

What's the Story?

Principles of Complex Systems | @pocsvox
CSYS/MATH 300, Fall, 2016 | #FallPoCS2016

Prof. Peter Dodds | @peterdodds

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



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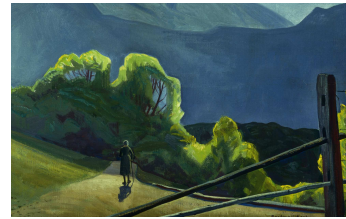
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The story trap by Philip Ball, 2015-11-12



- "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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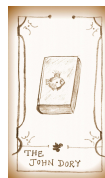
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Outline

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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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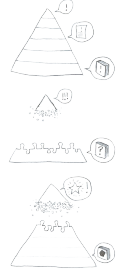


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Understanding the Sociotechnocene—Stories:

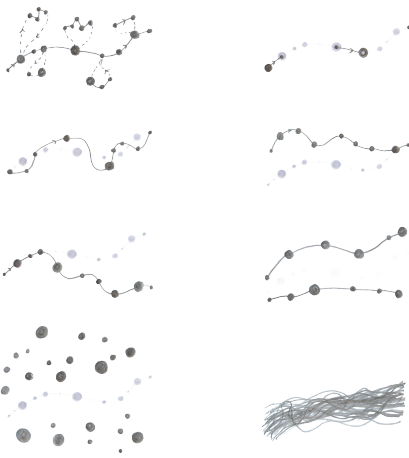


xkcd.com/904/



- 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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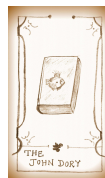
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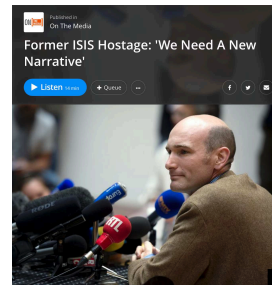
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Story Wars:



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, 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.

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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:

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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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The Shapes of Stories by Kurt Vonnegut

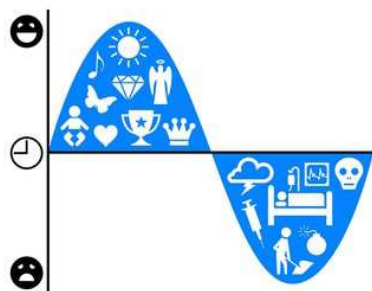
Kurt Vonnegut gained worldwide fame and adoration through the publication of his novels, including *Slaughterhouse-Five*, *Cat's Cradle*, *Breakfast of Champions*, and more.

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 Elam, www.mayaelam.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."

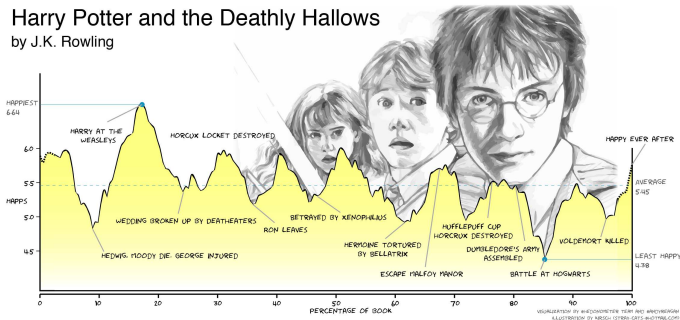
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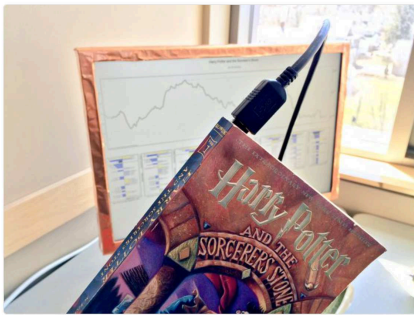
Harry Potter and the Deathly Hallows
by J.K. Rowling



Reagan et al. in preparation, 2016.



USB in a book? What is this wizardry? Check it out at the Student Research Conference creative lounge. #uvmresearch



RETWEETS 8 LIKES 8
9:30 AM - 28 Apr 2016

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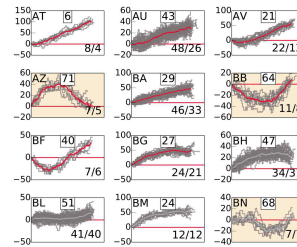
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Harry Potter and the Chamber of Plot Devices:

"The game story space of professional sports: Australian Rules Football"
Kiley, Reagan, Mitchell, Danforth, and Dodds.
Physical Review E, 93, 052314, 2016. [5]



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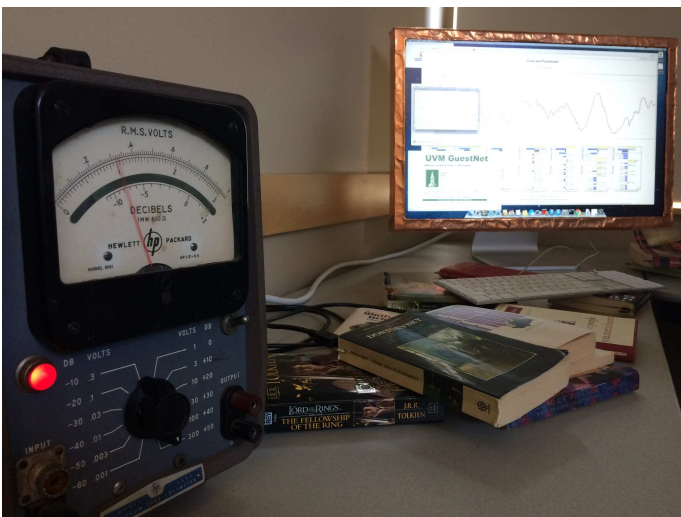
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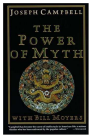
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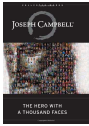
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The taxonomy of stories:

The very tiresome Great Man Theory:



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



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

Highly influential but it's a trap!

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- ANIMAL TALES 1-299
 - Wild Animals 1-69
 - The Clever Fox (Other Animal) 1-69
 - Other Wild Animals 70-98
 - 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

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How to write a screenplay:



"Save the Cat!"
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"
Abello, Broadwell, and Tangherlini,
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."

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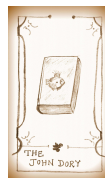
Seven "good" stories?:



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

- Seven Gateways to the Underworld (?)
- Overcoming the Monster x2 and the Thrilling escape from Death (plot).
- Rags to Riches (plot).
- The Quest (plot).
- Voyage and Return (plot).
- Comedy x2 (plot but really structure).
- Tragedy x3 (plot).
- Rebirth (plot).
- The Dark Power: From Shadow into Light (master structure).

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"The phylogeny of Little Red Riding Hood"
Jamshid J. Tehrani,
PLoS ONE, **8**, e78871, 2013. ^[7]

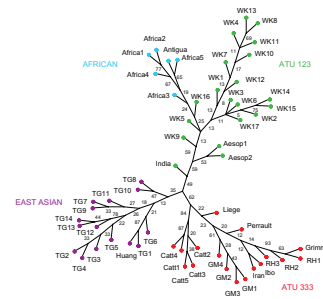


Figure 2. Majority rules consensus of the most parsimonious trees returned by the cladistic analysis of the tales. Major groupings are labeled by region or ATU international type and indicated by the colored nodes. Sub-groups are indicated by the box labels. WK = Little Red Riding Hood; GM = Story of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

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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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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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- J. Abello, P. Broadwell, and T. R. Tangherlini. Computational folkloristics. *Communications of the ACM*, 55:60–70, 2012. [pdf](#) [↗](#)
- C. Booker. *The Seven Basic Plots: Why We Tell Stories*. Continuum, 2005.
- J. Campbell. *The Hero with a Thousand Faces*. New World Lbrary, third edition, 2008.
- 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.

Physical Review E, 93, 2016.

To appear. Available online at

<http://arxiv.org/abs/1507.03886.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](#)