The Meaning of Meaning

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

Prof. Peter Sheridan Dodds | @peterdodds

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toxic
chaos
evil
suicide
murderer
assassinate
earthquake
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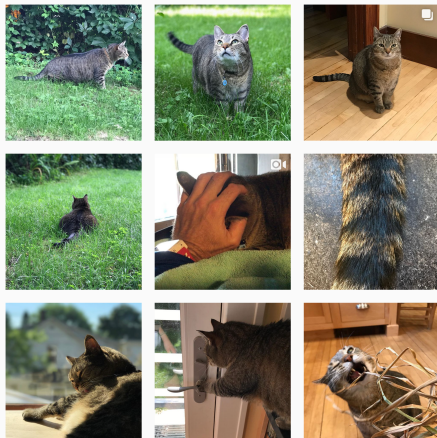Correspondences
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Dodds et al.,
, 2021. [5]

What does meaning even mean?

🎲 From the smack-tweeting Merriam-Webster:[1]
"The thing that is conveyed especially by language"

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[1]Life goal: Never get owned by a dictionary on social media

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"Abed's Uncontrollable Christmas"

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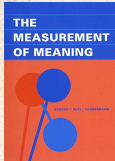
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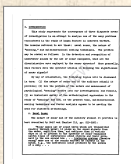
"A factorial study of complex auditory stimuli (passive sonar sounds)" ⧉
L. M. Solomon,
Unpublished doctor's dissertation, University of Illinois, , , 1954. [22]

From the introduction:

'This study represents the convergence of three disparate areas of investigation in an attempt to analyze one of the many problems encountered in the study of human factors in undersea warfare. The domains referred to are these:

- 🎲 naval sonar,
- 🎲 the nature of "meaning,"
- 🎲 and multidimensional scaling techniques.

The problem may be stated as follows: In the detection and recognition of underwater sounds by the use of sonar equipment, what are the discriminative cues employed by the sonar operator? More generally, what factors does the operator utilize in decoding the significance of sonar signals?'

From pings to things:

"The Measurement of Meaning" 🅐 ⬀
by Osgood, Suci, and Tannenbaum (1957). [14]

Osgood et al. used semantic differentials ⬀ and factor analysis to identify a basis of three variables for meaning-space:

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100s of students, 10s of things, 50 semantic differentials

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"EPA framework"

Semantic differentials from Osgood et al.: [14]

1. pleasant-unpleasant
2. repeated-varied
3. smooth-rough
4. active-passive
5. beautiful-ugly
6. definite-uncertain
7. low-high
8. powerful-weak
9. steady-fluttering
10. soft-loud
11. full-empty
12. good-bad
13. rumbling-whining
14. solid-hollow
15. clear-hazy
16. calming-exciting
17. pleasing-annoying
18. large-small
19. clean-dirty
20. resting-busy
21. dull-sharp
22. deep-shallow
23. gliding-scraping
24. familiar-strange
25. soft-hard
26. heavy-light
27. wet-dry
28. safe-dangerous
29. concentrated-diffuse
30. pushing-pulling
31. labored-easy
32. dark-bright
33. even-uneven
34. loose-tight
35. relaxed-tense
36. colorful-colorless
37. hot-cold
38. rich-thin
39. obvious-subtle
40. wide-narrow
41. deliberate-careless
42. happy-sad
43. gentle-violent
44. mild-intense
45. rounded-angular
46. slow-fast
47. rugged-delicate
48. simple-complex
49. green-red
50. masculine-feminine

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- ❧ Telegnomics: The distant sensing of knowledge (∼ distant reading [13])

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Essential dimensions captured by emotion:

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- Intention that VAD $\equiv$ EPA has become lost in literature. [2]

"An Approach to Environmental Psychology." **a** ⤤
by Mehrabian and Russell (1974). [8]

"The basic emotional impact of environments" ⤤
Mehrabian and Russell,
Perceptual and motor skills, **38**, 283–301, 1974. [9]

"Semantic differential studies, in particular, have shown that human judgments of diverse samples of stimuli can be characterized in terms of three dimensions: evaluation, activity, and potency. We have termed the corresponding emotional responses pleasure, arousal, and dominance."

"Thus, each dimension is, in principle, functionally independent of the other two; none of the three dimensions could be subsumed by the others."

Major problems with measuring essential meaning:

1. **Scale**: Originally 10s and 100s of words → now 10,000s + online rating.

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   Solution is to always perform factor analysis (SVD).

1999 ANEW study—three 1–9 scales: [4]

valence:

arousal:

dominance:

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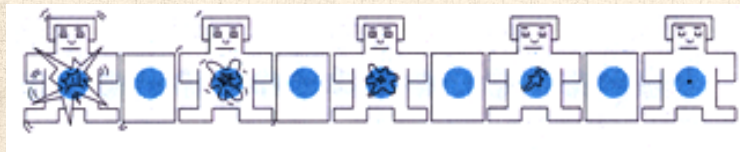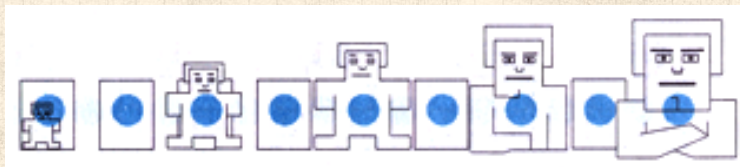Trait space
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- 🎲 Wrongly suggests Arousal and Dominance are minimal relative to Valence.

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Remeasuring meaning:

"Obtaining Reliable human ratings of valence, arousal, and dominance for 20,000 English words" ⧉

Saif M. Mohammad,
Proceedings of The Annual Conference of the Association for Computational Linguistics (ACL), **38**, , 2018. [11]

Moving beyond Likert scales:

Remeasuring meaning:

"Obtaining Reliable human ratings of valence, arousal, and dominance for 20,000 English words" ⬀
Saif M. Mohammad,
Proceedings of The Annual Conference of the Association for Computational Linguistics (ACL), **38**, , 2018. [11]

Moving beyond Likert scales:

🎲 Best-worst scaling ⬀

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Moving beyond Likert scales:

- ⬡ Best-worst scaling ✔
- ⬡ Ask raters to examine n things once, and choose the best and worst according to some criterion.

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- Ask raters to examine n things once, and choose the best and worst according to some criterion.
- For $n = 4$, the are 6 pair comparisons of Things.

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- 🔳 Best-worst scaling 🗗
- 🔳 Ask raters to examine n things once, and choose the best and worst according to some criterion.
- 🔳 For $n = 4$, the are 6 pair comparisons of Things.
- 🔳 Choosing best and worst gives 5 orderings: $\tau_1 > \tau_2, \tau_3 > \tau_4$.

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Moving beyond Likert scales:

- Best-worst scaling ⎘
- Ask raters to examine n things once, and choose the best and worst according to some criterion.
- For $n = 4$, the are 6 pair comparisons of Things.
- Choosing best and worst gives 5 orderings: $\tau_1 > \tau_2, \tau_3 > \tau_4$.
- Things end up with scores in $[0, 1]$.

NRC VAD Lexicon [11]

VAD endpoints:	Paradigm words and phrases presented to raters: [12]
highest valence	happiness, pleasure, positiveness, satisfaction, contentedness, hopefulness
lowest valence	unhappiness, annoyance, negativeness, dissatisfaction, melancholy, despair
highest arousal	arousal, activeness, stimulation, frenzy, jitteriness, alertness
lowest arousal	unarousal, passiveness, relaxation, calmness, sluggishness, dullness, sleepiness
highest dominance	dominant, in control of the situation, powerful, influential, important, autonomous
lowest dominance	submissive, controlled by outside factors, weak, influenced, cared-for, guided

Major problem 5: Imposing dimensions through clouds of endpoint descriptors.

NRC VAD study: 20,007 words:

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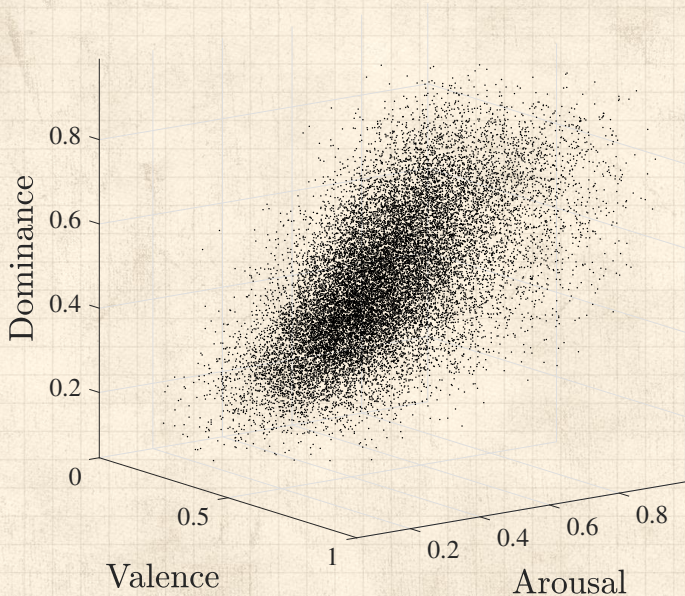Character space
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Standard correlations suggests a bit of Barney
Rubble:

$$R(V, A) \simeq -0.268$$
$$R(A, D) \simeq 0.302$$
$$R(D, V) \simeq 0.488$$

dangerous
murderess
toxic
chaos
evil
genocide
suicide
murderer
assassinate
earthquake
mi-
killer
aggression
pissed
crucifixion
lurid
outburst
squander

The Delicious English Muffin of Meaning:[1]

[1]Apricot jam, always.

$R(D, V) \simeq 0.488$

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Variance explained:

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Release the Hounds by which we mean Singular Value Decomposition:

Variance explained:

- VAD: 44.4%, 28.0%, and 27.6%.

Release the Hounds by which we mean Singular Value Decomposition:

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- VAD: 44.4%, 28.0%, and 27.6%.
- Apply SVD.

Release the Hounds by which we mean Singular Value Decomposition:

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- Singular values: $\sigma_1 \simeq 34.1$, $\sigma_2 \simeq 27.2$, and $\sigma_3 \simeq 13.8$,

Release the Hounds by which we mean Singular Value Decomposition:

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- 🎲 For what will be Goodness-Energy-Structure (GES): 55.6%, 35.3%, and 9.1%

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- 🎲 Rotate in G-E plane by $\pi/4$ for what will be Power-Danger-Structure (PDS) 45.5%, 45.5%, 9.1%

Release the Hounds by which we mean Singular Value Decomposition:

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- Rotate in G-E plane by $\pi/4$ for what will be Power-Danger-Structure (PDS) 45.5%, 45.5%, 9.1%
- Interpretability enhancements: Ousiograms.

~ valence-dominance ousiogram for the NRC VAD lexicon ~

Building ousiograms (2021/01/31):

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Building ousiograms (2021/01/31):

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Ousiograms for the NRC VAD lexicon in the VAD, GES, and PDS frameworks:

~ power-danger ousiogram for the NRC VAD lexicon ~

Ousiometric slices:

Slices of Structure Flipbook 📖
Slices of Danger Flipbook 📖
Slices of Power Flipbook 📖

Outline

Extremonyms: Synousionyms and Antousionyms:

Powerful-Safe (Good) to Weak-Dangerous (Bad) axis:

Synousionyms	Valence	Arousal	Dominance	Goodness	Energy	Structure	Power	Danger	Structure
Anchor: wisdom	0.430	-0.198	0.371	0.579	-0.031	-0.158	0.388	-0.432	-0.158
education	0.396	-0.225	0.340	0.539	-0.065	-0.167	0.336	-0.427	-0.167
healthy	0.438	-0.181	0.318	0.558	-0.047	-0.108	0.362	-0.428	-0.108
trustworthy	0.469	-0.185	0.324	0.589	-0.052	-0.100	0.379	-0.453	-0.100
reliable	0.412	-0.259	0.375	0.575	-0.076	-0.202	0.353	-0.460	-0.202
Antousionyms	Valence	Arousal	Dominance	Goodness	Energy	Structure	Power	Danger	Structure
bullshit	-0.458	0.176	-0.317	-0.575	0.046	0.095	-0.373	0.439	0.095
shitty	-0.480	0.179	-0.337	-0.604	0.042	0.100	-0.397	0.456	0.100
nauseate	-0.438	0.160	-0.324	-0.558	0.026	0.101	-0.376	0.413	0.101
weeping	-0.418	0.188	-0.332	-0.549	0.042	0.131	-0.359	0.418	0.131
shame	-0.440	0.170	-0.345	-0.572	0.023	0.120	-0.388	0.421	0.120
diarrhea	-0.408	0.184	-0.357	-0.552	0.023	0.151	-0.374	0.407	0.151

Powerful to Weak axis:

Synousionyms	Valence	Arousal	Dominance	Goodness	Energy	Structure	Power	Danger	Structure
Anchor: success	0.459	0.380	0.481	0.571	0.501	0.095	0.758	-0.050	0.095
almighty	0.438	0.374	0.458	0.543	0.487	0.098	0.728	-0.040	0.098
triumphant	0.449	0.337	0.472	0.565	0.462	0.073	0.726	-0.072	0.073
champion	0.390	0.380	0.445	0.494	0.492	0.087	0.698	-0.001	0.087
victorious	0.384	0.386	0.446	0.489	0.499	0.087	0.698	0.007	0.087
Antousionyms	Valence	Arousal	Dominance	Goodness	Energy	Structure	Power	Danger	Structure
sorrow	-0.448	-0.265	-0.336	-0.509	-0.329	-0.127	-0.593	0.127	-0.127
tasteless	-0.354	-0.304	-0.352	-0.430	-0.385	-0.092	-0.576	0.032	-0.092
idle	-0.321	-0.333	-0.388	-0.414	-0.434	-0.068	-0.600	-0.014	-0.068
empty	-0.312	-0.317	-0.419	-0.424	-0.439	-0.033	-0.610	-0.011	-0.033
void	-0.365	-0.337	-0.370	-0.443	-0.420	-0.103	-0.611	0.016	-0.103

Extremonyms: Synousionyms and Antousionyms:

Dangerous-Powerful (High Energy) to Safe-Weak (Low Energy) axis:

Synousionyms	Valence	Arousal	Dominance	Goodness	Energy	Structure	Power	Danger	Structure
Anchor: volcanic	-0.156	0.410	0.281	-0.061	0.515	-0.045	0.322	0.407	-0.045
shelling	-0.163	0.417	0.273	-0.072	0.518	-0.039	0.316	0.417	-0.039
artillery	-0.150	0.412	0.294	-0.050	0.523	-0.050	0.335	0.405	-0.050
wild	-0.188	0.422	0.250	-0.105	0.514	-0.032	0.289	0.438	-0.032
rifles	-0.163	0.364	0.265	-0.068	0.470	-0.062	0.284	0.380	-0.062
Antousionyms	Valence	Arousal	Dominance	Goodness	Energy	Structure	Power	Danger	Structure
couch	0.094	-0.418	-0.302	-0.002	-0.524	0.025	-0.372	-0.369	0.025
mellow	0.133	-0.431	-0.235	0.066	-0.504	-0.009	-0.310	-0.403	-0.009
pillow	0.163	-0.372	-0.305	0.049	-0.498	0.085	-0.317	-0.387	0.085
tortoise	0.173	-0.422	-0.250	0.092	-0.511	0.025	-0.297	-0.427	0.025
quilt	0.143	-0.377	-0.274	0.048	-0.482	0.052	-0.307	-0.375	0.052
cotton	0.139	-0.429	-0.260	0.059	-0.517	0.012	-0.324	-0.407	0.012

Dangerous to Safe axis:

Synousionyms	Valence	Arousal	Dominance	Goodness	Energy	Structure	Power	Danger	Structure
Anchor: homicide	-0.490	0.473	0.018	-0.485	0.478	0.011	-0.005	0.681	0.011
killer	-0.459	0.471	0.043	-0.446	0.485	0.008	0.028	0.658	0.008
psychopath	-0.460	0.443	0.036	-0.446	0.458	-0.003	0.009	0.640	-0.003
bloodshed	-0.452	0.442	0.025	-0.444	0.450	0.008	0.004	0.633	0.008
violate	-0.439	0.470	0.019	-0.440	0.468	0.033	0.020	0.642	0.033
Antousionyms	Valence	Arousal	Dominance	Goodness	Energy	Structure	Power	Danger	Structure
natural	0.354	-0.382	-0.019	0.354	-0.382	-0.026	-0.020	-0.520	-0.026
tranquil	0.417	-0.406	-0.145	0.351	-0.480	0.078	-0.091	-0.588	0.078
softness	0.375	-0.414	-0.098	0.338	-0.455	0.021	-0.082	-0.561	0.021
serenity	0.400	-0.378	0.057	0.429	-0.345	-0.054	0.060	-0.547	-0.054
comfortable	0.427	-0.337	-0.027	0.406	-0.361	0.039	0.032	-0.542	0.039
calmness	0.434	-0.395	-0.106	0.383	-0.453	0.065	-0.049	-0.591	0.065

Outline

Etymological, taxonomic, and nomenclatural madnesses:

🎲 Physics: Power was once sometimes called Activity

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- 🎲 Danger ↗ and Dominance trace back to Dominus ↗ (∼ lord/ruler/person of power)

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Other descriptors that don't hold up:

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- 🎲 Energy/Flourishing/Thriving-Threat

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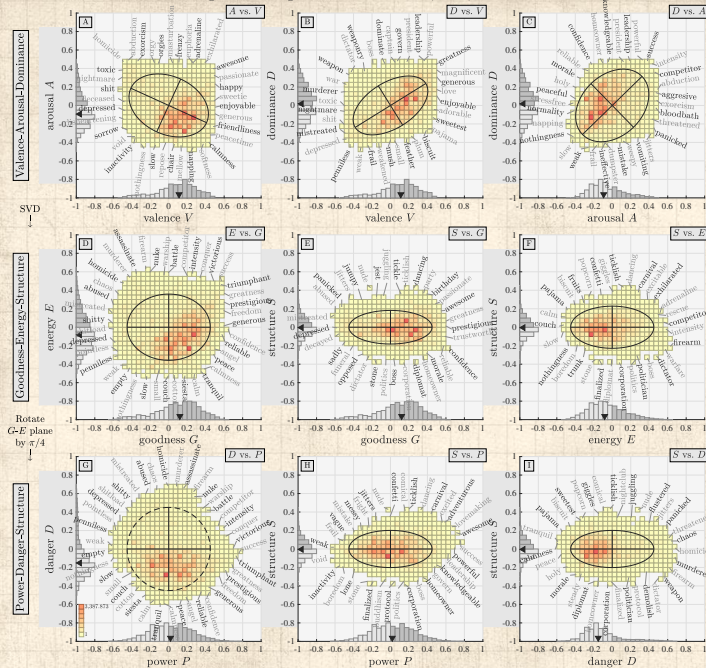Correspondences
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mi...
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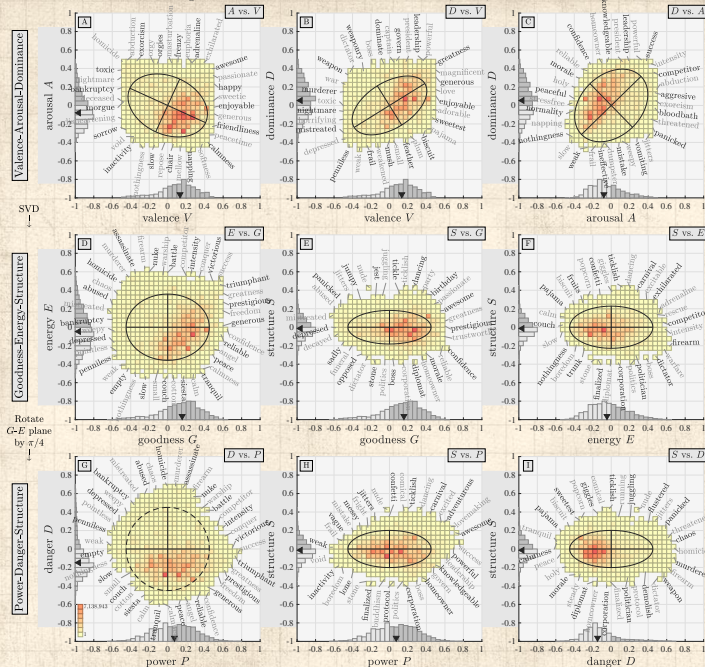
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Other descriptors that don't hold up:

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- Power-Order/Chaos-Gravity/Seriousness

Etymological, taxonomic, and nomenclatural madnesses:

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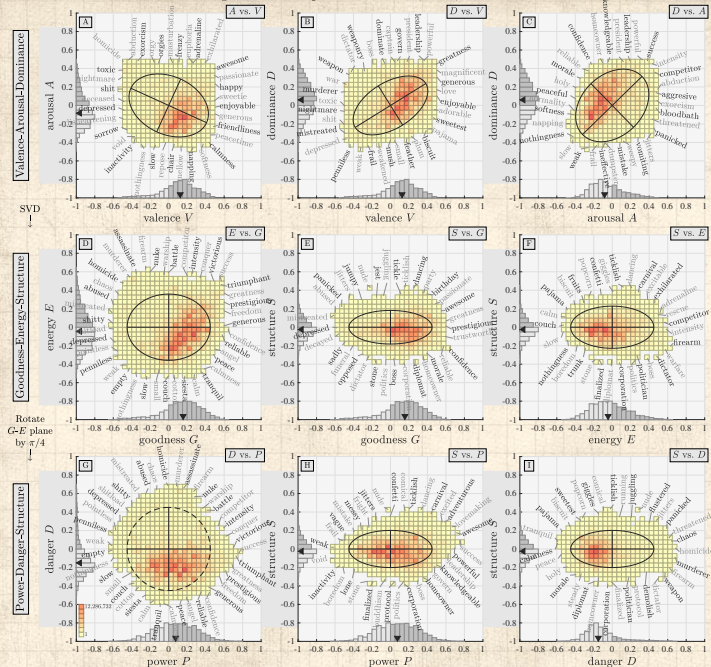Extremousionyms
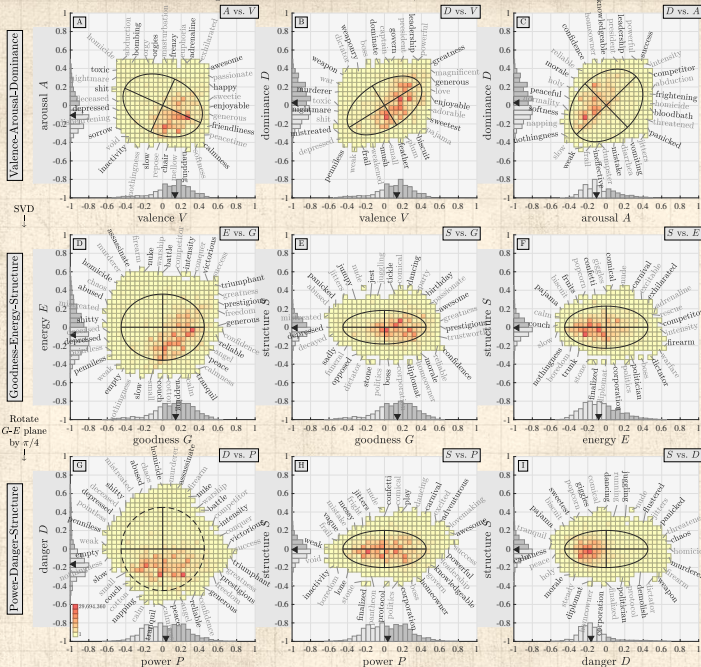Dimension names
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After much staring at the ceiling:

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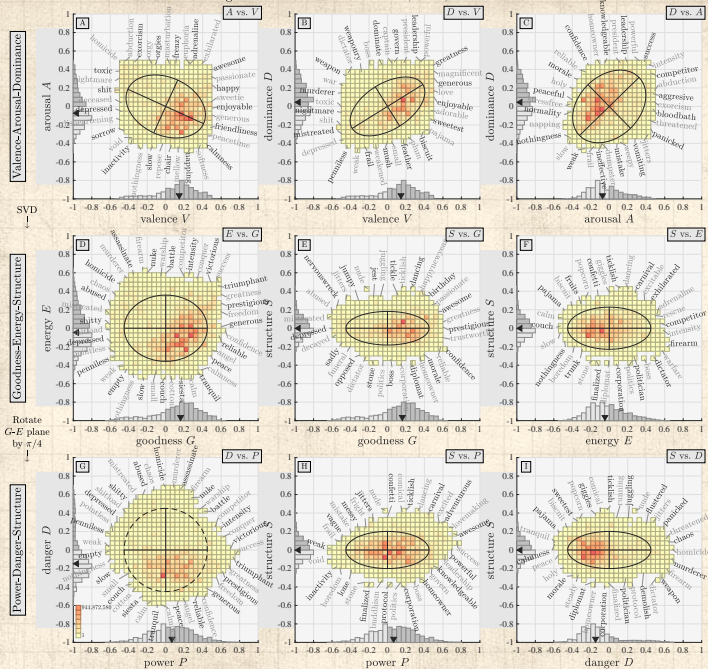Correspondences
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After much staring at the ceiling:

♣ Goodness-Energy-Structure (GES) (still fails)

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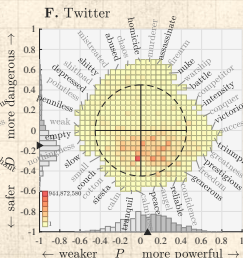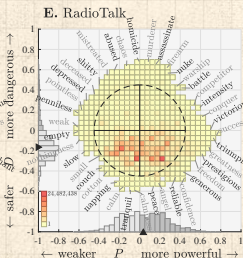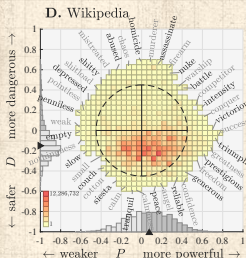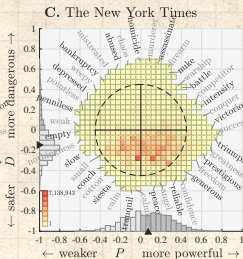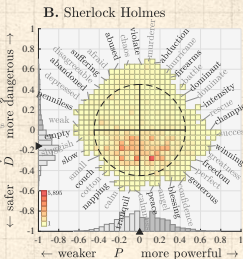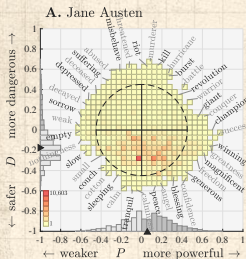Remeasuring
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- �é Framing words for EPA, VAD, etc., matter greatly.

Other descriptors that don't hold up:

- �é Success-Stress-Structure.

- �é Energy/Flourishing/Thriving-Threat

- �é Power-Order/Chaos-Gravity/Seriousness

After much staring at the ceiling:

- �é Goodness-Energy-Structure (GES) (still fails)

- �é Power-Danger-Structure (PDS) (succeeds)

Connections between meaning dimensions:

$$
\begin{bmatrix} \textbf{Goodness} \\ \textbf{Energy} \\ \textbf{Structure} \end{bmatrix} \simeq \begin{bmatrix} +0.86 & -0.15 & +0.48 \\ -0.16 & +0.83 & +0.54 \\ +0.48 & +0.55 & -0.69 \end{bmatrix} \begin{bmatrix} \textbf{Valence} \\ \textbf{Arousal} \\ \textbf{Dominance} \end{bmatrix}
$$

$$
\begin{bmatrix} \textbf{Power} \\ \textbf{Danger} \\ \textbf{Structure} \end{bmatrix} \simeq \begin{bmatrix} 0.53 & 0.45 & 0.72 \\ -0.70 & 0.71 & 0.07 \\ 0.48 & 0.55 & -0.69 \end{bmatrix} \begin{bmatrix} \textbf{Valence} \\ \textbf{Arousal} \\ \textbf{Dominance} \end{bmatrix}
$$

$$
\begin{bmatrix} \textbf{Power} \\ \textbf{Danger} \end{bmatrix} = \frac{1}{\sqrt{2}} \begin{bmatrix} 1 & 1 \\ -1 & 1 \end{bmatrix} \begin{bmatrix} \textbf{Goodness} \\ \textbf{Energy} \end{bmatrix} \qquad (1)
$$

From types to tokens: [7]

🧊 Analysis so far is for a lexicon of types: Each word counts once.

From types to tokens: [7]

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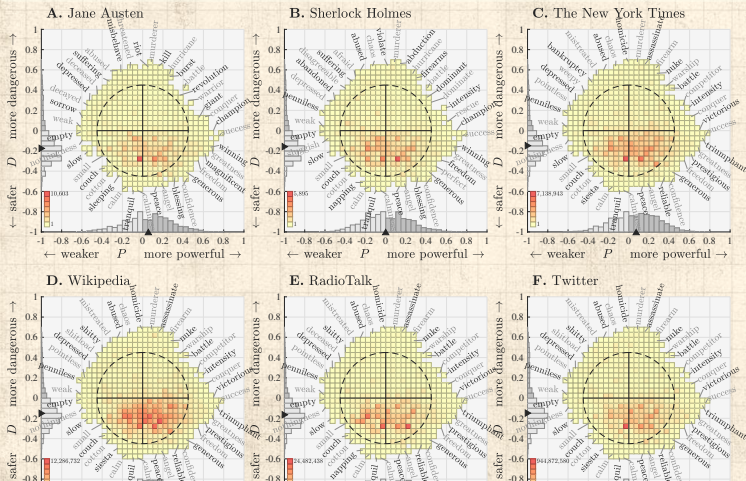Safety bias

Applications
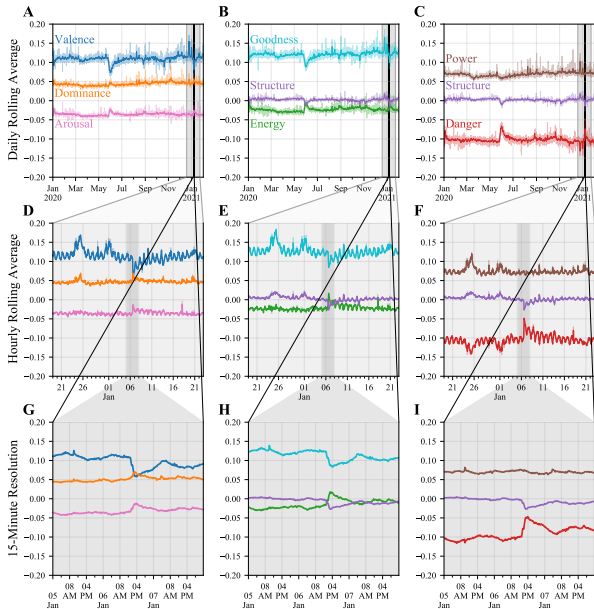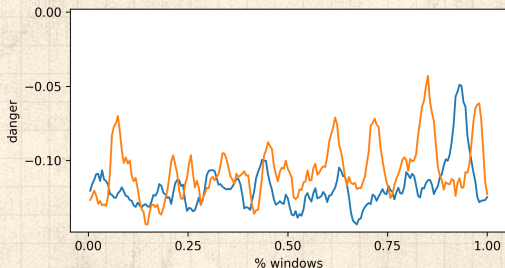The Ousiometer
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- Analysis so far is for a lexicon of types: Each word counts once.
- Must consider how words are used in real texts by frequency: Tokens.

From types to tokens: [7]

- Analysis so far is for a lexicon of types: Each word counts once.
- Must consider how words are used in real texts by frequency: Tokens.
- Rebuild ousiograms with usage frequency incorporated.

From types to tokens: [7]

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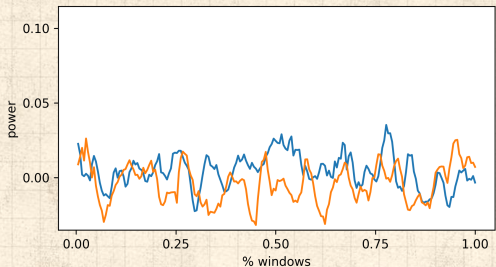Extremousionyms
Dimension names

Safety bias

Applications
The Ousiometer
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Nutshell

Extra

References

- 🎲 Analysis so far is for a lexicon of types: Each word counts once.
- 🎲 Must consider how words are used in real texts by frequency: Tokens.
- 🎲 Rebuild ousiograms with usage frequency incorporated.
- 🎲 A set of distinct corpora:
  - 📦 English fiction from Google Books (120 years). [10, 15]
  - 📦 Jane Austen's novels.
  - 📦 Sherlock Holmes stories.
  - 📦 New York Times (20 years). [19]
  - 📦 Wikipedia (2019/03). [20]
  - 📦 RadioTalk: Transcriptions of talk radio. [3]
  - 📦 Twitter through Storywrangler. [1]

Ousiograms for English fiction in the VAD, GES, and PDS frameworks:

Ousiograms for Jane Austen's novels in the VAD, GES, and PDS frameworks:

Ousiograms for Sherlock Holmes in the VAD, GES, and PDS frameworks:

Ousiograms for the New York Times in the VAD, GES, and PDS frameworks:

Ousiograms for Wikipedia in the VAD, GES, and PDS frameworks:

Ousiograms for RadioTalk in the VAD, GES, and PDS frameworks:

Ousiograms for Twitter in the VAD, GES, and PDS frameworks:

A special thing has happened:

The PDS framework emerged only from analyzing a lexicon (types).

A. Jane Austen B. Sherlock Holmes C. The New York Times
D. Wikipedia E. RadioTalk F. Twitter

A special thing has happened:

- The PDS framework emerged only from analyzing a lexicon (types).

- Applying PDS framework to disparate corpora (tokens) reveals a linguistic 'safety bias'.

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Prototype ousiometer—Twitter:

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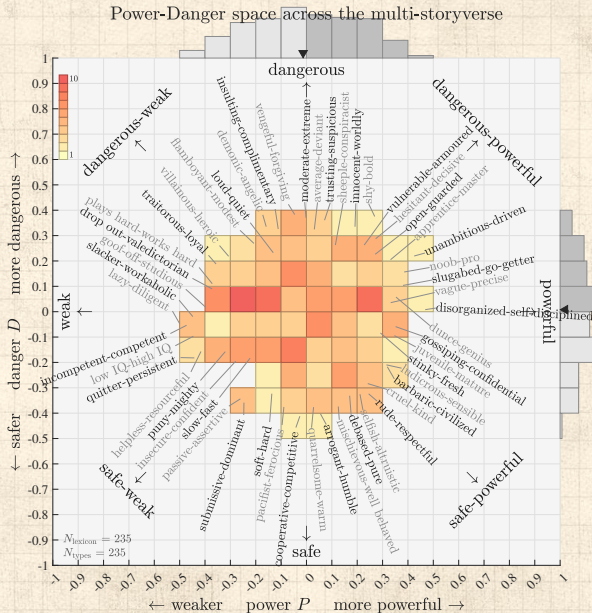The Ousiometer
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Prototype ousiometer—Harry Potter:

Blue: Harry Potter and the Half-Blood Prince
Orange: Harry Potter and the Deathly Hallows

Outline

Rough agreement with Russell's circumplex model, [18] which itself doesn't disagree with a 2-d orthogonal framework.

A. Circumplex model of affect:

B. Power-danger coordinates for Russell's affect words:

Dungeons & Dragons—Two alignment☑ axes for character:

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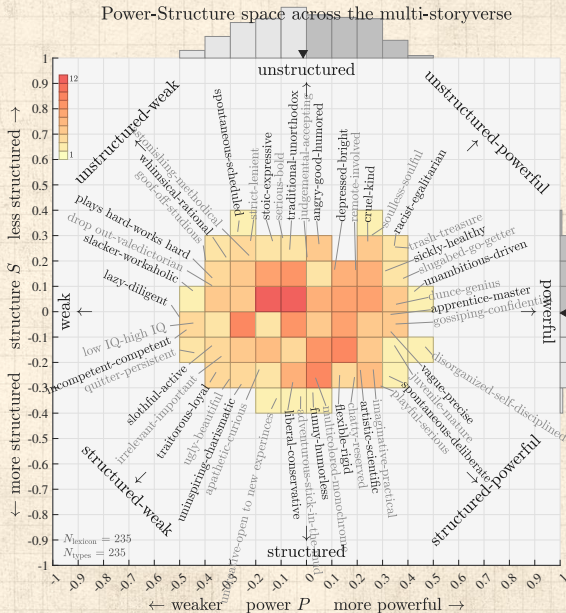 The Ousiometer
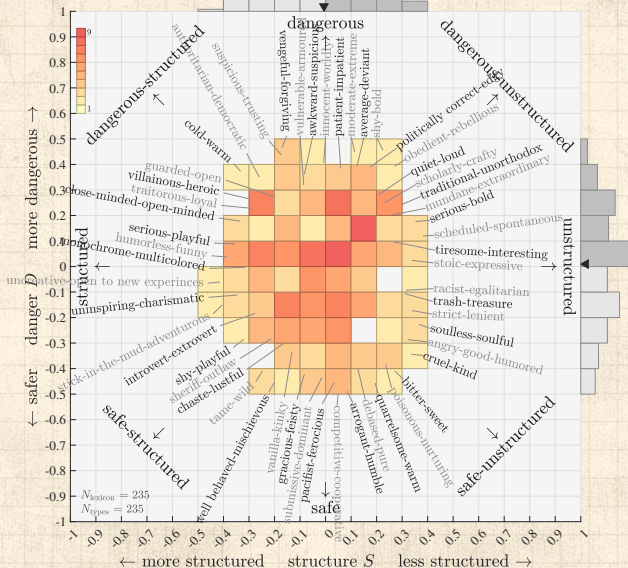 Correspondences
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Law–Chaos
(vertical) and
Good–Evil
(horizontal).

_____

[1] From this Reddit thread☑, where, naturally, the choices are enthusiastically debated.

lawful-good $\sim$ structured-powerful-safe	neutral-good $\sim$ neutral-powerful-safe	chaotic-good $\sim$ unstructured-powerful-safe
lawful-neutral $\sim$ structured-neutral	(true) neutral	chaotic-neutral $\sim$ unstructured-neutral
lawful-evil $\sim$ structured-dangerous	neutral-evil $\sim$ neutral-dangerous	chaotic-evil $\sim$ unstructured-dangerous
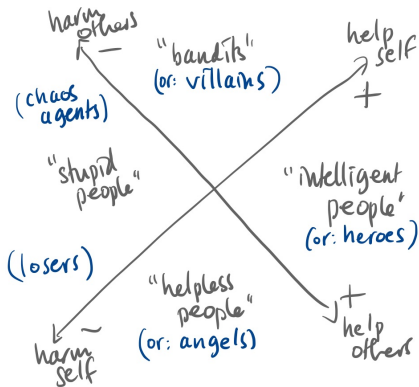
harm
others

"bandits"
(or: villains)

help
self
+

(chaos
agents)

"stupid
people"

"intelligent
people"
(or: heroes)

(losers)

"helpless
people"
(or: angels)

+
help
others

harm
self

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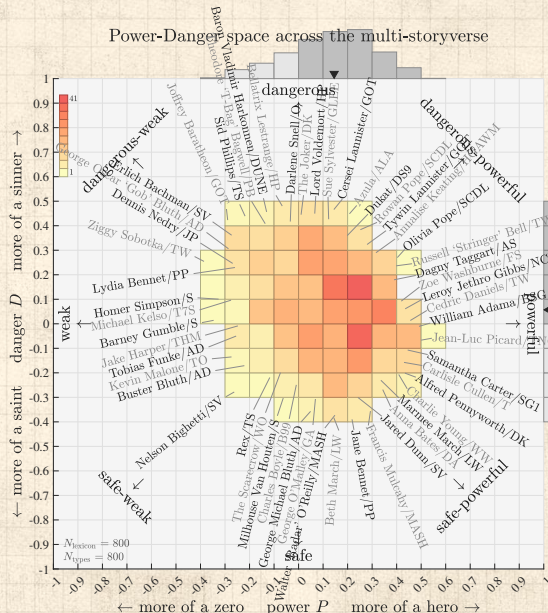
  Correspondences

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800 characters, 200+ semantic differentials:

Power-Danger space across the multi-storyverse

800 characters, 200+ semantic differentials:

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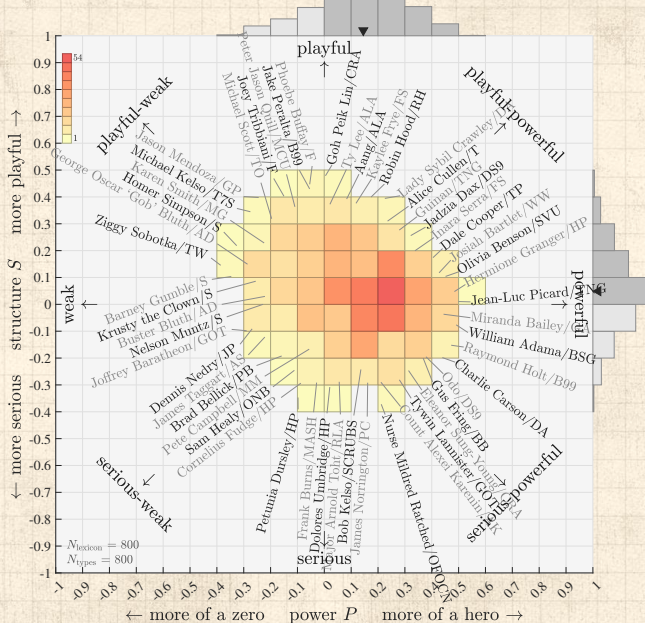 Nutshell

Extra

References

Power-Structure space across the multi-storyverse

800 characters, 200+ semantic differentials:

Structure-Danger space across the multi-storyverse

Outline

800 characters, 200+ semantic differentials:

Power-Danger space across the multi-storyverse

800 characters, 200+ semantic differentials:

Power-Structure space across the multi-storyverse

800 characters, 200+ semantic differentials:

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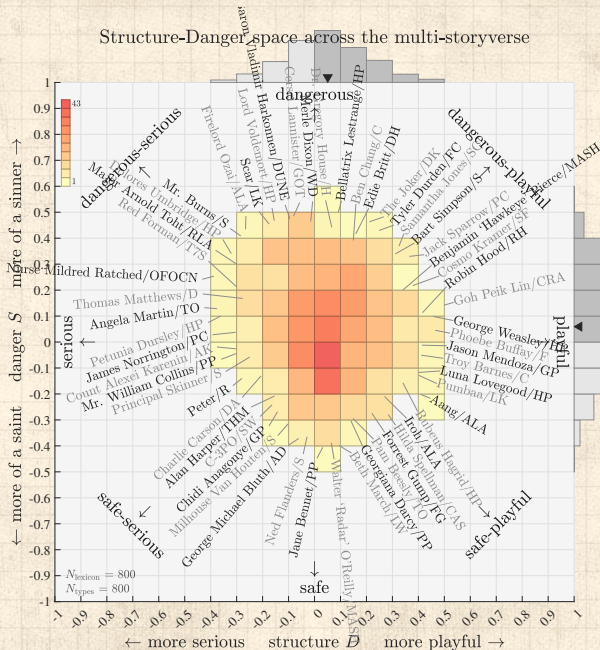
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Structure-Danger space across the multi-storyverse

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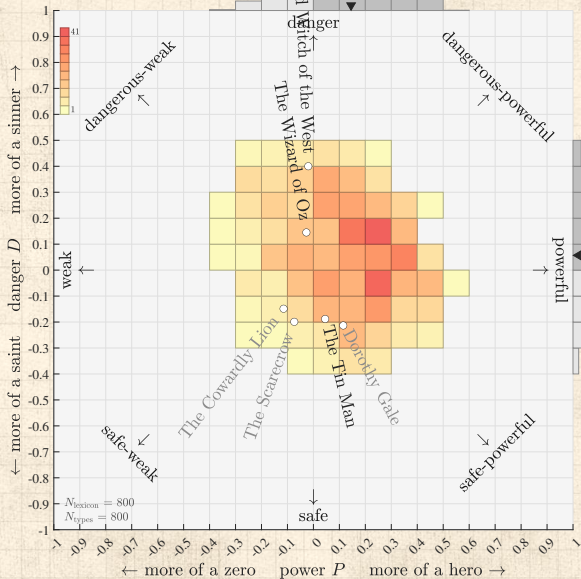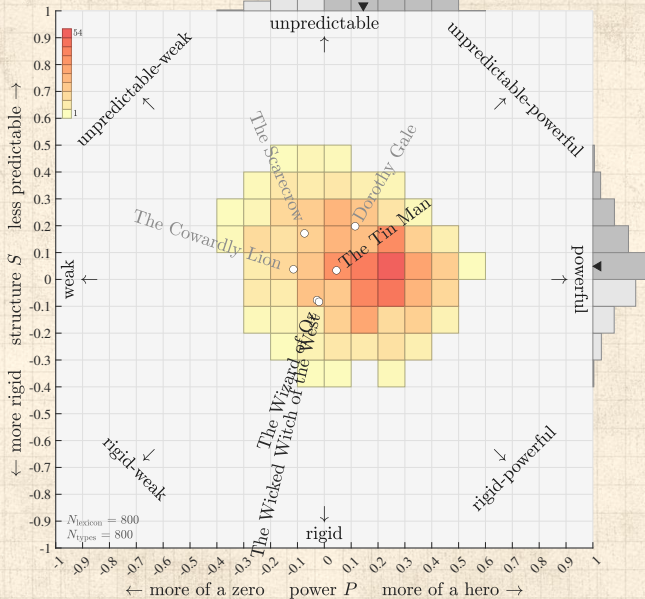Trait space
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Power-Danger space for The Wizard of Oz

$N_{lexicon} = 800$
$N_{types} = 800$

Power-Structure space for The Wizard of Oz

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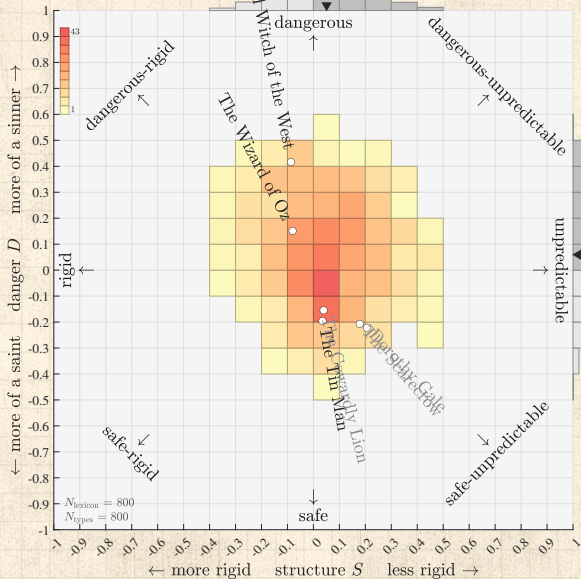Trait space
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Extra

References

Structure-Danger space for The Wizard of Oz

Power-Danger space for Arrested Development

Power-Structure space for Arrested Development

$N_{\text{lexicon}} = 800$
$N_{\text{ropes}} = 800$

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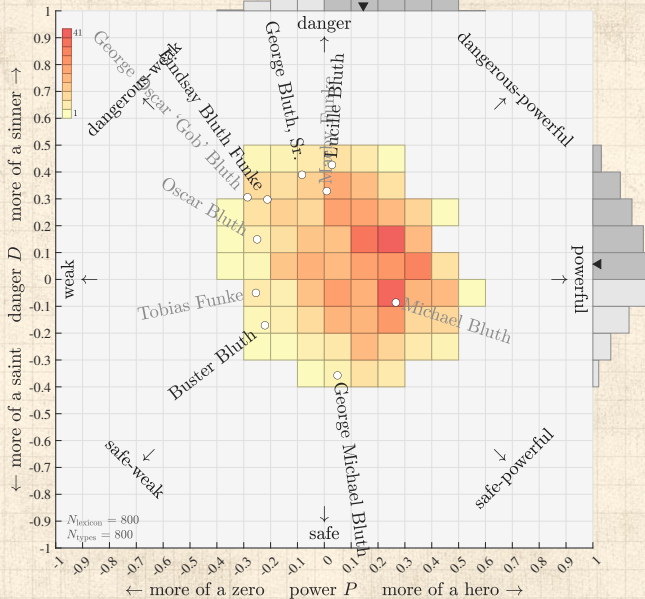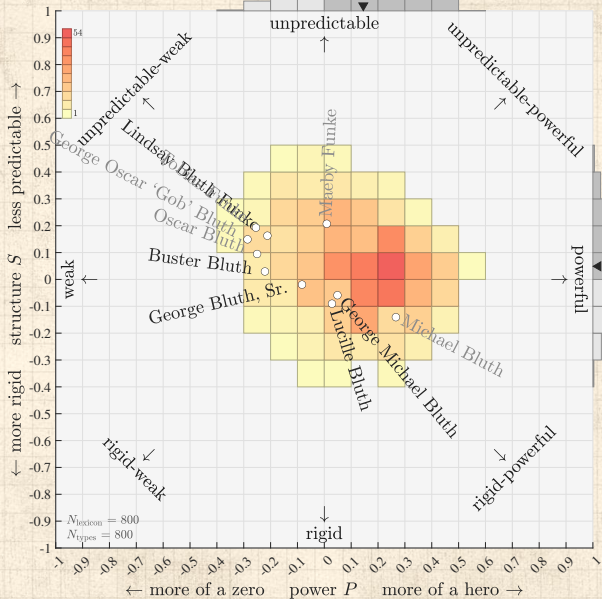Nutshell

Extra

References

Structure-Danger space for Arrested Development

$N_{\text{lexicon}} = 800$
$N_{\text{tropes}} = 800$

Power-Danger space for Game of Thrones

Power-Structure space for Game of Thrones

less predictable → structure S ← more rigid

← more of a zero   power P more of a hero →

unpredictable

unpredictable-weak

unpredictable-powerful

weak

powerful

rigid-weak

rigid

rigid-powerful

$N_{\text{lexicon}} = 800$
$N_{\text{ropes}} = 800$

Oberyn Martell
Ygritte
Jaime Lannister
Tyrion Lannister
Bronn
Shae
Daenerys Targaryen
Robb Stark
Petyr Greyjoy
Brienne of Tarth
Davos Seaworth
Melisandre
Sandor Clegane
Eddard Stark
Catelyn Stark
Theon Greyjoy
Jon Snow
Cersei Lannister
Tywin Lannister
Petyr Baelish
Joffrey Baratheon
Stannis Baratheon

dangerous
killer
aggression
pissed
crucifixion
lurid
outburst
squander

Structure-Danger space for Game of Thrones

Power-Danger space for Harry Potter

Power-Structure space for Harry Potter

Structure-Danger space for Harry Potter

Power-Danger space for Lord of the Rings

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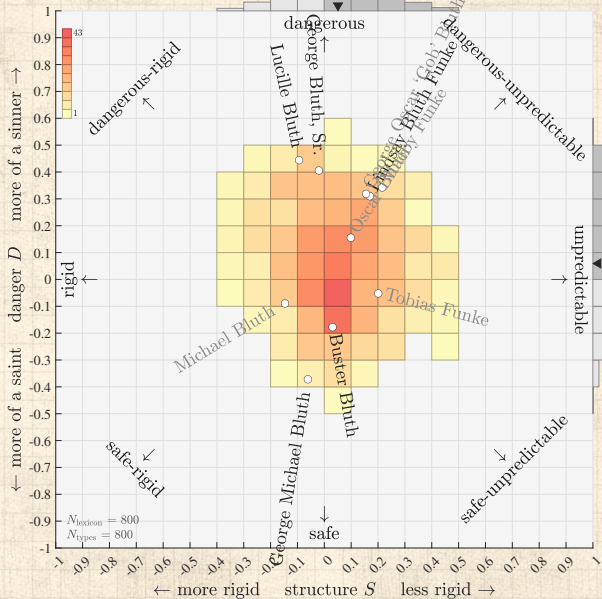The Ousiometer
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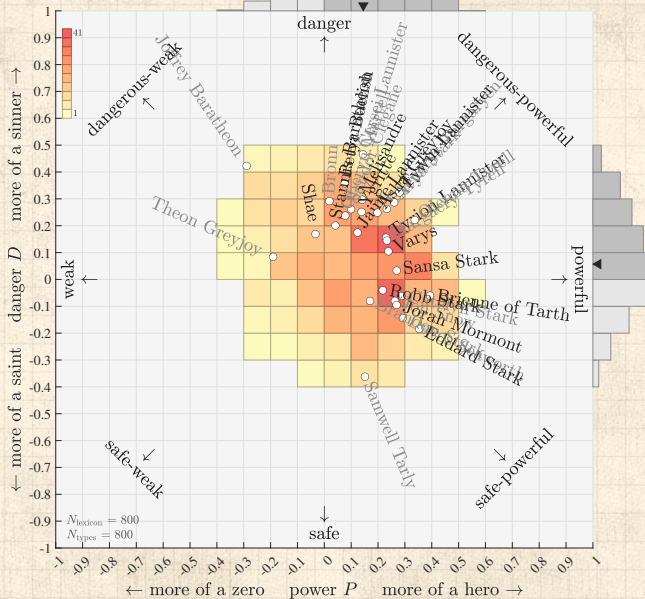
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Power-Structure space for Lord of the Rings

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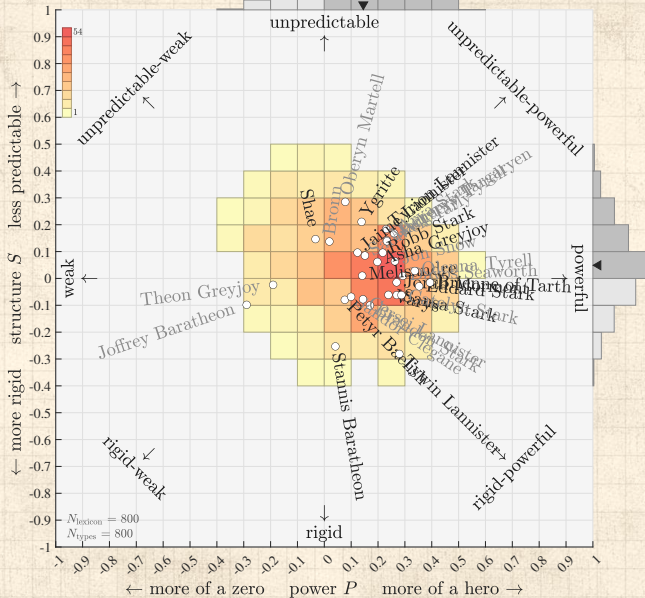The Ousiometer

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Structure-Danger space for Lord of the Rings

$N_{\text{lexicon}} = 800$
$N_{\text{ropes}} = 800$

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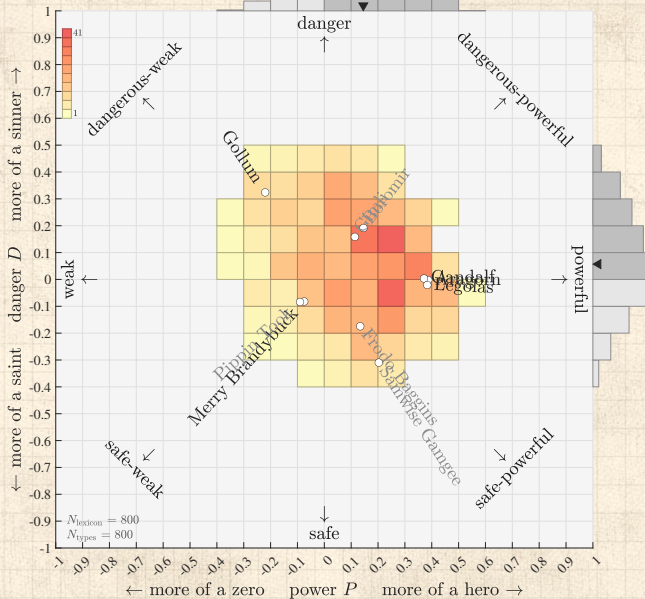
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References

Power-Danger space for Pride and Prejudice

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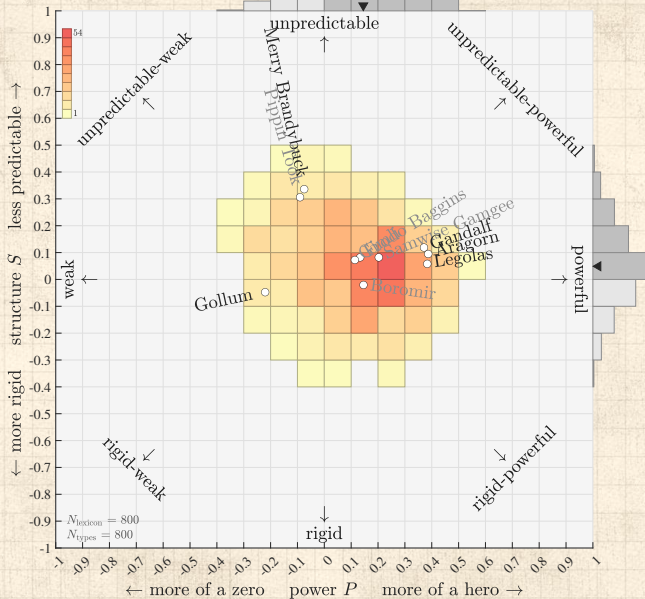
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Power-Structure space for Pride and Prejudice

Structure-Danger space for Pride and Prejudice

Power-Danger space for Community

Power-Structure space for Community
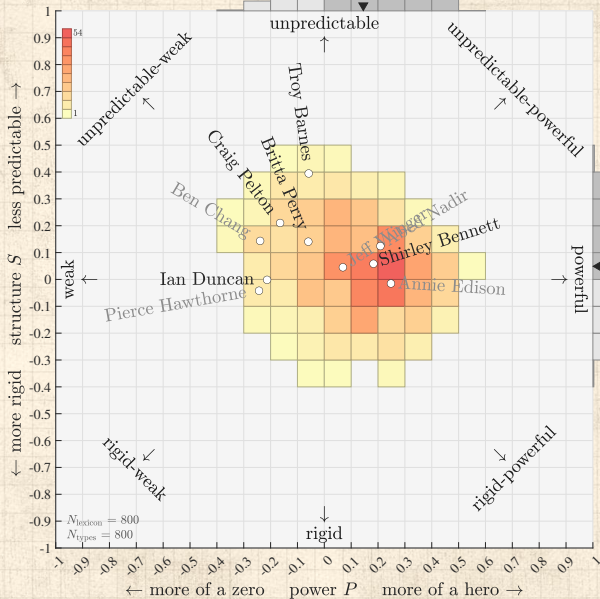
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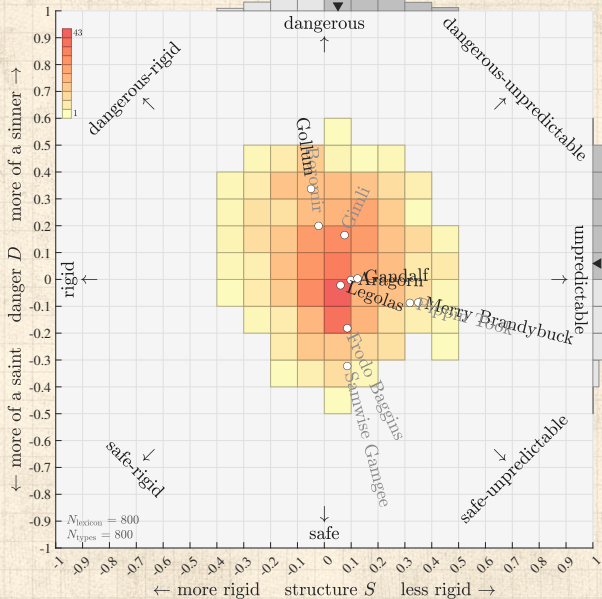
Extra

References

Structure-Danger space for Community

Power-Danger space for Buffy the Vampire Slayer
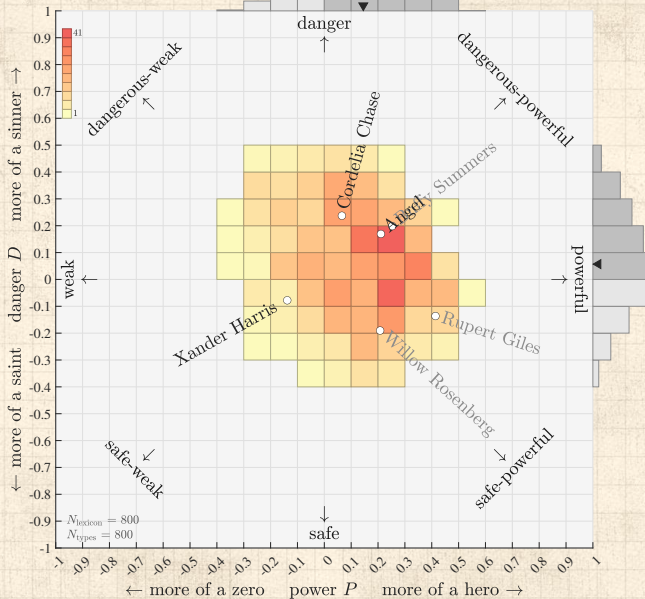
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Power-Structure space for Buffy the Vampire Slayer

Structure-Danger space for Buffy the Vampire Slayer

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$N_{\text{tropes}} = 800$

dangerous-rigid
dangerous
dangerous-unpredictable
Cordelia Chase
Angel
Buffy Summers
rigid
unpredictable
Xander Harris
Rupert Giles
Willow Rosenberg
safe-rigid
safe
safe-unpredictable

more of a sinner →
danger D
← more of a saint

← more rigid   structure S less rigid →

Six emotions, collapsed:
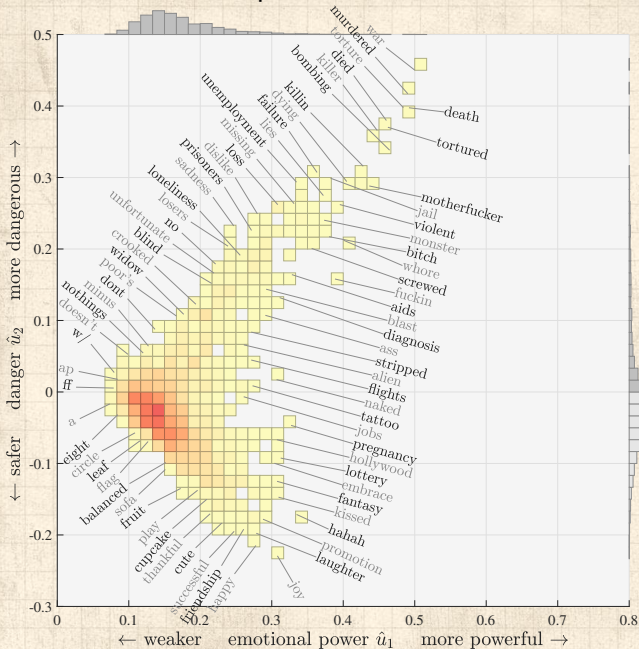
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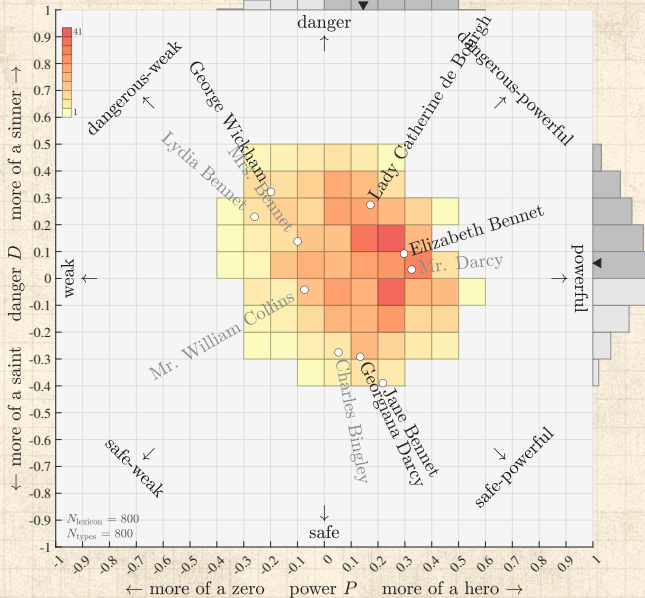Extremousionyms
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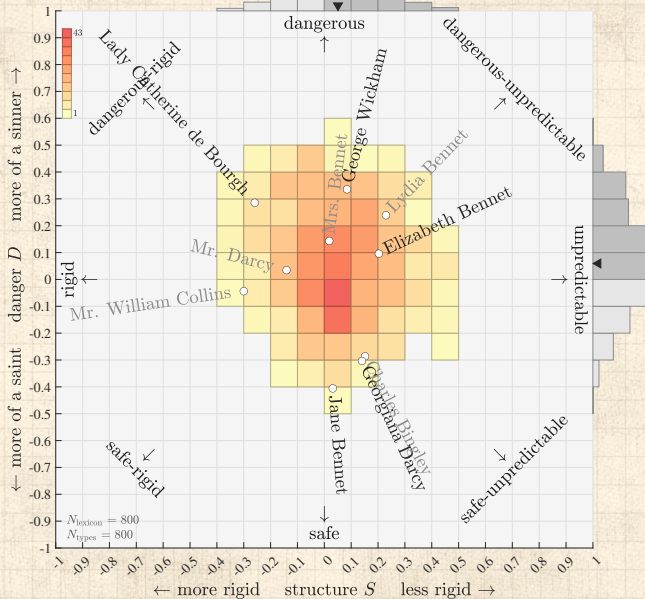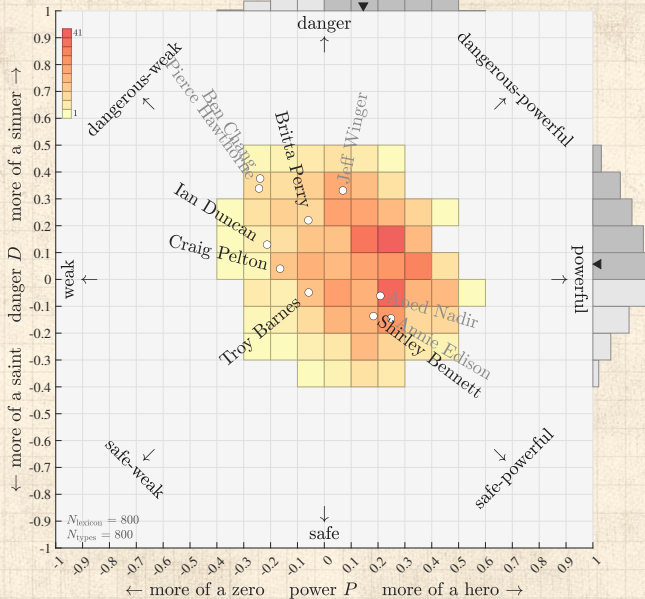The Ousiometer
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Outline

Findings, observations, possibilities:

- Power-danger-structure framework emerges in distinct settings, fitting types and tokens.

See concluding remarks in the foundational paper. [5]

Findings, observations, possibilities:

- Power-danger-structure framework emerges in distinct settings, fitting types and tokens.
- Safety bias of communication refines Pollyanna Principle of positivity

See concluding remarks in the foundational paper. [5]

Findings, observations, possibilities:

- Power-danger-structure framework emerges in distinct settings, fitting types and tokens.
- Safety bias of communication refines Pollyanna Principle of positivity
- Happiness/Goodness = Power + Safety

See concluding remarks in the foundational paper. [5]

Findings, observations, possibilities:

- Power-danger-structure framework emerges in distinct settings, fitting types and tokens.
- Safety bias of communication refines Pollyanna Principle of positivity
- Happiness/Goodness = Power + Safety
- Ousiometer can be improved and refined.

See concluding remarks in the foundational paper. [5]

Findings, observations, possibilities:

- Power-danger-structure framework emerges in distinct settings, fitting types and tokens.
- Safety bias of communication refines Pollyanna Principle of positivity
- Happiness/Goodness = Power + Safety
- Ousiometer can be improved and refined.
- Possible: Emotions map onto powerful-safe and danger axes.

See concluding remarks in the foundational paper. [5]

Findings, observations, possibilities:

- Power-danger-structure framework emerges in distinct settings, fitting types and tokens.
- Safety bias of communication refines Pollyanna Principle of positivity
- Happiness/Goodness = Power + Safety
- Ousiometer can be improved and refined.
- Possible: Emotions map onto powerful-safe and danger axes.
- Power-danger framework for survival.

See concluding remarks in the foundational paper. [5]

Findings, observations, possibilities:

⛁ Power-danger-structure framework emerges in distinct settings, fitting types and tokens.

⛁ Safety bias of communication refines Pollyanna Principle of positivity

⛁ Happiness/Goodness = Power + Safety

⛁ Ousiometer can be improved and refined.

⛁ Possible: Emotions map onto powerful-safe and danger axes.

⛁ Power-danger framework for survival.

⛁ Possible: Telegnomics for stories—Measuring character arcs, plots.

See concluding remarks in the foundational paper. [5]

Findings, observations, possibilities:

- Power-danger-structure framework emerges in distinct settings, fitting types and tokens.
- Safety bias of communication refines Pollyanna Principle of positivity
- Happiness/Goodness = Power + Safety
- Ousiometer can be improved and refined.
- Possible: Emotions map onto powerful-safe and danger axes.
- Power-danger framework for survival.
- Possible: Telegnomics for stories—Measuring character arcs, plots.
- Complement to information theory which is meaning-free. [21]

See concluding remarks in the foundational paper. [5]

Online appendices: Paper(s), extra figures, flipbooks, code.
https://storylab.w3.uvm.edu/ousiometrics ⏎

Synonyms	Valence	Arousal	Dominance	Goodness	Energy	Structure	Power	Danger	Structure
happy	0.50	0.24	0.27	0.53	0.26	0.18	0.57	-0.16	0.18
delighted	0.44	0.16	0.18	0.44	0.17	0.17	0.44	-0.18	0.17
excited	0.41	0.43	0.21	0.39	0.40	0.29	0.56	0.04	0.29
astonished	0.01	0.28	0.07	0.00	0.27	0.10	0.18	0.19	0.10
aroused	0.21	0.45	0.17	0.19	0.43	0.23	0.43	0.19	0.23
tense	-0.10	-0.06	0.15	-0.01	0.05	-0.19	0.03	0.04	-0.19
alarmed	-0.31	0.32	-0.01	-0.32	0.31	0.03	-0.03	0.45	0.03
angry	-0.38	0.33	0.10	-0.33	0.39	-0.07	0.02	0.51	-0.07
afraid	-0.49	0.28	-0.26	-0.59	0.17	0.09	-0.32	0.52	0.09
annoyed	-0.40	0.28	-0.16	-0.46	0.21	0.07	-0.19	0.47	0.07
distressed	-0.36	0.27	-0.18	-0.43	0.19	0.10	-0.19	0.43	0.10
frustrated	-0.42	0.15	-0.25	-0.50	0.06	0.05	-0.33	0.38	0.05
miserable	-0.44	-0.04	-0.31	-0.52	-0.13	-0.02	-0.47	0.26	-0.02
sad	-0.28	-0.17	-0.35	-0.38	-0.28	0.02	-0.47	0.05	0.02
gloomy	-0.39	-0.09	-0.21	-0.43	-0.13	-0.09	-0.40	0.20	-0.09
depressed	-0.48	-0.05	-0.36	-0.58	-0.17	-0.01	-0.54	0.27	-0.01
bored	-0.35	-0.33	-0.30	-0.40	-0.38	-0.14	-0.55	-0.02	-0.14
droopy	-0.06	-0.15	-0.20	-0.13	-0.22	0.03	-0.25	-0.08	0.03
tired	-0.38	-0.18	-0.31	-0.45	-0.26	-0.07	-0.50	0.11	-0.07
sleepy	0.10	-0.37	-0.25	0.03	-0.46	0.02	-0.29	-0.36	0.02
calm	0.37	-0.40	-0.22	0.28	-0.51	0.11	-0.14	-0.56	0.11
relaxed	0.36	-0.41	-0.12	0.32	-0.46	0.03	-0.08	-0.56	0.03
satisfied	0.46	0.01	0.18	0.48	0.04	0.10	0.38	-0.30	0.10
at ease	—	—	—	—	—	—	—	—	—
ease	0.30	-0.11	-0.01	0.27	-0.15	0.09	0.10	-0.29	0.09
content	0.26	-0.20	0.06	0.29	-0.18	-0.03	0.09	-0.33	-0.03
serene	0.30	-0.37	-0.13	0.25	-0.42	0.03	-0.10	-0.48	0.03
glad	0.44	0.26	0.24	0.45	0.27	0.19	0.52	-0.10	0.19
pleased	0.44	0.05	0.29	0.51	0.13	0.03	0.47	-0.25	0.03

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"Semantic differential profiles for 1,000 most frequent English words." ↗
David R. Heise,
Psychological Monographs: General and Applied, **79**, 1, 1965. [6]

Dimension	Scale
Evaluation	Good-Bad
	Pleasant-Unpleasant
Activity	Active-Passive
	Lively-Still
Potency	Strong-Weak
	Tough-Tender
Stability	Rational-Emotional
	Tamed-Untamed

Remeasuring meaning:

Confusion and Conflation:

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- Test whether EPA and VAD match.

- Explore historical problems of defining end point descriptors for meaning dimensions.

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