

# What's the Story?

Principles of Complex Systems | @pocsvox  
CSYS/MATH 300, Fall, 2017

Prof. Peter Dodds | @peterdodds

Dept. of Mathematics & Statistics | Vermont Complex Systems Center  
Vermont Advanced Computing Core | University of Vermont



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## Outline

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It's all about algorithms (stories):



"On the Origin of Stories: Evolution, Cognition, and Fiction" [a](#) [g](#)  
by Brian Boyd (2010).<sup>[3]</sup>



"The Storytelling Animal: How Stories Make Us Human" [a](#) [g](#)  
by Jonathan Gottschall (2013).<sup>[7]</sup>

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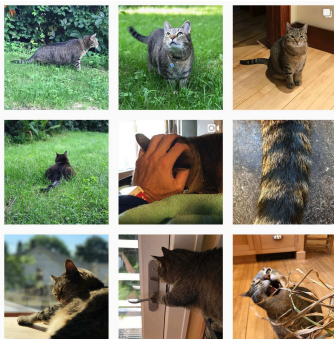
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These slides are also brought to you by:

Special Guest Executive Producer: Pratchett



On Instagram at [pratchett\\_the\\_cat](#)

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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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## 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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## 1999 Gallup poll:

- 6% of Americans said the lunar landings were fake.
- 5% were undecided.
- Video replay (The Comments).

## Buzz Aldrin has enough:

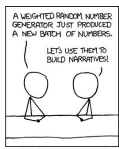
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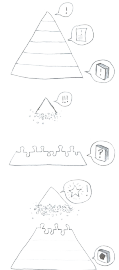


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## Understanding the Sociotechnocene—Stories:



xkcd.com/904/



- Goal: a Science of Stories.
- Claim: *Homo narrativus*—we run on stories.
- "What's the John Dory?"
- "They've lost the plot/thread"
- 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.

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## JK Rowling doesn't exist: conspiracy theories the internet can't resist, The Guardian, 2017-10-27:

### Highlights:

- The Earth is flat. <https://www.tfes.org>.
- The Beatles never existed: <http://www.thebeatlesneverexisted.com>.
- Per the title, JK Rowling doesn't exist.
  - Q. "Is it possible that a person can write six thick books that are translated into 55 languages and sell more than 250 million copies in less than 10 years?" — Nina Grünfeld
  - A. "Yes. Yes it is." — This course.

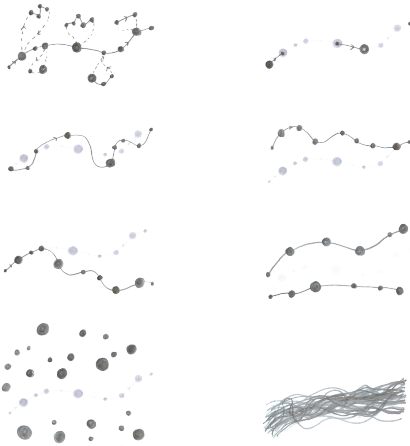
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## Adjacent narratives—why mistruths and conspiracy theories exist and flourish:



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## Phantom time hypothesis:

- The years 614–911 AD never existed.
- Straight up jump of 297 years orchestrated by a first millennium cabal.
- The year 2017 AD is really 1820 AD.
- Good to know.
- Holy Roman Emperor Otto III (@TheBoss37), Pope Sylvester II (@PSly2) wanted to live in 1000 AD, legitimize power.
- Crushed by reality: Records of solar eclipses, comets, dendrochronology.

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## Finland does not exist:



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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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## Poe's law:

In short: There is no parody too extreme that, when taken out of context, someone somewhere won't take to be sincere.

Minor comment by Nathan Poe on christianforums.com:

*"Without a winking smiley or other blatant display of humor, it is utterly impossible to parody a Creationist in such a way that someone won't mistake for the genuine article."*

Usual win for [Stigler's Law of Eponymy](#).

Post by Jerry Schwarz on Usenet, 1983:

*'Avoid sarcasm and facetious remarks. Without the voice inflection and body language of personal communication these are easily misinterpreted. A sideways smile, :-), has become widely accepted on the net as an indication that "I'm only kidding". If you submit a satiric item without this symbol, no matter how obvious the satire is to you, do not be surprised if people take it seriously.'*

Related: "Nobody ever went broke underestimating the intelligence of the American people" — H. L. Mencken (but not exactly).

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## Stories make us do all kinds of things:

[The Comet Ping Pong Gunman Answers Our Reporter's Questions:](#)



- "According to court documents, Mr. Welch said he had come armed to help rescue the children."
- "The intel on this wasn't 100 percent," he said."
- He said he did not believe in conspiracy theories, but then added that the Sept. 11, 2001, attacks needed to be re-examined. He has listened to Alex Jones, whose radio show traffics in conspiracy theories and who once said that Mrs. Clinton "has personally murdered and chopped up" children. "He's a bit eccentric," Mr. Welch said. "He touches on some issues that are viable but goes off the deep end on some things."

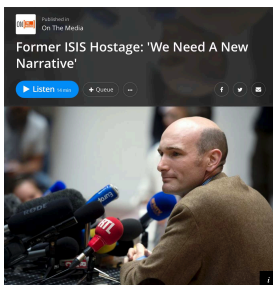
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## Story Wars:



Nicholas Henin, French Journalist, held captive for 10 months.

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## Massive informational misdirection as a cognitive denial of service:



"How the Chinese government fabricates social media posts for strategic distraction, not engaged argument" King, Pan, and Roberts, American Political Science Review, , , Forthcoming.<sup>[9]</sup>

- Make the truth a needle in a haystack
- Trump's Reality Distortion Field, <http://www.onthemedial.org>
- "Surkov turned Russian politics into a bewildering constantly changing piece of theater. He sponsored all kinds of groups, ...no one was sure what was real or fake. ...it is a strategy of power that keeps any opposition constantly confused."

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## Stories generated the first surveillance state:



- Low tech, lost cost.
- Infrastructure maintained in the Social Wild by storytellers and storybelievers.
- Omnipresence and omniscience: The end of privacy.

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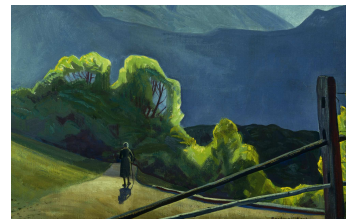
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## Limits: The story trap by Philip Ball, 2015-11-12



- "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."

## Competitive Punning, The Economist, 2017-08-12

The quip and the dread

Why English is such a great language for puns

Gamers now even take part in world championships

- Punster pseudonym: "Punder Enlightening"

## Being funny, a grand challenge for AI:

- Wired (2014-04-01): [It's Comedian vs. Computer in a Battle for Humor Supremacy](#). Myq Kaplan pun-off.
- Pun-free paper title: "Generating Novel Puns and Plays of Word with Machine Learning"
- "Warning: This paper may cause the reader to groan to death."

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# The Shapes of Stories

by Kurt Vonnegut

**K**urt Vonnegut gained worldwide fame and adoration through the publication of his novels, including *Slaughterhouse-Five*, *Cat's Cradle*, *Breakfast at 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 Eitam, [www.mayaaitam.com](http://www.mayaaitam.com)  
Sources: A Man without a Country and Palm Sunday by Kurt Vonnegut



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**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  
Marcel & Nimrod 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 life-like 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. First major staples like the earth and sky, then smaller things like sparrows and cell phones. Not a common shape for Western stories, however.

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, but is suddenly ousted from good standing, but then receives off-the-charts bliss.

Great Expectations with Dickens' alternate ending

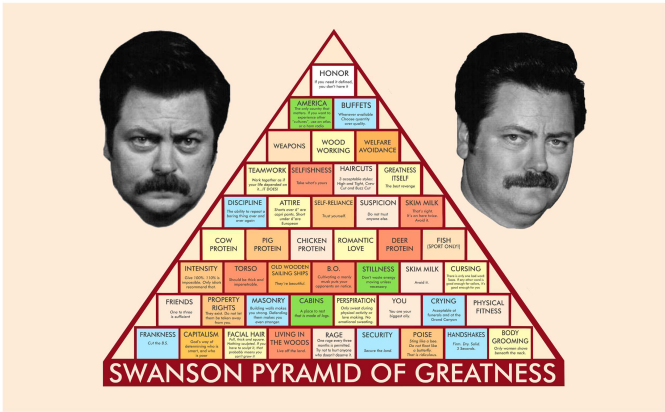
**Cinderella**

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.

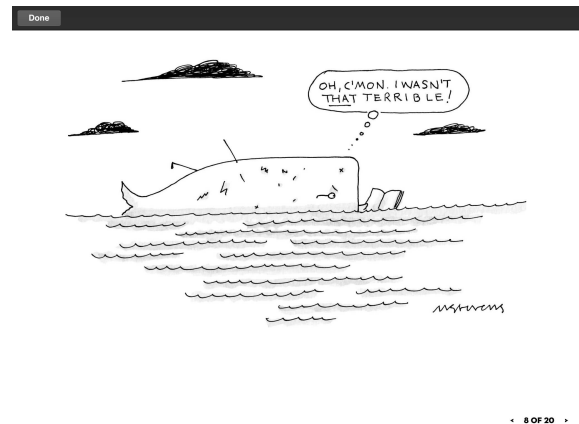
Great Expectations with Dickens' alternate ending



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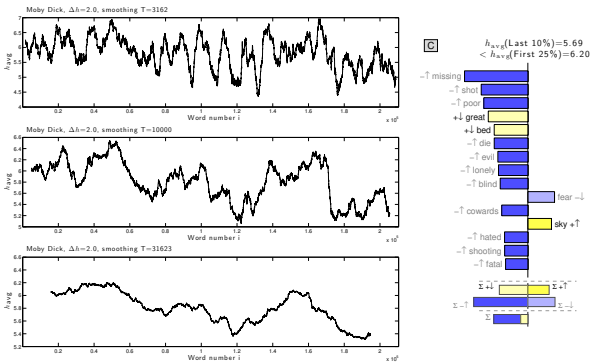


The New Yorker, December 16, 2013, p. 56.



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## The emotional shapes of stories—Moby Dick:



Partly inspired by Vonnegut's Shapes of Stories

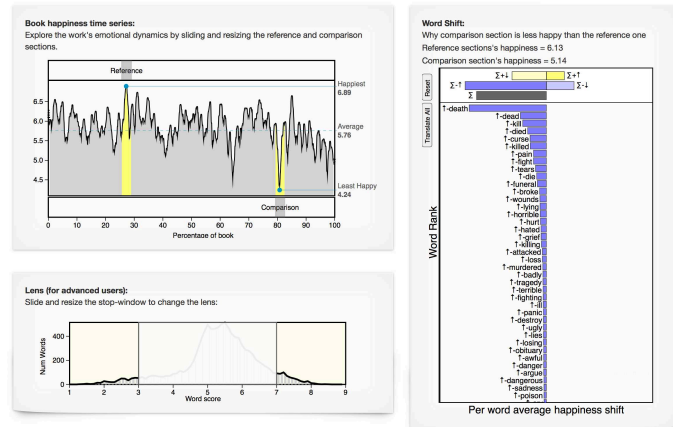


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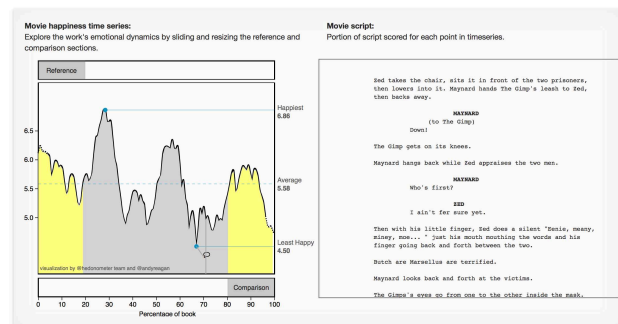
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**Frankenstein; Or the Modern Prometheus** [\(wiki\)](#)  
by Mary Shelley

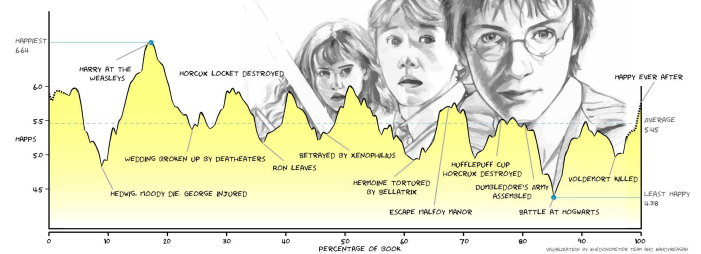



## Pulp Fiction

directed by Quentin Tarantino



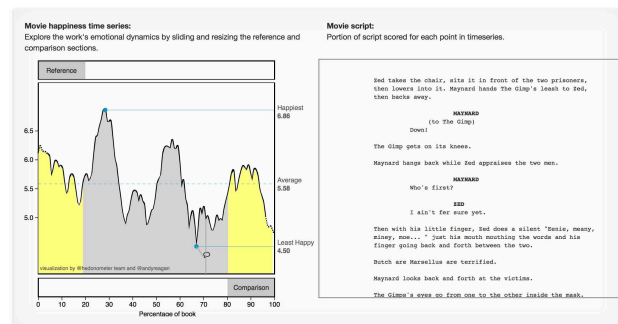
<http://whyfiles.org/2015/in-10-languages-happy-words-beat-sad-ones/>

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 Reagan et al. 2016.

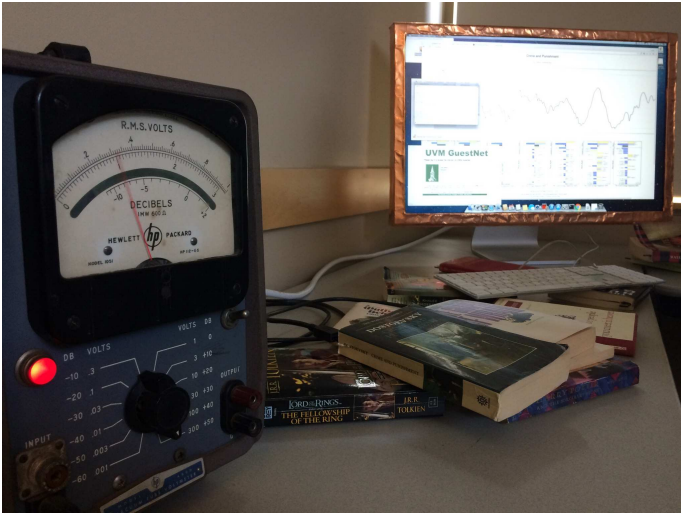
## Pulp Fiction

directed by Quentin Tarantino



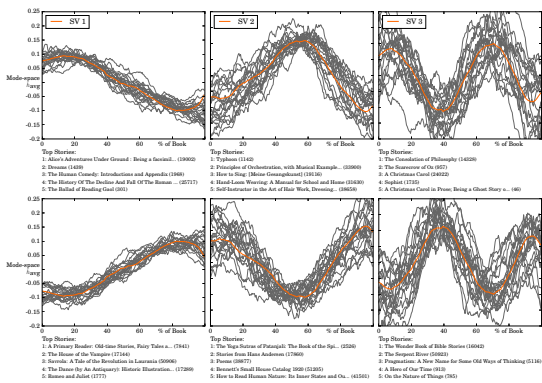
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JOHN DORY

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## Harry Potter and the Chamber of Plot Devices:

## Emotional arcs for 1748 books from [gutenberg.org](https://www.gutenberg.org/)

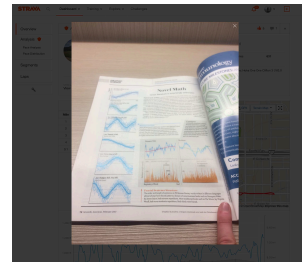
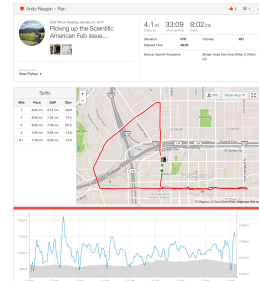


Six basic shapes: Tragedy, Icarus, Oedipus, Rags-to-Riches, Man-in-a-hole, Cindarella.

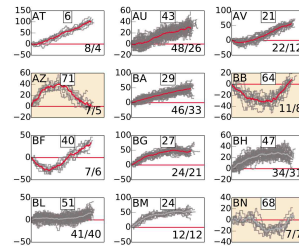
Mode	Mode Arc	N <sub>m</sub>	N <sub>m</sub> /N	DL Median ▾	DL Mean ▽	DL Variance	Download Distribution
SV 1		263	15.1%	295.0	644.3	2207201	
-SV 1		442	25.3%	337.5	636.0	913464	
SV 2		230	13.2%	314.0	630.3	1058016	
-SV 2		169	9.7%	296.0	569.1	780365	
SV 3		104	6.0%	298.0	874.5	7826797	
-SV 3		108	6.2%	298.0	748.7	2517822	
SV 4		108	6.2%	316.0	848.8	2763060	
-SV 4		50	2.9%	292.0	770.7	1546202	
SV 5		48	2.7%	280.0	421.7	182443	
-SV 5		48	2.7%	263.5	462.0	211259	

FIG. 6: Download statistics for SVD Modes with more than 2.5% of books. Modes SV 3 through -SV 4 (both polarities of modes 3 and 4) exhibit a higher average number of downloads and more variance than the rest.

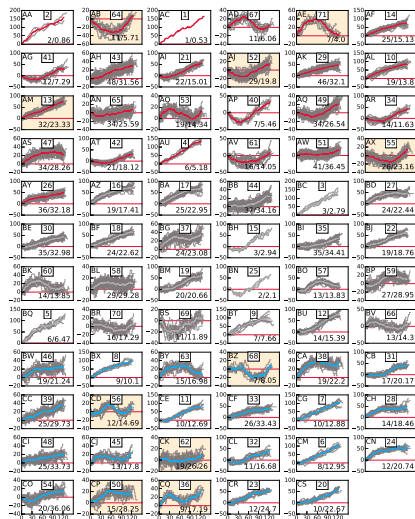
## Another Great Moment in being Andy Reagan:



## "The game story space of professional sports: Australian Rules Football" Kiley, Reagan, Mitchell, Danforth, and Dodds. Physical Review E, 93, 052314, 2016. [8]







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## Seven "good" stories?:



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

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

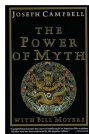
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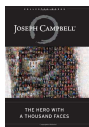


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## The "I wonder who wrote this?" Great Man Theory:



"The Power of Myth" [a](#) [a](#)  
by Campbell and Moyers (1991). <sup>[5]</sup>



"The Hero with a Thousand Faces" [a](#) [a](#)  
by Joseph Campbell (2008). <sup>[4]</sup>

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

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## 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 Adventures 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: [a](#) [a](#)

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

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## How to write a screenplay:



"Save the Cat!" [a](#) [a](#)  
by Blake Snyder (2005). <sup>[10]</sup>

- 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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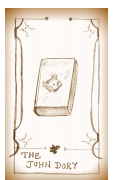


"Computational folkloristics" [a](#)  
Abello, Broadwell, and Tangherlini,  
Communications of the ACM, **55**, 60-70, 2012. <sup>[1]</sup>

- 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." [a](#)

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## "The phylogeny of Little Red Riding Hood"

Jamshid J. Tehrani,  
PLoS ONE, **8**, e78871, 2013. <sup>[11]</sup>

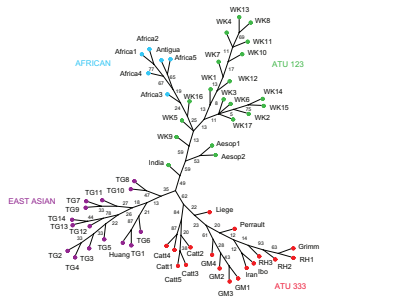


Figure 2. Majority-rule consensus of the most parsimonious trees returned by the cladistic analysis of the tales. Major groupings are labeled by region or ATU international type and indicated by the colored nodes. Sub-type are indicated in the same labels (e.g. Little Red Riding Hood, GM = Story of Grandmother Cat = Catrunculus, WK = The Wolf and the Lamb, TG = Tiger Grandmother). Variants by particular authors or from cross-informants groups that are discussed in the text have individual labels. Numbers beside the edges represent the level of support for each node (1-100) (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 boiled-down essence of stories:

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

- Hatchings, Matchings, and Dispatchings.
- Stories encode survival algorithms.
- Survival algorithms for individuals and groups.
- Dynamic paths: the true, the possible, the unlikely.
- The unifying theme of existence is existence.

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## The taxonomy of stories:

### Fundamental arcs:

- Kill the Monster.
- Rags to Riches (and Riches to Rags—*Metamorphosis*).
- Journey/Odyssey: Search for a salvation, a "Holy Grail".
- 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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## Super Survival of the Stories:



The Desirability  
of  
Storytellers  
The Atlantic,  
Ed Yong,  
2017-12-05.

- Study of Agta, Filipino hunter-gatherers.
- Storytelling valued well above all other skills including hunting.
- Stories encode prosocial norms such as cooperation.
- Like the best stories, the best storytellers reproduce more successfully.

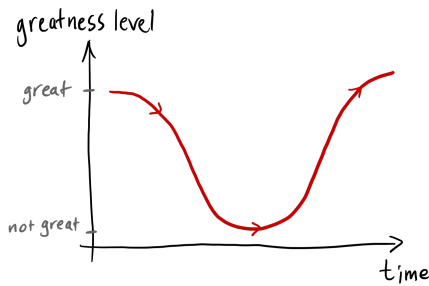
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## Stories matter:



- Used by Reagan and Bush in 1980.
- Template used by many others including Bill Clinton.


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## References I

- [1] J. Abello, P. Broadwell, and T. R. Tangherlini. Computational folkloristics. *Communications of the ACM*, 55:60–70, 2012. [pdf](#) 
- [2] C. Booker. *The Seven Basic Plots: Why We Tell Stories*. Continuum, 2005.
- [3] B. Boyd. *On the Origin of Stories: Evolution, Cognition, and Fiction*. Belknap Press, 2010.
- [4] J. Campbell. *The Hero with a Thousand Faces*. New World Library, third edition, 2008.


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## References II

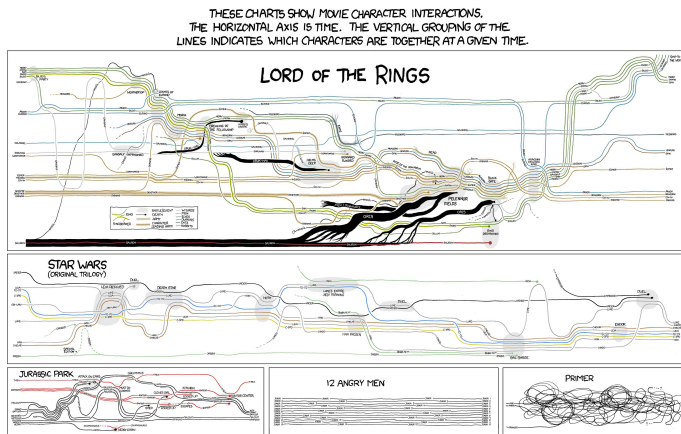
- [5] J. Campbell and B. Moyers. *The Power of Myth*. Anchor, 1991. [pdf](#) 
- [6] A. DeGraff. *Plotted: A Literary Atlas*. Pulp/Zest Book, 2015.
- [7] J. Gottschall. *The Storytelling Animal: How Stories Make Us Human*. Mariner Books, 2013.

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Essence  
References



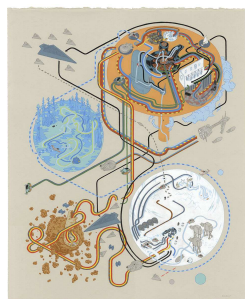
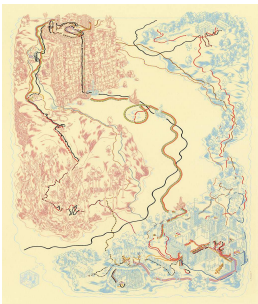
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<https://xkcd.com/657/> 



"Plotted: A Literary Atlas"   
by Andrew DeGraff (2015). <sup>[6]</sup>



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## References III

- [8] 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. *Physical Review E*, 93, 2016. Available online at <http://arxiv.org/abs/1507.03886>. [pdf](#) 
- [9] G. King, J. Pan, and M. E. Roberts. How the Chinese government fabricates social media posts for strategic distraction, not engaged argument. *American Political Science Review*, 2017. Forthcoming. [pdf](#) 
- [10] B. Snyder. *Save the Cat!* Michael Wiese Productions, 2005.

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<http://www.andrewdegraff.com/moviemaps/> 

References IV

[11] J. J. Tehrani.  
The phylogeny of Little Red Riding Hood.  
[PLoS ONE, 8:e78871, 2013. pdf](#)

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