

Focalised Story Sifting: A Matter of Perspective

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Introduction The Viva

7.00pm, the dining room: Sir Geoffrey Coward, Gordon Grey, Seb Slater, Bart Blakely, and a backbencher.

7.00pm, the dining room: Sir Geoffrey Coward segues to making small talk about The Ashes

7.01pm, the dining room: Gordon Grey segues to divulging that Nancy Schwarz was in a Marxist reading group back at Balliol

7.02pm, the dining room: Sir Geoffrey Coward segues to ruminating on Nancy Schwarz's very public allegations that Communists have penetrated the upper echelons of Her Majesty's government

7.03pm, the dining room: Seb Slater segues to saying that Nancy Schwarz's got a 'star witness' ready to names names, by all accounts (a rumour hitherto unheard by Sir Geoffrey Coward)



Segue to passing on that the opposition are planning to trigger a vote of no confidence...

Segue to saying the current Government is in existential crisis...



This research aims, at a very high level, to present a refinement to emergent narrative (EN), one that not only produces compelling experimental results, but reads as 'more true' to the methodology's roots in improv and role-play.

The viva, therefore, has a *lot* to tie together:

- **The Formal** Establishing narratological theory
- **The Technical** Implementing a methodology
- **The Authorial** Reflecting on the artistic merits of my own work

Introduction Why Procedural Generation?

Procedural content generation (PCG) produces meaning through both **artifacts**, and through **procedures**.

A player might feel a generated text is...

- Improbable?
- Ephemeral?
- Uncanny?

These qualities are not **explicit** in the artifact, but **implicit** in the player's 'mental model' of the generator's procedures!

Background What is Emergent Narrative?

Formally... *The methodology characterised by computational systems in which narrative emerges bottom-up from the interaction of processes in underlying simulations, wherein human participants or autonomous agents embody any characters (or, alternatively, the actual narrative material produced by this method).*

Informally... Think *The Sims* or *Dwarf Fortress* - or even football!^[Aylett 2000]

Background What is Emergent Narrative?

Early research on EN draws parallels to improv and role-playing: *[Aylett & Louchart 2004; Swartjes 2010]*

- **Players as participants** in a co-creative act of storytelling
- Agency constrained by a 'magic circle' of **social presence**
- **Duality of purpose**; an in-character (IC) role and an out-of-character (OOC) actor-awareness (used for drama management)

To the extent EN is non-fiction, *[Ryan 2018]* it is the non-fiction of 'real' actors playing imaginary characters

Background What is Story Sifting?

The Problem EN emerges ‘from the bottom up’, with character interactions generating a long sequence of simulated events (or, a **trace** of story **beats**).

The computer only sees this as raw data - it has no holistic understanding of which subsequences are ‘storyful’!

The Solution Sifting techniques, whether query-based sifting patterns, or high-level sifting heuristics, identify quality EN.

Select the Unexpected (StU) generates a samples of traces, using this data to estimate how ‘surprising’ a beat is...

Background What is Focalisation?

Narratologically, the trace is a **fabula** - the 'raw events of a story' - and a sifted microstory a **syuzhet** - the 'story as narrated'.

Sifting represents a transition from fabula to syuzhet, but few recognise that the most high-quality retelling of a sequence of events is not always the linear one...

Background What is Focalisation?

Focalisation is the perspective from which the syuzhet is presented. Presenting the same events from the perspectives of multiple characters, for instance, creates a **Rashomon effect**.

More generally, focalisation can be used to create **dirty narratives**: stories riddled with tangents and omissions, in which the reader cannot simply accept the stated facts, but must actively interrogate them.

*Note that a narrator's focalisation is different from their **voice**!*

Aims Defining Focalised Story Sifting

Sifting through only the subsequence of events observed by a character, according to a (non-omniscient) actor-awareness of what makes a compelling story.

IC A methodology by which each character can produce artifacts focalised to their own perspective (a structural effect!)

OOC A methodology by which each actor sifts artifacts autonomously, according to their own standards...

Aims Three Research Questions

RQ1: The Technical How might existing sifting techniques be focalised?

RQ2: The Authorial What meaning might focalised story sifting create in an individual EN artifact?

RQ3: The Formal What meaning might focalised story sifting create across a range of EN artifacts?

Methodology The Simulation

This research presents *Men in Grey Suits (MiGS)*, a custom-made, non-interactive simulation, that generates traces for focalised story sifting.

Lots of technical considerations have gone into this - even if the equations are not included here!

Two major design challenges:

- **Implicit creation** How do I author the processes by which interactions emerge, without being overly prescriptive about the interactions themselves?
- **The *Tale-Spin* effect** How do I make sure the complexity of the simulation comes across in output artifacts?

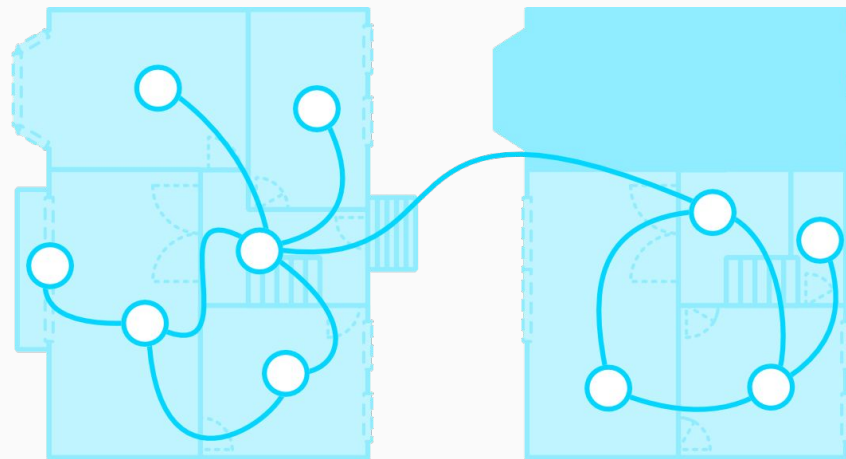
Methodology The Simulation

The 'social LEGOs'^[Mateas & Ferguson 2014] included are:

- **Dialogue** An implementation of waypoint narrative^[Short 2016]
- **Blocking** Discretised, graph-based moves
- **Characterisation** Strategic, utility-based reasoning

Possible, emergent interactions:

- Learning rumours through eavesdropping...
- Losing track of 'shadowed' characters...
- Exercising vendettas...



Methodology The Simulation

Consider the following beat of dialogue...

*In the downstairs corridor, I was talking with Bart Blakely, and Sir Geoffrey's butler. We were making small talk about The Ashes. I, **not really paying attention** to whatever Bart just said, **segued to** divulging that Earl Harry Peacock was in a Marxist reading group back at Balliol. **I was lying** about Earl Peacock being the so-called 'Marxist intellectual' in our midst (this was **actually myself!**). The conversation **took place openly**. Still, no one overheard.*

Methodology The Sifter

In its non-focalised implementation, StU:

1. Takes a sample of traces, and searches for all microstories matching a specific **sifting pattern** (i.e. a query)
2. Identifies all **properties** in each microstory
3. Treats the frequency at which each property appears as its **likelihood**

Using this data, the **unexpectedness** of a microstory is treated as a utility value, calculated using the sampled likelihoods of each of that new microstory's properties!

Property	Description
interlocution	The character speaking is ignoring the previous line.
rumour learned	Any character has just learned a rumour.
joke stolen	The character speaking is telling a joke someone previously told them.
incorrect	The character speaking is making an incorrect accusation.
dishonest	The character speaking is making an accusation they don't believe.
accidentally honest	The character speaking is making a (correct) accusation they don't believe.
confidentiality	The characters have some degree of privacy.
actor vendetta exercised	The character speaking is making an accusation against a supposed nemesis.
actor loyalty tested	The character speaking is making an accusation against a supposed ally.
{logic variable == external	A logic variable has the same value as an eavesdropping character.
{logic variable == accused	A logic variable has the same value as an accused character.
*{logic variable == focalisation	A logic variable has the same value as the focal character.

Methodology The Sifter

Focalising StU Under *MiGS'* implementation, there are two simple changes:

1. StU operates on only the trace of events (subjectively) observed by a focal character...
2. ...And calculates each agent's own likelihoods data (and hence, definition of interestingness) from a sample of such focalised traces

In other words: agents work **OOB** from a statistical sample of their 'past lives', to identify the most interesting moments they have just experienced **IC**; the methodology is analogous to rehearsal...

Quantitative Analysis Questions

As in the original paper on StU,^[Kreminski et al. 2022] participants were presented with pairs of microstories, and asked for a binary assessment on which is 'more interesting'.

If microstories surfaced by StU are chosen over those surfaced at random (i.e. without a heuristic) more than 50% of the time, the implementation is 'better than nothing'.

Quantitative Analysis Results

Sifting Pattern	Success Rate (#)	Success Rate (%)
'Rumour'	37/45	82.22%
'He Said, She Said'	27/45	60.00%
Overall	64/90	71.11%

Overall, hypothesis testing reveals a significant improvement.

Where the 'He Said, She Said' pattern does not significantly outperform the random baseline, the research suggests the participants did not have a strong enough mental model of the simulation...

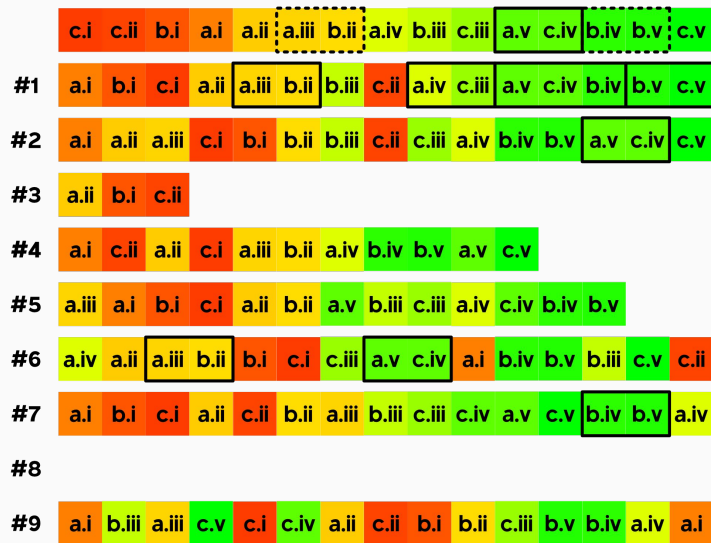
Qualitative Analysis Questions

Participants next receive a single, long-form text, consisting of three characters' perspectives, and a total of 15 beats.

They are asked to reconstruct these into a single timeline, and well as give their broader understanding of the characters.

The objective, here, is to see how (if at all) focalised story sifting creates features of dirty narrative...

Qualitative Analysis Results



Though the timelines were underdetermined, key moments of causality and overlap persist across several reconstructions.

While the “lack of a completely contiguous narrative” and overabundance of “small moving parts” are staples of the Rashomon effect...

...that participants have “no way of knowing” whether they are “getting the entire story” made for an unfairly difficult experience!

Qualitative Analysis Results

Some choice quotes...

- A non-focal character “**lies** about his intentions and his own affiliations **to avoid** being seen as a ‘Marxist intellectual’”
- A focal character has motivations “never alluded to from **his own** POV”
- Discussing two focal characters, “Blakely thinks Slater is loyal to Bohring **when in fact** he has a vendetta against him”

In all of these example, focalised story sifting creates meaning in the syuzhet **that are not present in the fabula**.

Participants are consciously aware of omissions made ‘within’ and ‘without’ a character’s perspective.

Contradictions also emerge from seeing two perspectives on the same action, where ‘within’ and ‘without’ collide...

Again, this might seem very declarative - there’s a more nuanced discussion in the dissertation!

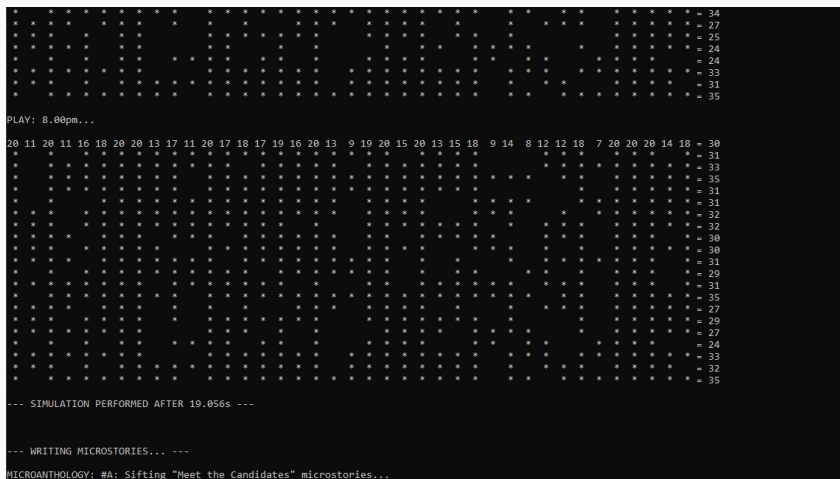
Conclusions The Technical

How might existing sifting techniques be focalised? StU has been focalised successfully under our methodology, still significantly outperforming its random baseline. However...

- The simulation's **gossip and characterisation models** are too simplistic^[Kreminski 2023]
- The sifter inherits StU's **existing limitations**
- The focalised likelihoods **lack perceptual uniqueness**

Future Work Interactivity, for a start...

Conclusions The Technical



Before...

whatever a backbencher just said, segues to saying that Nancy Schwarz's got a 'star witness' ready to names names, by all accounts. The conversation takes place behind closed doors, with no one else around. No one overhears.

Olivia Spector recalls...

In the kitchens, Olivia Spector is talking with Old Bill, Peter Tweedy, and three backbenchers. They are making small talk about The Ashes. a backbencher segues to saying that Nancy Schwarz's got a 'star witness' ready to names names, by all accounts (a rumour hitherto unheard by Olivia Spector). The conversation takes place behind closed doors, with no one else around. No one overhears.

Later, in the lounge, Olivia Spector is talking with Sir Geoffrey Coward. They are making small talk about The Ashes. Olivia Spector segues to saying that Nancy Schwarz's got a 'star witness' ready to names names, by all accounts. The conversation takes place one-on-one. No one overhears.



...and after!

Conclusions The Authorial

What meaning might focalised story sifting create in an individual EN artifact?

Issues with curation aside, participants recognise meanings created through focalisation - even created by a generator they have no prior mental model of.

Though the sifter doesn't achieve a full-on *Rashomon* effect, omissions and contradictions 'from within' and 'from without' demand active interrogation by the reader.

Through these dirty narratives, they identify motivations and personality traits not present in the trace itself.

Conclusions The Authorial

Future Work Just as this research has integrated focalisation into EN artefacts, other projects might consider other narratological concepts - like voice.

Though NLP is in the zeitgeist, ChatGPT struggles with this, not only in how it fails to meaningfully enhance a given artifact...

...But in how unthinkingly working third-party AI into my pipeline **does not reflect any implicit authorial intent!**

Nancy Schwarz's Opinionated Eye-Witness Account:

- As I stood in the downstairs corridor, I found myself engaged in light chatter with Bart Blakely and Sir Geoffrey's butler. We exchanged pleasantries about The Ashes, though truth be told, I wasn't all that interested. I casually let slip a tidbit about Earl Harry Peacock's past dalliance with Marxism. Oh, the irony in that one.
- Later, in the upstairs corridor, I caught sight of Seb Slater, always lurking like a specter, deep in conversation. They were dissecting my claims of Communist infiltration. Seb reluctantly conceded that my faction indeed held some sway, though he likely didn't want to admit it.
- In the billiards room, I found myself in conversation with a couple of backbenchers. We mulled over the possibility of The Standard having a major scoop. One daring backbencher blurted out that Bart Blakely was mulling a challenge against The Prime Minister. The buzz in the air was electric.
- Later still, in the billiards room, Bart and I engaged in conversation with a few others. We pondered the hearings, wondering if they were nothing but a smokescreen. Bart and I exchanged playful quips about making up evidence, a tidbit I'd filched from Sir Geoffrey's butler. Oh, how I savored this little dance.
- And just when I thought the night was winding down, Earl Peacock entered the fray. We dissected rumors from the press, and I seized the moment to declare that Sir Geoffrey Coward was preparing to challenge The Prime Minister. The satisfaction of stirring the pot was truly unmatched.

Conclusions The Formal

Incremental Story Sifting An open problem in the field, whereby a sifter recognises emergent narratives at runtime so *that agents can 'steer towards them'*.

To focalise an incremental sifter would be to make each agent conduct autonomous drama management - much like in improv, where comedy comes not just from the push and pull of the characters' **intradiegetic** behaviours, but actors' **extradiegetic** conflicts over where the story is going!

Conclusions The Formal

What meaning might focalised story sifting create across a range of EN artifacts? This project's formal vision of focalised story sifting is as a *character-centric approach to recognising - and, if done incrementally, applying drama management in light of - emergent narrative structures.*

That not even sifting is imposed 'from the top down' will surely foster a more meaningful agency, and refine EN to be more meaningfully true to its collaborative, improvisational roots.