

Measuring the Happiness, Health, & Stories of Society through the Sociotechnical Dynamics of Social Media and Fiction



Chris Danforth @chrisdanforth
IMA, May 18, 2021



Sociotechnical Instruments

StoryWrangler
Stretchable Words
The Hedonometer
Food & Activity
Mental Health
Shapes of Stories

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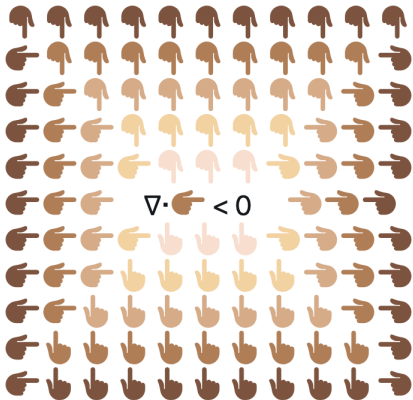
Shapes of Stories

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```

Parsing 100+GB of text daily for last 13 years



Anna Hughes
@AnnaGHughes



11:33 AM · Nov 15, 2019 · [Twitter Web App](#)

1.4K Retweets **6K** Likes

Tweet shown w/Anna's permission

Parsing 100+GB of text daily for last 13 years

1grams:

```
N-grams: Counter({'👉': 11, '👈': 10, '👉': 10, '👈': 9, '👉': 9, '👈': 9, '👉': 8, '👈': 7, '👉': 7, '👈': 7, '👉': 5, '👈': 5, '👉': 5, '👈': 5, '👉': 3, '👈': 3, '👉': 2, '👈': 2, '▽': 1, '': 1, '<': 1, '0': 1})
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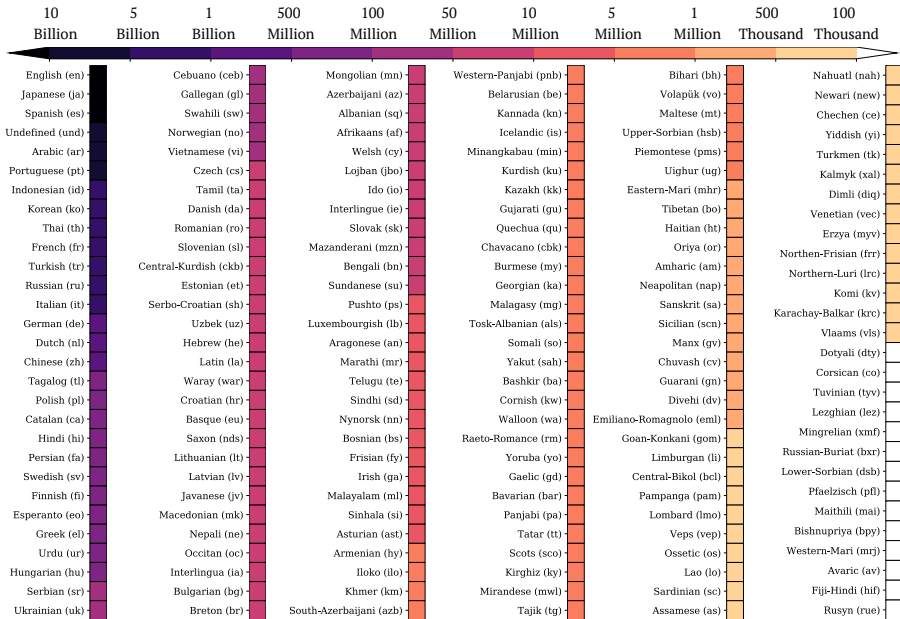
2grams:

[illegible]

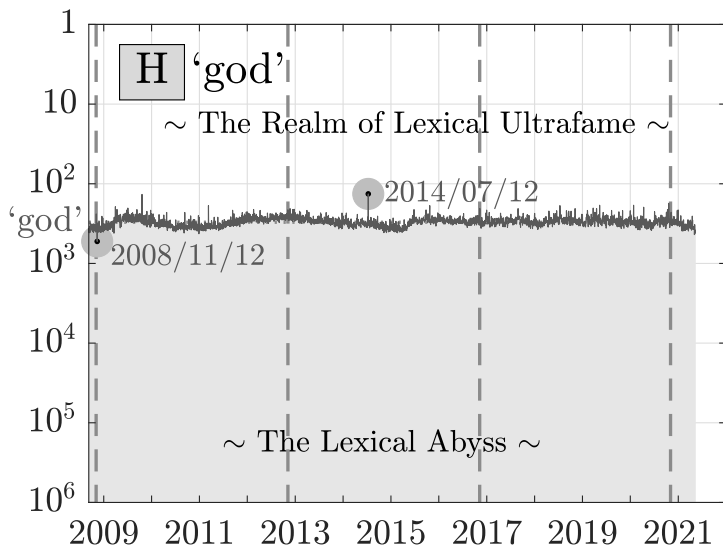
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[illegible]

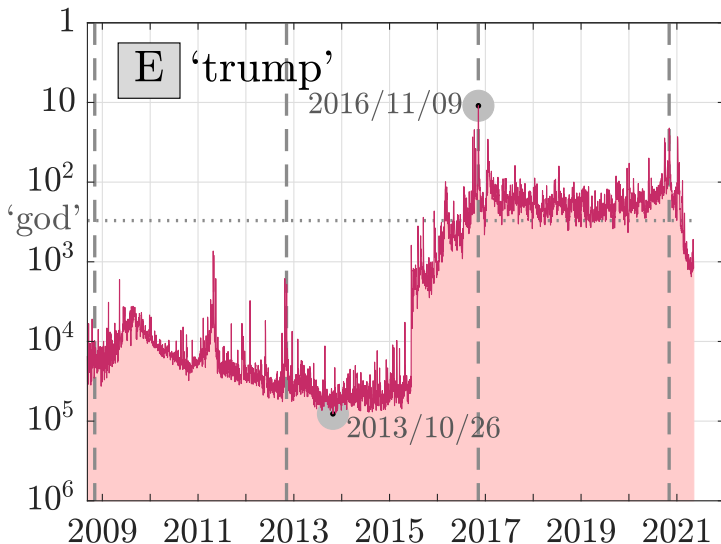
emoji parsing by Thayer Alshaabi



Alshaabi et al. "The growing echo chamber of social media: Measuring temporal and social contagion dynamics for over 150 languages on Twitter for 2009-2020." EPJ Data Science. 2021.



Dodds et al. "Fame and Ultrafame: Measuring and comparing daily levels of 'being talked about' for United States' presidents, their rivals, God, countries, and K-pop." In Review. 2021.

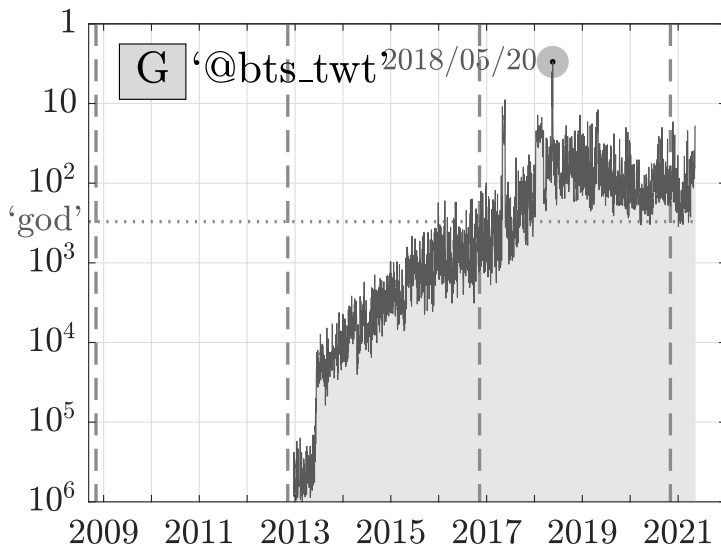


Dodds et al. "Fame and Ultrafame: Measuring and comparing daily levels of 'being talked about' for United States' presidents, their rivals, God, countries, and K-pop." In Review. 2021.

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Frame 7/47



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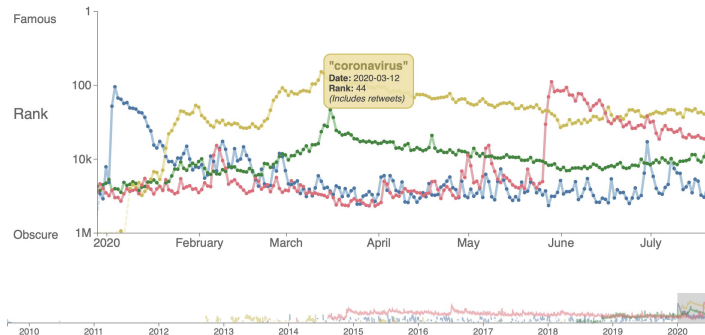
A visual comparison of phrase popularity in 150 billion tweets. Read more [here](#).

☒ Rank ☐ Frequency ☒ Include Retweets? ☒ Logarithmic scale ☐ Linear scale Language: English

Enter a query like: #throwbackthursday

ADD TERM

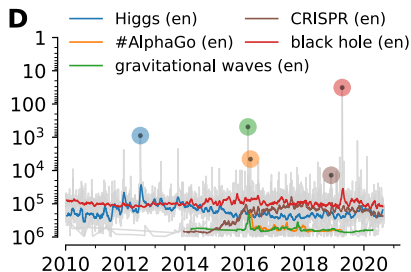
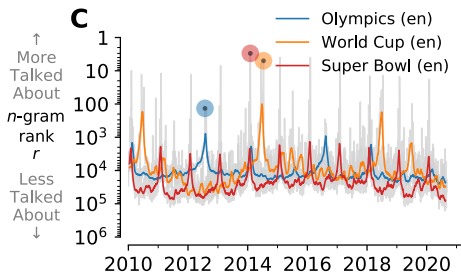
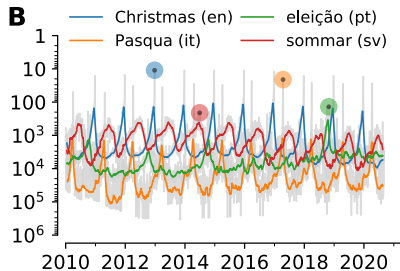
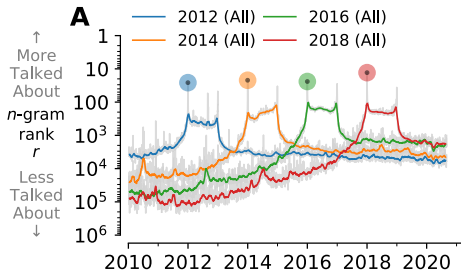
x Soleimani coronavirus #BlackLivesMatter



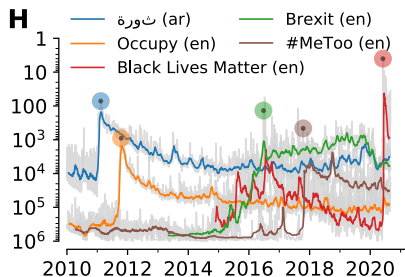
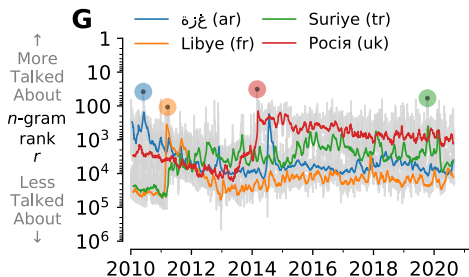
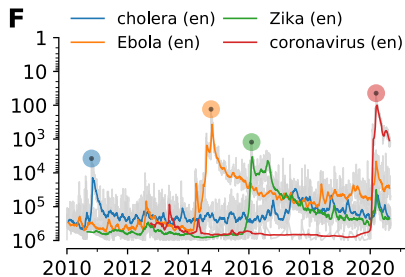
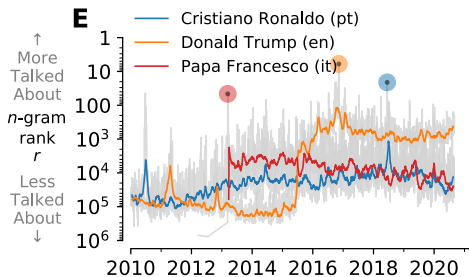
Download Chart

Download Data

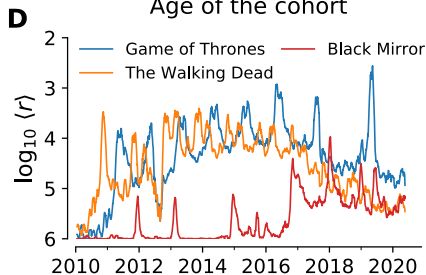
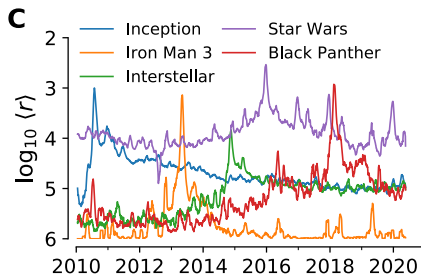
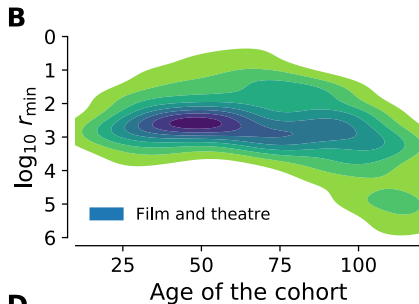
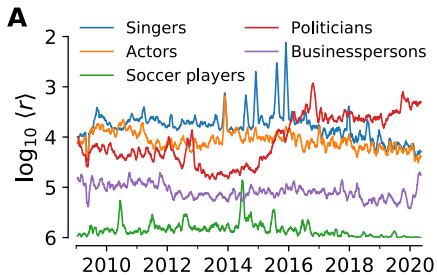
“Storywrangler: A massive exploratorium for sociolinguistic, cultural, socioeconomic, and political timelines using Twitter”, Alshaabi et al., In Review, 2021.



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Nicolas-Patience Basabose R.G.T.A.B.W.B. 1st @MrBasa... · Nov 23

Gooooaaaal!!!! Kante



1



yabadabadu @g0lolur · Nov 23

GOOOOAAAALLLLLL MAHREEEEZZZZZZ



OBRADOVIĆ @AtAvratSloukass · Nov 23

DE BRUYNEEEEE

GOOOOAAAALLLLLL



4



Lee White @LWFootballTips · Nov 27

Gooooaaaal!!!! !!!!!

Leipzig score !!!!!



Nicolas-Patience Basabose R.G.T.A.B.W.B. 1st @MrBasa... · Nov 27

Gooooaaaal!!!! Kovačić finally scores.



بشينه الكواري @Butha1na · Nov 26

!!!صوتي راح!! GOOOOAAAALLLLLL



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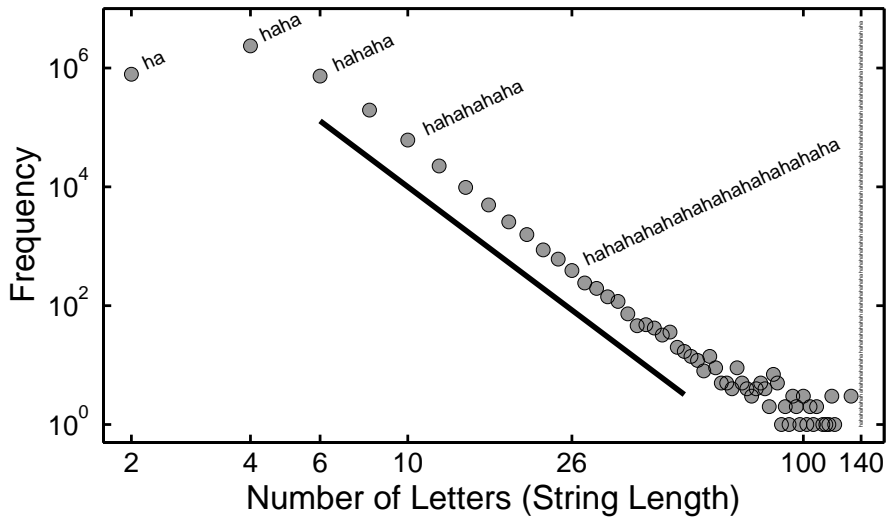
Hahahahaha, Duuuuude, Yeeessss!: A two-parameter characterization of stretchable words and the dynamics of mistypings and misspellings

Tyler J. Gray,^{1,*} Christopher M. Danforth,^{1,†} and Peter Sheridan Dodds^{1,‡}

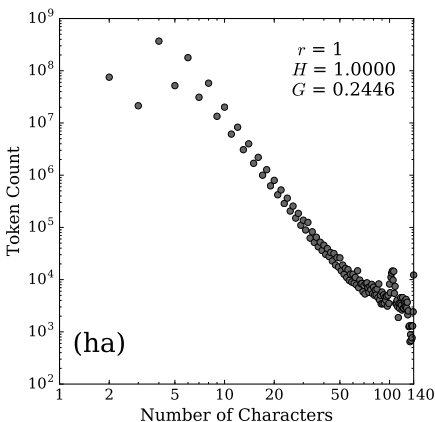
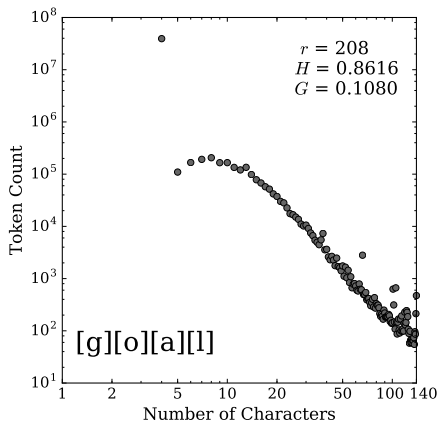
¹*Vermont Complex Systems Center, Computational Story Lab,
Department of Mathematics & Statistics, The University of Vermont, Burlington, VT 05401.*

(Dated: July 8, 2019)

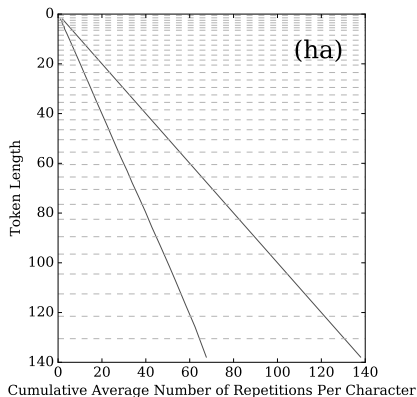
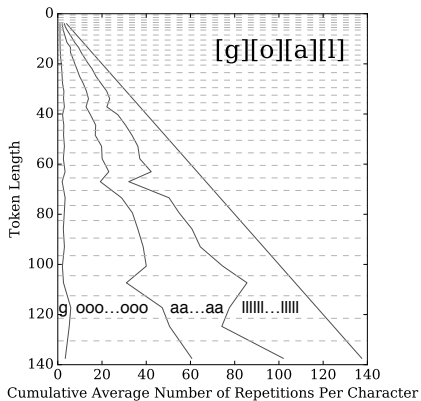
Stretched words like ‘heellllp’ or ‘heyyyyy’ are a regular feature of spoken language, often used to emphasize or exaggerate the underlying meaning of the root word. While stretched words are rarely found in formal written language and dictionaries, they are prevalent within social media. In this paper, we examine the frequency distributions of ‘stretchable words’ found in roughly 100 billion tweets authored over an 8 year period. We introduce two central parameters, ‘balance’ and ‘stretch’, that capture their main characteristics, and explore their dynamics by creating visual tools we call ‘balance plots’ and ‘spelling trees’. We discuss how the tools and methods we develop here could be used to study the statistical patterns of mistypings and misspellings, along with the potential applications in augmenting dictionaries, improving language processing, and in any area where sequence construction matters, such as genetics.



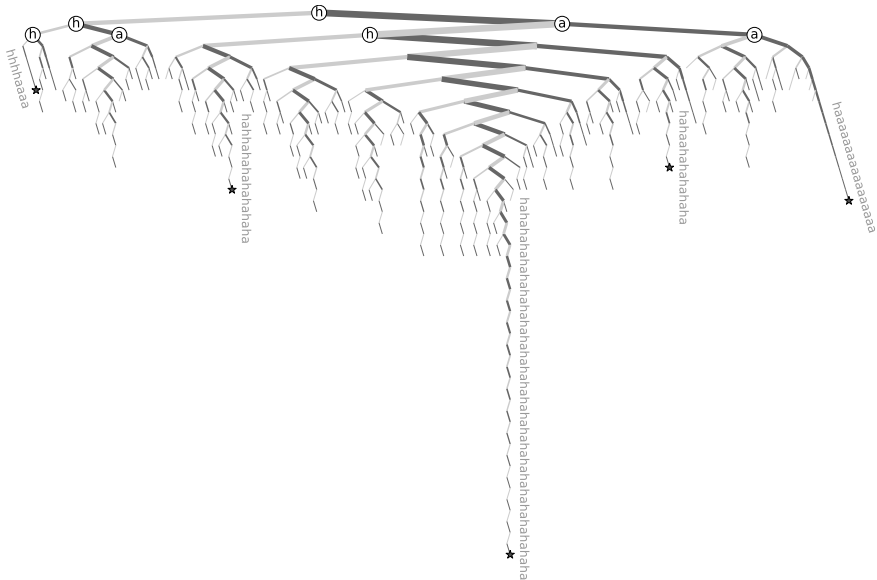
Tyler Gray et al. "Hahahahaha, Duuuuude, Yeeessss!: A two-parameter characterization of stretchable words and the dynamics of mistypings and misspellings" 2019



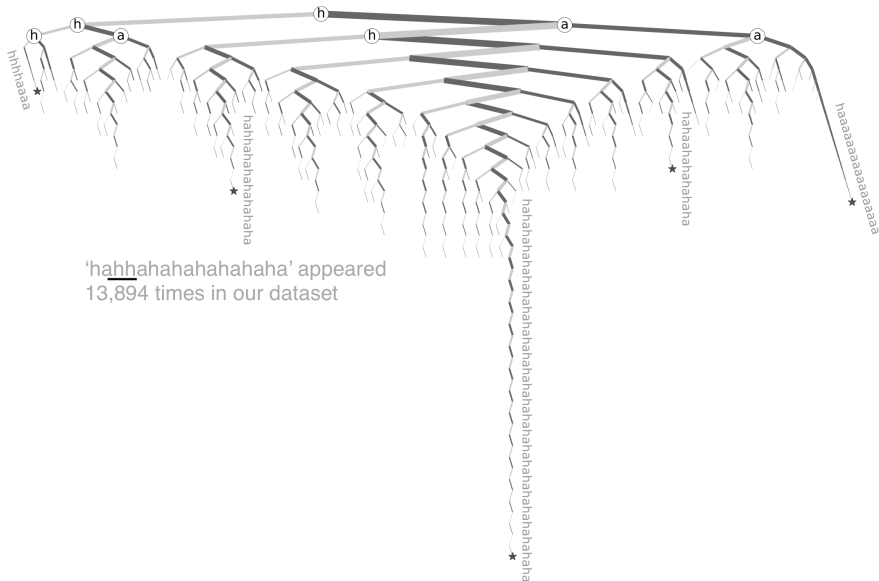
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Tyler Gray et al. "Hahahahaha, Duuuuude, Yeeessss!: A two-parameter characterization of stretchable words and the dynamics of mistypings and misspellings" 2019



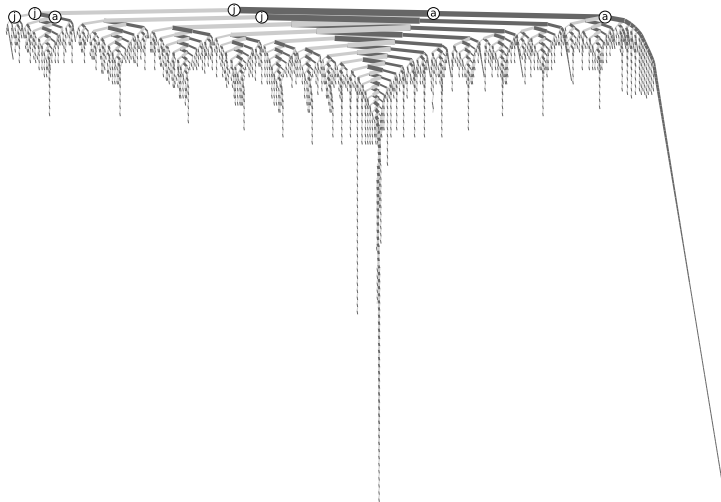
Tyler Gray et al. "Hahahahaha, Duuuuude, Yeeessss!: A two-parameter characterization of stretchable words and the dynamics of mistypings and misspellings" 2019



Tyler Gray et al. "Hahahahaha, Duuuuude, Yeeessss!: A two-parameter characterization of stretchable words and the dynamics of mistypings and misspellings" 2019

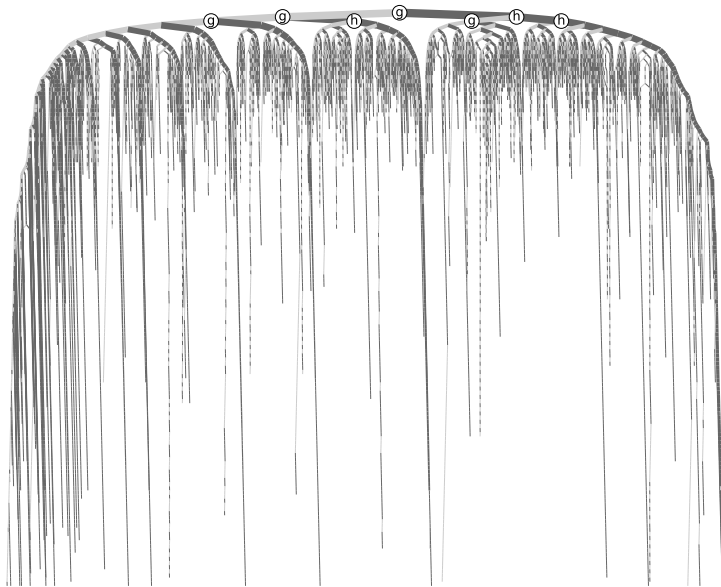
The tree of laughter is language independent (Spanish)

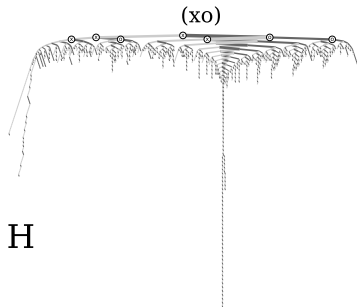
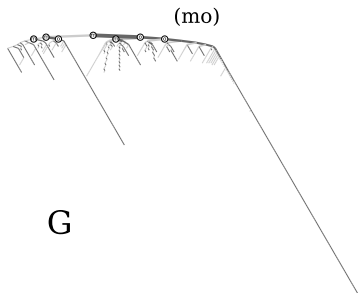
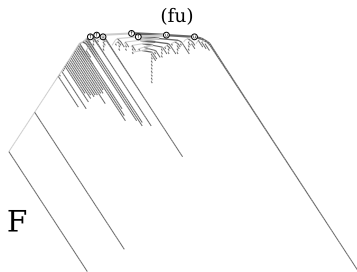
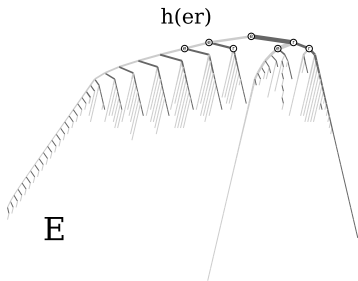
(ja)



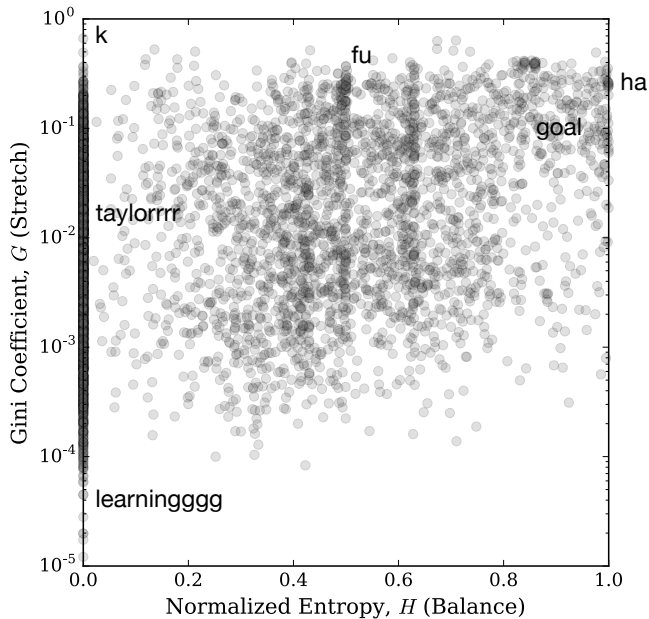
Tyler Gray et al. "Hahahahaha, Duuuuude, Yeeessss!: A two-parameter characterization of stretchable words and the dynamics of mistypings and misspellings" 2019

The fractal willow tree of screaming: aaaaaaaaaggggggggggHHHHHHHHHHH!!!!!!!!!!





Tyler Gray et al. "Hahahahaha, Duuuuude, Yeeessss!: A two-parameter characterization of stretchable words and the dynamics of mistypings and misspellings" 2019



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language assessment by Mechanical Turk

Measuring the happiness of words

Goal:

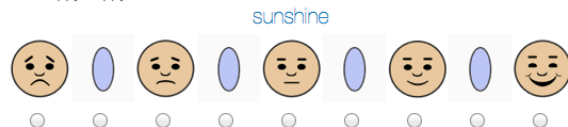
- Our overall aim is to assess how people feel about individual words.
- With this particular survey, we are focusing on the dual emotions of happiness and sadness.

Time required:

- 6 to 8 minutes.

Instructions and Example:

- You are to rate individual words on a 9 point unhappy-happy scale:



1. Read the word, ("sunshine" in the above example) and observe your emotional response.
2. Click on the face that best corresponds to your response.

language assessment by Mechanical Turk

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valence rank	word	valence	std dev	twitter rank	g-books rank	nyt rank	lyrics rank
1	laughter	8.50	0.93	3600	—	—	1728
2	happiness	8.44	0.97	1853	2458	—	1230
3	love	8.42	1.11	25	317	328	23
4	happy	8.30	0.99	65	1372	1313	375
5	laughed	8.26	1.16	3334	3542	—	2332
6	laugh	8.22	1.37	1002	3998	4488	647
7	laughing	8.20	1.11	1579	—	—	1122
8	excellent	8.18	1.10	1496	1756	3155	—
9	laughs	8.18	1.16	3554	—	—	2856
10	joy	8.16	1.06	988	2336	2723	809
11	successful	8.16	1.08	2176	1198	1565	—
12	win	8.12	1.08	154	3031	776	694
13	rainbow	8.10	0.99	2726	—	—	1723
14	smile	8.10	1.02	925	2666	2898	349
15	won	8.10	1.22	810	1167	439	1493
16	pleasure	8.08	0.97	1497	1526	4253	1398
17	smiled	8.08	1.07	—	3537	—	2248
18	rainbows	8.06	1.36	—	—	—	4216
19	winning	8.04	1.05	1876	—	1426	3646
20	celebration	8.02	1.53	3306	—	2762	4070
21	enjoyed	8.02	1.53	1530	2908	3502	—
22	healthy	8.02	1.06	1393	3200	3292	4619
23	music	8.02	1.12	132	875	167	374
24	celebrating	8.00	1.14	2550	—	—	—
25	congratulations	8.00	1.63	2246	—	—	—
26	weekend	8.00	1.29	317	—	833	2256
27	celebrate	7.98	1.15	1606	—	3574	2108
28	comedy	7.98	1.15	1444	—	2566	—
29	jokes	7.98	0.98	2812	—	—	3808
30	rich	7.98	1.32	1625	1221	1469	890
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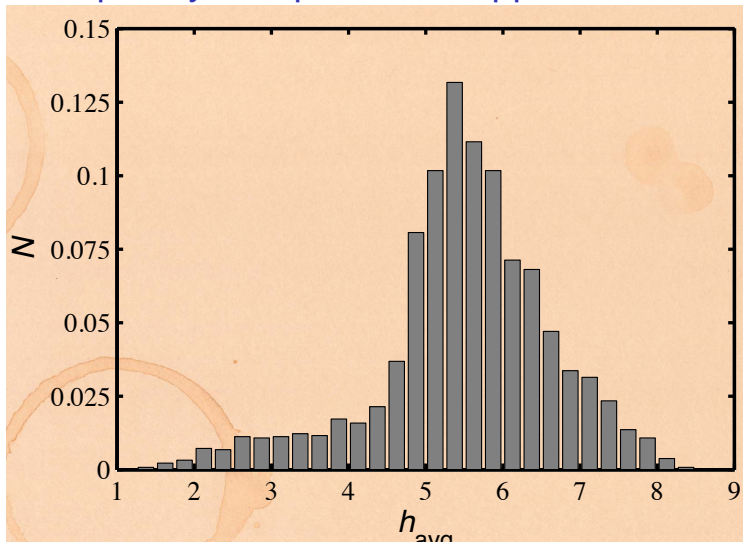
language assessment by Mechanical Turk

valence rank	word	valence	std dev	twitter rank	g-books rank	nyt rank	lyrics rank
.
.
10193	violence	1.86	1.05	4299	1724	1238	2016
10194	cruel	1.84	1.15	2963	—	—	1447
10195	cry	1.84	1.28	1028	3075	—	226
10196	failed	1.84	1.00	2645	1618	1276	2920
10197	sickness	1.84	1.18	4735	—	—	3782
10198	abused	1.83	1.31	—	—	—	4589
10199	tortured	1.82	1.42	—	—	—	4693
10200	fatal	1.80	1.53	—	4089	—	3724
10201	killings	1.80	1.54	—	—	4914	—
10202	murdered	1.80	1.63	—	—	—	4796
10203	war	1.80	1.41	468	175	291	462
10204	kills	1.78	1.23	2459	—	—	2857
10205	jail	1.76	1.02	1642	—	2573	1619
10206	terror	1.76	1.00	4625	4117	4048	2370
10207	die	1.74	1.19	418	730	2605	143
10208	killing	1.70	1.36	1507	4428	1672	998
10209	arrested	1.64	1.01	2435	4474	1435	—
10210	deaths	1.64	1.14	—	—	2974	—
10211	raped	1.64	1.43	—	—	—	4528
10212	torture	1.58	1.05	3175	—	—	3126
10213	died	1.56	1.20	1223	866	208	826
10214	kill	1.56	1.05	798	2727	2572	430
10215	killed	1.56	1.23	1137	1603	814	1273
10216	cancer	1.54	1.07	946	1884	796	3802
10217	death	1.54	1.28	509	307	373	433
10218	murder	1.48	1.01	2762	3110	1541	1059
10219	terrorism	1.48	0.91	—	—	3192	—
10220	rape	1.44	0.79	3133	—	4115	2977
10221	suicide	1.30	0.84	2124	4707	3319	2107
10222	terrorist	1.30	0.91	3576	—	3026	—

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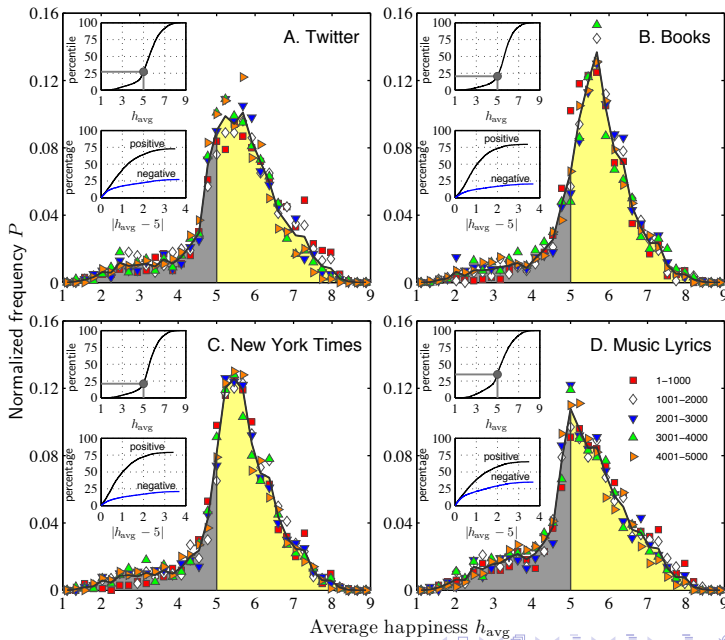
A Frequency-Independent Happiness Bias



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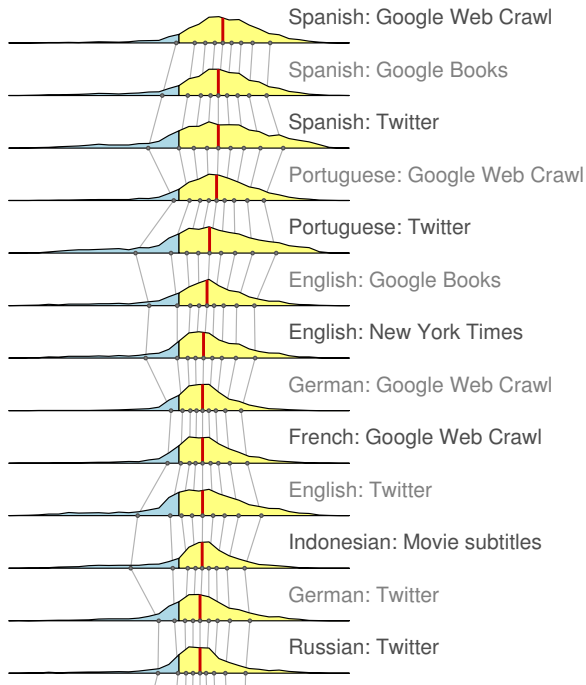
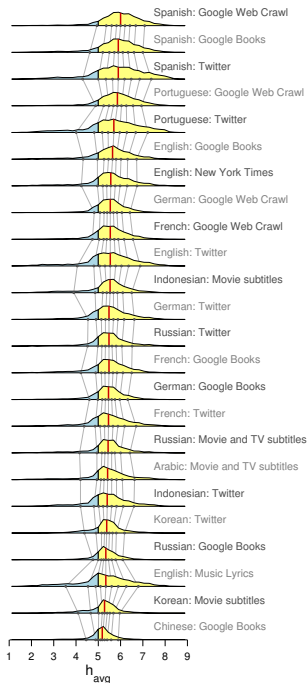
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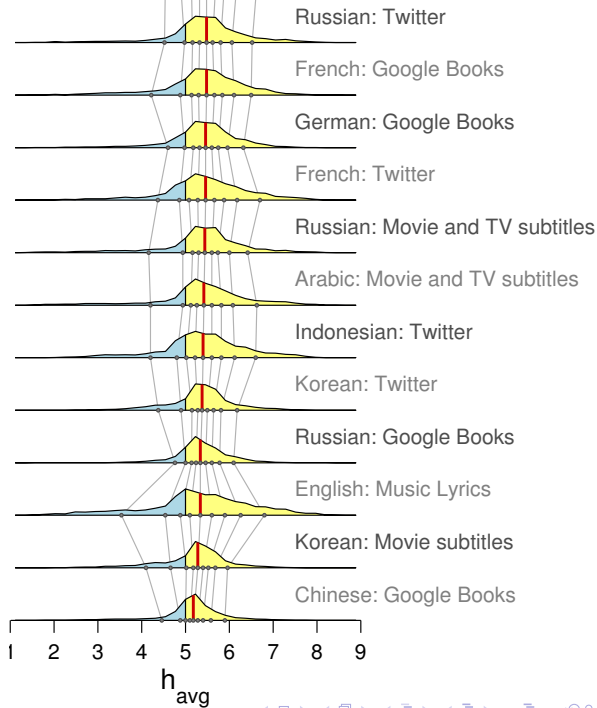
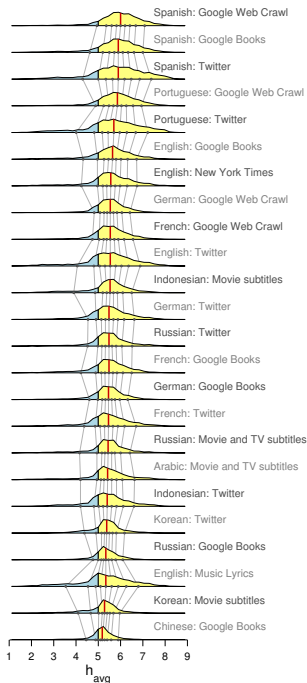
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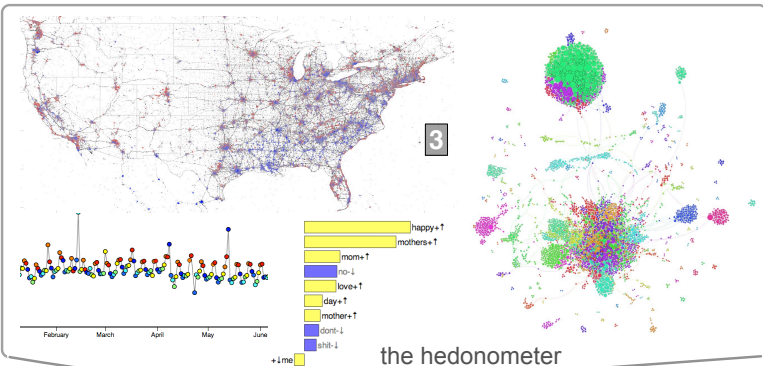
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Mental Health

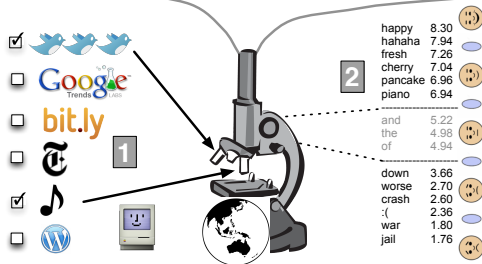
Shapes of Stories



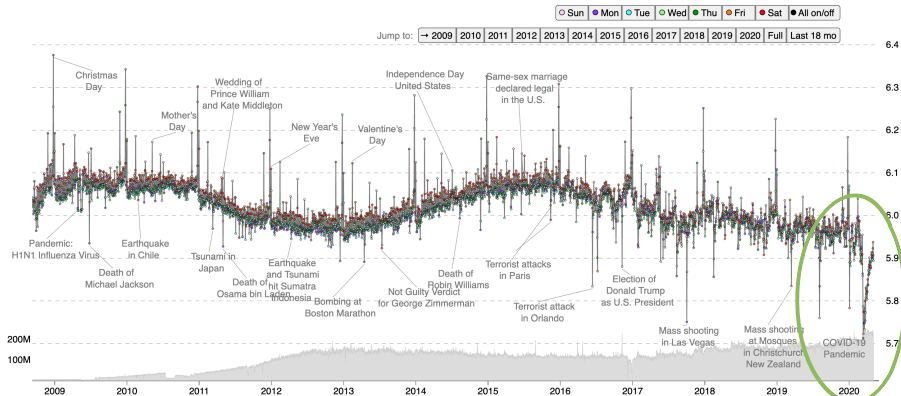




the hedonometer



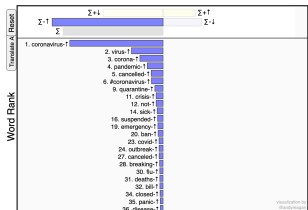
The Pandemic Triggered Sustained Global Sadness on Social Media: <http://hedonometer.org>



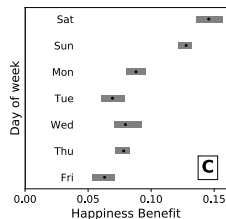
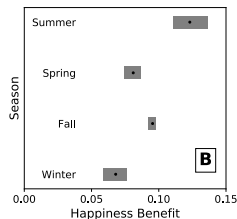
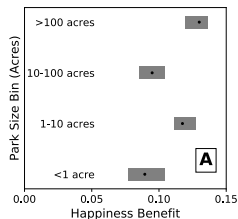
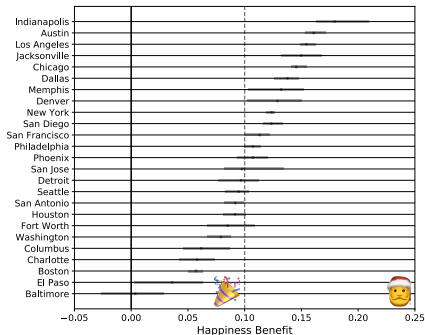
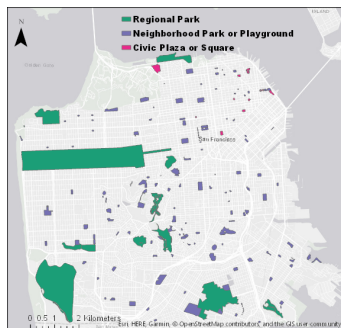
Thursday, March 12, 2020

The COVID-19 Pandemic escalates globally. National Basketball Association (NBA) in the US suspends season, actor Tom Hanks tests positive, stock markets fall. Average happiness: 5.79

What's making this day sadder than the last seven days:



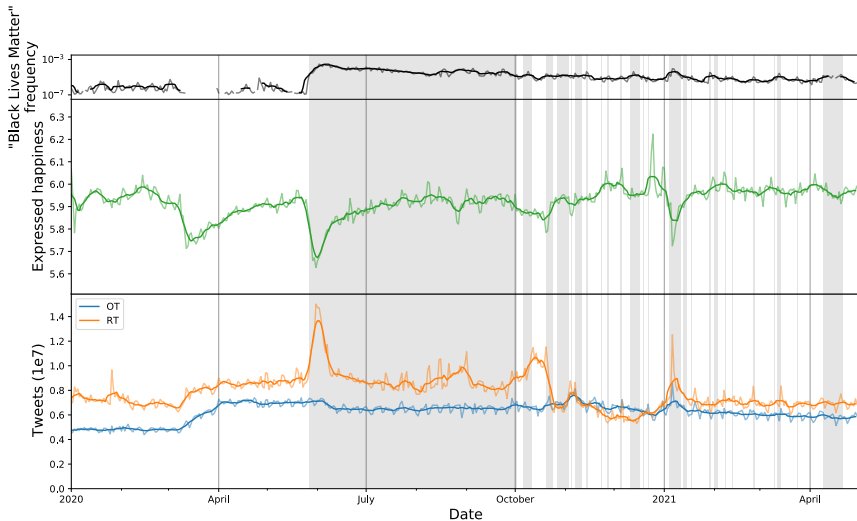
Estimating the happiness benefits of nature



Schwartz et al., "Exposure to urban parks improves affect and reduces negativity on Twitter." 2019.

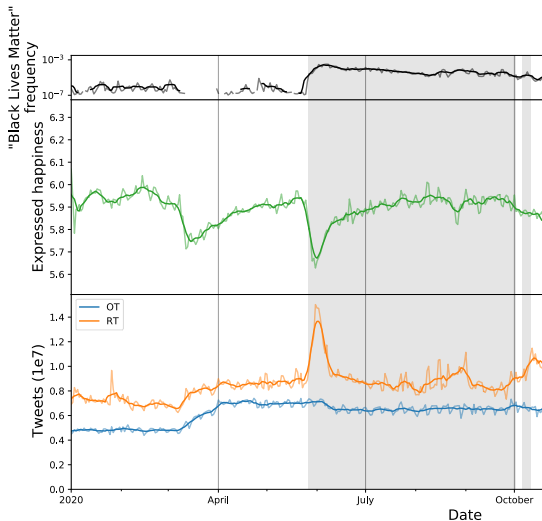
Schwartz et al., "Gauging the happiness benefit of US urban parks through Twitter." . 2020.

Black Lives Matter



"Say Their Names: Collective Attention Toward Black Victims of Police Violence Following the Death of George Floyd". Wu et. al., In Preparation. 2021.

Black Lives Matter

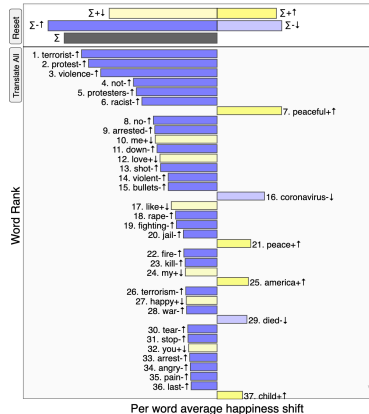


Sunday, May 31, 2020

Protests against police brutality in response to the death of George Floyd

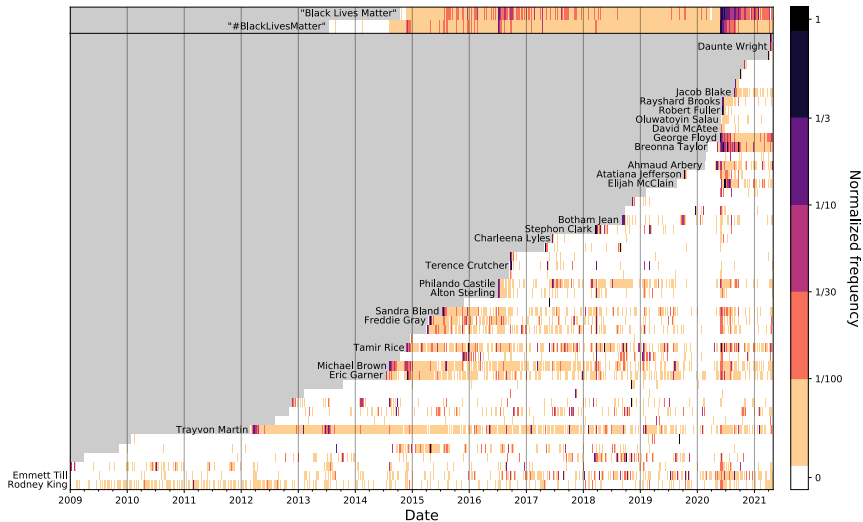
Average happiness: 5.63

What's making this day sadder than the last seven days:

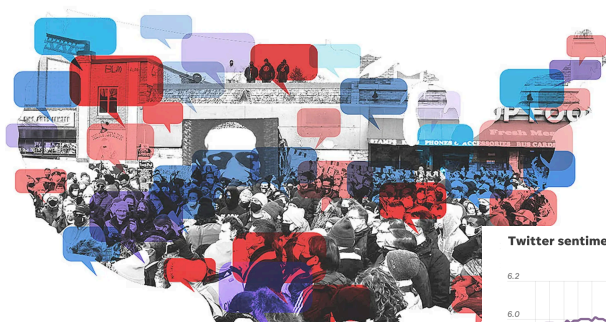


"Say Their Names: Collective Attention Toward Black Victims of Police Violence Following the Death of George Floyd". Wu et. al., In Preparation. 2021.

Black Lives Matter



"Say Their Names: Collective Attention Toward Black Victims of Police Violence Following the Death of George Floyd". Wu et al., In Preparation. 2021.



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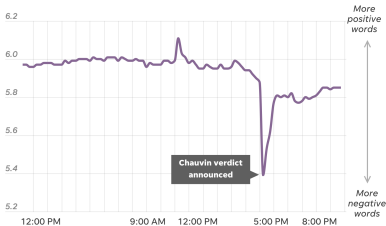
The words Americans used after Chauvin verdict reveal our political divide

USA TODAY analyzed the volume and tone of talk by Congress, social media, news outlets and readers as the man who killed George Floyd was convicted.

Aleszu Bajak, Javier Zarracina and Dan Keemahill, USA TODAY

Published 6:01 AM EDT Apr. 27, 2021 | Updated 8:49 AM EDT Apr. 28, 2021

Twitter sentiment on April 20, 2021

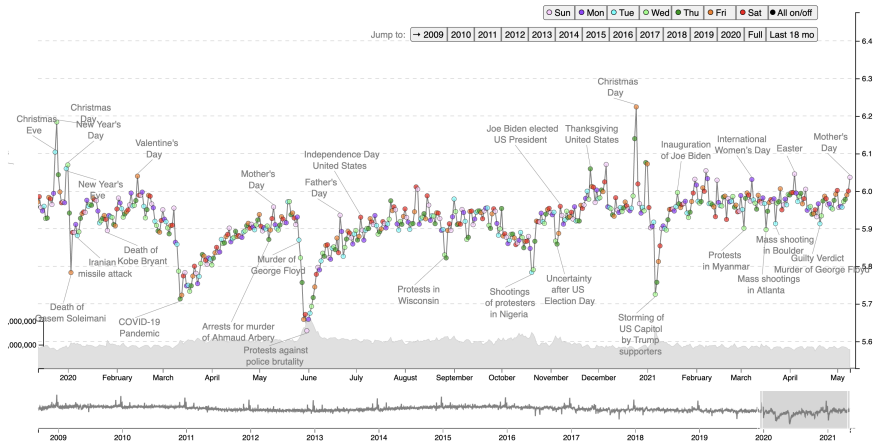


SOURCE University of Vermont's Computational Story Lab.

Capitol Insurrection

Average Happiness for Twitter

All Tweets in English.



Capitol Insurrection

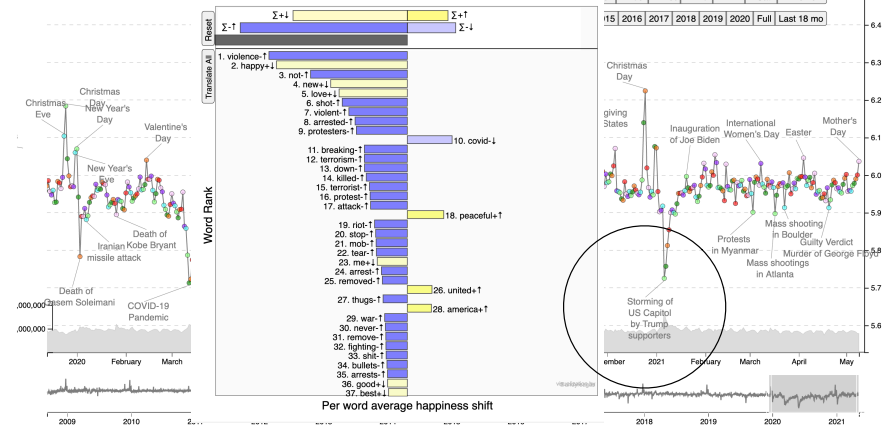
Average Happiness for Twitter Wednesday, January 6, 2021

All Tweets in English.

Storming of the US Capitol by Trump supporters.

Average happiness: 5.73

What's making this day sadder than the last seven days:

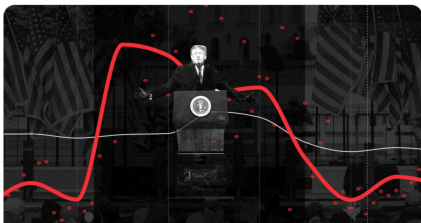


Capitol Insurrection



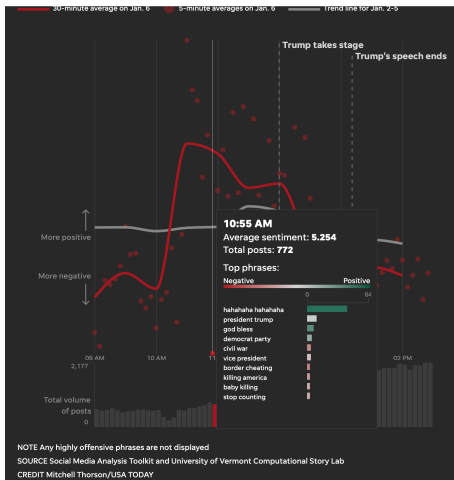
Savannah Behrmann
@SavBehrmannDC

The @usatoday article just cited by House managers during the trial: During Trump's speech, mentions of "civil war" on Parler surged to nearly four times the level the phrase was being shared before it.

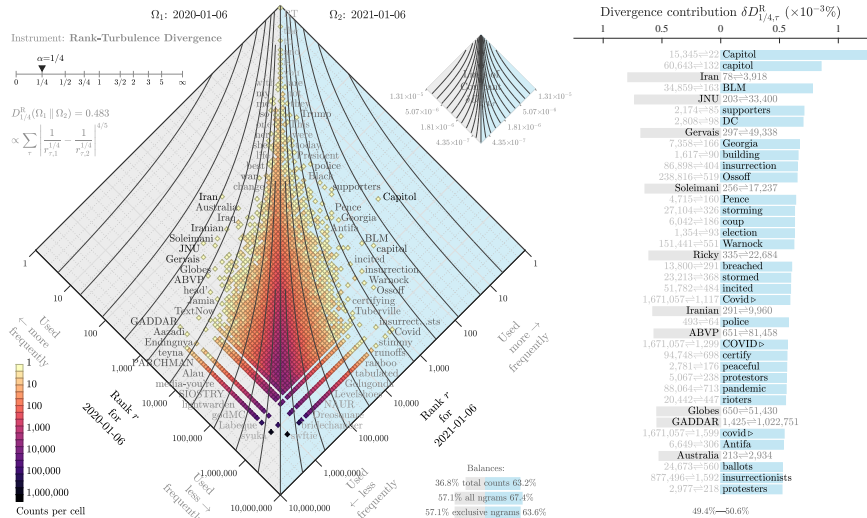


When Trump started his speech before the Capitol riot, talk on Parler turned to...
Text analysis shows calls for civil war intensified on the right-leaning social media app Parler as Trump urged his followers to march on the Capitol.
usatoday.com

12:14 PM · Feb 11, 2021 · Twitter Web App



Capitol Insurrection



Sociotechnical Instruments

StoryWrangler

Stretchable Words

The Hedonometer

Food & Activity

Mental Health

Shapes of Stories

Sociotechnical Instruments

StoryWrangler

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The Hedonometer

Food & Activity

Mental Health

Shapes of Stories

RESEARCH ARTICLE

The Lexicocalorimeter: Gauging public health through caloric input and output on social media

Sharon E. Alajajian^{1,2,3,4*}, Jake Ryland Williams^{1,2,3,4,5}, Andrew J. Reagan^{1,2,3,4}, Stephen C. Alajajian⁶, Morgan R. Frank⁷, Lewis Mitchell⁸, Jacob Lahne⁹, Christopher M. Danforth^{1,2,3,4}, Peter Sheridan Dodds^{1,2,3,4*}

Alajajian et al., "The Lexicocalorimeter: Gauging public health through caloric input and output on social media" PLoS ONE, 2017

RESEARCH ARTICLE

The Lexicocalorimeter: Gauging public health through caloric input and output on social media

Sharon E. Alajajian^{1,2,3,4*}, Jake Ryland Williams^{1,2,3,4,5}, Andrew J. Reagan^{1,2,3,4}, Stephen C. Alajajian⁶, Morgan R. Frank⁷, Lewis Mitchell⁸, Jacob Lahne⁹, Christopher M. Danforth^{1,2,3,4}, Peter Sheridan Dodds^{1,2,3,4*}

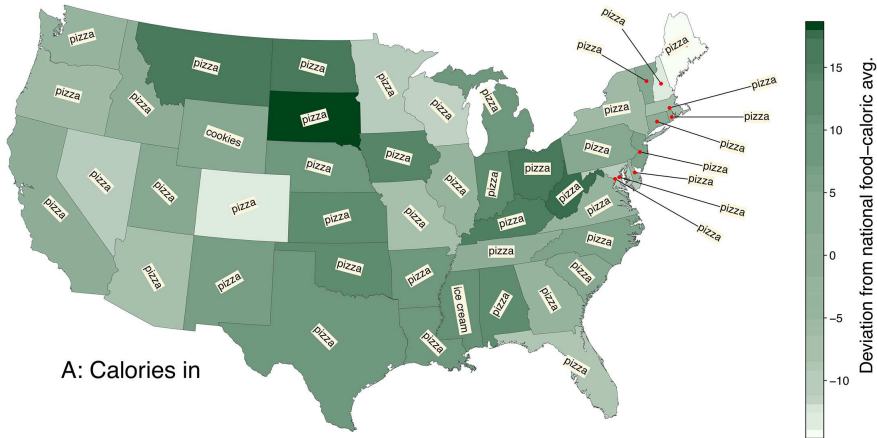
Science

Twitter can tell which states love jogging and which are eating hot dogs

By **Aleszu Bajak**

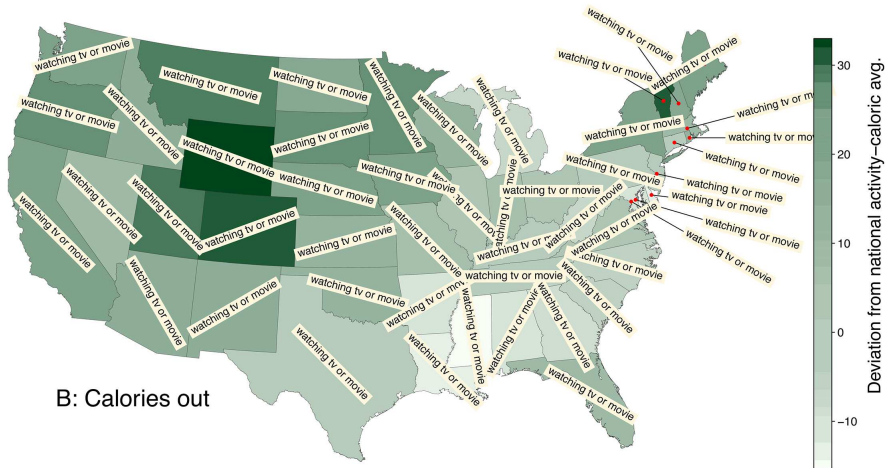
July 29, 2015

Alajajian et al., "The Lexicocalorimeter: Gauging public health through caloric input and output on social media" PLoS ONE, 2017



A: Calories in

Alajajian et al., "The Lexicocalorimeter: Gauging public health through caloric input and output on social media" PLoS ONE, 2017



Alajajian et al., "The Lexicocalorimeter: Gauging public health through caloric input and output on social media" PLoS ONE, 2017

Why Vermont consumes more calories on average:

Average US calories = 267.92

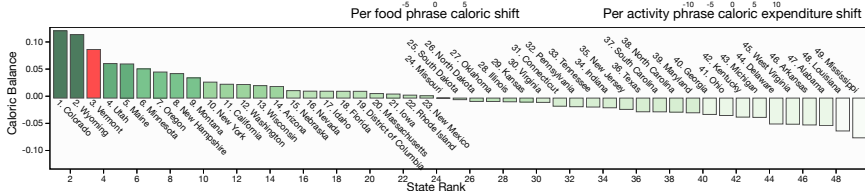
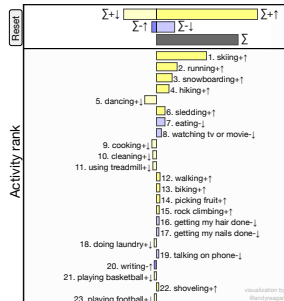
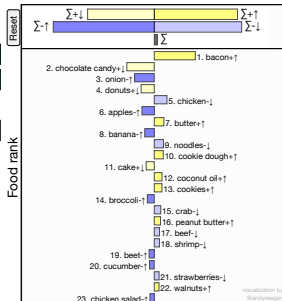
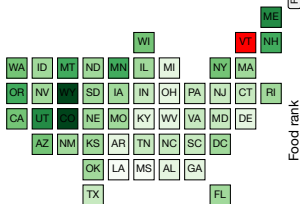
Vermont calories = 268.66 (Rank 29 out of 49)

Why Vermont expends more calories on average:

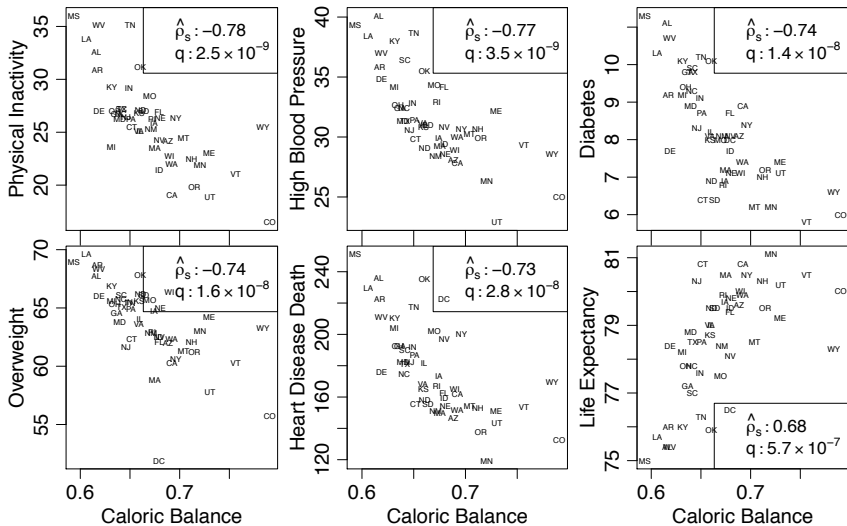
Average US caloric expenditure = 176.60

Vermont caloric expenditure = 203.22 (Rank 3 out of 49)

Caloric Balance



Alajajian et al.,
 "The Lexicocalorimeter: Gauging public health through caloric input and output on social media"
 PLoS ONE, 2017



Alajajian et al.,
 "The Lexicocalorimeter: Gauging public health through caloric input and output on social media"
 PLoS ONE, 2017

Sociotechnical Instruments

StoryWrangler

Stretchable Words

The Hedonometer

Food & Activity

Mental Health

Shapes of Stories

Sociotechnical Instruments

StoryWrangler

Stretchable Words

The Hedonometer

Food & Activity

Mental Health

Shapes of Stories

Research Questions

1. Any difference?

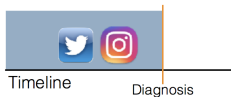


Clinical Population

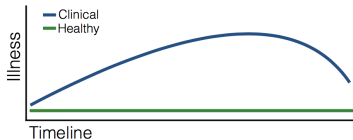


Healthy Population

2. Pre-diagnosis difference?



3. Illness timeline?



Data Collection: Descriptives

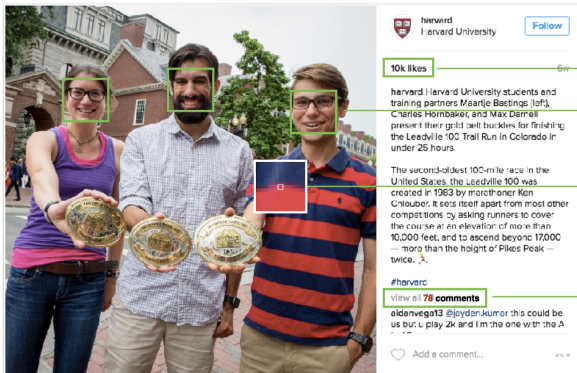
Total sample (Clinical sample)

	Participants	Posts	Posts/Person
Instagram: Depression	166 (71)	43,950 (24,811)	265 (349)
Twitter: Depression	204 (105)	279,951 (164,218)	1373 (1564)
Twitter: PTSD	174 (63)	243,775 (91,589)	1401 (1564)



Feature extraction/engineering

Happiness &
Health



Sociotechnical
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Mental Health
Shapes of Stories

Barrick et al (2002); Bruce & Hoff (1994); Carruthers et al (2010); DSM-IV (2000)

Frame 33/47





Feature extraction/engineering

 **Harvard University** 
@Harvard 

Compared to a century ago, the world is much better off, says Harvard scholar Steven Pinker



Giving 'good' a rigorous inspection
Harvard scholars Joshua Greene and Steven Pinker were joined by Princeton philosopher Peter Singer in a conversation examining how to be moral — and happy.
news.harvard.edu

RETWEETS 18 **LIKES** 29 

12:02 PM - 3 Nov 2016

  18  29 

Sentiment

world	6.52
better	7.00
off	4.02
scholar	6.48

Parts of Speech

noun	4
article	2
verb	3
prepos.	3

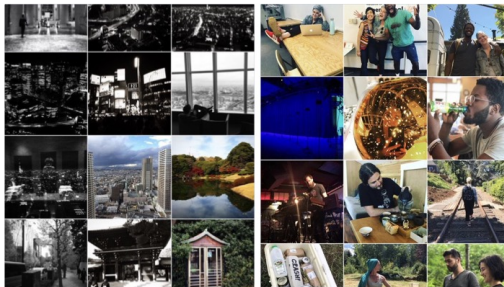
Retweets
Likes



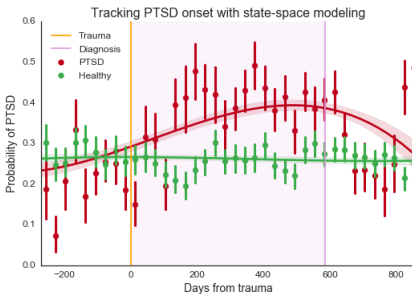
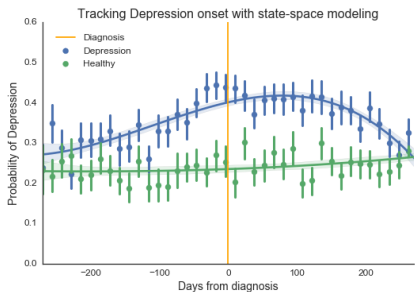
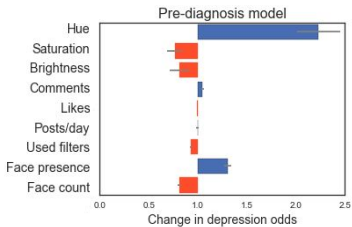
Amber Case ✓
@caseorganic



Instagram photos reveal predictive markers of depression:
epjdatascience.springeropen.com/articles/10.11... My feed at height of my depression vs. now. #depression



8/8/17, 1:02 PM



Reece & Danforth, "Instagram photos reveal predictive markers of depression." EPJ Data Science 2017

Reece et al. "Forecasting the onset & course of mental illness with Twitter data." Scientific Reports 2017

Sociotechnical Instruments

StoryWrangler

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The Hedonometer

Food & Activity

Mental Health

Shapes of Stories

Sociotechnical Instruments

StoryWrangler

Stretchable Words

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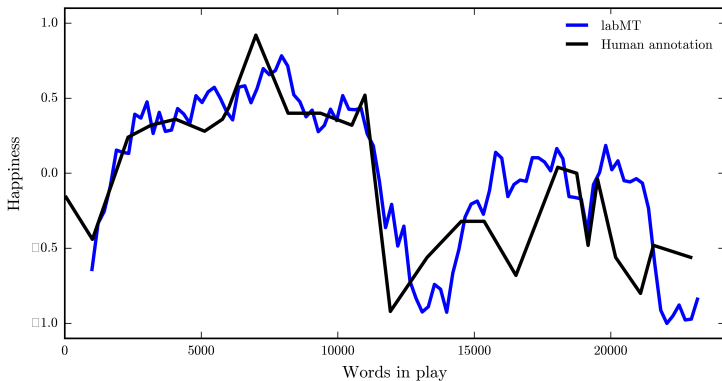
Mental Health

Shapes of Stories

Romeo & Juliet

Sociotechnical Instruments

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Stretchable Words
The Hedonometer
Food & Activity
Mental Health
Shapes of Stories



Jockers, Reagan



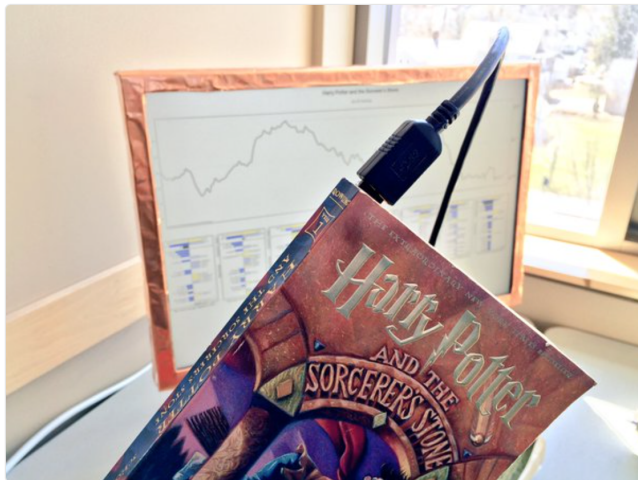
UVM
@uvmvermont



Following

Happiness &
Health

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

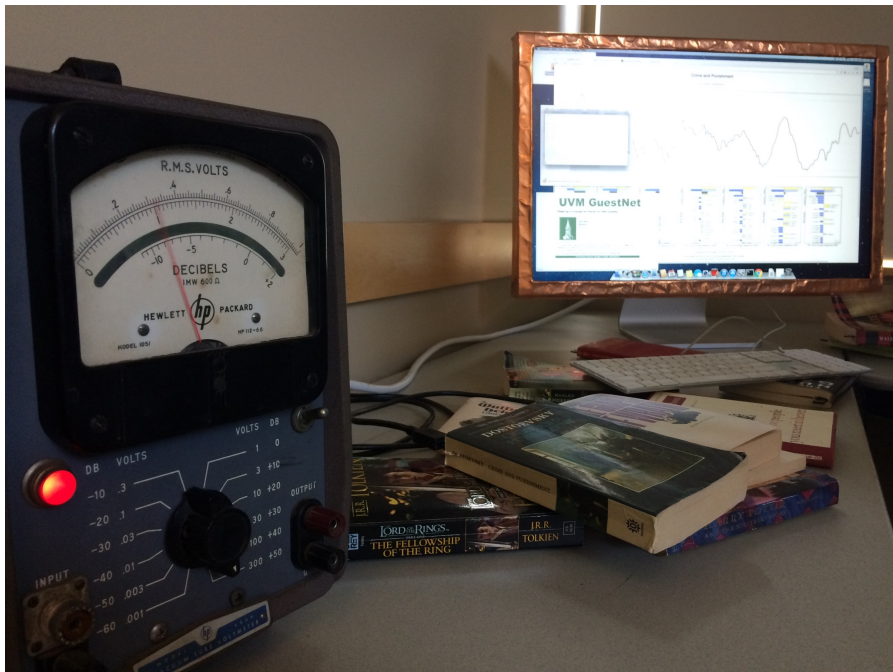


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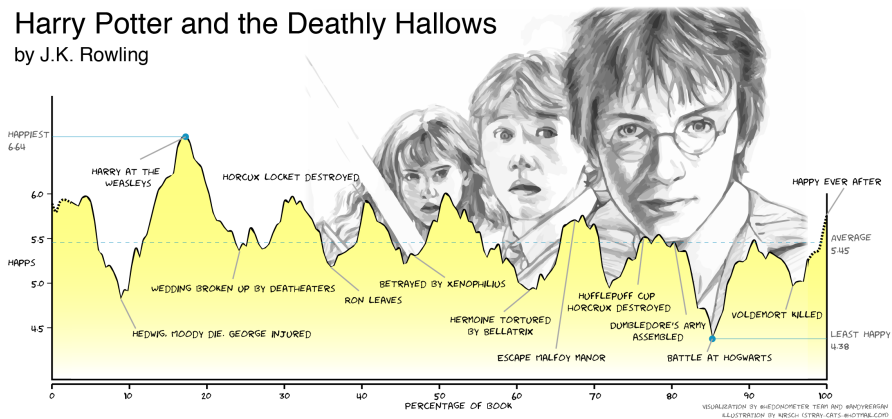
Frame 38/47





Harry Potter and the Deathly Hallows

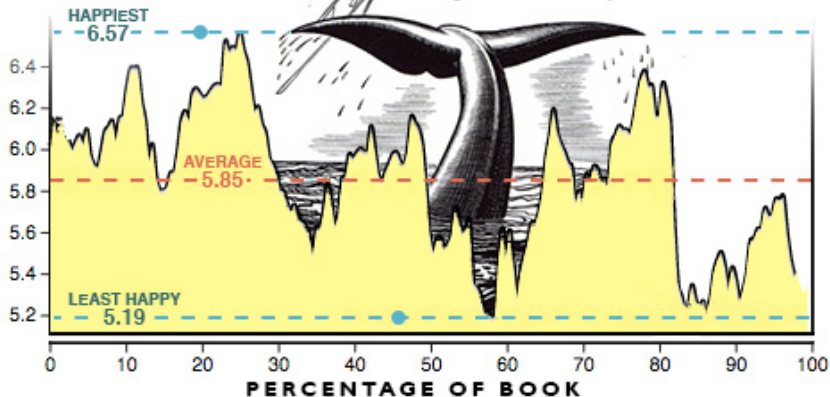
by J.K. Rowling



Reagan et al "The emotional arcs of stories are dominated by six basic shapes" EPJ Data Science 2016

Moby-Dick

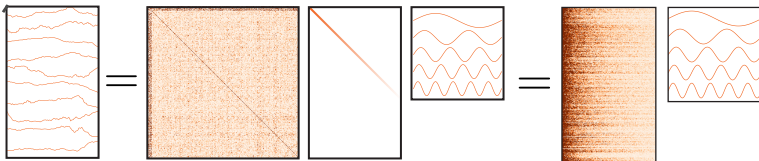
by Herman Melville



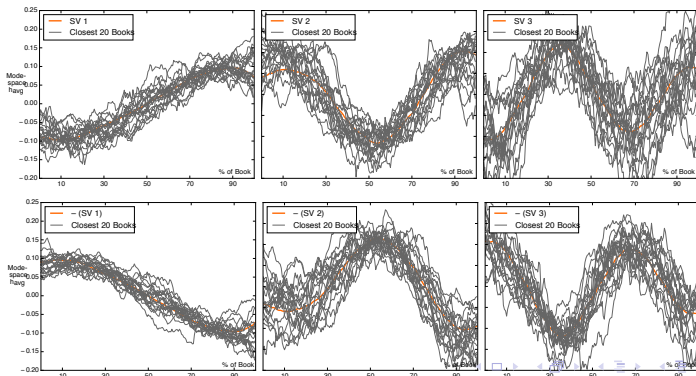
Moby-Dick illustration by Rockwell Kent, 1930

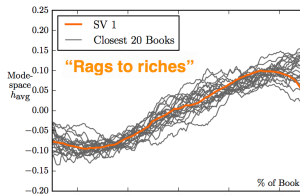
<http://whyfiles.org/2015/in-10-languages-happy-words-beat-sad-ones/>

SVD Matrix Decomposition



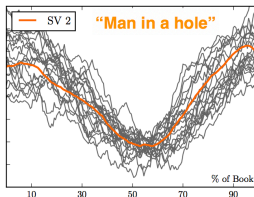
$$A = U \Sigma V^T = W V^T$$





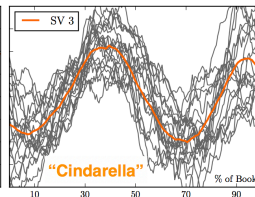
Top Stories:

- 1: Alice's Adventures Under Ground : Bein... (19002, 333)
<http://hedonometer.org/books/v3/19002/>
- 2: Dreams (1439, 169)
<http://hedonometer.org/books/v3/1439/>
- 3: The Human Comedy: Introductions and A... (1968, 175)
<http://hedonometer.org/books/v3/1968/>
- 4: The Ballad of Reading Gaol (301, 227)
<http://hedonometer.org/books/v3/301/>
- 5: The History Of The Decline And Fall O... (25717, 1697)
<http://hedonometer.org/books/v3/25717/>



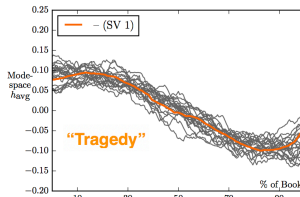
Top Stories:

- 1: Typhoon (1142, 219)
<http://hedonometer.org/books/v3/1142/>
- 2: Teddy Bears (51199, 944)
<http://hedonometer.org/books/v3/51199/>
- 3: The Autobiography of St. Ignatius (24534, 201)
<http://hedonometer.org/books/v3/24534/>
- 4: The Magic of Oz (419, 186)
<http://hedonometer.org/books/v3/419/>
- 5: Fundamental Principles of the Metaphy... (5682, 1148)
<http://hedonometer.org/books/v3/5682/>



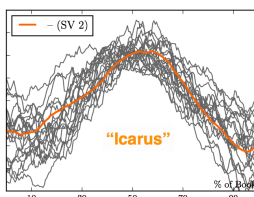
Top Stories:

- 1: The Consolation of Philosophy (14328, 1188)
<http://hedonometer.org/books/v3/14328/>
- 2: The Scarecrow of Oz (957, 162)
<http://hedonometer.org/books/v3/957/>
- 3: A Christmas Carol (24022, 188)
<http://hedonometer.org/books/v3/24022/>
- 4: Sophist (1735, 162)
<http://hedonometer.org/books/v3/1735/>
- 5: A Christmas Carol in Prose; Being a G... (46, 4602)
<http://hedonometer.org/books/v3/46/>



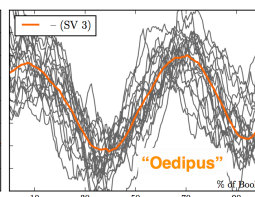
Top Stories:

- 1: A Primary Reader: Old-time Stories, F... (7841, 307)
<http://hedonometer.org/books/v3/7841/>
- 2: The House of the Vampire (17144, 188)
<http://hedonometer.org/books/v3/17144/>
- 3: Savrola: A Tale of the Revolution in L... (50906, 682)
<http://hedonometer.org/books/v3/50906/>
- 4: Romeo and Juliet (1777, 186)
<http://hedonometer.org/books/v3/1777/>
- 5: The Dance (by An Antiquary): Historic ... (17289, 222)
<http://hedonometer.org/books/v3/17289/>



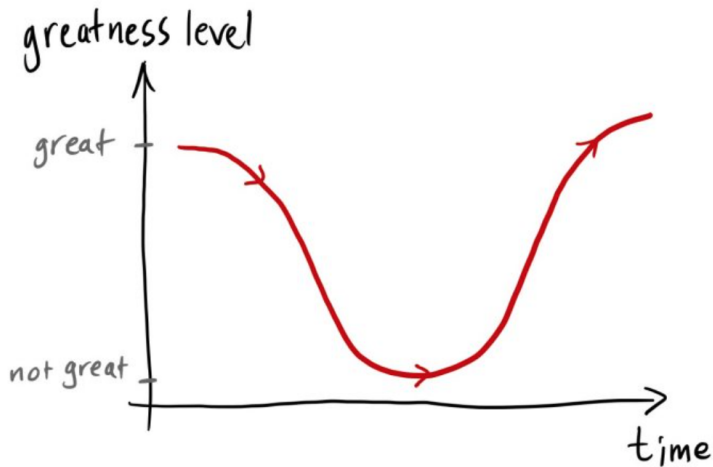
Top Stories:

- 1: The Yoga Sutras of Patanjali: The Boo... (2526, 338)
<http://hedonometer.org/books/v3/2526/>
- 2: Stories from Hans Andersen (17860, 262)
<http://hedonometer.org/books/v3/17860/>
- 3: How to Read Human Nature: Its Inner S... (41501, 278)
<http://hedonometer.org/books/v3/41501/>
- 4: The Rome Express (11451, 162)
<http://hedonometer.org/books/v3/11451/>
- 5: Chambers's Journal of Popular Literat... (51100, 312)
<http://hedonometer.org/books/v3/51100/>



Top Stories:

- 1: The Wonder Book of Bible Stories (16042, 183)
<http://hedonometer.org/books/v3/16042/>
- 2: The Serpent River (50923, 306)
<http://hedonometer.org/books/v3/50923/>
- 3: A Hero of Our Time (913, 337)
<http://hedonometer.org/books/v3/913/>
- 4: On the Nature of Things (785, 857)
<http://hedonometer.org/books/v3/785/>
- 5: The Cosmic Computer (20727, 221)
<http://hedonometer.org/books/v3/20727/>



Peter Dodds, 2017.

Sociotechnical
Instruments

StoryWrangler
Stretchable Words
The Hedonometer
Food & Activity
Mental Health
Shapes of Stories

Frame 44/47

Sociotechnical Instruments

StoryWrangler
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The Hedonometer
Food & Activity
Mental Health
Shapes of Stories

- ▶ Sociotechnical data & timeseries require new tools for analysis

Sociotechnical Instruments

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Food & Activity
Mental Health
Shapes of Stories

- ▶ Sociotechnical data & timeseries require new tools for analysis
- ▶ e.g. physically inspired lexical instruments

Sociotechnical Instruments

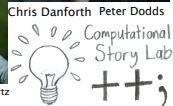
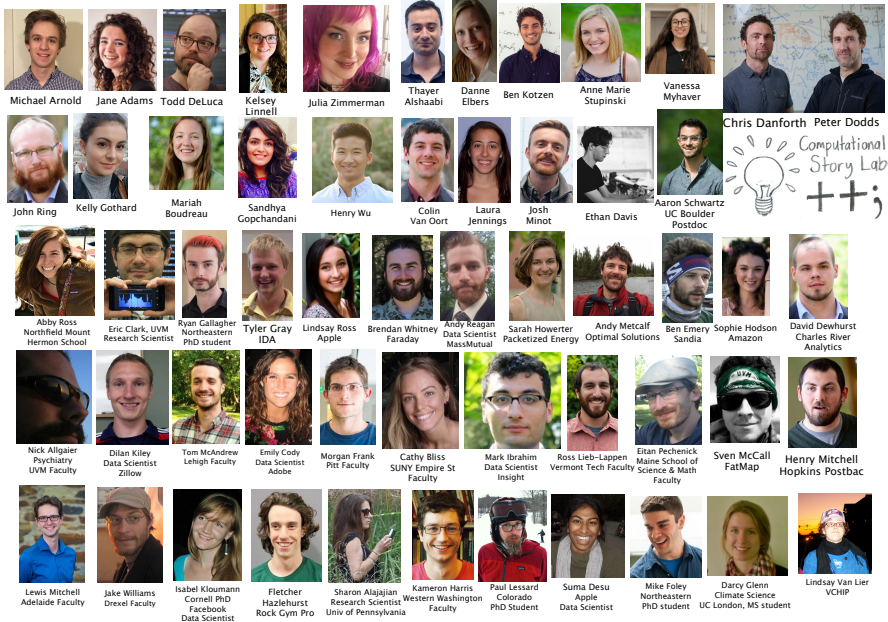
StoryWrangler
Stretchable Words
The Hedonometer
Food & Activity
Mental Health
Shapes of Stories

- ▶ Sociotechnical data & timeseries require new tools for analysis
- ▶ e.g. physically inspired lexical instruments
- ▶ StoryWrangler & Hedonometer

Sociotechnical Instruments

StoryWrangler
Stretchable Words
The Hedonometer
Food & Activity
Mental Health
Shapes of Stories

- ▶ Sociotechnical data & timeseries require new tools for analysis
- ▶ e.g. physically inspired lexical instruments
- ▶ StoryWrangler & Hedonometer
- ▶ Acknowledgments & advertisements



Thanks to NSF, MITRE, AMD, and MassMutual for funding.

