What’s the Story?
Complex Networks | @networksvox
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Outline

Narrativium

Power

Shapes

Taxonomy

Essence

Coda

References
“The most common element on the disc, although not included in the list of the standard five: earth, fire, air, water and surprise. It ensures that everything runs properly as a story.”

“A little narrativium goes a long way: the simpler the story, the better you understand it. Storytelling is the opposite of reductionism: 26 letters and some rules of grammar are no story at all.”

“Heroes only win when outnumbered, and things which have a one-in-a-million chance of succeeding often do so.”
“We use neat stories to explain everything from sports matches to symphonies. Is it time to leave the nursery of the mind?”

“...we might wonder if the ultimate intelligibility of the universe will be determined not so much by the capacity of our minds to formulate the appropriate concepts and equations, but by whether we can find a meaningful story to tell about it.”
Competing storytelling organizations:

- News.
- Art.
- Music industry.
- Books, magazines.
- Movie studios, Netflix, HBO, Disney.
- Video Games.
- Social media: Facebook, Medium, Tumblr, blogs.

Cultural products from Pantheon:

- Writers, artists, movie directors, video game directors.
Understanding the Sociotechnocene—Stories:

Perhaps: A true science of stories.

Claim: *Homo narrativus*—we run on stories.

Claim: The narrative hierarchy and the Scalability of stories.

Research: Extraction of metaphors, frames, narratives, and stories from large-scale text.

Research: The taxonomy of human stories.

Harness: Sociotechnical algorithms for measuring/predicting decisions, contagion, demographics, weather, ...
Adjacent narratives — why mistruths and conspiracy theories exist and flourish:
1999 Gallup poll:

- 6% of Americans said the lunar landings were fake.
- 5% were undecided.

Video replay:
Story Wars:

Nicholas Hénin, French Journalist, held captive for 10 months.
From the end of the interview:

NICOLAS HENIN: No, it was just like in a movie. And, by the way, even the people going to Syria, joining ISIS in Syria to fight, even these people see himself as movie characters. They play their own movie. This is why I think that the most powerful way to fight ISIS are not bombs. It is to kill the narrative. We have to write another movie. We have to build other heroes. And this is why I believe that the French are making big mistakes in the ways they fight ISIS.

We created, for instance, accounts on the social media named “Stop Jihadism,” and this is [BLEEP], like they did not understand anything. And I did understand why we are so bad. It’s just because in France we don’t know how to write TV series properly.

[BROOKE LAUGHS]

Just because we have no imagination, we cannot just tell beautiful stories, create beautiful characters, beautiful heroes.

And this is what we have to do because in our world, in our societies what do people want? They want to become heroes. They want to be famous. They want to be, to be recognized.
The American Dream = Rags to Riches

- The story that anyone can become King or Queen.
- Story of individual, not the collective.
- But we know about fame and success: The presence of outsized fame in a social system means social imitation is a driver of value.
- Stories of societies can only hold if they have been and remain believable.
If not Trump, what? David Brooks, New York Times:

“We’ll probably need a new national story. Up until now, America’s story has been some version of the rags-to-riches story, the lone individual who rises from the bottom through pluck and work. But that story isn’t working for people anymore, especially for people who think the system is rigged.”

“I don’t know what the new national story will be, but maybe it will be less individualistic and more redemptive. Maybe it will be a story about communities that heal those who suffer from addiction, broken homes, trauma, prison and loss, a story of those who triumph over the isolation, social instability and dislocation so common today.”
Claim: Stories must have real substance to endure

Enormous disasters: Fabrications of real experiences.

- Plain old making stuff up: A million little pieces... Oprah will get you.
- Wikipedia’s has a list of famous fake memoirs.
  #kudos
- Self-plagiarism and more standard badness: Jonah Lehrer.
  Amazingly: Made up Bob Dylan quotes.
- Lance Armstrong. Also got to meet Oprah.

Enormous power: Fiction that speaks to real experiences.
Kurt Vonnegut on the shapes of stories:
Kurt Vonnegut gained worldwide fame and adoration through the publication of his novels, including Slaughterhouse-Five, Cat's Cradle, Breakfast of Champions, and more.

But it was his rejected master’s thesis in anthropology that he called his prettiest contribution to his culture.

The basic idea of his thesis was that a story’s main character has ups and downs that can be graphed to reveal the story’s shape.

The shape of a society’s stories, he said, is at least as interesting as the shape of its pots or spearheads. Let’s have a look.

Designer: Maya Elam, www.mayaelam.com
Sources: A Man without a Country and Palm Sunday by Kurt Vonnegut
Kurt Vonnegut on the shapes of stories:

**Man in Hole**
- The main character gets into trouble then gets out of it again and ends up better off for the experience.
- *Arsenic and Old Lace*, *Harold & Kumar Go To White Castle*.

**Boy Meets Girl**
- The main character comes across something wonderful, gets it, loses it, then gets it back forever.
- *Jane Eyre*, *Eternal Sunshine of the Spotless Mind*.

**From Bad to Worse**
- The main character starts off poorly then gets continually worse with no hope for improvement.
- *The Metamorphosis*, *The Twilight Zone*.

**Which Way Is Up?**
- The story has a lifelike ambiguity that keeps us from knowing if new developments are good or bad.
- *Hamlet*, *The Sopranos*.

**Creation Story**
- In many cultures’ creation stories, humankind receives incremental gifts from a deity.
- *Great Expectations*.

**Old Testament**
- Humankind receives incremental gifts from a deity, but is suddenly ousted from good standing in a fall of enormous proportions.
- *Great Expectations with Dickens’ alternate ending*.

**New Testament**
- Humankind receives incremental gifts from a deity, is suddenly ousted from good standing, but then receives off-the-charts bliss.

**Cinderella**
- It was the similarity between the shapes of Cinderella and the New Testament that thrilled Vonnegut for the first time in 1947 and then over the course of his life as he continued to write essays and give lectures on the shapes of stories.
Ron Swanson: 

SWANSON PYRAMID OF GREATNESS

HONOR
If you need it defined, you don't have it.

AMERICA
The land of endless possibilities. If you want to experience other cultures, you can often find them in a mall.

BUFFETS
Whenever available. Choose quantity over quality.

WEAPONS
Take what's yours.

WOOD WORKING
Do not trust anyone else.

WELFARE AVOIDANCE
Trust yourself.

TEAMWORK
The best revenge.

SELFISHNESS
The best revenge.

HAIRCUTS
2 acceptable styles: High and tight, crew cut and ass cut.

GREATNESS ITSELF
Some people are not worth your time.

DISCIPLINE
The ability to repeat a boring thing over and over again.

ATTIRE
Shirt over 40% are tight pants. Short under 40% is European.

SELF-RELIANCE
Some people are not worth your time.

SUSPICION
Some people are not worth your time.

SKIM MILK
There is only one real way to stop someone from doing something good enough for you.

COW PROTEIN
One 100% 110% is impossible. Only 10% is recommended.

PIG PROTEIN
Should be thick and undecipherable.

CHICKEN PROTEIN
They are beautiful.

ROMANTIC LOVE
Cultivating a man or woman is still struggling, sometimes it's necessary.

DEER PROTEIN
Avoid it.

INTENSITY
One 100% 110% is impossible. Only 10% is recommended.

TORSO
Old wooden sailing ships.

GARMENTS
Building walls makes you strong. Defending them makes you stronger.

CABINS
A place to rest that is made of logs.

PERSPIRATION
Only sweat during physical activity or love making. No other activity.

YOU
Are you biggest only.

CURSE
Acceptable at funerals and at the Grand Canyon.

PHYSICAL FITNESS
You are biggest only.

FRANKNESS
Cut the BS.

CAPITALISM
God's way of determining who is smart and who is not.

FACIAL HAIR
Full face if you choose. Nothing is sacred. If you have to ask if it's probably means you've already asked.

LIVING IN THE WOODS
Live off the land.

RAGE
One trope every three squirrels. My by no means anyone who doesn't deserves it.

SECURITY
Secure the land.

POISE
Sing like a bird. Do not be too loud, it's highly offensive.

HANDSHAKES
Firm, dry solid. 3 seconds.

BODY GROOMING
Only women shave beneath the neck.
The emotional shapes of stories—Moby Dick:

Partly inspired by Vonnegut’s Shapes of Stories. 
Online, interactive Emotional Shapes of Stories for 10,000+ books:

**Frankenstein; Or the Modern Prometheus** (wiki)
by Mary Shelley

- **Book happiness time series:** Explore the work's emotional dynamics by sliding and resizing the reference and comparison sections.

- **Word Shift:** Why comparison section is less happy than the reference one
  - Reference sections's happiness = 6.31
  - Comparison section's happiness = 5.35

- **Word Rank:**
  - happiness
  - poverty
  - grief
  - failure
  - violent
  - joy
  - destruction
  - terror
  - misery
  - hatred
  - horror
  - mother

- **Lens (for advanced users):** Slide and resize the stop-window to change the lens:
Online, interactive Emotional Shapes of Stories for 10,000+ books:

Harry Potter (all books together) by J.K. Rowling

Book happiness time series:
Explore the work’s emotional dynamics by sliding and resizing the reference and comparison sections.

Word Shift:
Why comparison section is less happy than the reference one
Reference sections’s happiness = 6.13
Comparison section’s happiness = 5.14

Lens (for advanced users):
Slide and resize the stop-window to change the lens:

Per word average happiness shift
Online, interactive Emotional Shapes of Stories for 1,000+ movie scripts:

Pulp Fiction

directed by Quentin Tarantino

Movie happiness time series:
Explore the work’s emotional dynamics by sliding and resizing the reference and comparison sections.

Movie script:
Portion of script scored for each point in timeseries.

Zed takes the chair, sits it in front of the two prisoners, then lowers into it. Maynard hands The Gimp’s leash to Zed, then backs away.

MAYNARD
(to The Gimp)
Down!

The Gimp gets on its knees.

Maynard hangs back while Zed appraises the two men.

MAYNARD
Who’s first?

ZED
I ain’t fer sure yet.

Then with his little finger, Zed does a silent “Senie, meany, miney, moe...” just his mouth mouthing the words and his finger going back and forth between the two.

Butch are Marsellus are terrified.

Maynard looks back and forth at the victims.

The Gimp’s eyes go from one to the other inside the mask.
Sports are spontaneous generators of stories. Through skill and chance, the script of each game is dynamically written in real time by players acting out possible trajectories allowed by a sport's rules. By properly ... a broader array of motifs than null models, and we provide consequential insights into the narrative appeal of real games.

PACS numbers: 89.65.-s, 89.20.-a, 05.40.Jc, 02.50.Ey

I. INTRODUCTION

While sports are often analogized to a wide array of other arenas of human activity—particularly war—well-known story lines and elements of sports are conversely invoked to ... suspenseful sporting events—unscripted stories—and following the fortunes of their favorite players and teams [2–4].

Despite the inherent story-telling nature of sporting contests—and notwithstanding the vast statistical analyses surrounding professional sports including the ... stories are compelling to fans, and how different sports compare in the stories afforded by their various rule sets.

Here, we focus on Australian Rules Football, a high skills game originating in the mid 1800s. We describe Australian Rules Football in brief and then move on to extracting and evaluating the sport's possible game stories. Early ... becoming a formal entity in 1990. The AFL is currently constituted by 18 teams located in five of Australia's states.

Games run over four quarters, each lasting around 30 minutes (including stoppage time), and teams are each comprised of 18 on-field players. Games (or matches) are played on ... a central feature of the game, and the AFL is well known for producing many spectacular marks and kicks for goals [13].

The object of the sport is to kick goals, with the customary standard of highest score wins (ties are relatively rare but possible). Scores may be 6 points or 1 point ... of a 'thrashing' (the record high and low scores are 239 and 1). Wins are worth 4 points, ties 2 points, and losses 0.
The very tiresome Great Man Theory:


Highly influential but it’s a trap!
How to write a screenplay:


- 9 acts.
- Someone important to the main characters gets toasted in the second act, blah, blah.
- Believes irony is key.
- Logline = one or two sentence summary.
- Logline fails to be a summary of logline.
Seven “good” stories?:


- Seven Gateways to the Underworld (?)
- Overcoming the Monster × 2 and the Thrilling escape from Death (plot).
- Rags to Riches (plot).
- The Quest (plot).
- Voyage and Return (plot).
- Comedy × 2 (plot but really structure).
- Tragedy × 3 (plot).
- Rebirth (plot).
- The Dark Power: From Shadow into Light (master structure).
The taxonomy of stories:

- **ANIMAL TALES** 1-299
  - Wild Animals 1-99
    - The Clever Fox (Other Animal) 1-69
    - Other Wild Animals 70-99
  - Wild Animals and Domestic Animals 100-149
  - Wild Animals and Humans 150-199
  - Domestic Animals 200-219
  - Other Animals and Objects 220-299
- **TALES OF MAGIC** 300-749
  - Supernatural Adversaries 300-399
  - Supernatural or Enchanted Wife (Husband) or Other Relative 400-459
    - Wife 400-424
    - Husband 425-449
    - Brother or Sister 450-459
  - Supernatural Tasks 460-499
  - Supernatural Helpers 500-559
  - Magic Objects 560-649
  - Supernatural Power or Knowledge 650-699
  - Other Tales of the Supernatural 700-749
- **RELIGIOUS TALES** 750-849
  - God Rewards and Punishes 750-779
  - The Truth Comes to Light 780-799
  - Heaven 800-809
  - The Devil 810-826
  - Other Religious Tales 827-849
- **REALISTIC TALES** 850-999
  - The Man Marries the Princess 850-869
  - The Woman Marries the Prince 870-879
  - Proofs of Fidelity and Innocence 880-899
  - The Obstinate Wife Learns to Obey 900-909
  - Good Precepts 910-919
  - Clever Acts and Words 920-929

**Folkloristics:**

- Academic area formally started around 1900.
- Aarne–Thompson classification systems
- Motif-based taxonomy.
- Online classification database
“Computational folkloristics”

Abello, Broadwell, and Broadwell, Communications of the ACM, 55, 60–70, 2012. [1]

Motivation: “As a simple, historical example from the Danish materials, no one has yet classified (according to the ATU index) the several thousand fairy tales in the collections of the Danish Folklore Archive (http://www.dafos.dk), nor does it seem anyone ever will.”

‘Imagine a system in which the complexities of a folklore corpus can be explored at different levels of resolution, from the broad perspective of “distant reading” down to the narrow perspective of traditional “close reading.”’
"The phylogeny of Little Red Riding Hood"

Jamshid J. Tehrani,
Famous folklore scholar:

- **Comic Book Guy (CBG).**
- Real name: Jeffrey "Jeff" Albertson.
- Master's degree in Folklore and Mythology.
The taxonomy of stories:

Fundamental arcs:

- Kill the Monster.
- Rags to Riches (and Riches to Rags—*Metamorphosis*).
- The Journey: a Search or a Quest.
- Romance.
- Narratives in Left Nullspace: All Stories of The Many.

What about comedies?

- Comedies are not in themselves a story, but a way of telling stories.
Stories are algorithms for life:

Homo narrativus:

- Provide dynamic paths and trajectories.
- If this, then that.
- Convey and reinforce how to behave, how not to behave.
- Full ecology of stories = Competing, self-defending operating system for people’s minds.

Aphorisms as algorithms:

- Pride cometh before the fall.
- A stitch in time saves nine.
- Look before you leap.
- Anti-aphorism: The one who hesitates is lost.
The unifying theme of existence is existence:

The three fundamental events of (non-clone) life:

- Hatchings.
- Matchings.
- Dispatchings.
The essence of all stories?

It’s survival—Life and Death:
- Kill the Monster: Bare survival.
- Rags to Riches: Flourishing.
- Romance: Matchings and Hatchings.
- Journey/Odyssey: Search for a salvation, a “Holy Grail”.
A basic algorithm for your future:

Modern basic science in three steps:

1. Find interesting/meaningful/important phenomena, optionally involving spectacular amounts of data.
2. Describe what you see.
3. Explain it.

If you succeed at 1–3:

4. Create.
5. Share.
References I


References II

The game story space of professional sports: Australian Rules Football.

Save the Cat!

The phylogeny of Little Red Riding Hood.