

Emotional and meaning arcs of stories

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Principles of Complex Systems, Vols. 1, 2, & 3D
CSYS/MATH 6701, 6713, & a pretend number,
2023–2024 | @pocsvox

Prof. Peter Sheridan Dodds | @peterdodds

Computational Story Lab | Vermont Complex Systems Center
Santa Fe Institute | University of Vermont



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Stories

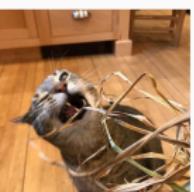
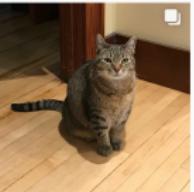
References

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On Instagram at [pratchett_the_cat/](https://www.instagram.com/pratchett_the_cat/)



Outline

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Stories

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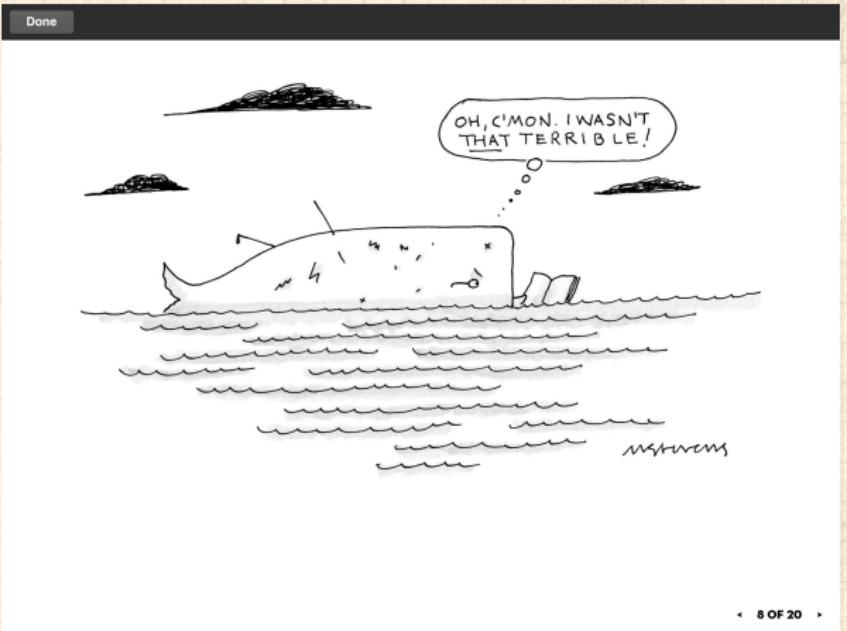
Kurt Vonnegut on the shapes of stories



Source: Kurt Vonnegut on the Shapes of Stories [YouTube](#).

Longer piece [YouTube](#) with bonus stories (Metamorphosis and Hamlet).

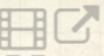




The New Yorker, December 16, 2013, p. 56.



Ron Swanson on metaphors



 “I hate metaphors.



Aside: From a 2013 Believer Magazine ↗ interview with Maurice Sendak ↗:

BLVR: Did the success of *Where the Wild Things Are* ever feel like an albatross?



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 Sendak named his dog Herman.



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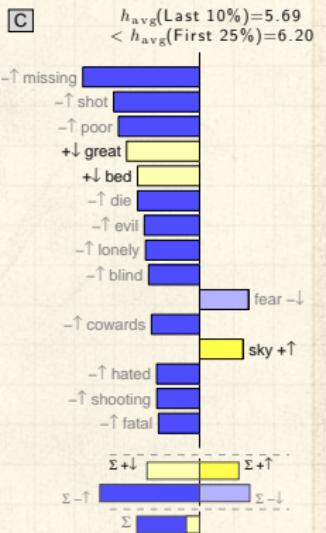
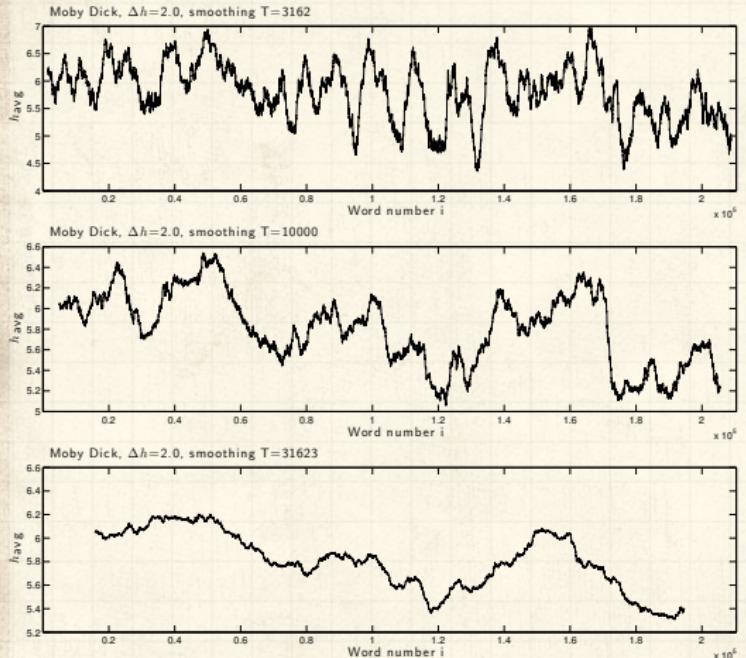
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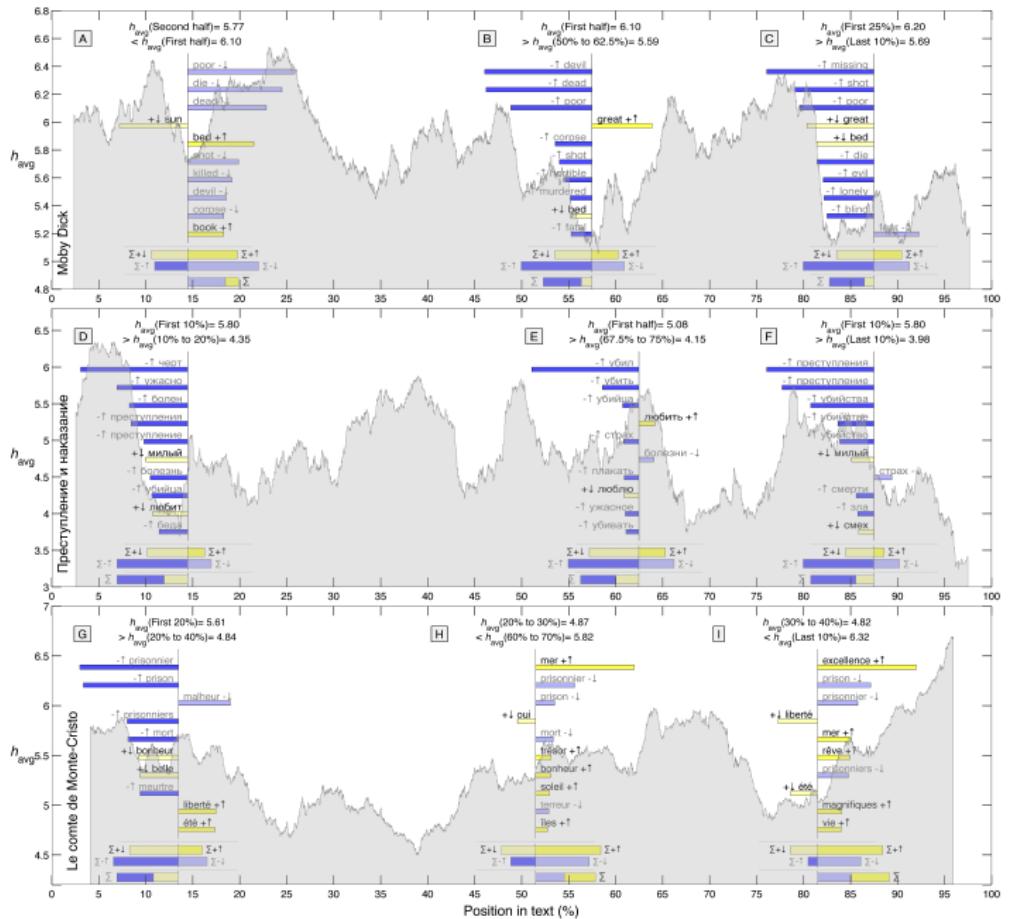
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- ❖ Sendak named his dog Herman.
- ❖ The essential (true) Colbert interview:
Pt. 1 ↗ and Pt. 2 ↗.



The emotional shapes of stories—Moby Dick:





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

Frankenstein; Or the Modern Prometheus [\(wiki\)](#)

by Mary Shelley

Search Gutenberg Corpus

by Title ▾

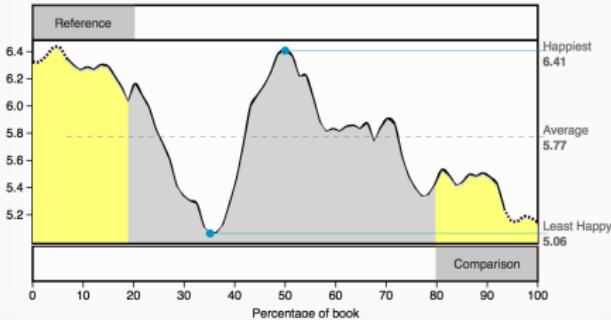
Classics ▾

Harry Potter ▾

Random

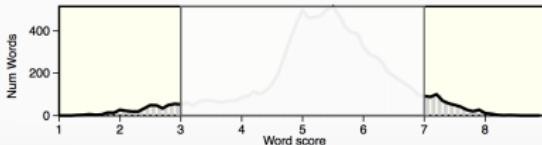
Book happiness time series:

Explore the work's emotional dynamics by sliding and resizing the reference and comparison sections.



Lens (for advanced users):

Slide and resize the stop-window to change the lens:

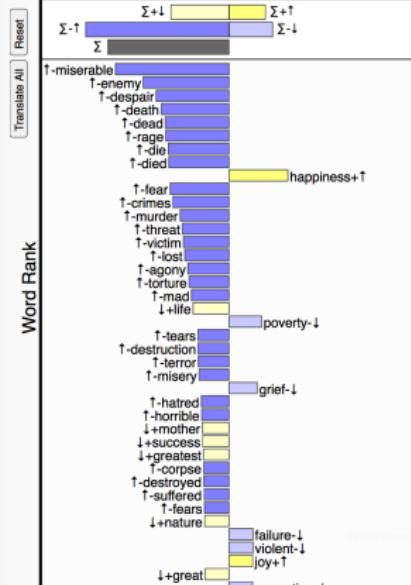


Word Shift:

Why comparison section is less happy than the reference one

Reference section's happiness = 6.31

Comparison section's happiness = 5.35



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

Harry Potter (all books together)

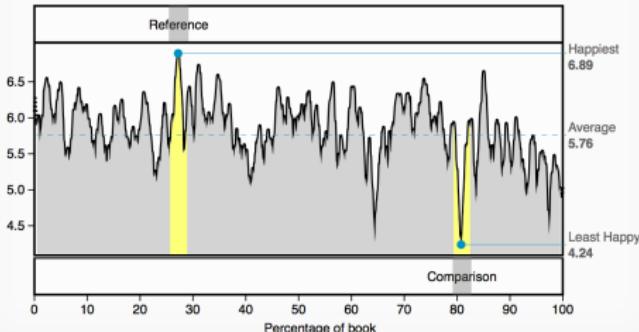
by J.K. Rowling

Search Gutenberg Corpus

by Title ▾ Classics ▾ Harry Potter ▾ Random

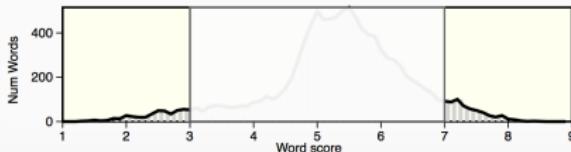
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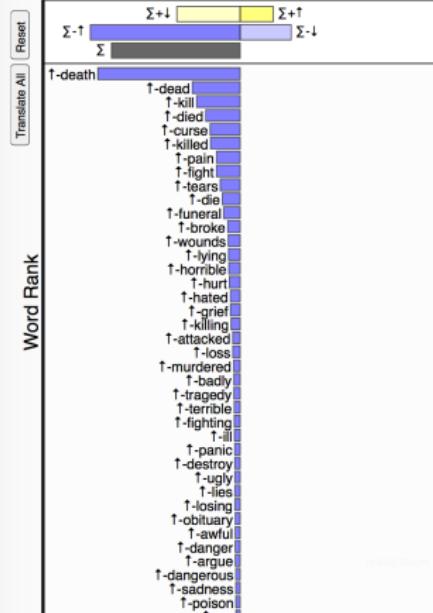


Word Shift:

Why comparison section is less happy than the reference one

Reference section's happiness = 6.13

Comparison section's happiness = 5.14



Online, interactive Emotional Shapes of Stories ↗ for 1,000+ movie scripts:

Pulp Fiction

directed by Quentin Tarantino

Search Movies

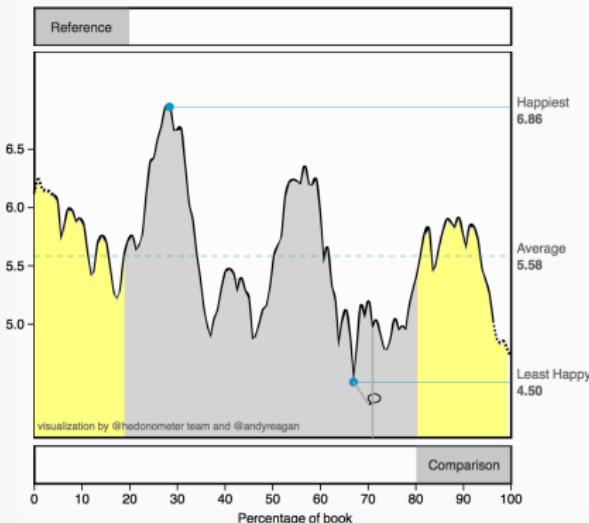
Classics ▾

Team Picks ▾

Random

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?

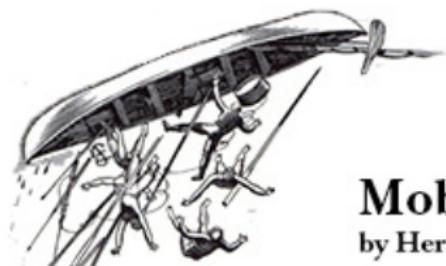
ZED
I ain't fer sure yet.

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

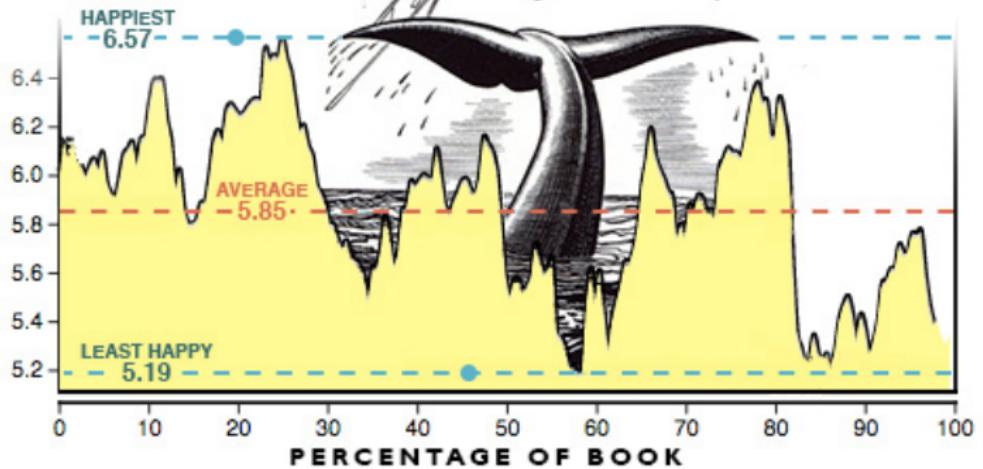
Butch and Marsellus are terrified.

Maynard looks back and forth at the victims.

The Gimp's eyes go from one to the other inside the mask.



Moby-Dick by Herman Melville



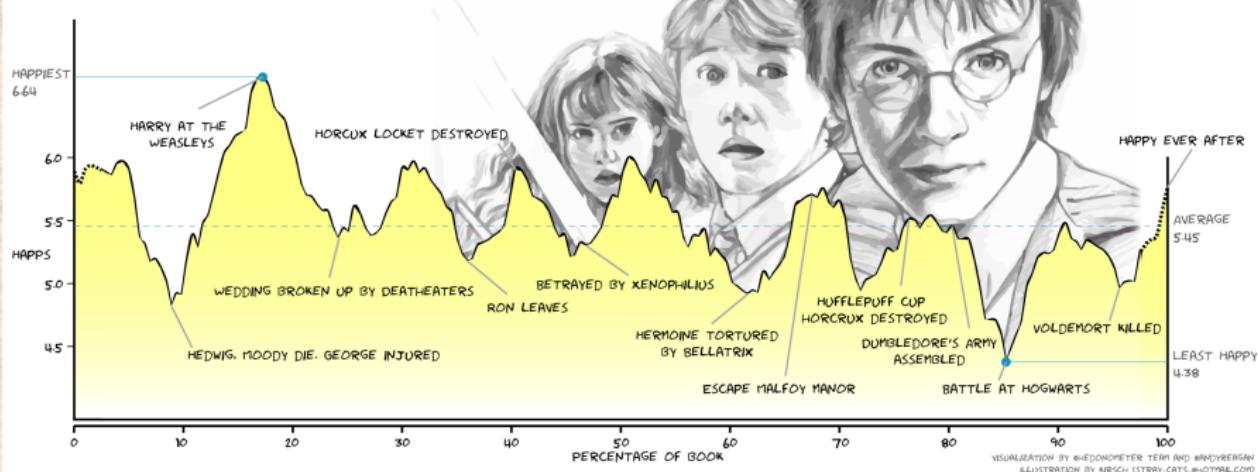
Moby-Dick illustration by Rockwell Kent, 1930

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



Harry Potter and the Deathly Hallows

by J.K. Rowling



"The emotional arcs of stories are dominated by six basic shapes" ↗

Reagan, Mitchell, Danforth, and Dodds.
EPJ Data Science, 5, 31, 2016. [1]





UVM

@uvmvermont



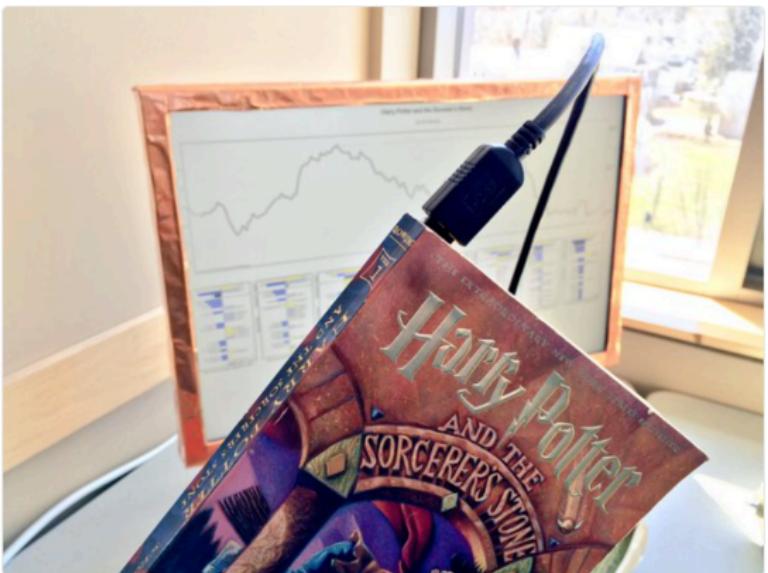
Following

The PoC'sverse
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Stories

References

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



RETWEETS

8

LIKES

14



9:30 AM - 28 Apr 2016

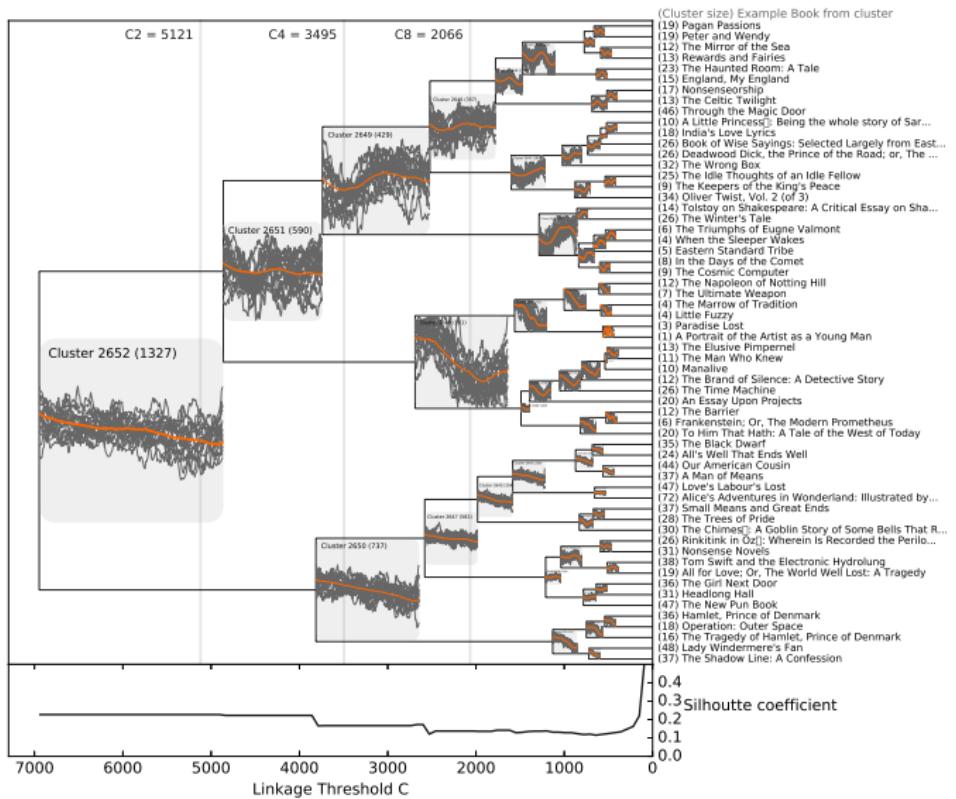




Harry Potter and the Trove of Plot Devices



Emotional arcs for 1748 books from gutenberg.org ↗



Stories with a few ups and downs most downloaded:

Mode	Mode Arc	N_m	N_m/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	1058916	
-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.

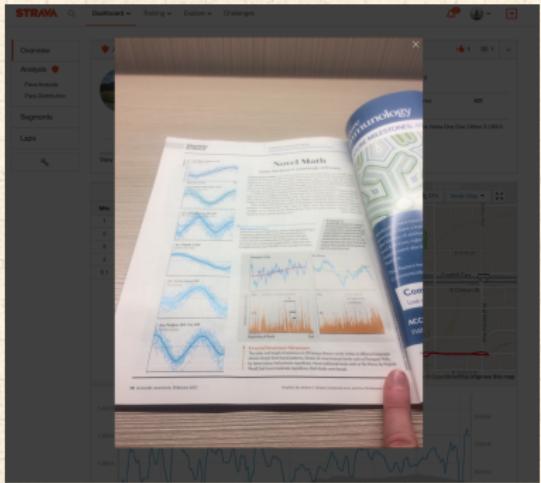
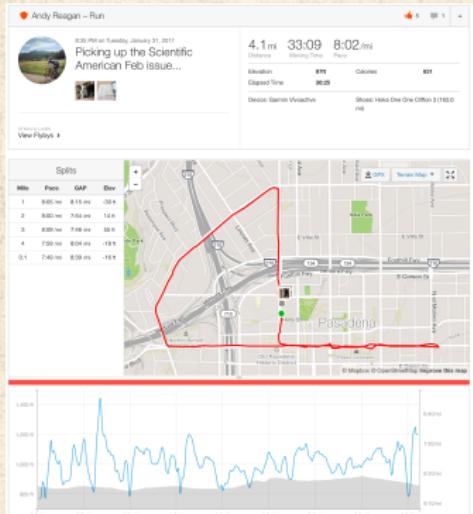


Another Great Moment in being Andy Reagan:

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References





"So, in writing, there are six basic plots, and their sequels and derivative franchises."



References I

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Stories

References

- [1] 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 <https://arxiv.org/abs/1606.06820>.

pdf ↗

