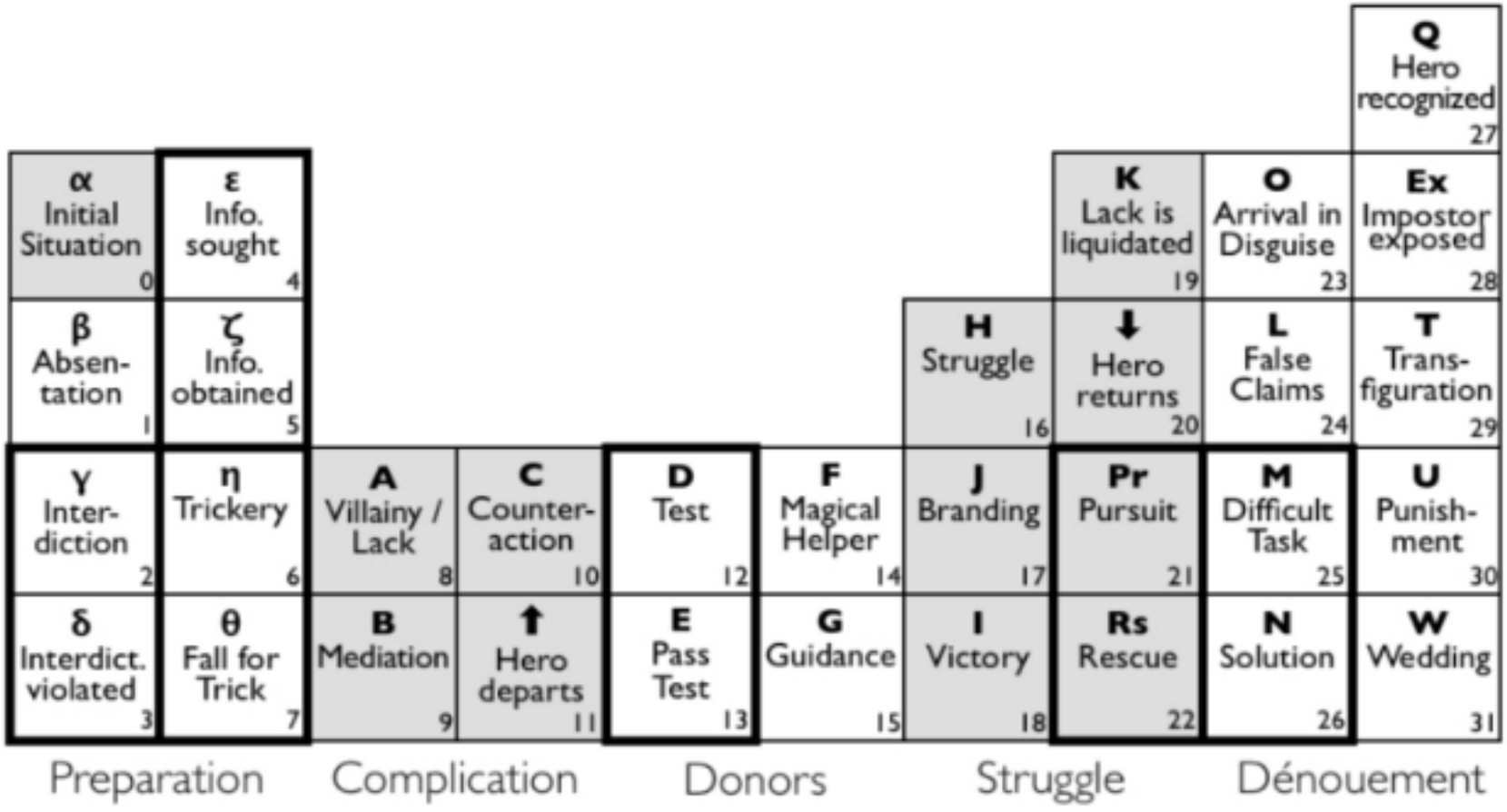

Figure 2: Propp's functions

A Case-based reasoning approach (Gervás et al.)

- Memory-based paradigm where an existing library of ‘cases’ is adapted
- Function substitution may used if applicable

The Swan Geese (113 of Afanasiev Collection). **Initial situation** (a girl and her small brother). **Interdiction** (not to go outside), **interdiction violated**, **kidnapping** (swan geese take the boy to Babayaga's lair), **Competition** (girl faces Babayaga), **Victory**, **Release from captivity**, **Test of hero** (swan geese pursue the children), **Sustained ordeal** (children evade swan geese), **Return**.

Figure 3: Proppian analysis of *The Magic Swan Geese*

(*155 of Afanasiev Collection*). (...) **Absentation** of the hero (brother goes hunting), **Deception** of the villain (beautiful girl entices him), **Murder** (girl turns into lioness and devours him), (...) **Consent to counteraction** (other brother sets out), **Competition** (faces beautiful girl), **Victory** (kills lioness), **Resurrection** (revives brother), **Return**.

Figure 4: Analysis of a different tale

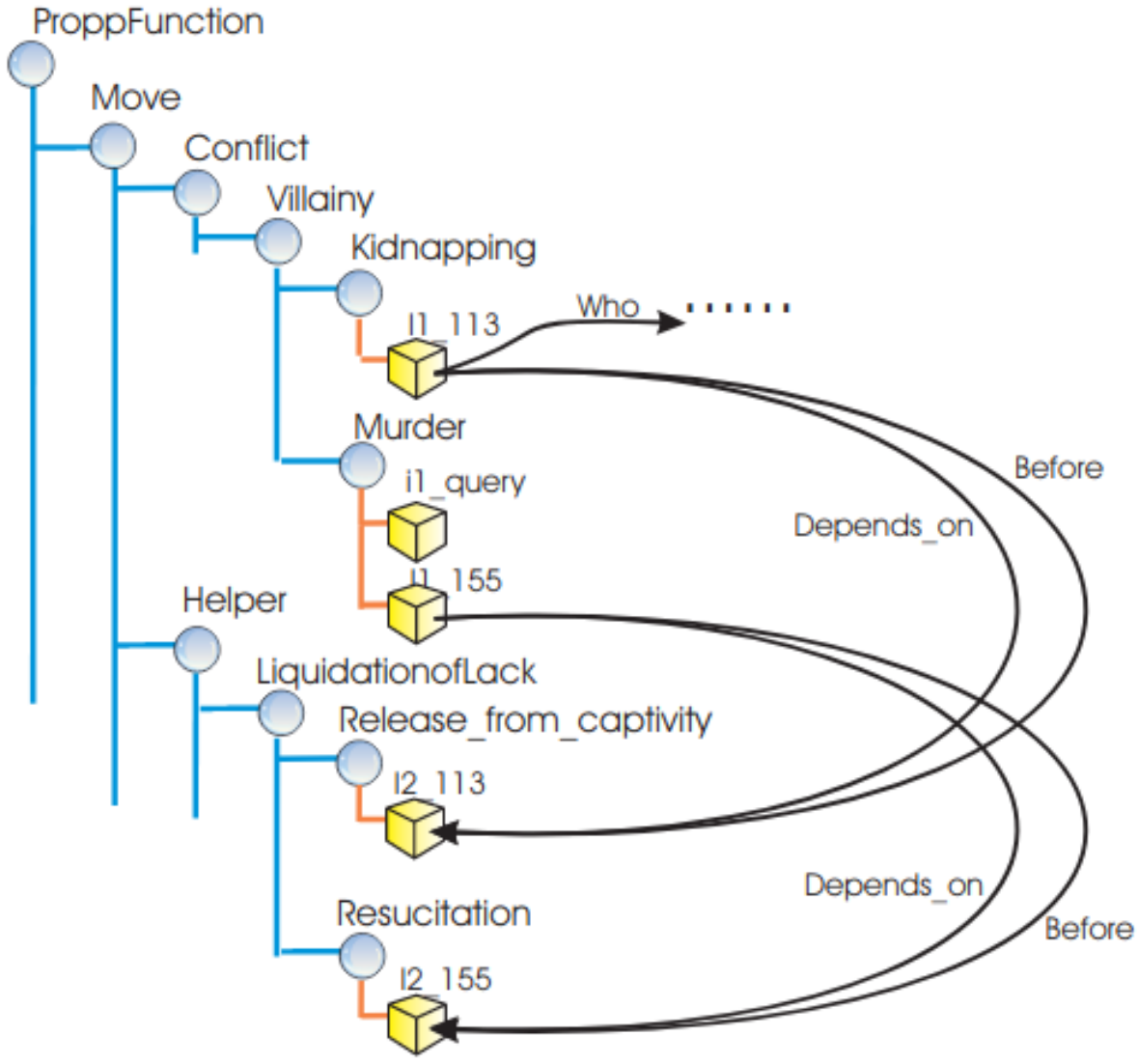

Figure 5: Substituting a function

cf0 **Initial situation** **(a knight and his beloved princess).**	what: ∅ where: l0 who: (ch0,ch1)
cf1 **Interdiction** **(not to go forest).**	what: action(ch2,ch1,s0,warn), (clause(s0,rep,neg), action(ch1,x,l1,go)) where: l0 who: (ch2,ch1)
cf2 **Interdiction violated**	what: action(ch1,l1,go) where: (l0,l1) who: (ch1)
cf3 **Murder** **(a lioness devours her)**	what: action(ch3,ch1,devour) where: l1 who: (ch3,ch1)
cf4 **Competition** **(knight faces the lioness)**	what: action(ch0,ch3,face) where: l1 who: (ch0,ch3)
cf5 **Victory** **(kills lioness)**	what: action(ch0,ch3,kill) where: l1 who: (ch0,ch3)
cf6 **Resurrection** **(revives the princess)**	what: action(ch0,ch1,resurrect) where: l1 who: (ch0,ch1)
cf7 **Return**	what: action(ch0,l0,return) where: (l1,l0) who: ch0

Figure 6: A new tale!

A template-based model (Grasbon et al.)

- An author writes static scenes, which are shown to a player
- The interactive engine picks the most suitable scene based on interaction

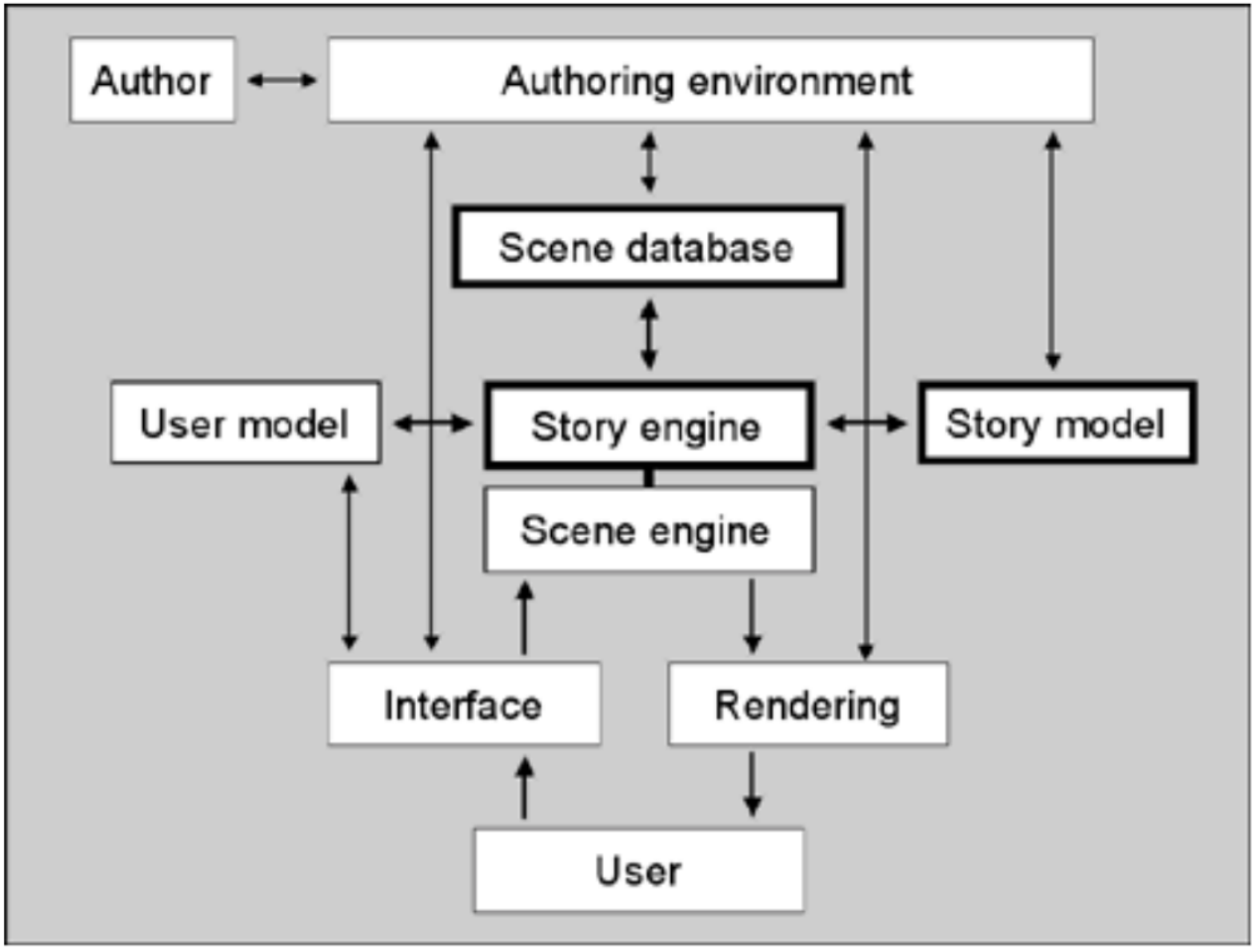

Figure 7: The architecture of an interactive system