

Emotional arcs of stories

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Principles of Complex Systems, Vols. 1 & 2
CSYS/MATH 300 and 303, 2021–2022 | @pocsvox

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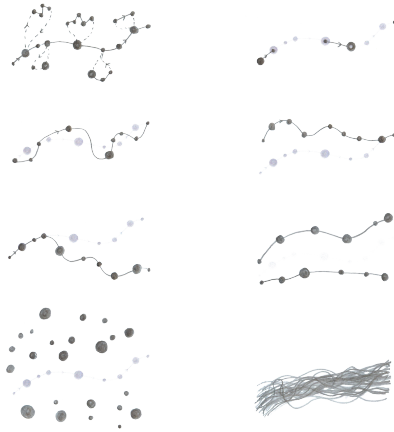


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Adjacent narratives—why mistruths and conspiracy theories exist and flourish:



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1999 Gallup poll:

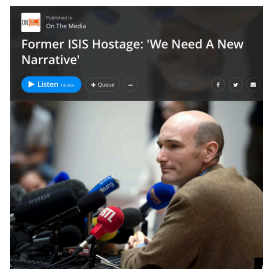
- 6% of Americans said the lunar landings were fake.
- 5% were undecided.

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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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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.

- Make the truth a needle in a haystack
- Trump's Reality Distortion Field, <http://www.onthemediamedia.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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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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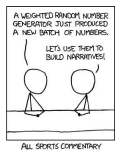
Outline

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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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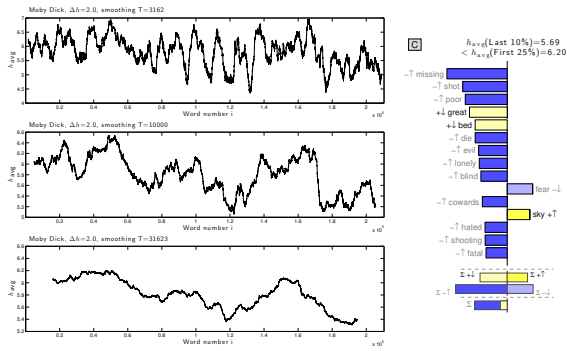
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Kurt Vonnegut on the Shapes of Stories

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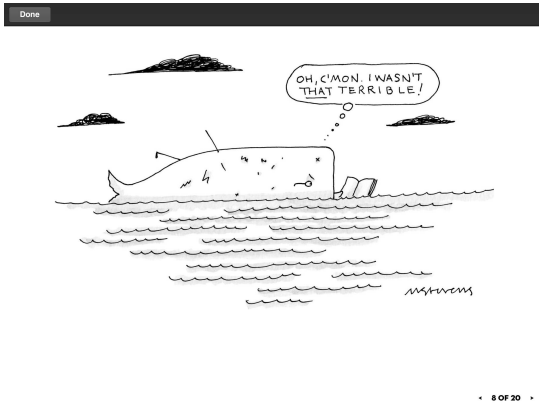
The emotional shapes of stories—Moby Dick:



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

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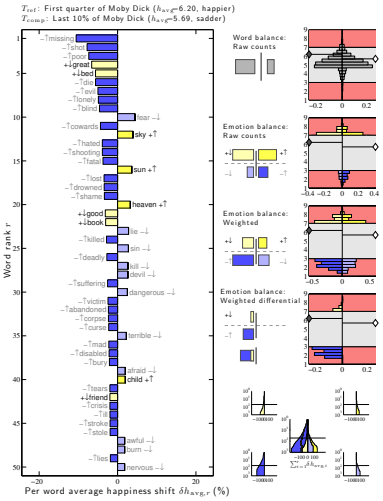
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Ron Swanson on metaphors:

"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."

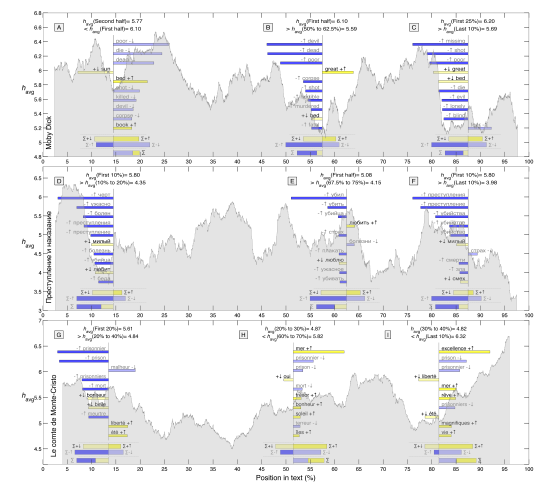
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Comparison of the emotional trajectory of Moby Dick with the results for three example randomized



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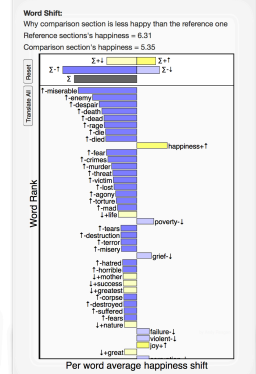
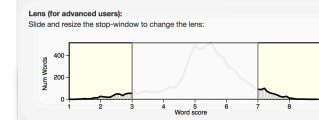
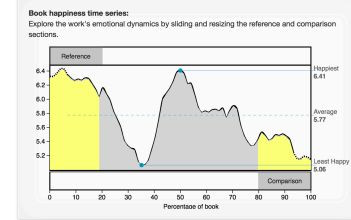
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Online, interactive Emotional Shapes of Stories for 10,000+ books:

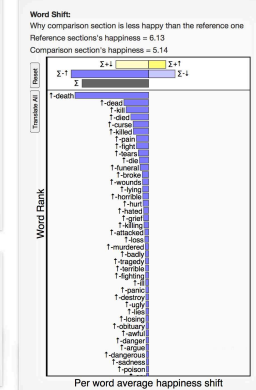
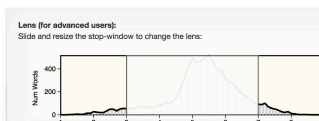
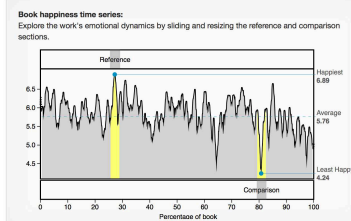
Frankenstein; Or the Modern Prometheus (wik) by Mary Shelley



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Online, interactive Emotional Shapes of Stories for 10,000+ books:

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



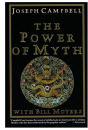
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The "I wonder who wrote this?" Great Man Theory:



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



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

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

How to write a screenplay:



"Save the Cat!" [a](#) [u](#)
by Blake Snyder (2005). [8]

- [u](#) 9 acts.
- [u](#) Someone important to the main characters gets toasted in the second act, blah, blah.
- [u](#) Believes irony is key.
- [u](#) Logline = one or two sentence summary.
- [u](#) Logline fails to be a summary of logline.

Seven "good" stories?:



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

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

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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 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: [u](#)

[u](#) Aarne-Thompson classification systems [u](#)

[u](#) Motif-based taxonomy.

[u](#) Online classification database [u](#)



"Computational folkloristics" [u](#)
Abello, Broadwell, and Tangherlini,
Communications of the ACM, **55**, 60–70,
2012. [1]

[u](#) 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."

[u](#) '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." [u](#)



"The phylogeny of Little Red Riding Hood" [u](#)
Jamshid J. Tehrani,
PLoS ONE, **8**, e78871, 2013. [9]

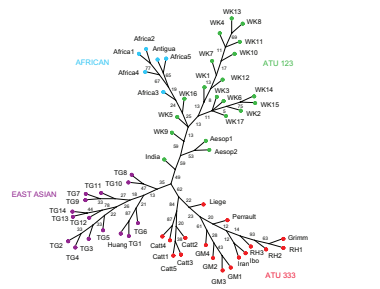


Figure 2. Majority-rule consensus of the most parsimonious trees returned by the cladistic analysis of the tales. Major groups are indicated by region or ATU international type and indicated by the colored nodes. Sub-trees are indicated on the tree labels (e.g., Little Red Riding Hood, Cat, Story of Grandmother Cat, Centauretic etc.). The Wild and the Old, the "Tiger Grandmother" variants by geographic region or from non-geographic 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.

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Famous folklore scholar:



[u](#) Comic Book Guy (CBG) [u](#)

[u](#) Real name: Jeffrey "Jeff" Albertson.

[u](#) Master's degree in Folklore and Mythology.

[u](#) Thesis: translated Lord of the Rings into Klingon.

Stories are algorithms for life:

Homo narrativus:

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

Aphorisms as algorithms:

- [u](#) Pride cometh before the fall.
- [u](#) A stitch in time saves nine.
- [u](#) Look before you leap.
- [u](#) Anti-aphorism: The one who hesitates is lost.

The taxonomy of stories:

Fundamental arcs:

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

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

- [u](#) Hatchings, Matchings, and Dispatchings.
- [u](#) Stories encode survival algorithms.
- [u](#) Dynamic paths: the true, the possible, the unlikely.

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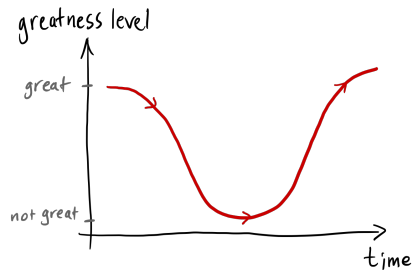
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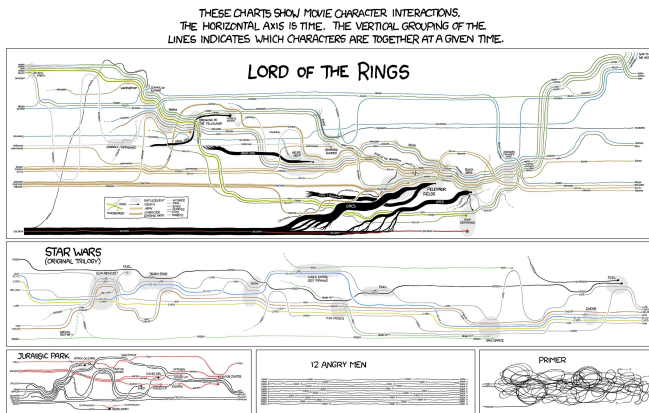
Stories matter: [↗](#)



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



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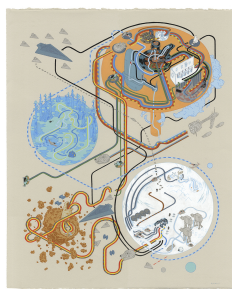


<https://xkcd.com/657/>

Science/Art project: Create dynamic versions, ideally automatically.



"Plotted: A Literary Atlas" [↗](#) [↗](#)
by Andrew DeGraff (2015). ^[5]



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

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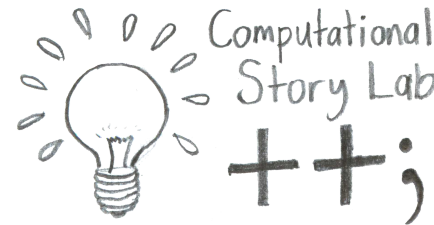
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Next:

- Evolve hedonometer.org and panometer.org
- Add more thing-o-meters.
- More retrospective pieces (music lyrics, speeches).
- Continue work on other emotions.
- Other input streams (e.g., BBC).
- Full expansion to phrase-based analysis.
- Real-time extraction of Frames and Stories.
- Everything about stories.



References I

- 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 Library, third edition, 2008.
- J. Campbell and B. Moyers. *The Power of Myth*. Anchor, 1991. [pdf](#)



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References II

- A. DeGraff. *Plotted: A Literary Atlas*. Pulp/Zest Book, 2015.
- 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](#)
- A. J. Reagan, L. Mitchell, C. M. Danforth, and P. S. Dodds. The emotional arcs of stories are dominated by six basic shapes. *EPJ Data Science*, 5:31, 2016. Available at <http://arxiv.org/abs/1606.06820>. [pdf](#)



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