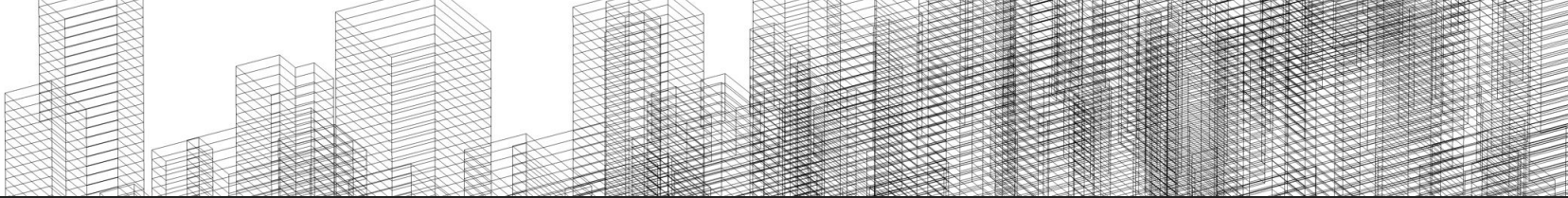


Generative Tarot: Internet-Mining for a Collective Consciousness

Asiiah Song



Motivations

- Tarot often comes up as a tool for playful storytelling
- Interest in using a semantic web of concepts captured in the wild as a values representation



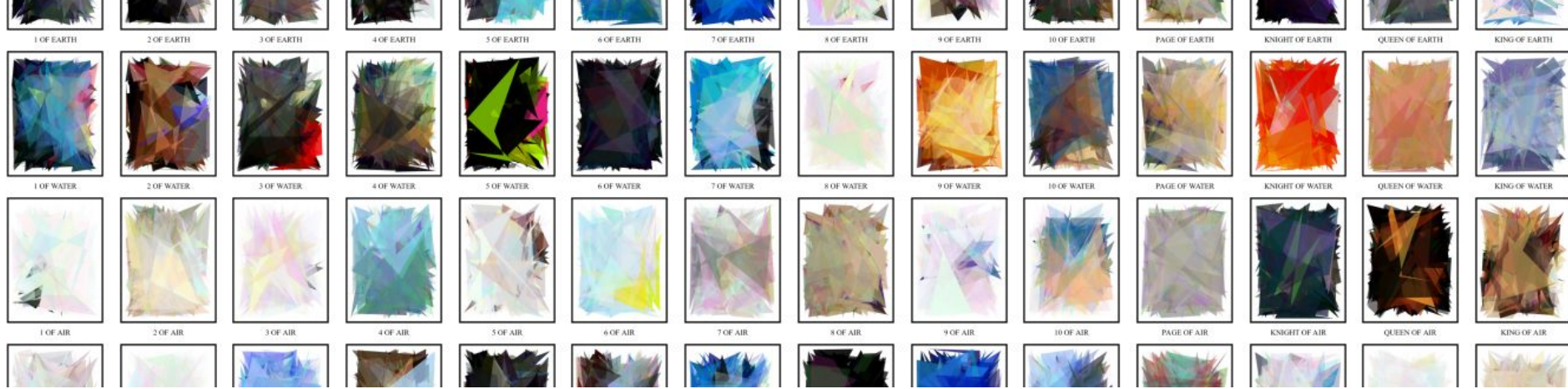
Related Work

- Is Tarot a game?*
- What is the connection between Tarot and values representations?**
- Look, other Tarot-based work***

* Dummet, M. 1980. *The Game of Tarot: From Ferrara to Salt Lake City*. Duckworth.

** Aphek, E., and Tobin, Y. 1989. *The Semiotics of Fortune Telling*. J. Benjamins Amsterdam & Philadelphia.

*** Sullivan, A.; Eladhari, M. P.; and Cook, M. 2018. Tarot-based narrative generation. In *Proceedings of the 13th International Conference on the Foundations of Digital Games*, 54. ACM.



Goals

- Make Tarot decks
- Make Tarot decks in a way that is usable for readings
- Make Tarot decks in a way that they are reasonable + believable value-spaces for people

Method

- Common structure of Tarot decks
 - 22 trump cards
 - 56 cards similar to a poker deck
 - 4 suits representing four elements
 - Each suit has 10 number cards, 4 people cards

Method

- Have a bag of word-concepts* (repeats allowed)
- Reduce to dictionary with {concept: count}
 - Very similar concepts are grouped as a single one
- Pop out the most common concepts to use for trump cards
- Convert the dictionary to a graph using WordNet similarity to decide whether there should be a link between nodes

$$LCh = -\log \frac{\textit{shortest_path}(\textit{synset1}, \textit{synset2})}{2 * \textit{depth}}$$

Method

- We extract the largest clusters in the graph, and assign clusters to appropriate suits for suit cards
 - Assignment uses semantic proximity to the four elements according to wordnet
 - Clusters themselves are returned as advised interpretation of the cards

Method

- Used a quick hack to retrieve the bag of word-concepts

Themes  

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Themes are the fundamental and often universal ideas explored in a literary work.

The Dangers of Totalitarianism

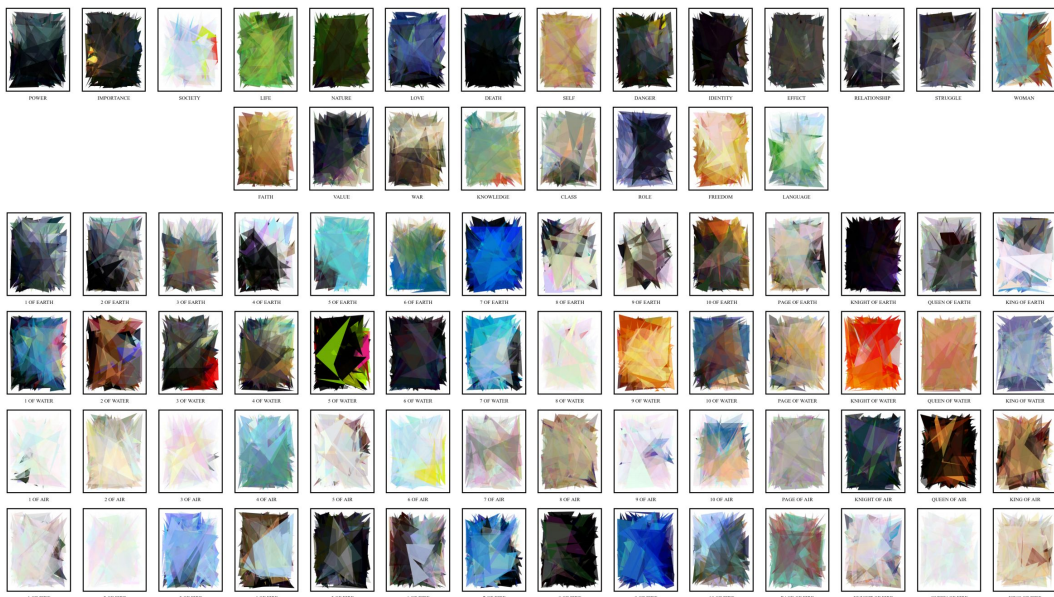
1984 is a political novel written with the purpose of warning readers in the West of the dangers of totalitarian government. Having witnessed firsthand the horrific lengths to which totalitarian governments in Spain and Russia would go in order to sustain and increase their power, Orwell designed *1984* to sound the alarm in

 SparkNotes.com/lit/.../themes

Method

- For each card, use the Google Image Search API to retrieve an image, using the card themes as the search term
- Run polygon approximation on the retrieved image for the final image to use on the face of the card

Results



Description of Deck and Suggested Readings

Major Arcana

- 0 power
- 1 importance
- 2 society
- 3 life
- 4 nature
- 5 love
- 6 death
- 7 self
- 8 danger
- 9 identity
- 10 effect
- 11 relationship
- 12 struggle
- 13 woman
- 14 faith
- 15 value
- 16 war
- 17 knowledge
- 18 class
- 19 role
- 20 freedom
- 21 language

Minor Arcana

- 1 of earth: man, humankind, land, farming, earth, country, creation, world, humanity, state, mankind, reality, institution, isolation
- 2 of earth: violence, intensity, strength, force, brutality
- 3 of earth: agency, dominance, authority, way, path
- 4 of earth: boy, word, book, son
- 5 of earth: problem, difficulty, trouble
- 6 of earth: face, side, expression
- 7 of earth: escape, escape, flight
- 8 of earth: administration, government, presidency
- 9 of earth: bondage, slavery
- 10 of earth: vision, imagination
- page of earth: character, type
- knight of earth: medicine, music
- queen of earth: obedience, respect
- king of earth: extravagance, capriciousness
- 1 of water: bargain, deal, mass, lot, fortune, fate, chance
- 2 of water: connectedness, tie, contact, connection, link
- 3 of water: turn, act, go, play, routine
- 4 of water: source, author, root, beginning
- 5 of water: difference, conflict, fight
- 6 of water: privacy, secrecy, silence
- 7 of water: reason, cause, intellect
- 8 of water: build, shape, form
- 9 of water: story, history
- 10 of water: magic, illusion
- page of water: hope, promise
- knight of water: hell, sin
- queen of water: warmth, passion
- king of water: balance, rest

- 1 of air: ancestry, blood, business, line, side, contrast
- 2 of air: habit, manipulation, use, purpose, determination
- 3 of air: purity, whiteness, force, innocence
- 4 of air: convention, principle, rule, rule
- 5 of air: gender, sexuality, sex
- 6 of air: loyalty, commitment, allegiance
- 7 of air: decay, decline, fall
- 8 of air: testament, will
- 9 of air: marriage, union
- 10 of air: expectation, outlook
- page of air: perseverance, persistence
- knight of air: joy, pleasure
- queen of air: mastery, supremacy
- king of air: heritage, inheritance
- 1 of fire: space, family, place, home, fellowship
- 2 of fire: break, translation, displacement, transformation, shift
- 3 of fire: maturation, evolution, growth, development
- 4 of fire: doubt, question, precariousness, uncertainty
- 5 of fire: harshness, cruelty, selfishness
- 6 of fire: destruction, ending, end
- 7 of fire: goodwill, grace, blessing
- 8 of fire: oppression, oppressiveness
- 9 of fire: painfulness, pain
- 10 of fire: madness, folly
- page of fire: inadequacy, insufficiency
- knight of fire: fertility, richness
- queen of fire: tool, instrument
- king of fire: emasculation, castration

Results



Results

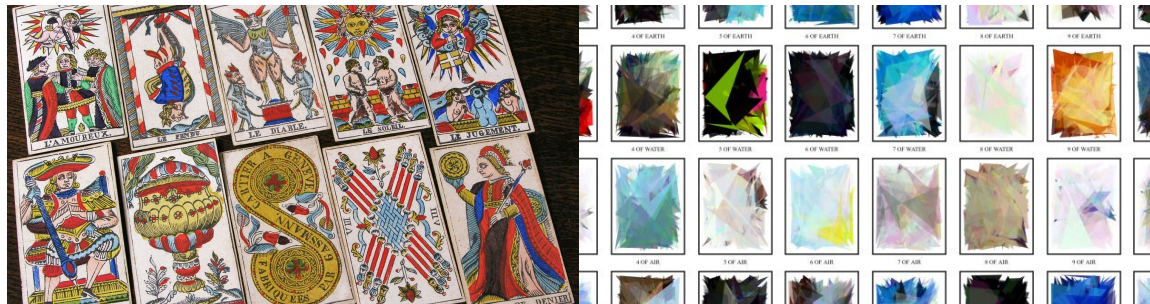
- Unauthored corresponding trump card pairs between our generated deck and the classical Rider-Waite. Neat!

Generative Tarot	Rider-Waite
0-Power	8-Strength
1-Importance	4-Emperor
6-Death	13-Death
7-Self	7-Hanged Man
8-Danger	16-Tower
9-Identity	9-Hermit
11-Relationship	6-Lovers
12-Struggle	7-Chariot
13-Woman	3-Empress
14-Faith	17-Star
17-Knowledge	1-Magician

Evaluation

- Reversed cards are recommended to be used in the sense of inversions
- Given the same input
 - the card themes for the trump cards are deterministic
 - the card themes for the suit cards are slightly randomized, but not really
 - the images are randomized
- To significantly change the output deck, a different data source is required
 - the target audience could perhaps determine which data source might be chosen
- Whether the semantic map was a good values representation was not well tested by this project

Conclusion



- Make Tarot decks ✓
- Make Tarot decks in a way that is usable for readings
?
 - Come talk to me later!
- Make Tarot decks in a way that they are reasonable + believable value-spaces for people ✗

Generative Tarot	Rider-Waite
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14-Faith	17-Star
17-Knowledge	1-Magician



Thanks!

Questions?

Email: julinas@ucsc.edu

Code: <https://github.com/julinas/generative-tarot>



come find me later for a reading