

Computational Modeling of Narrative Texts, Films and Games

Course 5 - Story annotations

Rémi Ronfard, March 2015

Outline

- Screenplay narratology
- Story workbench
- Scheherazade

Screenplay narratology

- Syd Field: Screenplay
- Robert McKee: Story
- Kristin Thompson: Storytelling in the New Hollywood: Understanding Classical Narrative Technique
- Blake Snyder: Save the cat

Blake Snyder beat sheet

1. Opening image (1)

2. Theme stated (5)

3. Set-up (10)

4. Catalyst (12)

5. Debate (12-25)

6. Break into two (25)

7. B story (30)

8. Fun and games (30-55)

9. Midpoint (55)

10. Bad guys close in (55-75)

11. All is lost (75)

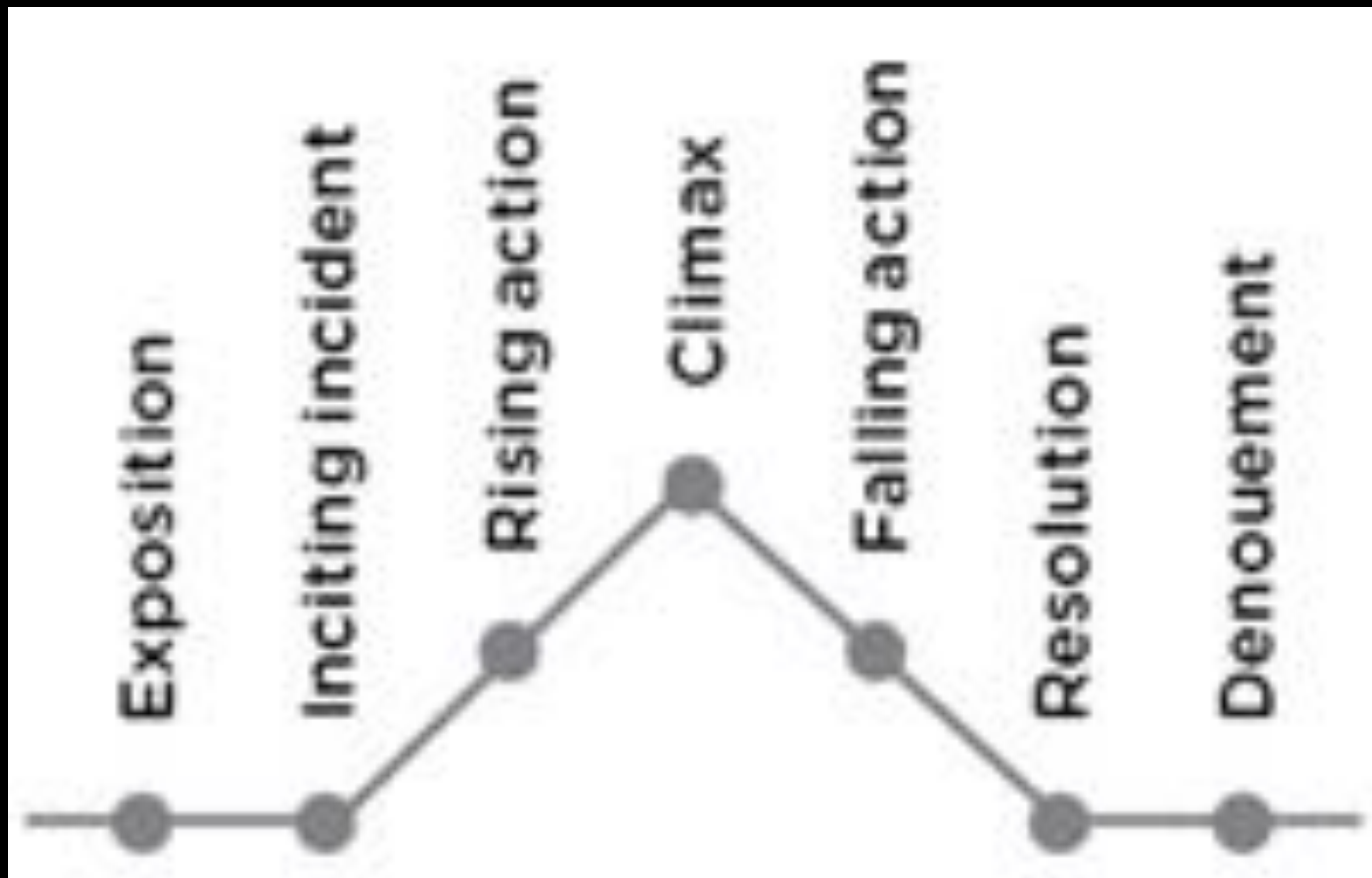
12. Dark night of the soul
(75-85)

**13. Break into three
(85)**

14. Finale (85-110)

15. Final image (110)

Analogies

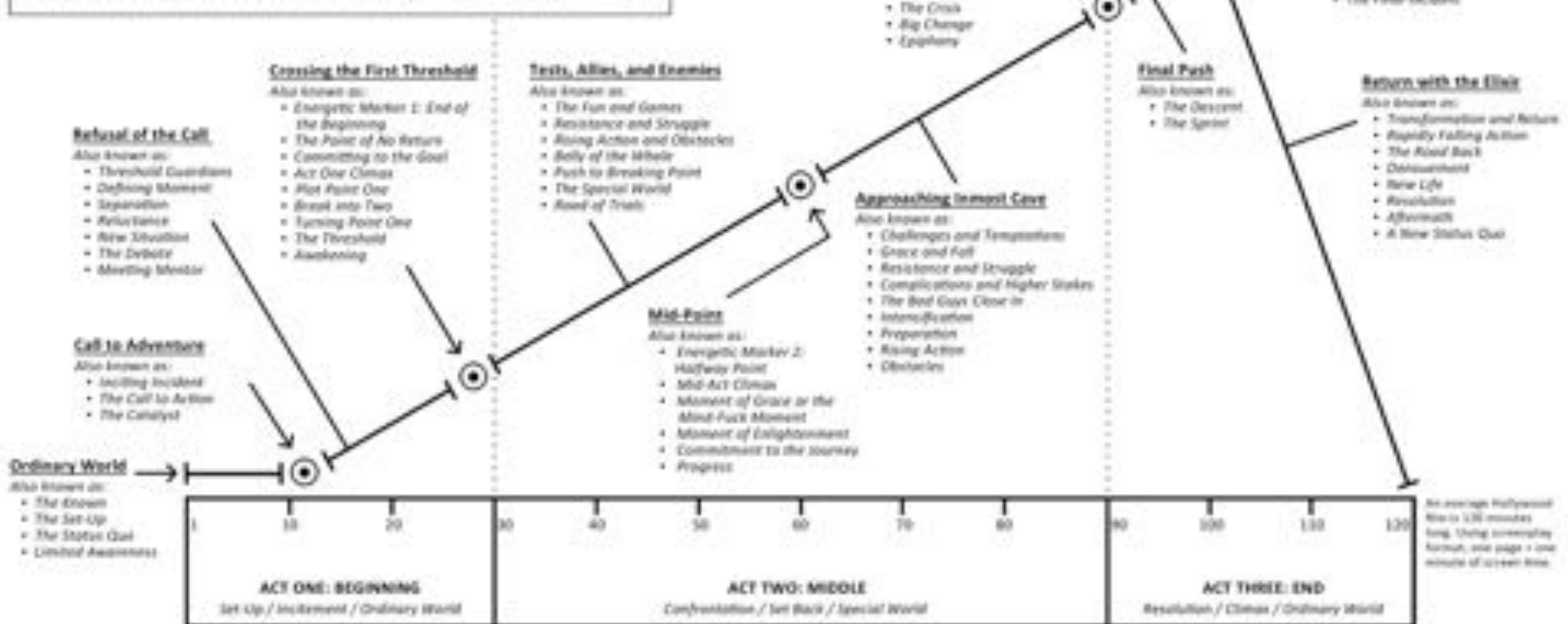


ARCHPLOT STRUCTURE

(MCA: Classic plot, the hero's journey, goal-oriented plot, Aristotelian story shape, emergent plot, and Hollywood screenwriting structure)

Archplot is a goal-oriented plot where, "for better or worse, an event throws a character's life out of balance, forcing to face the conscious and/or unconscious desire for that which he feels will restore balance, launching him on a Quest for his Object of Desire against forces of antagonism (inner, personal, and/or personal) he may or may not achieve it" (Molloy, 1991). **Film Examples:** Toy Story, The Godfather, Back to the Future, Star Wars, Etc. (Most American Hollywood films use arch plots). **Book Examples:** Harry Potter (Rowling), Hunger Games (Collins), Jack (Anderson), Pride & Prejudice (Austen), Hamlet (Shakespeare), The Odyssey (Homer), etc.

"I read a master class with Billy Wilder once and he said that in the first act of a story you put your character up in a tree and the second act you cut the tree so he falls and then in the third act you get him down." — Gene Kelly (Film Professor)



Paperman

- Director: John Kahrs
- Writers: Clio Chiang (story), Kendelle Hoyer (story)
- Genre: OUT OF THE BOTTLE meets BUDDY LOVE when boy meets girl, boy loses girl, and boy finally gets girl through heroic paper-airplane making and a magical wind that's rooting for love.



Opening Image (0:00 – 0:30)

- A MAN, our hero, stands on a commuter train platform. Suit. Tie. File folder. Mid-twenties. But his frozen expression makes him seem older; prematurely gray. It's no accident he wears a gray suit and the film's palette is black and white. Is he lonely? Unfulfilled? Directionless? Falling short? Whatever it is you can practically smell the stasis = death. And it's all conveyed in seconds. Economy rocks.
- A train rushes by and a SHEET OF PAPER grabbed by the train's backwash blows up against our hero's shoulder, then past him.
- A WOMAN, also mid-twenties, retrieves the paper. She places it inside her own file folder and stands next to the man.

Theme Stated (0:31 – 0:35)

- A moment of nervous anticipation, a tableau of a man and a woman side by side, facing in the same direction holding their matching file folders, together but separate.
- It's a simple visual statement about the potential of a relationship.
- An inherent dramatic question looms: will they overcome this stasis? Not without some help.

Catalyst (0:36 – 1:02)

- Another train rushes past and pulls a SHEET OF PAPER from our hero's file folder sending it SMACKING onto the woman's face.
- This is a "kiss" of sorts, initiated not by the man but by the wind, the same wind that brought her paper to him.
- Both of these incidents foreshadow a "PLAYFUL WIND" as an instigative, creative force, though for now it appears logically motivated by the trains.
- The man peels the paper off her face and she smiles when she notices her LIPSTICK MARK on it. He laughs when he sees it, but by then the woman has boarded the train.
- He watches as she turns back and smiles a sad "what might have been" smile. C'est la vie.
- But his sadness appears deeper than hers as he watches the train pull away, his lipstick paper flapping goodbye in the breeze.
- Having just met and not knowing how to find her again, it's clear he thinks this is the end of their story.

Set Up (1:03 – 1:25)

- We see our hero at work, in a high-rise office, sitting at his desk staring at the paper with the lipstick mark on it, a symbol of his unfulfilled longing.
- We see details of his context, an amplification of the opening image and the Six Things That Need Fixing: he works in a room crowded with rows of desks manned by nearly identical middle-aged men wearing the same dark pants, white shirts, and suspenders — sorting through high stacks of paper forms on their desks. Endless meaningless papers.
- PAPERMEN. He's the youngest by far but it's easy to see how he might soon look indistinguishable from them. A worrisome thought.
- THE BOSSMAN, an imposing, humorless square-jaw plops down a stack of papers on our hero's desk, directly on top of his lipstick paper, work threatening to bury dreams. A playful wind tugs at the lipstick paper and almost sucks it out the window but our hero catches it just in time. A casual glance at the high rise across the street reveals, visible through the open window in the office directly opposite his own, –

Catalyst (1:26 – 1:38)

- — the woman! The woman from the platform! She's shaking someone's hand then sits down, attentive. A job interview? Whatever it is, looks like she won't be there for long.
- Our hero, spurred by this discovery (a discovery that might not have happened had it not been for the "catalytic" wind) waves his arms frantically trying to get her attention, but she doesn't see him.

Debate (1:39 – 1:46)

- The Bossman in his corner office looks on disapprovingly. Message clear: no arm waving here.
- Our hero will have to adopt a more subtle approach.
- He looks around, from his lipstick paper to his stack of papers and gets an idea.

Break into Two (1:47 – 1:55)

- Act II is always the first tangible step on the hero's "creative journey," and here it's a foray into paper airplane making.
- The man uses his paper forms, the symbol of his daily drudgery, as an instrument of connection, his Cupid's Arrow, to try and reach the girl across the way.
- That's not only creative, it's a Transformation.

B Story

- This is a love story so the B Story is the object of our incomplete hero's desire – the woman – and the complication is everything that gets in the way of their reconnecting. There'll be plenty.

Fun & Games (1:48 – 2:56)

- Our hero's first paper airplane glides off his hand and then plummets to the street, a spectacular failure. But he has more raw material, the large stack of papers on his desk, so he makes another one. This is nearly a spectacular success as it sails across the gulf at the perfect elevation and trajectory, but misses the targeted window by only a few inches. He makes another one but is interrupted by the Bossman who shuts the window and crosses back to his office, eyeballing him to get back to work. Does this dissuade our hero? Not a chance.
- Another paper airplane flies across, this one making it into a window, but alas, the wrong one. The next one looks on track until it's inadvertently intercepted by some birds. WTF? The man sends another, then another, and another, and another, and the one after that actually makes it through the correct window but noiselessly crosses behind the woman and falls into the wastepaper basket in the corner. Watching all the different ways in which attempted romantic paper airplane messaging can be thwarted is the Fun & Games and the Promise of the Premise of Paperman, and it's all done with maximum cleverness and incredibly dynamic visual energy – plunging and opposing verticals aplenty.
- Several more airplanes in quick succession fail to find their mark until our hero reaches for his now exhausted stack of papers, accidentally knocking his document basket to the floor. All work stops, all eyes on our hero, a humiliating public display. In a wonderful comic beat, the worker sitting nearest moves his own stack of papers an inch closer to himself, an inch further away from the mad paper airplane maker. But our hero has bigger problems than a depleted stack of forms or what his co-workers may think of him. As Blake says, at the Midpoint stakes are raised and the hero squeezed.

Midpoint (2:57 – 3:14)

- Across the way the woman stands, about to leave, the window of opportunity literally closing (time clock appearing). Our hero sees one more form on his desk (stirred, of course, by the playful wind): the lipstick paper, his talisman.
- Can he bear to part with it? Under the circumstances, yes. He quickly fashions it into an airplane, his last attempt.
- He gathers himself at the window but before he's ready the playful wind (the confounded wind!) pulls it from his grasp and it tumbles uselessly into the abyss just as the woman exits the office.

Bad Guys Close In (3:15 – 3:35)

- Bossman emerges from his corner office and every worker instantly and uniformly returns to his work, his forms, his papers: the price of soul-squelching office conformity.
- Bossman has a new stack of forms for our hero which he deposits onto his desk. Our hero sits, seemingly engulfed by these documents.
- In a close up we see how his head emerges from behind the stack as if the papers themselves were his body. Is this what he is destined to become – a disembodied head sticking out of a stack of papers? Not on your life!

More Fun & Games (3:36 – 3:37)

- As I have contended several times in the past here at STC!, the most satisfying stories often have a beat right here where the hero demonstrates a new-found resourcefulness, or significantly steps up to the plate, or shows the audience what they do best. I call it More Fun & Games.
- In all cases it's an uptick in emotion and a positive demonstration of character growth. We even find it in shorts lasting less than seven minutes, if the shorts are as good as this one.
- Here we have a major revelation and decision: our hero will not be ruled by fear, and he will risk his job (and as we'll see, his life) to find the woman of his dreams. So he runs out, scattering the stack of papers on his desk across the room – newly empowered to create his own playful wind, at least for the moment.

All Is Lost (3:38 – 4:03)

- We see the woman turn the corner just as our hero exits the revolving door of his building.
- In a death-defying demonstration of full commitment to purpose, he races across traffic, miraculously surviving, only to discover that he's too late – the woman is nowhere to be found.
- All that's left is her signifier, the lipstick-adorned paper airplane, mockingly resting atop a mailbox. He hurls it into the sky as hard as he can and tromps off down the street.
- If this were a Peanuts cartoon, he'd have a thought bubble over his head filled with an angry vicious squiggle.



Dark Night of the Soul (4:04 – 4:20)

- We follow the paper airplane as it sails across the city, and as viewers we wonder, we hope, that it might somehow reach the girl.
- But this hope is dashed when it falls into a deep, dark, narrow alleyway, its purpose stymied by an apparently indifferent universe.
- This beat is the realization of the hero's (and the audience's) worst fears. I call it The Promise of the Worst Case Scenario.

Break into Three (4:21 – 4:30)

- But after a couple beats of stasis the airplane is aroused by a breeze which turns into a playful wind that bears the airplane aloft.
- And suddenly all the other paper airplanes stranded in the alley (and there are hundreds) are similarly borne upward, and soon they're cavorting together, all lined up behind their lipstick-marked leader who guides them into a swirling vortex of flitting sharp triangles just as a shadow passes the alley – the shadow of our hero trudging by, still consumed by his Dark Night.

Finale (4:31 – 5:48)

- Up until now there has been nothing overtly magical about the playful wind; all events thus far could be explained by natural forces. But not now, not anymore. Now the genre is clear: we have entered the realm of fantasy where wind has sentience, and purpose, and is squarely on the side of romance. The paper airplanes, and the audience, are now fully Out of the Bottle. It is wish-fulfillment fantasy come true and Transformation writ large.
- As our hero gloomily marches past, the paper airplanes emerge from the alley and follow along jauntily, a Team Fully Gathered. They affix themselves to our hero, who is so consumed by his dark cloud of disappointment that he swats them away like they're exasperating flies. But they have a mission and possess indomitable strength and force him, in another humiliating (and death-defying) public display, across the street through heavy traffic towards just what we're not yet sure.
- Then the lipstick-marked leader airplane zooms across town, Executing The Plan: find the girl! She's admiring flowers at a flower stand (deserving of the romantic intervention, wouldn't you say?), and once it gets her attention it flies off again. Intrigued, she follows, almost dancing along behind.

Final Image (5:49 – 6:08)

- Our heroine steps out of her train first, back on the very platform where the story began. She holds the lipstick leader, that is, the paper airplane with her pucker mark on it, in her hands and bounces it in her hands to see if it might fly again and tell her what to do next.
- Just then a last playful wind blows hundreds of paper airplanes past her. She turns to find our hero staring at her, now able to shake away the bedeviling (or angelic?) paper planes. She steps towards him. He steps towards her.
- Like the opening image, they share the same frame, but now instead of facing in the same direction – outward towards us – they face each other. Now they can meet. It turns out the universe is not at all indifferent to young love.



AfterImages (6:09 – 6:28)

- During the final credits we see still shots of our two lovers sitting at a coffee shop, the lipstick leader on the counter between them as they talk, laugh, connect. It all looks very promising.
- Their images fade out leaving only the lipstick leader – the paper airplane with the pucker mark, the talisman. When the credits end it somersaults and flies out of frame the now black frame. This is an homage, too. An homage to Tinkerbell.

Blake Snyder patterns and genres

1. Monster in the house
2. Golden fleece
3. Out of the bottle
4. Dude with a problem
5. Rites of passage
6. Buddy love
7. Whydunnit
8. Fool triumphant
9. Institutionalized
10. Superhero

Monster in the house stories

1. A monster
2. A house
3. A sin

1. Alien
2. Fatal attraction
3. Scream

Golden fleece stories

1. A road
2. A team
3. A prize

1. Wizard of Oz
2. Saving private Ryan
3. Ocean's eleven

Out of the bottle stories

1. A wish
2. A spell
3. A lesson

1. Freaky Friday
2. What women want
3. Eternal sunshine of the spotless mind

Dude with a problem stories

1. An innocent hero
2. A sudden event
3. A life or death battle

1. Three days of the condor
2. Deep impact
3. Open water

Rites of passage stories

1. A life problem
2. A wrong way
3. An acceptance of a hard truth

1. Ten
2. Kramer vs. Kramer
3. Napoleon dynamite

Buddy love stories

1. An incomplete hero
2. A counterpart
3. A complication

1. Letal weapon
2. When Harry met Sally
3. Titanic

Whydunnit stories

1. A detective
2. A secret
3. A dark turn

1. All the president's men
2. Blade runner
3. Fargo

Fool triumphant stories

1. A fool
2. An establishment
3. A transmutation

1. Being there
2. Legally blonde
3. Forrest gump

Institutionalized stories

1. A group

2. A choice

3. A sacrifice

6. MASH

7. Do the right thing

8. Crash

Superhero stories

1. A special power

2. An opponent

3. A curse

1. The lion king

2. The matrix

3. Gladiator

Exercises: Paris I love you

- 10 short movies
- 5 minutes long
- Shot in 48 hours



Paris I love you: Montmartre 18th

- Bruno Podalydès
- A man parks his car on a Montmartre street and muses about how the women passing by his car all seem to be "taken". Then a woman passerby faints near his car, and he comes to her aid.



Paris I love you: Quais de Seine 5th

- Paul Mayeda Berges and Gurinder Chadha
- A young man, hanging out with two friends who taunt all women who walk by, strikes up a friendship with a young Muslim woman.



Paris I love you: Le Marais 4th

- Gus Van Sant
- A young male customer finds himself attracted to a young printshop worker and tries to explain that he believes the man to be his soulmate, not realizing that he speaks little French.



Paris I love you: Tuileries 1st

- Joel and Ethan Coen
- A comedy in which an American tourist waiting at the Tuileries station becomes involved in the conflict between a young couple after he breaks the cardinal rule of avoiding eye contact with people on the Paris Metro.



Paris I love you: Bastille 12th

- Isabel Coixet
- Prepared to leave his marriage for a much younger lover, Marie Christine, a man named Sergio instead decides to stay with his wife after she reveals a terminal illness - and he rediscovers the love he once felt for her.



Paris I love you: Parc Monceau 17th

- Alfonso Cuarón
- An older man and younger woman meet for an arrangement that a third person ('Gaspard'), who is close to the woman, may not be happy about. It is eventually revealed that the young woman is his daughter, and Gaspard is her baby.



Paris I love you: Madeleine 8th

- Vincenzo Natali
- In this dialogueless segment, a young backpacker traveling late at night stumbles across a corpse—and a vampiress feeding on it. Though initially frightened, he soon falls in love with her, and cuts his wrist to attract her with his blood. The wound causes the backpacker to fall down a flight of stairs and strike his head against the pavement in a potentially fatal injury, but the vampiress reappears and feeds him some of her own blood, turning him into a vampire and allowing the two to begin a relationship.



Paris I love you: Père-Lachaise 20th

- Wes Craven
- While visiting Père Lachaise Cemetery, a young woman breaks up with her fiancé, who then redeems himself with the aid of advice from the ghost of Oscar Wilde.



Paris I love you: Faubourg Saint-Denis 10th

- Tom Tykwer
- After mistakenly believing that his girlfriend, a struggling actress, has broken up with him, a young blind man reflects on the growth and seeming decline of their relationship.



Paris I love you: Parc Montsouris 14th

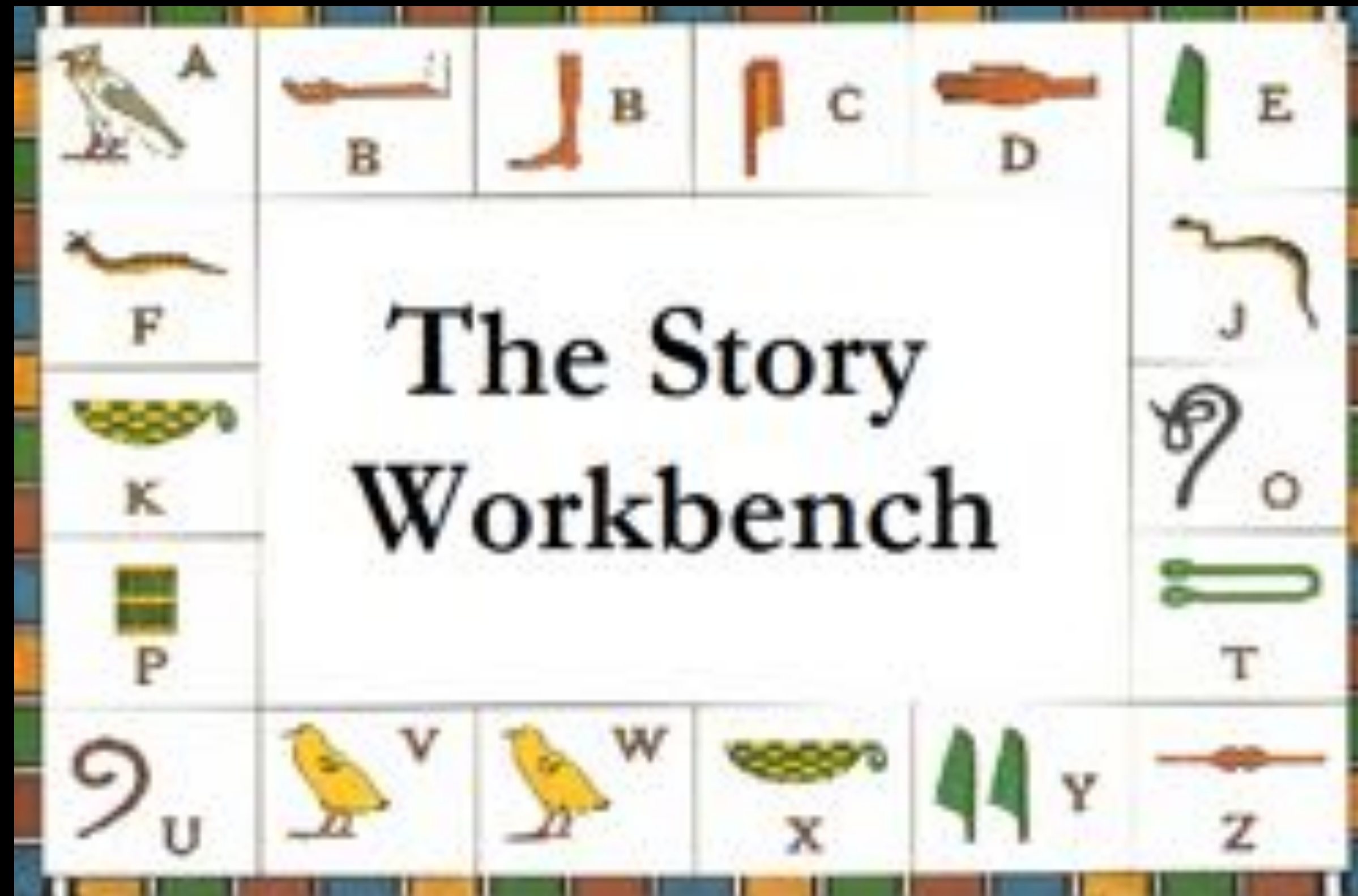
- Alexander Payne
- Nadine Eid
- Carol, a letter carrier from Denver, Colorado on her first European holiday, recites in rough French what she loves about Paris.



Story annotations

- NarrativeML
 - Inderjit Mani: Computational Modeling of Narrative, 2013
- Story Workbench Annotation Toolkit
 - Mark Finlayson, Learning Narrative Structure from Annotated Folktales, MIT 2012.
- Scheherazade Annotation Toolkit
 - David Elson: Modeling Narrative Discourse, Columbia University, 2012.

Story Workbench



Propp functions

α – initial situation

β – absentation

γ – interdiction

δ – violation

ϵ – reconnaissance

ζ – delivery

η – trickery

θ – complicity

A – villainy

B – mediation, the connective incident

C – beginning counteraction

\uparrow – departure

D – the first function of the donor

E – hero's reaction

F – provision or receipt of a magical agent

G – spatial transference between two kingdoms, guidance

H – struggle

J – branding, marking

I – victory

K – resolution

\downarrow – return

Pr – pursuit, chase

Rs – rescue

o – unrecognized arrival

L – unfounded claims

M – difficult task

N – solution

Q – recognition

Ex – exposure

T – transfiguration

U – punishment

W – wedding

Propp Roles

1. Hero [C=counteraction, \hat{I} =departure, E=hero's reaction, W=wedding]
2. Villain [A=villainy H=struggle, Pr=pursuit]
3. Donor [D=offer, F=magical agent]
4. Helper [G=guidance, K=resolution, Rs=rescue, N=solution, T=transfiguration]
5. Princess [M=difficult task, J=branding, Ex=exposure, Q=recognition, U=punishment, W=wedding]
6. Dispatcher [B=mediation]
7. False Hero [C=counteraction, \hat{I} =departure, E=hero's reaction, L=unfounded claim]

Propp Moves

Preparation	Complication	Transference	Conflict	Return	Recognition
$\beta \gamma \delta \epsilon \zeta \eta \theta$	A(a) B C	\uparrow D E F G	H J I K	\downarrow Pr Rs o L M N	Q Ex T U W

There is an Initial Situation [α] that is not counted as a function; it enumerates the family members or introduces the hero by name or status. The lower case 'a' in the Complication group denotes a "Lack," which is an alternative form of Villainy [A] wherein a family member either lacks something or desires something important. The movement of the tale depends on the presence and type(s) of [A] or [a] function, but this pair is exclusive; a single narrative axis cannot have both an [A] and [a]. It is possible to have both an [A] and [a] if a tale has multiple moves. A move is created by a new Villainy (or Lack). These may be woven into the primary narrative axis either consecutively or concurrently.

Morphological Analysis of the Harry Potter Books and Series

Scheme for the Series Treated as a Single Tale

α β γ δ ε ζ η θ ----- H I K T W
A B C ↑ D E F G H I K ↓ Pr Rs o L M N Q Ex

The Preparation group is the backstory developed and revealed in *Prisoner of Azkaban*, *Half-Blood Prince*, and *Deathly Hallows*. The Mediation [B], the misfortune made known to Harry, is gradually unfolded in the first six books of the series, and Dumbledore gradually dispatches Harry to defeat Voldemort. The Counteraction [C] occurs in *Deathly Hallows*: it is initiated at the beginning of the school year and it is confirmed conclusively by Harry at Dobby's grave. Harry's final test is in the Forbidden Forest with the Snitch, the magical agent donated to him by Dumbledore. Harry is revealed to have survived the killing curse in a reverse Exposure (Ex_{rev}). The return to the main axis is to complete the struggle with Voldemort and defeat him.

Morphological Analysis of the Harry Potter Books and Series

1. *Philosopher's Stone* (double-move tale)



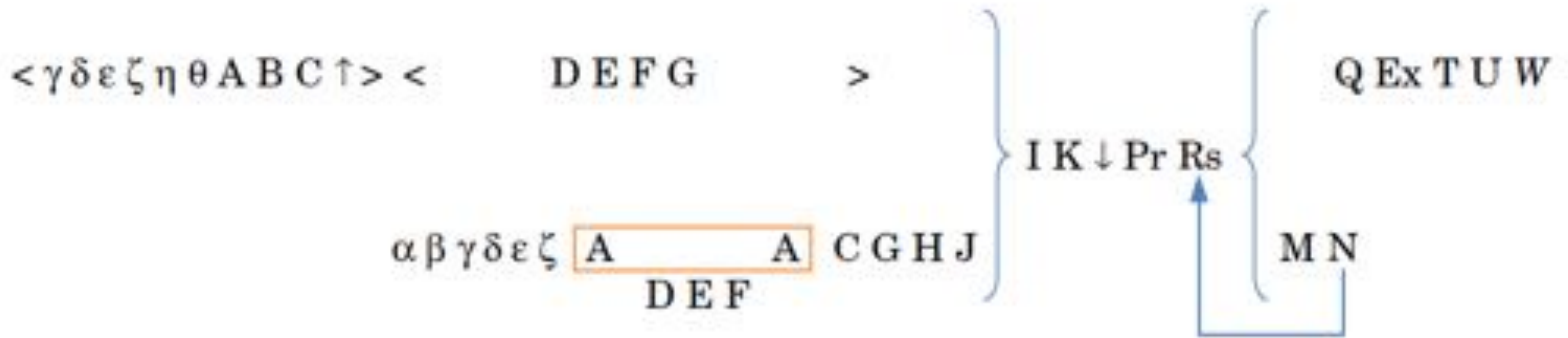
Morphological Analysis of the Harry Potter Books and Series

2. *Chamber of Secrets* (double-move tale)

$$\alpha\beta \left[\begin{array}{c} \gamma\delta \\ \gamma\delta \end{array} \right] \left. \begin{array}{c} \varepsilon\zeta\eta\theta \\ \varepsilon\zeta \\ \varepsilon\zeta\eta\theta \end{array} \right\} \text{ABC}\uparrow\text{DEF} \\ \text{ABC}\uparrow\text{DEFG}F^*\text{HJK}\downarrow\text{LMNQExTUW}$$

Morphological Analysis of the Harry Potter Books and Series

3. *Prisoner of Azkaban* (no moves, but two heroes whose axes converge briefly)



Morphological Analysis of the Harry Potter Books and Series

4. *Goblet of Fire* (4-move tale)



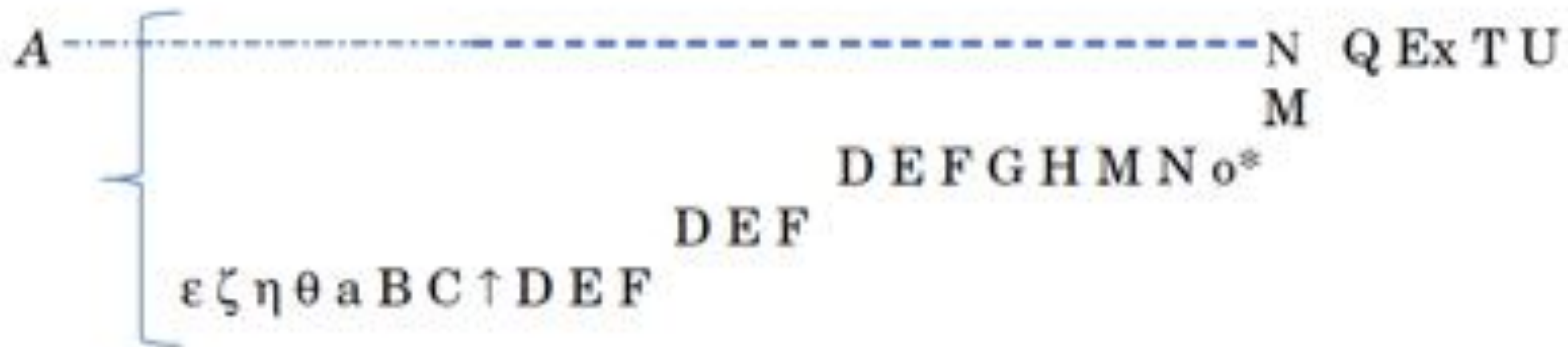
Morphological Analysis of the Harry Potter Books and Series

5. *Order of the Phoenix* (double-move tale with a spliced Transference sequence)

$$\frac{\beta \gamma \delta}{\gamma \delta \varepsilon \zeta \eta \theta} \quad \varepsilon \zeta (D E F G)^* \eta \theta A B C \uparrow D E F G H J I K \downarrow L Q E x T U W$$

Morphological Analysis of the Harry Potter Books and Series

6. *Half-Blood Prince* (no moves, but two heroes whose axes converge)



Morphological Analysis of the Harry Potter Books and Series

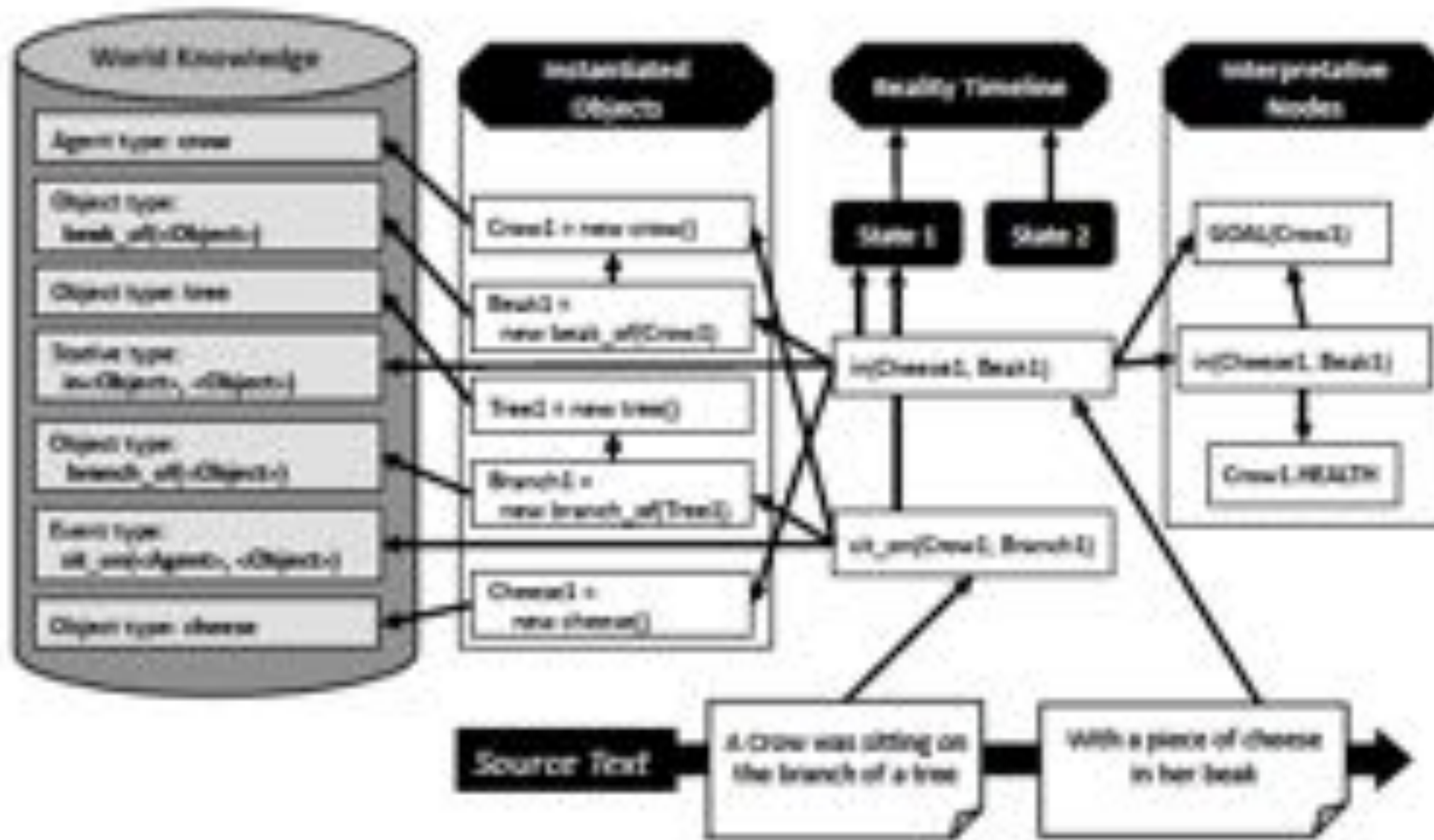
7. *Deathly Hallows* (7-move tale)



Scheherazade

- Scheherazade is a symbolic annotation/encoding tool for stories.
- Created by David Elson during his PhD thesis in 2012:
 - Modeling Narrative Discourse (Kathy McKeown).
- Stories are represented with Story Intention Graphs.
- Download from <http://www.cs.columbia.edu/~delson/software.shtml>

Scheherazade



Textual Layer

Symbol	Name	Usage/Signified Element
TEXTUAL LAYER		
TE	Text	Continuous span of surface discourse
f	Follows	Ordering of text spans in a discourse

Timeline Layer

Symbol	Name	Usage/Signified Element
TIMELINE LAYER		
S	State	An instant of story-world time
P	Proposition	A unit of discrete story-world content, such as an occurring action or event, typically pertaining to an agent. Can include a more complete knowledge representation of the narrated happening
T	Timeline	A continuum of time states in the story-world in a single modality
f	Follows	Ordering of States in a Timeline
ia	Interpreted as	Equivalence between TE and P nodes
in	In	Connects a State to its Timeline
ba	Begins at	Connects a Proposition to its temporal initiation State
ea	Ends at	Connects a Proposition to its temporal termination State
r	Referenced by	Connects a Timeline to a P or I node that incorporates it modally
e	Equivalent	Connects State nodes referring to the same moment in two Timelines

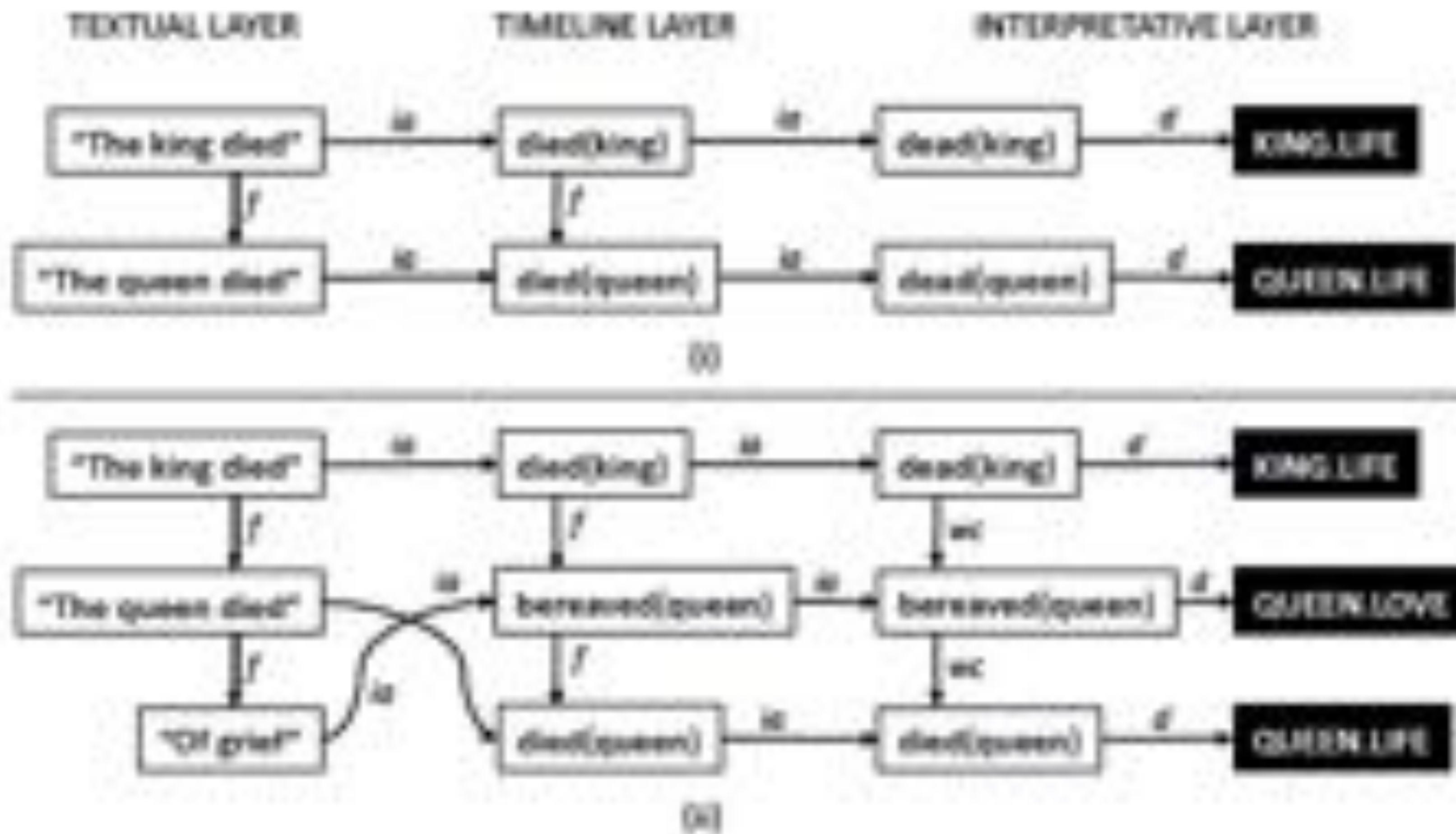
Interpretation Layer

Symbol	Name	Usage/Signified Element
INTERPRETATIVE LAYER		
I	Interpretative Proposition	A unit of story content, equivalent to a P node in the Interpretative space. Either Hypothetical (H), Actualized (A) or Prevented/Ceased (PC) with respect to each State of the main Timeline
G	Goal	Indicates that certain I, G or B nodes are the goal of an agent
B	Belief	Indicates that certain I, G or B nodes are the belief of an agent
A	Affect	The baseline affectual state of an agent
in	In	Connects an I, G or B node to the G or B frame in which it is situated
ia	Interpreted as	Equivalence between a P node and an I, G or B node
im	Implies	Implication by a P node of an I, G or B node
a	Actualizes	Links a P node to an I, G or B node when the reader infers that the latter becomes actualized because of the former
c	Ceases	Links a P node to an I, G or B node when the reader infers that the latter becomes prevented/ceased because of the former

Interpretation Layer

Symbol	Name	Usage/Signified Element
we	Would cause	Link between one I, G or B node and another that is sufficient for its actualization
wp	Would prevent	Link between one I, G or B node and another that is sufficient for its prevention/cessation
pf	Precondition for	Link between one I, G or B node and another that is necessary for its actualization
pa	Precondition against	Link between one I, G or B node and another that is necessary for its prevention/cessation
nc	Attempt to cause	Indicates intention by the agent of a P node to actualize an I, G or B node
ap	Attempt to prevent	Indicates intention by the agent of a P node to prevent/cease an I, G or B node
p	Provides for	A positive affectual impact of an I, G or B node (traversing to A)
d	Damages	A negative affectual impact of an I, G or B node (traversing to A)

Story intention graph for Forster's simplest example



Motivating example : the Wily Lion (Aesop)

A Lion watched a fat Bull feeding in a meadow, and his mouth watered when he thought of the royal feast he would make, but he did not dare to attack him, for he was afraid of his sharp horns.

Hunger, however, presently compelled him to do something; and as the use of force did not promise success, he determined to resort to artifice.

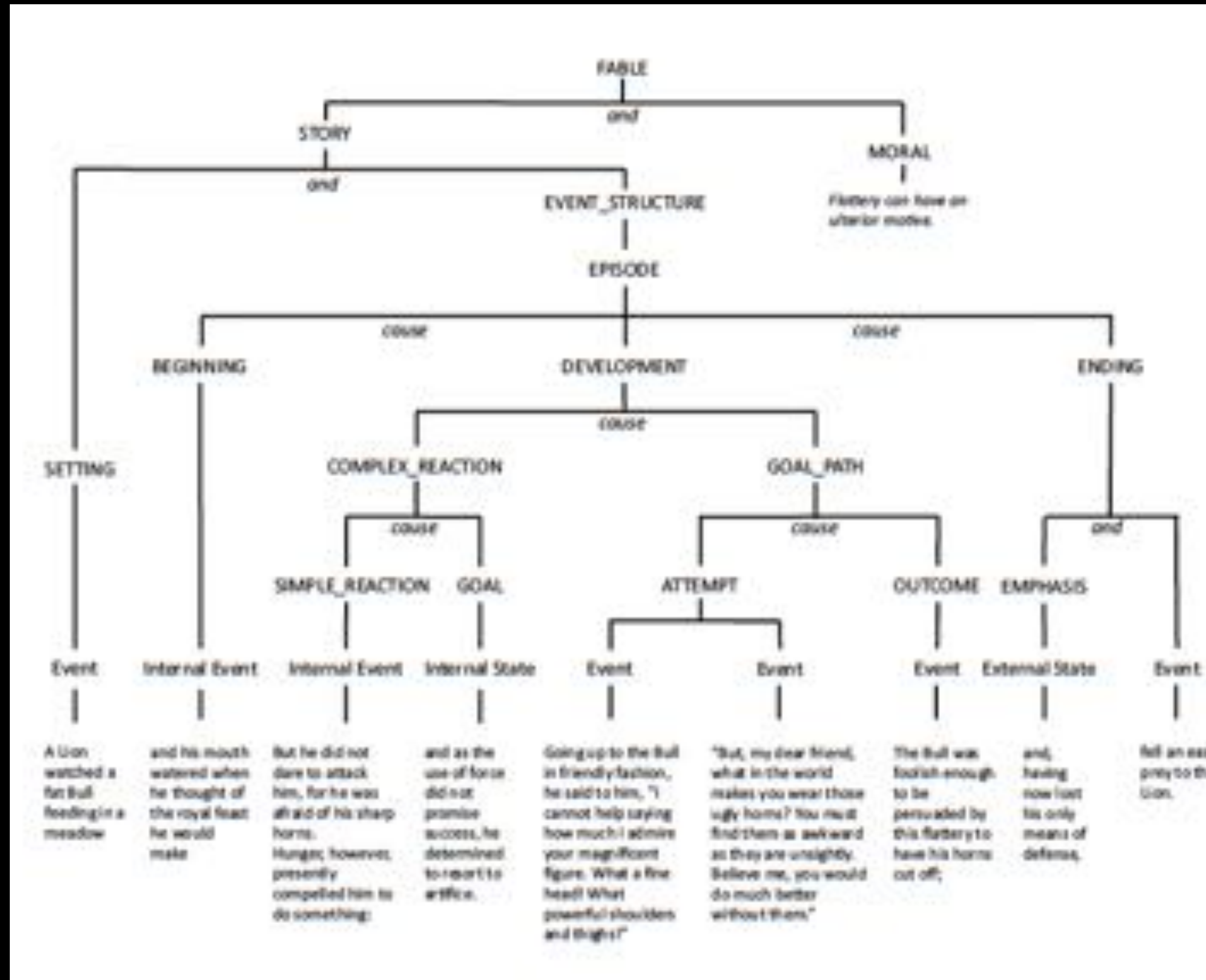
Going up to the Bull in friendly fashion, he said to him, "I cannot help saying how much I admire your magnificent figure. What a fine head! What powerful shoulders and thighs! But, my dear friend, what in the world makes you wear those ugly horns? You must find them as awkward as they are unsightly. Believe me, you would do much better without them."

The Bull was foolish enough to be persuaded by this flattery to have his horns cut off; and, having now lost his only means of defense, fell an easy prey to the Lion.

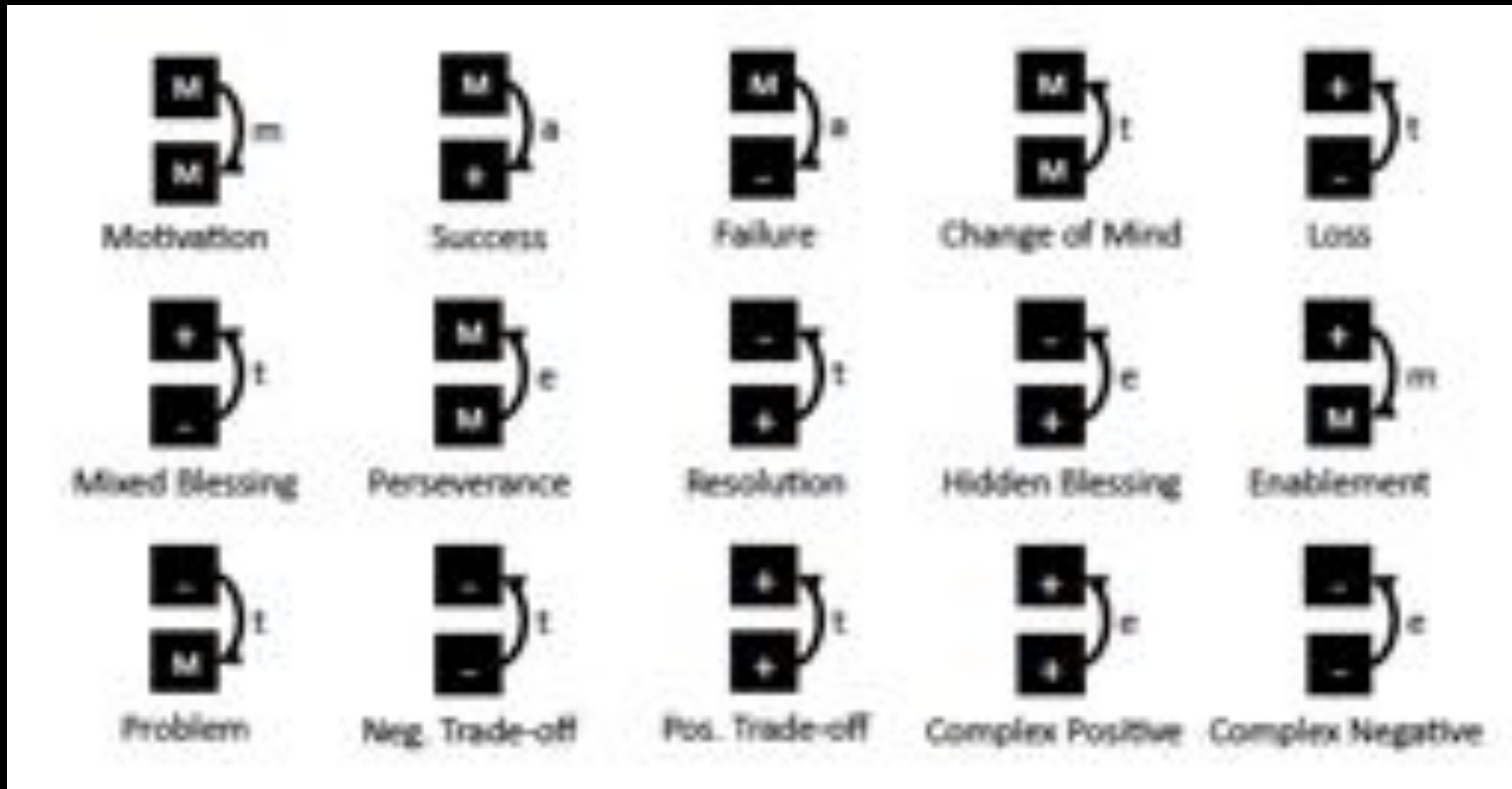
Story grammar (Mandler & Johnson, 1977)

FABLE	→ STORY AND MORAL
STORY	→ SETTING AND EVENT_STRUCTURE
SETTING	→ {STATE* (AND EVENT*) or EVENT*}
STATE*	→ STATE ((AND STATE)+)
EVENT*	→ EVENT (({AND or THEN or CAUSE} EVENT)+) ((AND STATE)+)
EVENT_STRUCTURE	→ EPISODE ((THEN EPISODE)+)
EPISODE	→ BEGINNING CAUSE DEVELOPMENT CAUSE ENDING
BEGINNING	→ {EVENT* or EPISODE}
DEVELOPMENT	→ {SIMPLE_REACTION CAUSE ACTION or COMPLEX_REACTION CAUSE GOAL_PATH}
SIMPLE_REACTION	→ INTERNAL_EVENT ((CAUSE INTERNAL_EVENT)+)
ACTION	→ EVENT
COMPLEX_REACTION	→ SIMPLE_REACTION CAUSE GOAL
GOAL	→ INTERNAL_STATE
GOAL_PATH	→ {ATTEMPT CAUSE OUTCOME or GOAL_PATH (CAUSE GOAL_PATH)+}
ATTEMPT	→ EVENT*
OUTCOME	→ {EVENT* or EPISODE}
ENDING	→ {EVENT* (AND EMPHASIS) or EMPHASIS or EPISODE}
EMPHASIS	→ STATE

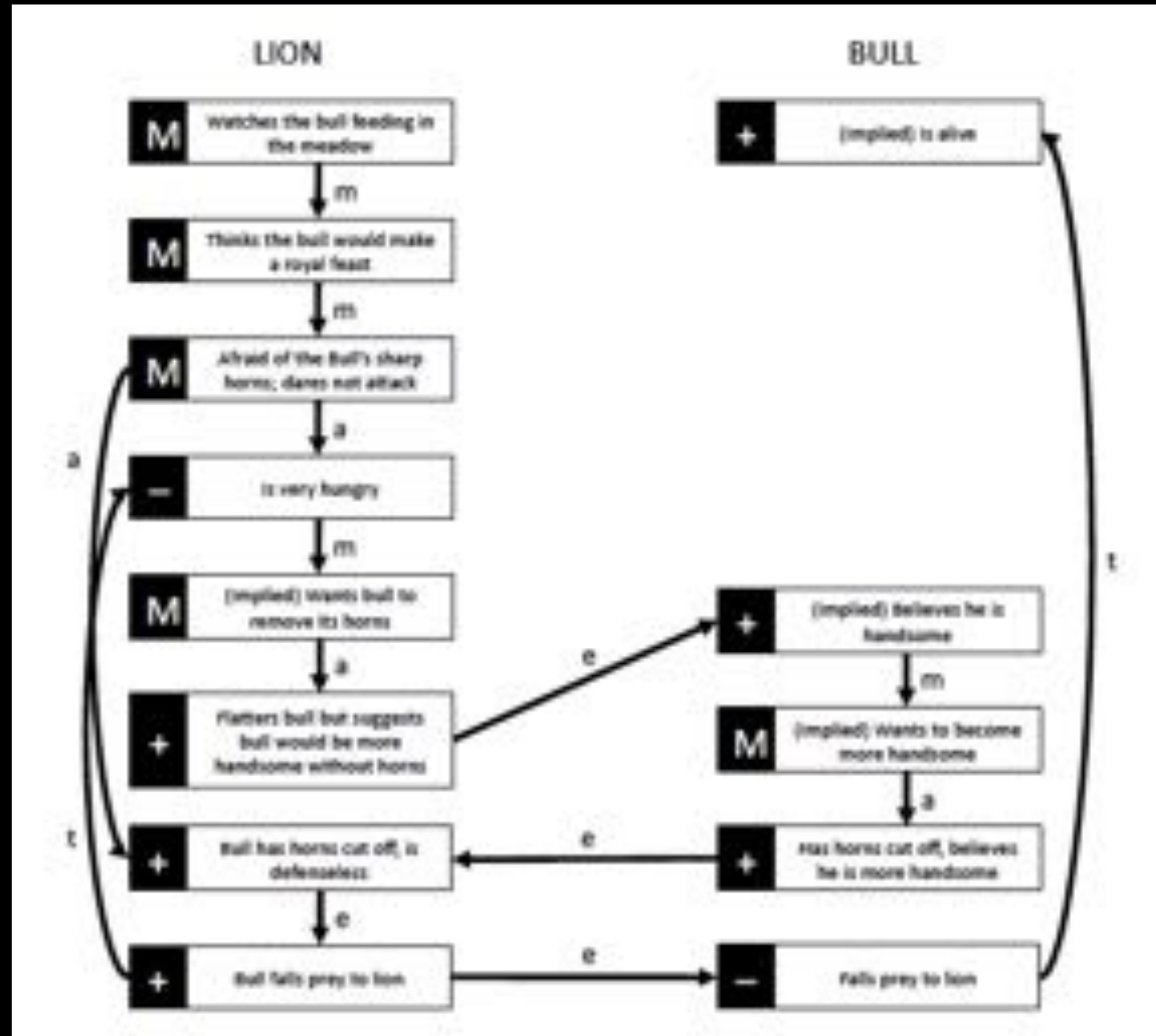
Story grammar for the wily lion



Lehnert's plot units



The wily lion's plot units



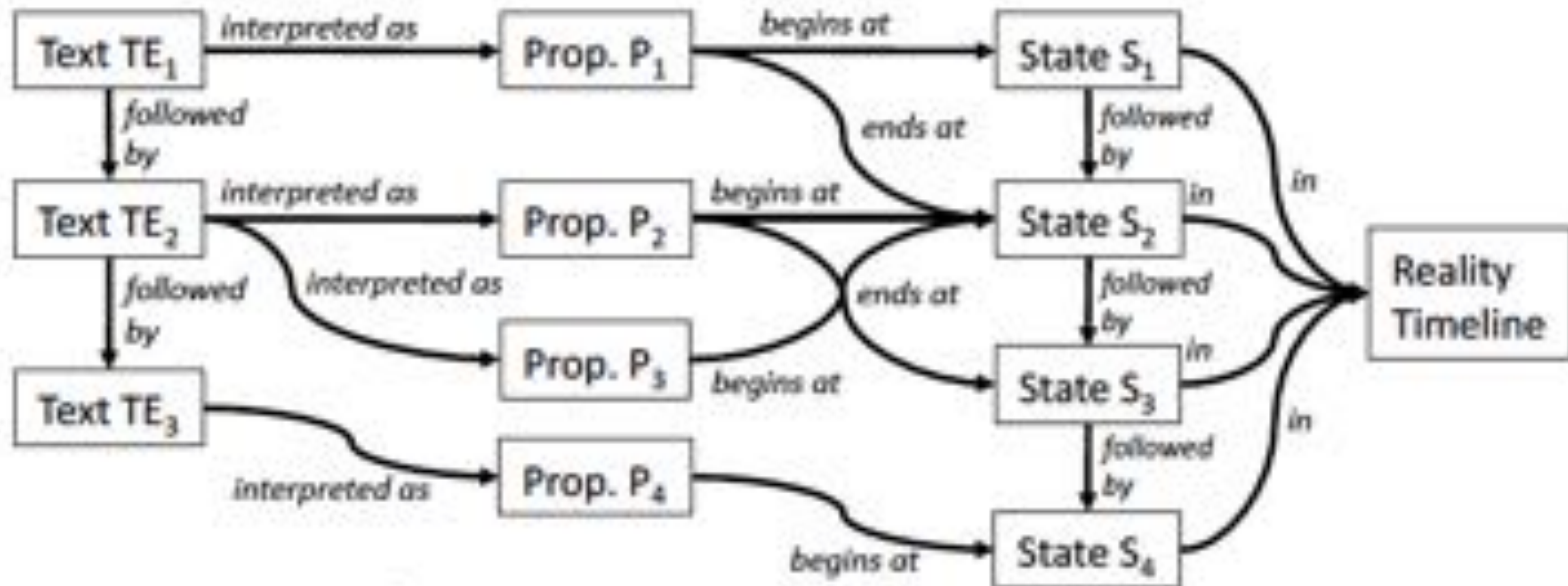
The wily lion's timeline

Node	Example
TE_1	A Lion watched a fat Bull feeding in a meadow
TE_2	Going up to the Bull in a friendly fashion
TE_3	The Bull fell an easy prey to the Lion
P_1	<code>watch(lion, feed(bull, meadow))</code>
P_2	<code>approach(lion, bull)</code>
P_3	<code>friendly()</code>
P_4	<code>identity(bull, prey(lion))</code>

The wily lion's timeline

TEXTUAL LAYER

TIMELINE LAYER



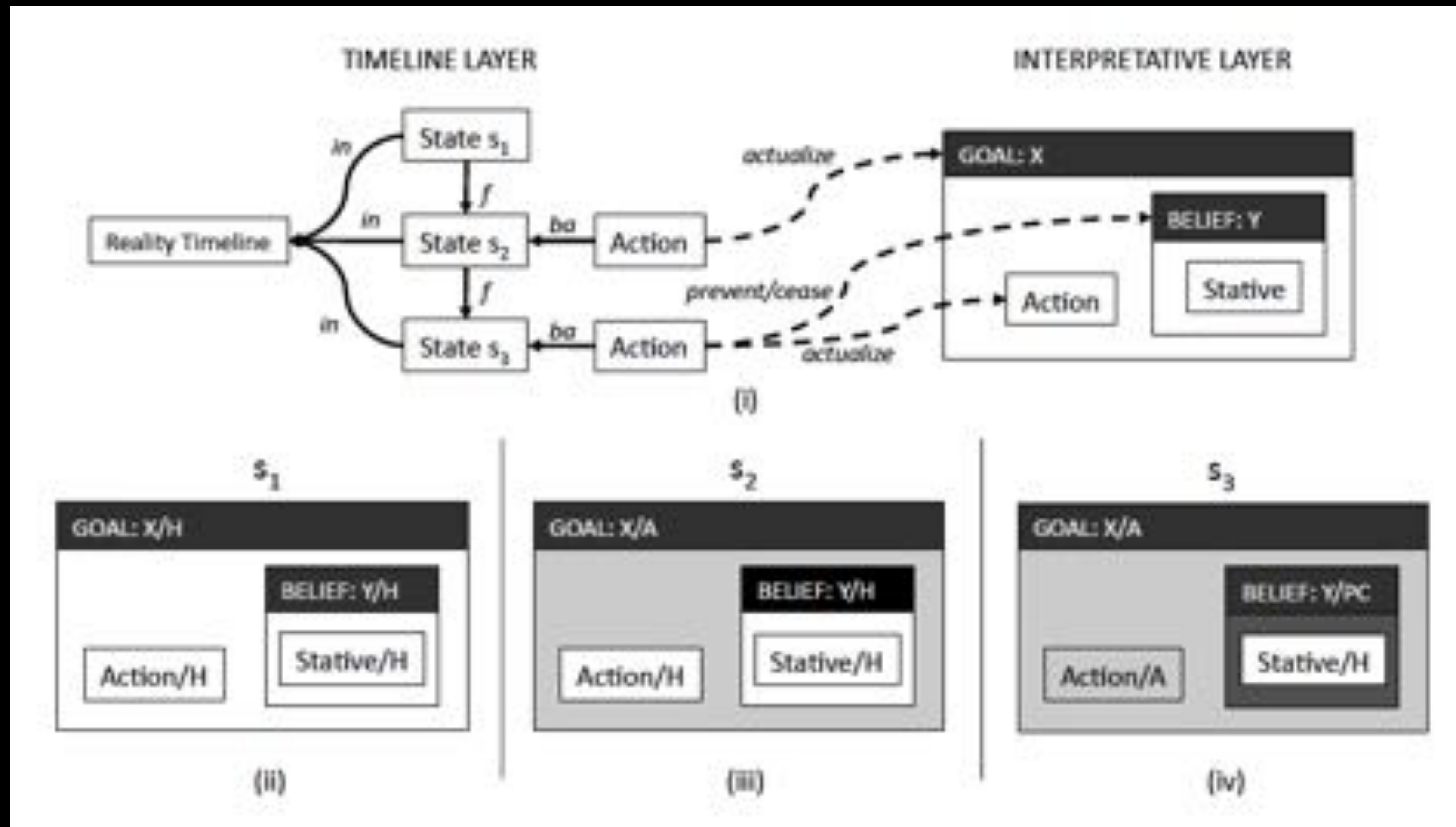
The wily lion's timeline

Node	Text Node content	Node	Proposition node content	Arcs
TE_1	A Lion watched a fat Bull feeding in a meadow	P_1	watch(lion, feed(bull, meadow))	ba(S_1); ea(S_5)
TE_2	and his mouth watered when he thought of the royal feast he would make	P_2	thought(lion(potentialFuture(identity(bull, feast))))	ba(S_2); ea(S_{13})
		P_3	watered(mouth(lion))	ba(S_2); ea(S_3)
TE_3	but he did not dare to attack him,	P_4	\neg attack(lion, bull)	ba(S_3); ea(S_{13})
TE_4	for he was afraid of his sharp horns.	P_5	afraid(lion, horns(bull))	ba(S_3); ea(S_{13})
TE_5	Hunger, however, presently compelled him to do something	P_6	compelled(lion, act)	ba(S_4); ea(S_5)
		P_7	hungry(lion)	ba(S_1); ea(S_{15})
TE_6	and as the use of force did not promise success	P_8	believe(lion, \neg promise(force, success))	ba(S_4); ea(S_{13})
TE_7	he determined to resort to artifice	P_9	plan(lion, artifice)	ba(S_4); ea(S_{13})
TE_8	Going up to the Bull in friendly fashion	P_{10}	approach(lion, bull)	ba(S_5); ea(S_6)
		P_{11}	friendly(lion)	ba(S_5); ea(S_{13})

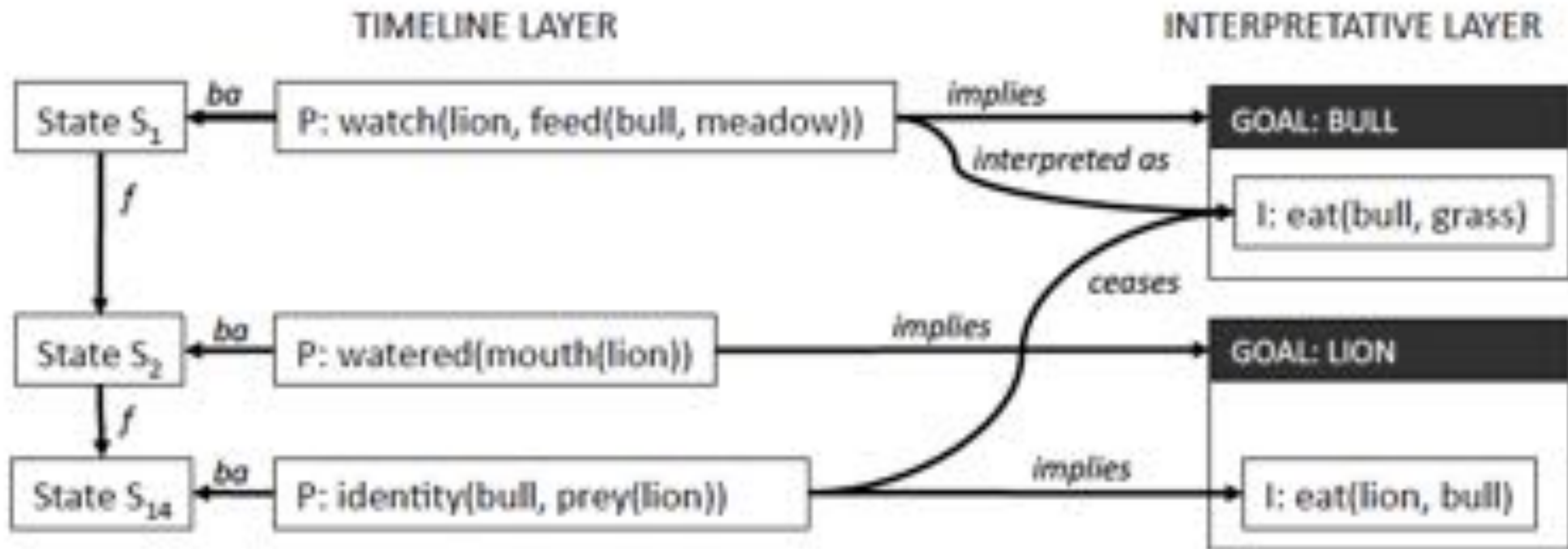
The wily lion's timeline

TE_9	he said to him, "I cannot help saying how much I admire your magnificent figure."	P_{12}	say(lion, bull, admire(lion, figure(bull)))	ba(S_5); ea(S_6)
		P_{13}	say(lion, bull, magnificent(figure(bull)))	ba(S_5); ea(S_6)
TE_{10}	"What a fine head!"	P_{14}	say(lion, bull, fine(head(bull)))	ba(S_6); ea(S_7)
TE_{11}	"What powerful shoulders and thighs!"	P_{15}	say(lion, bull, powerful(shoulders(bull)))	ba(S_7); ea(S_8)
		P_{16}	say(lion, bull, powerful(thighs(bull)))	ba(S_8); ea(S_9)
TE_{12}	"But, my dear friend, what in the world makes you wear those ugly horns?"	P_{17}	ask(lion, bull, reason(wear(bull, horns(bull))))	ba(S_9); ea(S_{10})
		P_{18}	say(lion, bull, ugly(horns(bull)))	ba(S_{10}); ea(S_{11})
TE_{13}	"Believe me, you would do much better without them."	P_{19}	say(lion, bull, ifThen(\neg have(bull, horns(bull)), succeed(bull)))	ba(S_{11}); ea(S_{12})
TE_{14}	The Bull was foolish enough to be persuaded by this flattery to have his horns cut off	P_{20}	foolish(bull)	ba(S_{12})
		P_{21}	persuade(lion, bull, allow(bull, cutOff(helper, horns(bull))))	ba(S_{12}); ea(S_{13})
TE_{15}	and, having now lost his only means of defense,	P_{22}	lose(bull, ability(bull, defend(bull)))	ba(S_{13}); ea(S_{15})
TE_{16}	fell an easy prey to the Lion.	P_{23}	identity(bull, prey(lion))	ba(S_{14}); ea(S_{15})

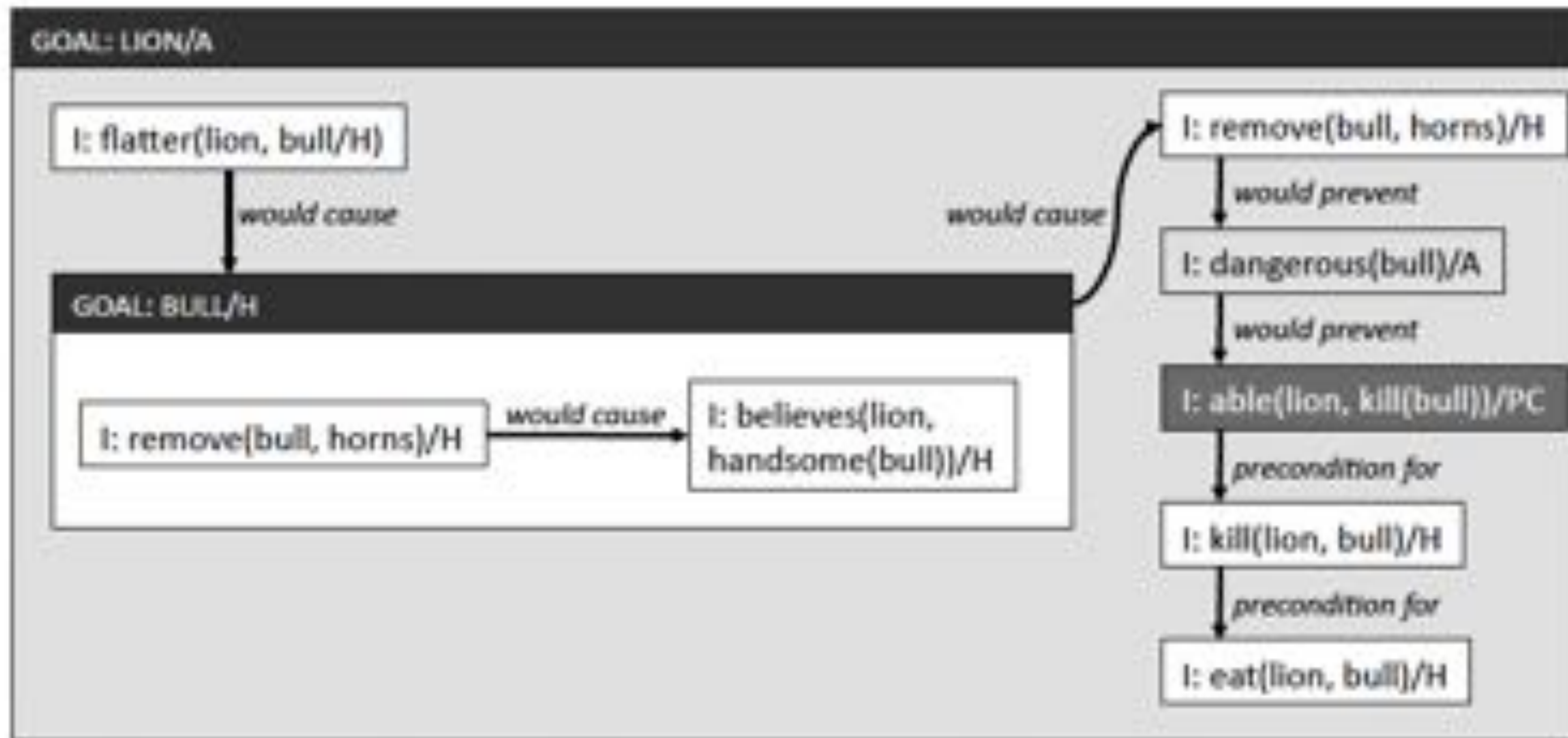
From Timeline to Interpretation



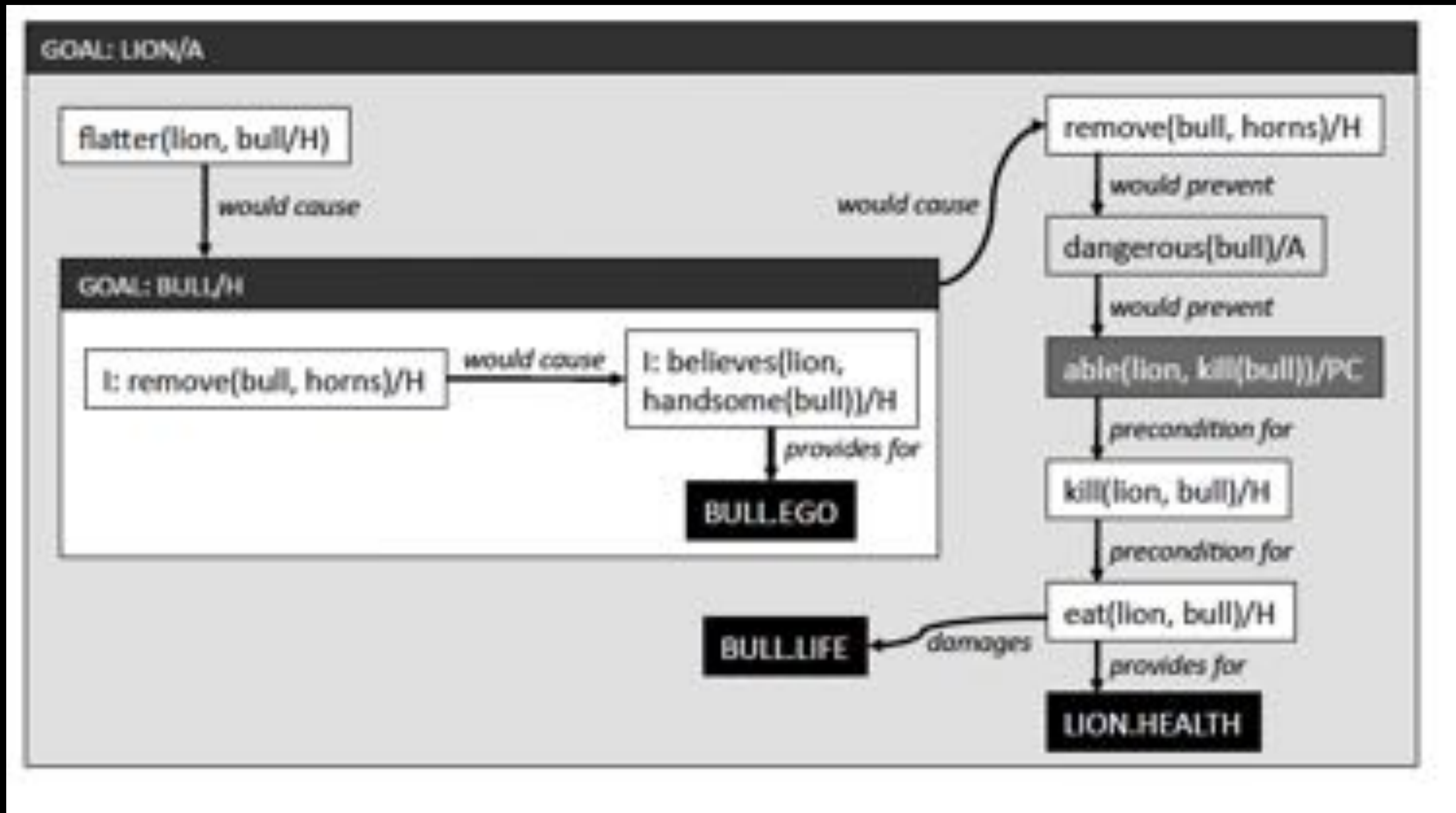
The wily lion's interpretation



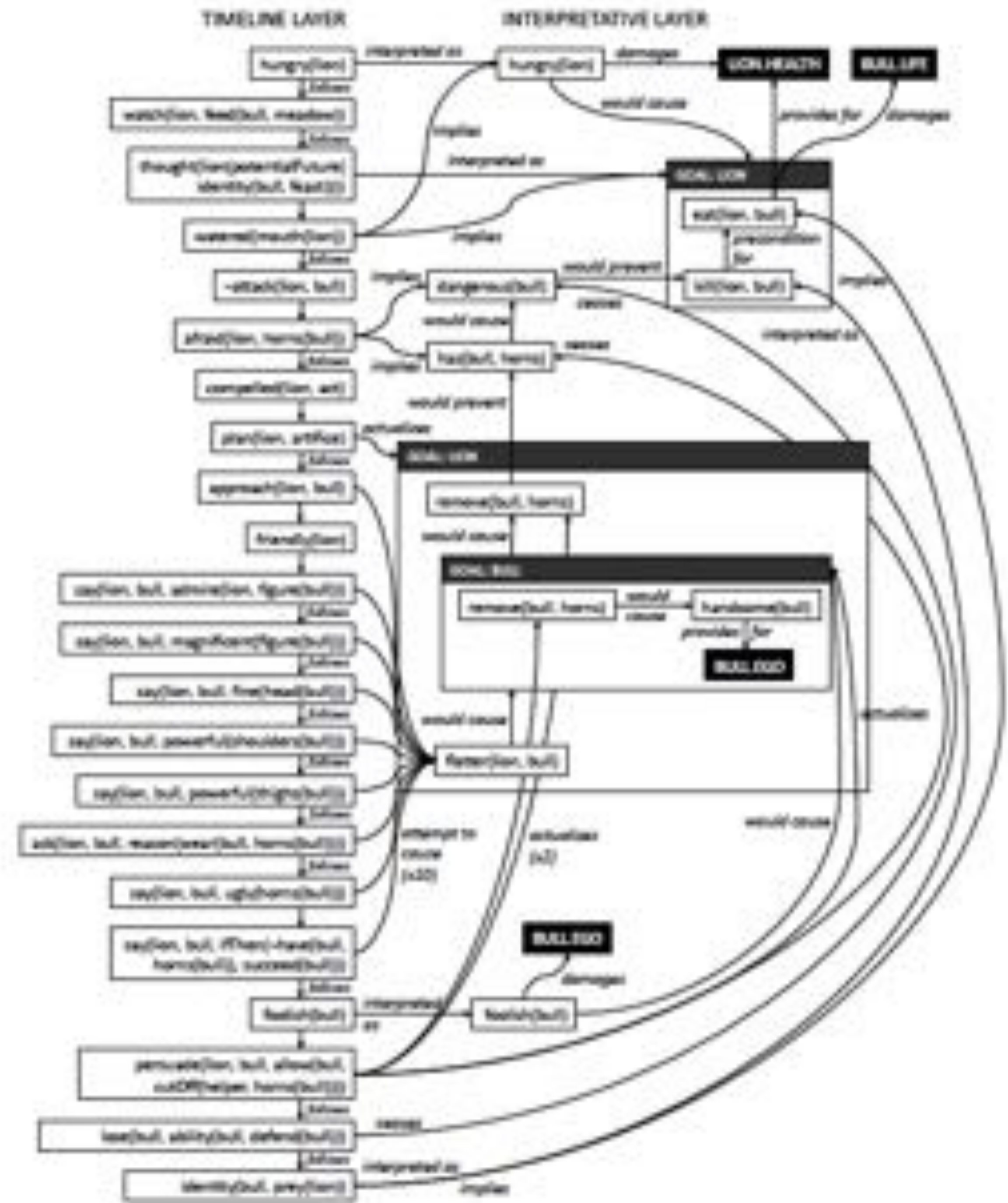
The wily lion's interpretation



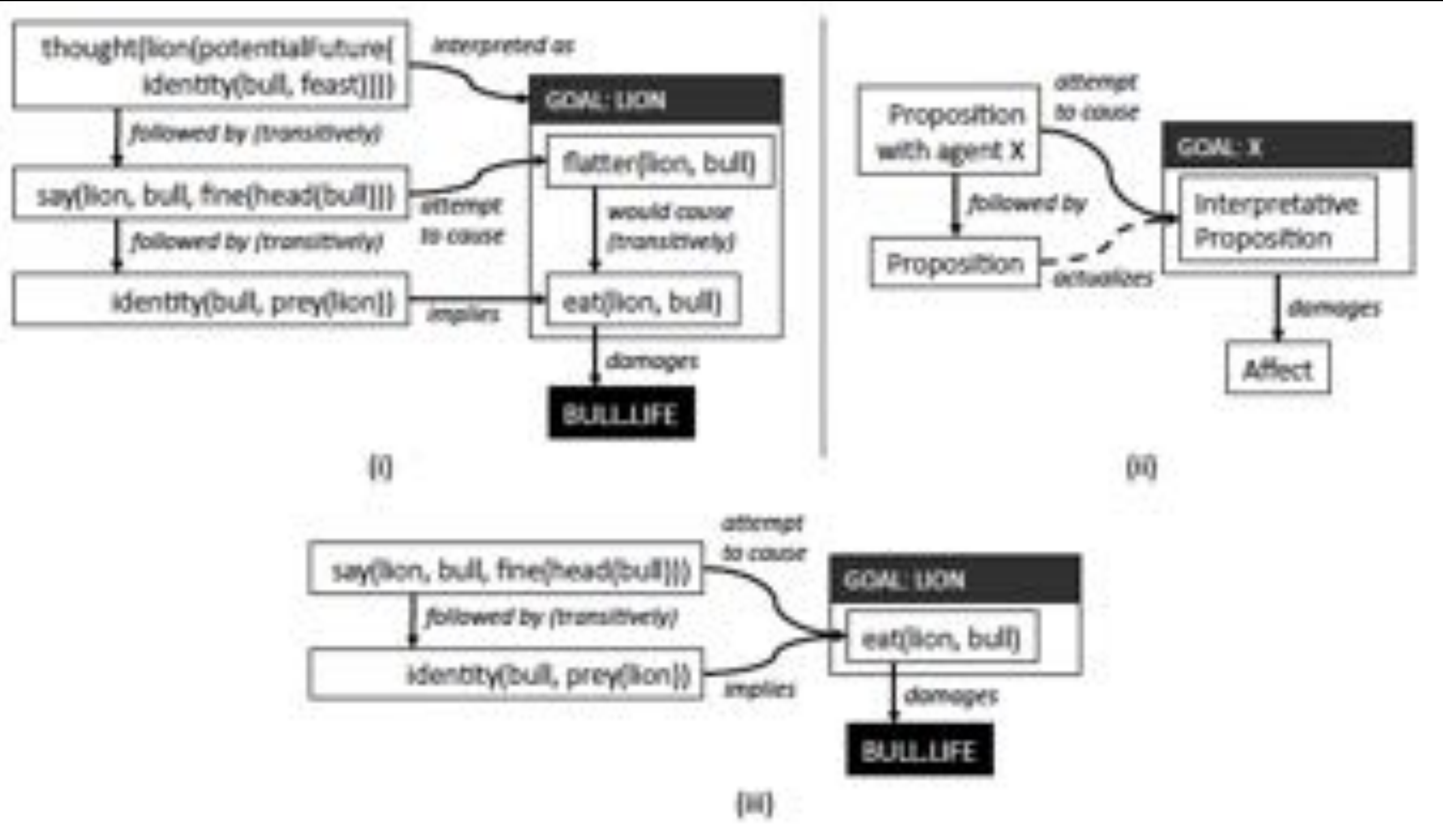
The wily lion's interpretation

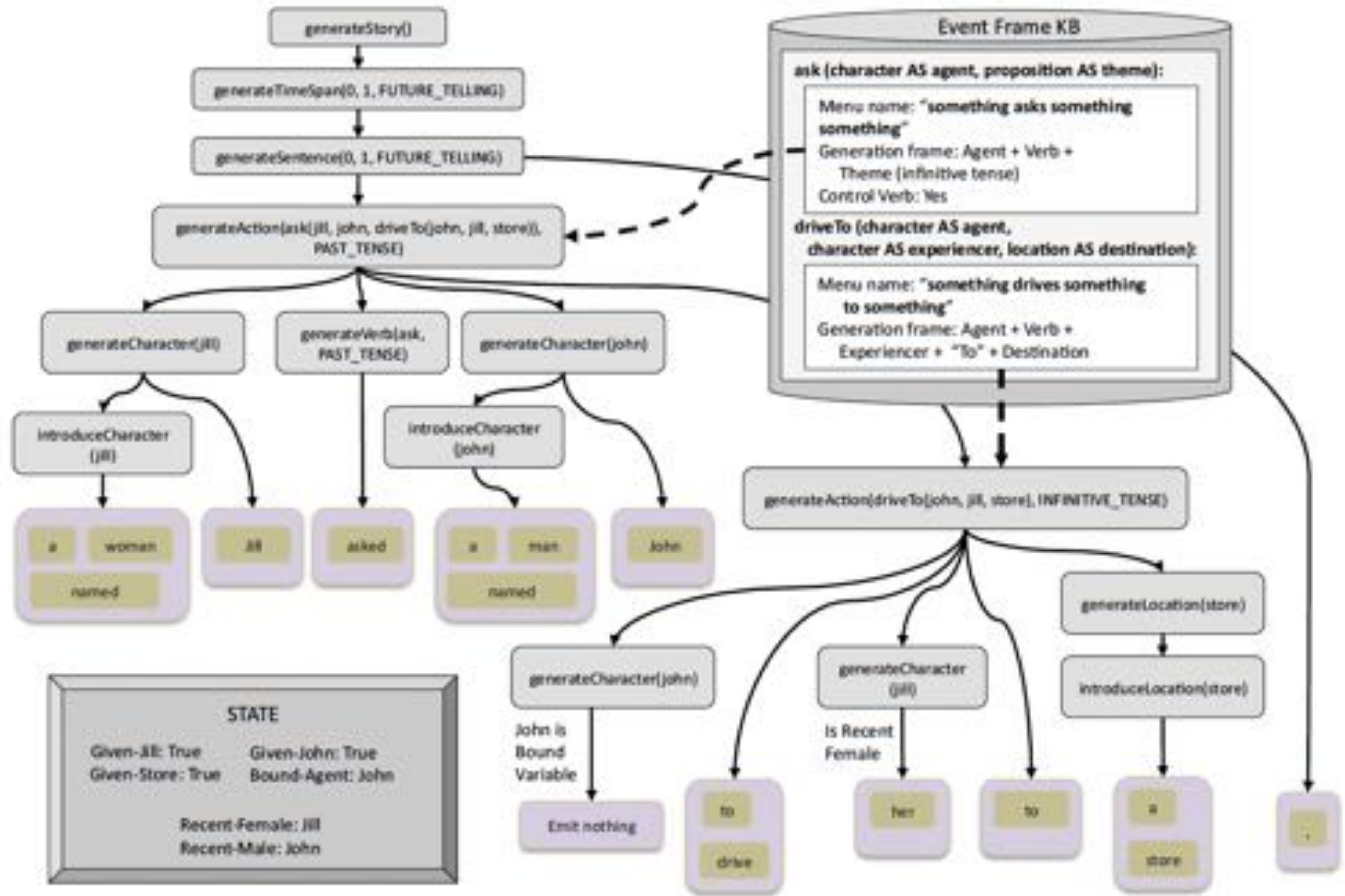


The wily lion's story intention graph



Story patterns





Next week: Reasoning about time and change

