

# What's the Story?

Complex Networks | @networksvox  
CSYS/MATH 303, Spring, 2016

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## (Sir Terry) Pratchett's Narrativium



- "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."

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## The story trap by Philip Ball, 2015-11-12



- "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."

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## Outline

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## 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.

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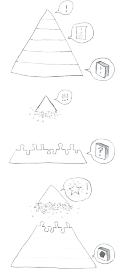


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## Understanding the Sociotechnocene—Stories:

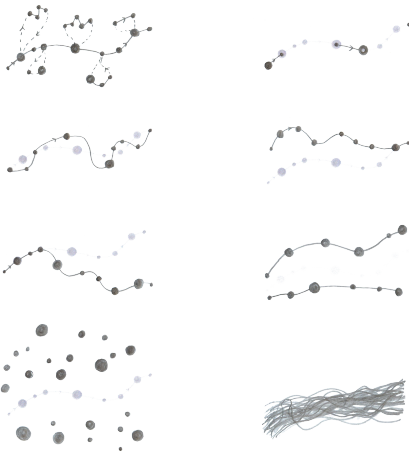


xkcd.com/904/



- 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:

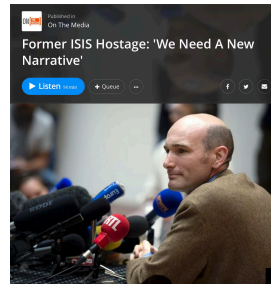
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## Story Wars:



Nicholas Hénin, French Journalist, held captive for 10 months

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## 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, 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.

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## 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.

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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.”

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Kurt Vonnegut on the shapes of stories: [link](#)

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<p><b>Man in Hole</b></p> <p>The main character gets into trouble then gets out of it again and ends up better off for the experience.</p> <ul style="list-style-type: none"> <li>Arsenic and Old Lace</li> <li>Marold &amp; Kumar Go To White Castle</li> </ul>	<p><b>Boy Meets Girl</b></p> <p>The main character comes across something wonderful, gets it, loves it, then gets it back forever.</p> <ul style="list-style-type: none"> <li>Jane Eyre</li> <li>Eternal Sunshine of the Spotless Mind</li> </ul>	<p><b>From Bad to Worse</b></p> <p>The main character starts off poorly then gets continually worse with no hope for improvement.</p> <ul style="list-style-type: none"> <li>The Metamorphosis</li> <li>The Twilight Zone</li> </ul>	<p><b>Which Way Is Up?</b></p> <p>The story has a life-like ambiguity that keeps us from knowing if new developments are good or bad.</p> <ul style="list-style-type: none"> <li>Hamlet</li> <li>The Sopranos</li> </ul>
<p><b>Creation Story</b></p> <p>In many cultures' creation stories, humankind receives incremental gifts from a deity. First major staples like the earth and sky; then smaller things like sparrows and cell phones. Not a common shape for Western stories, however.</p>	<p><b>Old Testament</b></p> <p>Humankind receives incremental gifts from a deity, but is suddenly ousted from good standing in a fall of enormous proportions.</p> <ul style="list-style-type: none"> <li>Great Expectations</li> </ul>	<p><b>New Testament</b></p> <p>Humankind receives incremental gifts from a deity, is suddenly ousted from good standing, but then receives off-the-charts bliss.</p> <ul style="list-style-type: none"> <li>Great Expectations with Dickens' alternate ending</li> </ul>	<p><b>Cinderella</b></p> <p>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.</p>

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Claim: Stories must have real substance to endure

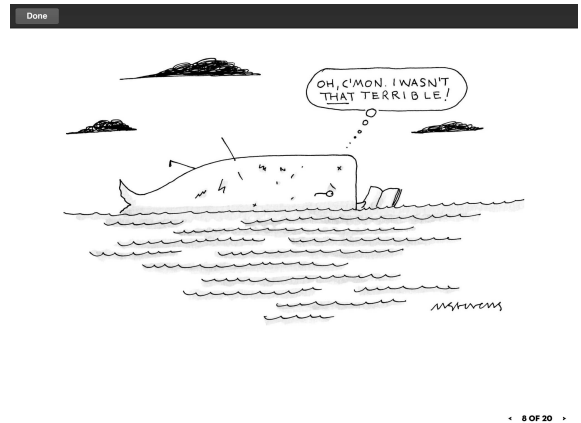
- Enormous disasters: Fabrications of real experiences.
  - Plain old making stuff up: [A million little pieces](#) ... Oprah will get you.
  - Wikipedia's has a list of [famous fake memoirs](#).
  - Expansive plagiarism: [How Opal Mehta Got Kissed, Got Wild, and Got a Life](#). #kudos
  - Self-plagiarism 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.

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The New Yorker, December 16, 2013, p. 56.

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Kurt Vonnegut on the shapes of stories: [link](#)

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# The Shapes of Stories by Kurt Vonnegut

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 Eliam, [www.mayaeliam.com](#)  
Sources: *A Man without a Country* and *Palm Sunday* by Kurt Vonnegut



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Ron Swanson:

“I hate metaphors. That’s why my favorite book is *Moby Dick*. No frou-frou symbolism. Just a good, simple tale about a man who hates an animal.”

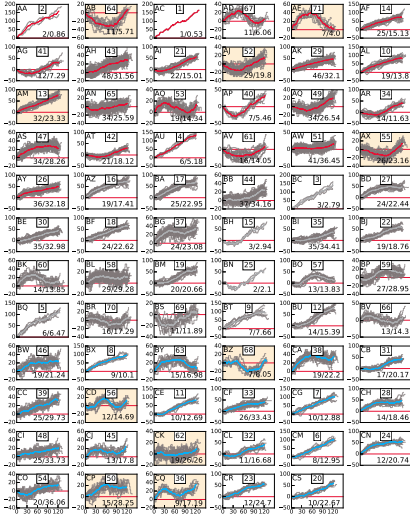
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## Seven "good" stories?:



"The Seven Basic Plots: Why We Tell Stories" [a](#) [g](#)  
by Christopher Booker (2005). [2]

- ☰ 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).

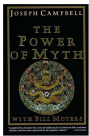
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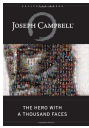


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## The very tiresome Great Man Theory:



"The Power of Myth" [a](#) [g](#)  
by Campbell and Moyers (1991). [4]



"The Hero with a Thousand Faces" [a](#) [g](#)  
by Joseph Campbell (2008). [3]

Highly influential but it's a trap! [g](#)

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## The taxonomy of stories:

- ANIMAL TALES 1-299
  - Wild Animals 1-89
  - The Clever Fox (Other Animal) 1-89
  - 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 400-499
  - 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 Obedient Wife Learns to Obey 900-909
  - Good Precepts 910-919
  - Clever Acts and Words 920-929

### Folkloristics: [g](#)

- ☰ Academic area formally started around 1900.
- ☰ Aarne-Thompson classification systems [g](#)
- ☰ Motif-based taxonomy.
- ☰ Online classification database [g](#)

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## How to write a screenplay:



"Save the Cat!" [a](#) [g](#)  
by Blake Snyder (2005). [6]

- ☰ 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.

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"Computational folkloristics" [g](#)  
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 classied (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." [g](#)

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### "The phylogeny of Little Red Riding Hood"

Jamshid J. Tehrani, PLoS ONE, 8, e78871, 2013. [7]

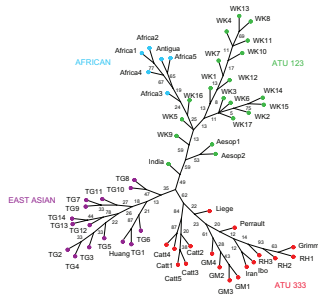


Figure 2. Majority-rule consensus of the most parsimonious trees returned by the cladistic analysis of the tales. Major groupings are labeled by region or ATU (international type and indicated by the colored circles). Sub-groups are indicated in the text labels. (ATU = Little Red Riding Hood; GM = Story of Grandmother; Cat = Cat in the Hat; and the Wolf; TG = Tiger Grandmother). Variants by particular authors, or from contemporary groups that are discussed in the text have individual labels. Numbers inside the nodes represent the level of support for individual clades returned by the bootstrap analysis. doi:10.1371/journal.pone.0078871.g002

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### 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.

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### Famous folklore scholar:



- Comic Book Guy (CBG)**
- Real name: Jeffrey "Jeff" Albertson.
- Master's degree in Folklore and Mythology.
- Thesis: translated Lord of the Rings into Klingon.

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### The unifying theme of existence is existence:

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

- Hatchings.
- Matchings.
- Dispatchings.

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### 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.

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### 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".

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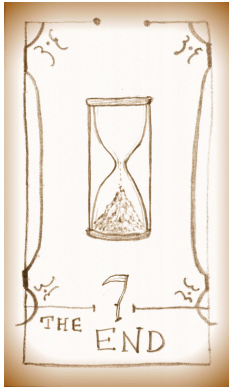
## A basic algorithm for your future:

### 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.



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- [2] C. Booker. The Hero with a Thousand Faces. Continuum, 2005.
- [3] J. Campbell. The Hero with a Thousand Faces. New World Library, third edition, 2008.
- [4] J. Campbell and B. Moyers. The Power of Myth. Anchor, 1991. [pdf](#)

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- [5] D. P. Kiley, A. J. Reagan, L. Mitchell, C. M. Danforth, and P. S. Dodds. The game story space of professional sports: Australian Rules Football. Available online at <http://arxiv.org/abs/1507.03886>, 2016. [pdf](#)
- [6] B. Snyder. Save the Cat! Michael Wiese Productions, 2005.
- [7] J. J. Tehrani. The phylogeny of Little Red Riding Hood. *PLoS ONE*, 8:e78871, 2013. [pdf](#)

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