

CURIOSITY, TRANSPARENCY, & FAILURE

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September 19, 2019
@andrewheiss

FAILURE

Failure is core to research and academia.

Grants

Journal articles

Disappointing results

No/slow feedback

Luck



Journal of Politics
@The_JOP



Some data on new submissions to the JOP:

2009: 709

2010: 717

2011: 787

2012: 891

2013: 994

2014: 891

2015: 1157 (first Field Editor Team in place)

2016: 1212 (first allowing Short Articles submissions)

2017: 1260

2018: 1251

2019: 1358 (projected)

EDUCATION

Graduate School Can Have Terrible Effects on People's Mental Health

Ph.D. candidates suffer from anxiety, depression, and suicidal ideation at astonishingly high rates.

ALIA WONG NOV 27, 2018



**This sucks and
shouldn't be this way.**

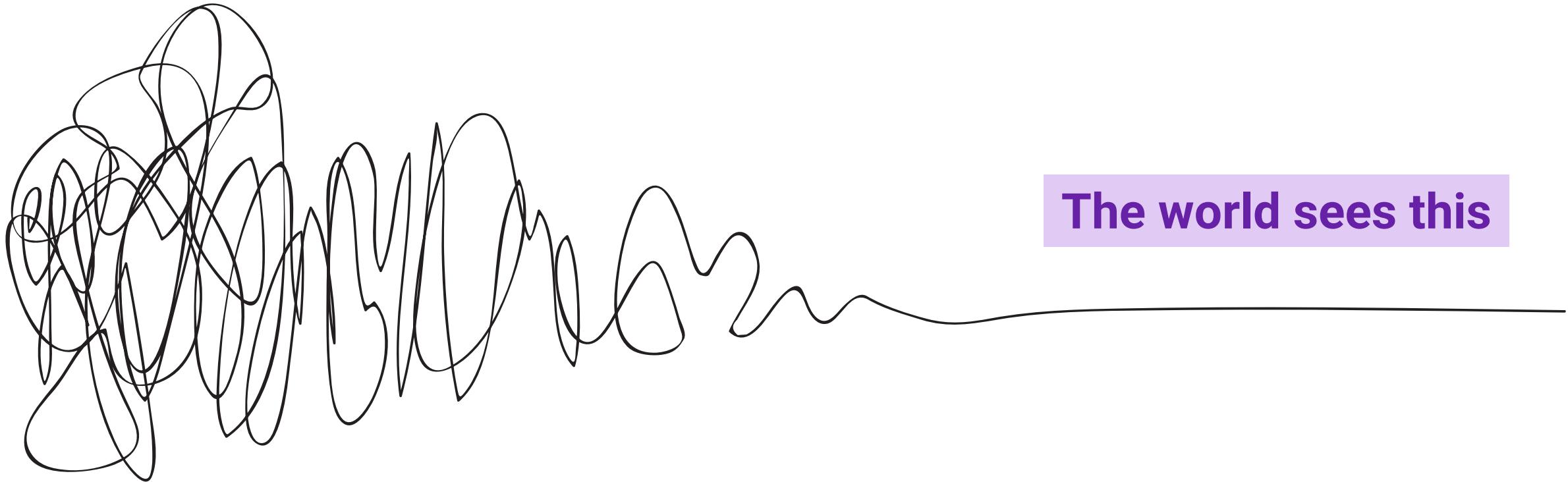
But existing institutional structures
make it kinda inevitable ̄＼(ツ)／̄

**Embrace and
normalize failure**

**Consider sharing and making
your research process public**

ACADEMIC MEANDERING

The Design Squiggle

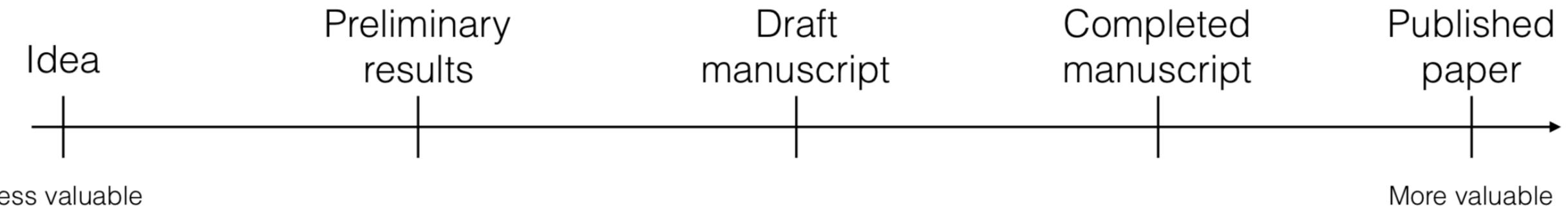


Show people what
this looks like

The world sees this

RADICAL TRANSPARENCY & PUBLIC WORK

How we normally think of our work and goals



How do you learn R?

Find excuses to use it!

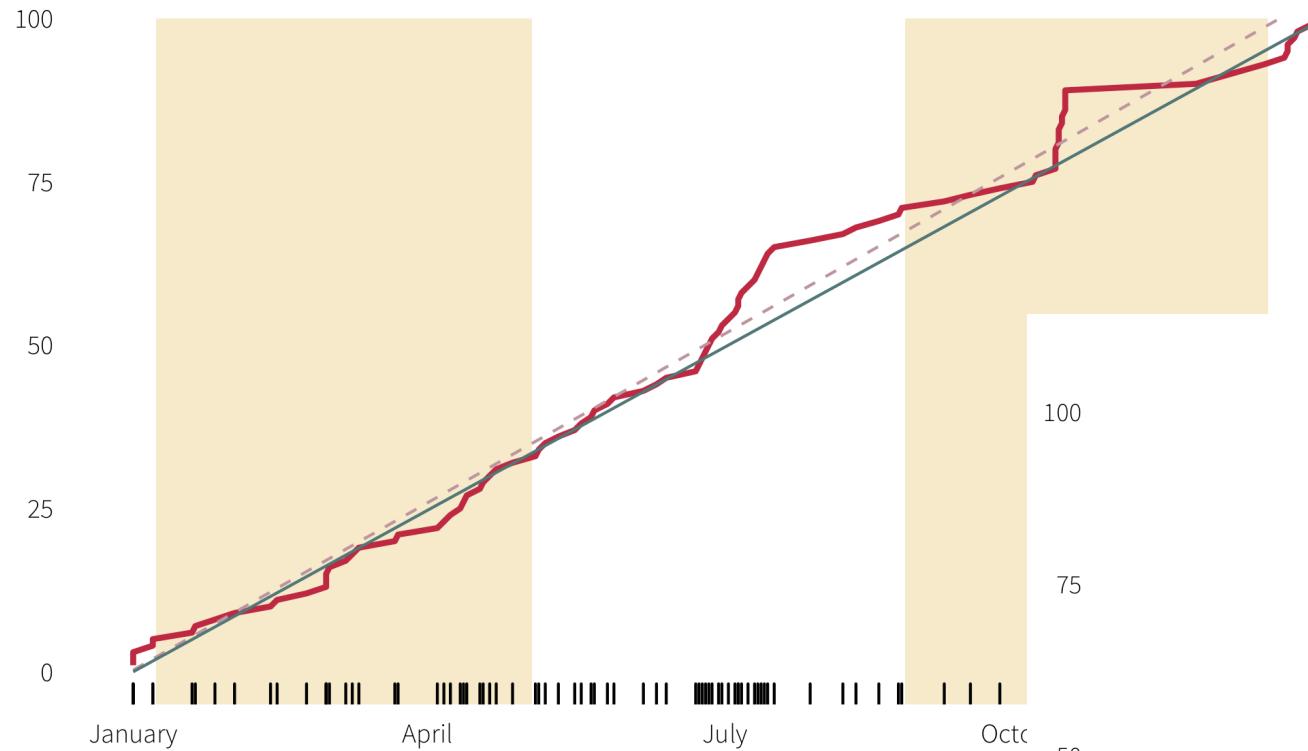
Dumb dinky projects

Data play time

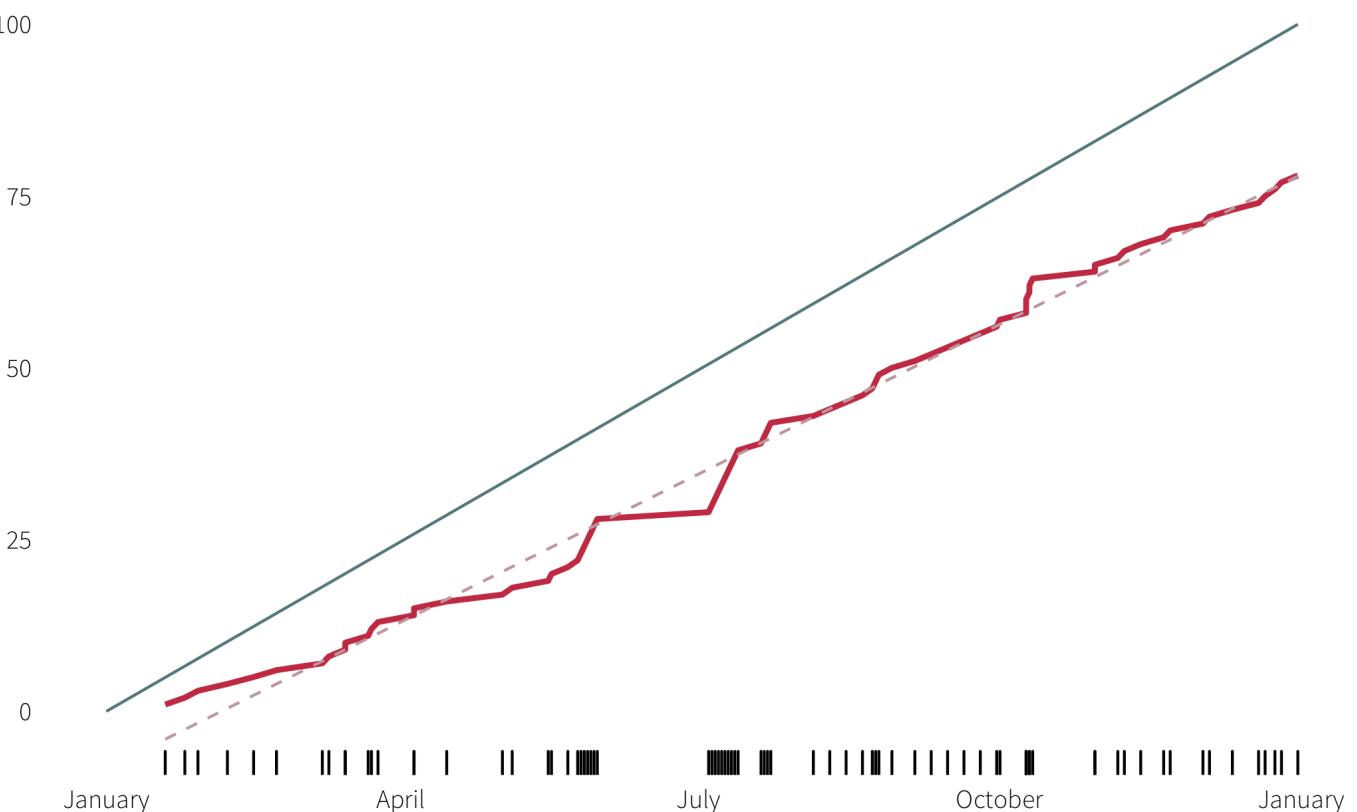
Actual projects

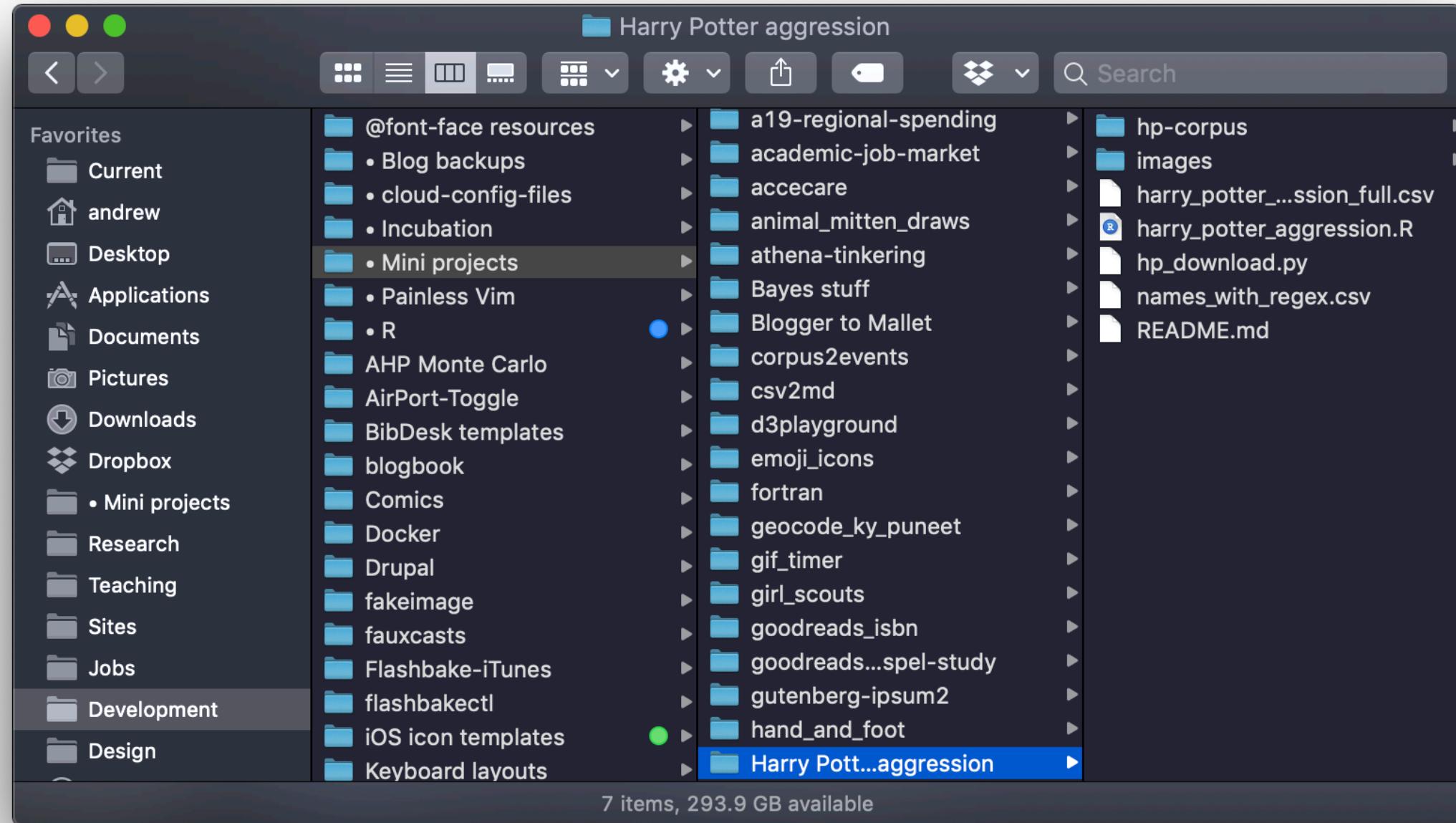
Cumulative number of family walks in 2014

Duke semesters shaded in yellow

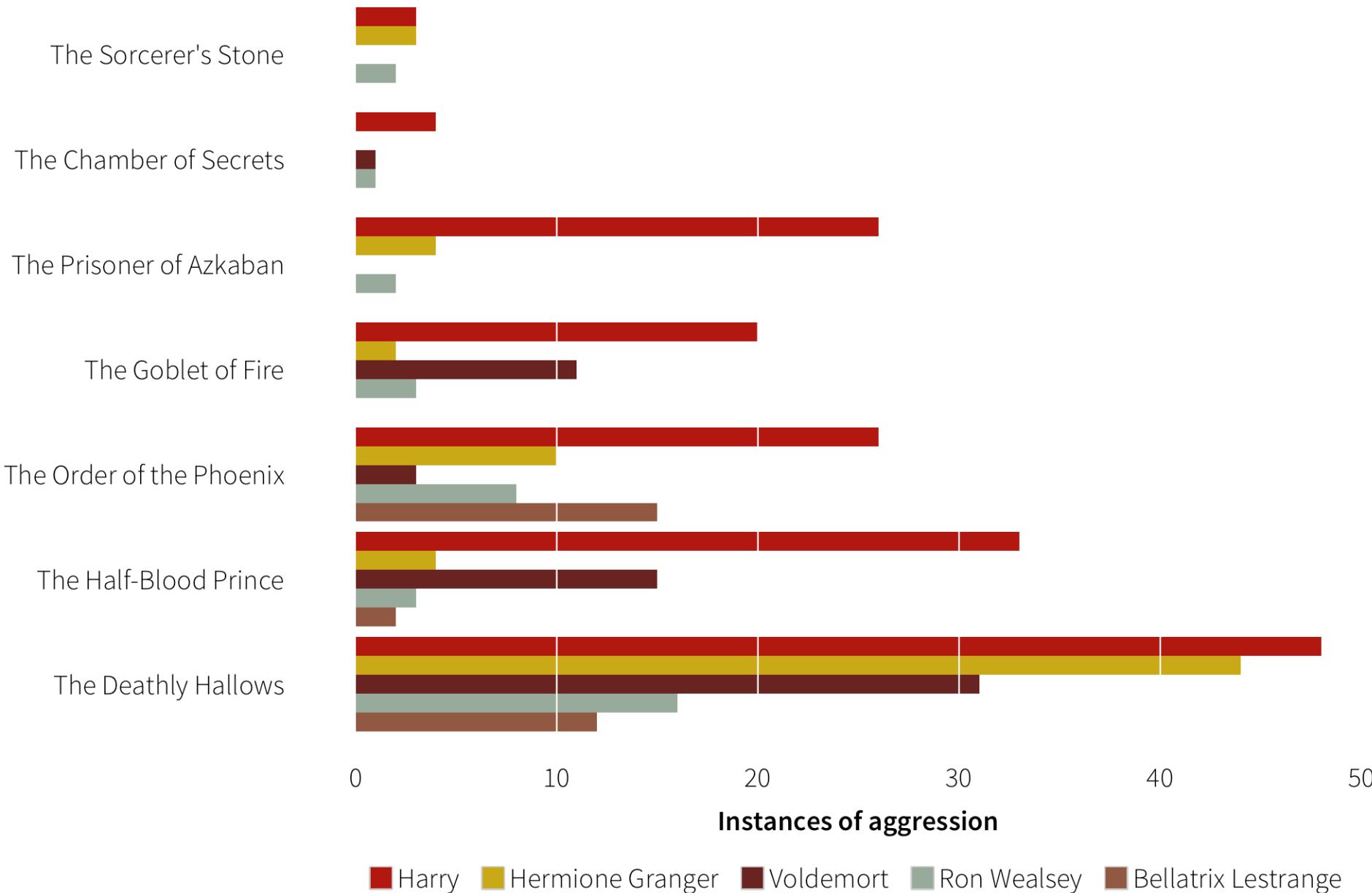


Cumulative number of family walks in 2015





Most aggressive characters in the Harry Potter series



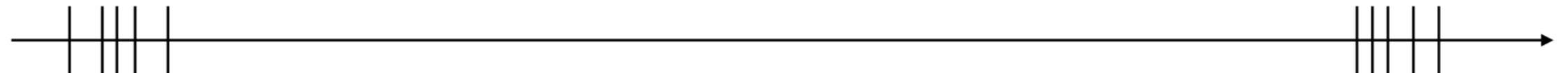
How we should think of our work and goals

Anything still
on your computer

(Data, code, results,
draft, finished paper)

Anything out
in the world

(Paper, preprint, product,
blog post, open source,
tweet)



Less valuable

More valuable



Track Your Order

DOMINO'S TRACKER®

Know the status of your order, from the moment it's placed to the second it leaves our store for delivery or is ready to be picked up.



YOUR ORDER IS IN THE OVEN - MD put your order in the oven at 07:01PM.

PATENT PENDING

≡
MENU

Neighborhood Improvement Tracker

Search for an address or intersection:

ex '8515 W Chicago', 'Van Dyke & Harper'

Residential Demolitions

- █ Completed [\(source\)](#)
- █ Contracted [\(source\)](#)
- █ Pipeline [\(source\)](#)

Commercial Demolitions

- ▲ Completed [\(source\)](#)
- ▲ Contracted [\(source\)](#)
- ▲ Pipeline [\(source\)](#)

DLBA Sold Properties

- Partner & Project Sales [\(source\)](#)
- Own It Now [\(source\)](#)
- Closed Auctions [\(source\)](#)
- Side Lots [\(source\)](#)
- Currently for sale [\(source\)](#)
- DLBA Owned Structure [\(source\)](#)

DLBA Owned Properties

- DLBA Owned Vacant Land [\(source\)](#)
- Side Lots For Sale [\(source\)](#)

Building Permits

- Building Permits [\(source\)](#)



© Mapbox © OpenStreetMap. Improve this map

Benefits of working in public

Build reputation

Learn more

Grow community

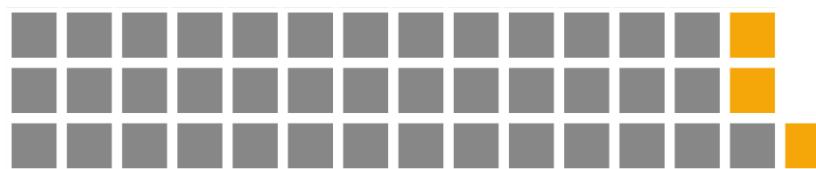
Early feedback on ideas

Validation

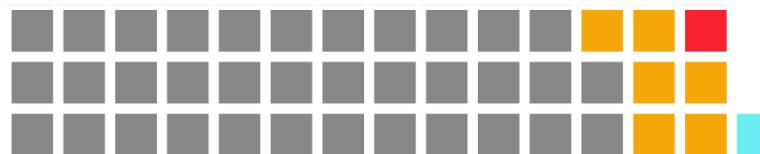
Normalization of failure

2016-17

Political science (43)



Public administration and policy (41)

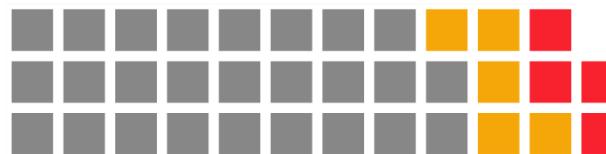


2017-18

Political science (11)

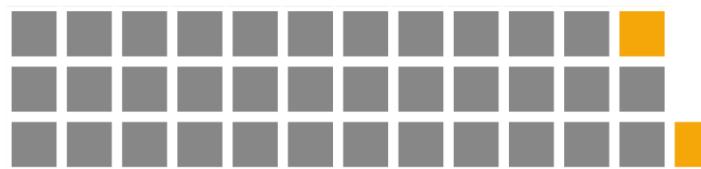


Public administration and policy (31)

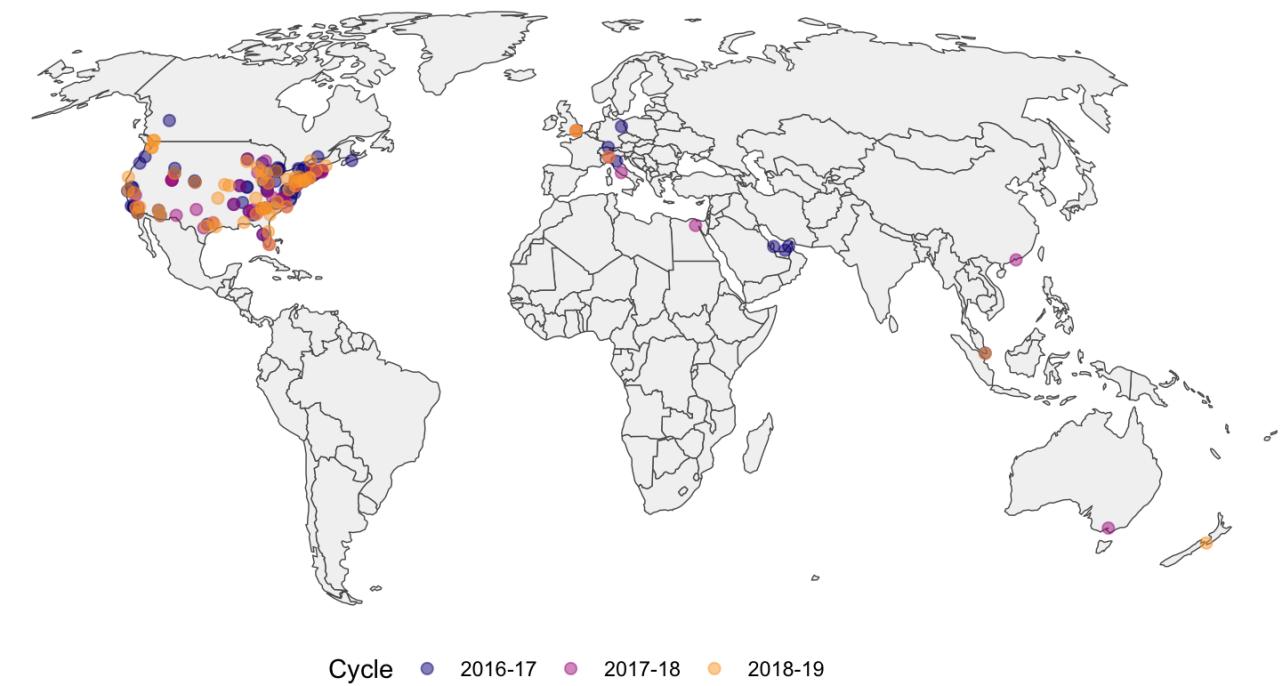


2018-19

Political science (37)



Public administration and policy (23)



Cycle ● 2016-17 ● 2017-18 ● 2018-19

■ Nothing ■ Skype, no flyout ■ Flyout, no offer ■ Visiting offer ■ Tenure-track offer

One box = one job posting

Andrew Heiss

International NGOs, nonprofit management, authoritarianism, data science, and R

About • CV • Blog •
Research • Teaching • Talks •
Other projects • Now • Uses



CC BY-SA • 2007-2019

ORCID ID: 0000-0002-3948-3914

PGP public • PGP fingerprint:
4AA2 FA83 A8B2 05A4 E30F
610D 1382 6216 9178 36AB

Code for site

Monday, December 17, 2018

The academic job search finally comes to an end

I am so beyond thrilled to announce that I'll be joining the [Andrew Young School of Policy Studies](#) at [Georgia State University](#) in Fall 2019 as an assistant professor in the [Department of Public Management and Policy](#). I'll be teaching classes in statistics/data science, economics, and nonprofit management in beautiful downtown Atlanta, and we'll be moving back to the South. I am so so excited about this! The Andrew Young School does amazing work in public policy, administration, and nonprofit management, and I'll be working with phenomenal colleagues and students. I still can't believe this is real.

Part of the reason I'm in shock is that for the past 2.5 years, I've been ripped apart and destroyed by the academic job market. This job market is a horrendous beast of a thing. It is soul-crushing and dream-shattering and a constant stream of rejection. While facing rejection [is good and builds grit etc., etc.](#), in reality it's awful.

In an effort to stay On Brand™, here are a bunch of fancy graphs and numbers showing what it's been like to apply for nearly 200 jobs since August 2016. Unlike many of my other blog posts, I haven't included any of the code to generate these. [That code](#) is all available in a [GitHub repository](#) (see `README.Rmd`), along with the [raw data](#) that I've collected over the past few years (for the morbidly curious).

Application count and outcomes

Between August 31, 2016 and November 18, 2018, I applied for 186 tenure-track and non-tenure-track academic jobs at R1 schools, liberal arts colleges, and teaching-focused public universities. I was offered one two-year visiting assistant professorship at the [Romney](#)

523 lines (430 sloc) | 25.8 KB

[Raw](#) [Blame](#) [History](#)

```
1 ---  
2 title: "The academic job search finally comes to an end"  
3 output: github_document  
4 editor_options:  
5   chunk_output_type: console  
6 ---  
7  
8 ```{r setup, include=FALSE}  
9 knitr::opts_chunk$set(echo = FALSE, fig.retina = 2)  
10 ```  
11  
12 > See the [actual blog post](https://www.andrewheiss.com/blog/2018/12/17/academic-job-market-visualized%).  
13  
14 ---  
15  
16 I am *so beyond thrilled* to announce that I'll be joining the [Andrew Young School of Policy Studies](https://aysps.gsu.edu/) as a  
17  
18 Part of the reason I'm in shock is that for the past 2.5 years, I've been ripped apart and destroyed by the academic job market.  
19  
20 In an effort to stay On Brand™, here are a bunch of fancy graphs and numbers showing what it's been like to apply for nearly 200  
21  
22 ```{r load-libraries-data, warning=FALSE, message=FALSE}  
23 library(tidyverse)  
24 library(lubridate)  
25 library(here)  
26 library(sf)  
27 library(waffle)  
28 library(ggstance)  
29 library(scales)  
30 library(countrycode)  
31 # library(mapview) # For interactive maps!  
32 library(units)  
33 library(patchwork)  
34  
35 # Load jobs data  
36 jobs_clean <- read_csv(here("data", "jobs_clean.csv")) %>%  
37   mutate_at(vars(`Skype interview`, `Flyout`, contains("ffer")),  
38     funs(bin = !is.na(.)))  
39
```

How to work in public

Blog and tweet

Analyze data

Blog about research

Teach concepts

Make research public

Start a blog



Creating Websites with R Markdown

Preface

- Structure of the book
- Software information and conventions
- Acknowledgments
- About the Authors
 - Yihui Xie
 - Amber Thomas
 - Alison Presmanes Hill

1 Get Started

- 1.1 Installation
 - 1.1.1 Update
 - 1.2 A quick example
 - 1.3 RStudio IDE
 - 1.4 Global options
- 1.5 R Markdown vs. Markdown
- 1.6 Other themes
- 1.7 A recommended workflow

2 Hugo



We introduce an R package, **blogdown**, in this short book, to teach you how to create websites using R Markdown and Hugo. If you have experience with creating websites, you may naturally ask what the benefits of using R Markdown are, and how **blogdown** is different from existing popular website platforms, such as WordPress. There are two major highlights of **blogdown**:

1. It produces a static website, meaning the website only consists of static files such as HTML, CSS, JavaScript, and images, etc. You can host the website on any web server (see Chapter 3 for details). The website does not require server-side scripts such as PHP or databases like WordPress does. It is just one folder of static files. We will explain more benefits of static websites in Chapter 2, when we introduce the static website generator Hugo.
2. The website is generated from R Markdown documents (R is optional, i.e., you can use plain Markdown documents without R code chunks). This brings a huge amount of benefits, especially if your website is related to data analysis or (R) programming. Being able to use Markdown implies simplicity and more importantly, *portability* (e.g., you are giving yourself the chance to convert your blog posts to PDF and publish to journals or even books in the future). R Markdown gives you the benefits of dynamic documents — all your results, such as tables, graphics, and inline values, can

Finding online communities

A screenshot of a Twitter search results page for the hashtag #rstats. The interface shows a dark theme with a navigation bar at the top. Below the search bar, there are tabs for Top, Latest, People, Photos, and Videos. The main content area displays several tweets from users like Mara Averick (@dataandme) and Stephen Turner (@strnr), both sharing links to their respective projects. The STAT 545 project is shown on a mobile device screen, featuring a logo and sections for data wrangling, exploration, and analysis with R.

Mara Averick @dataandme · 38m
The new @STAT545 site is up and it's *beautiful!*
MOAR @JennyBryan = 🎉
"STAT 545" buff.ly/2QID075 #rstats

STAT 545

Data wrangling, exploration, and analysis with R

Welcome to STAT 545

Stephen Turner @strnr · Sep 16
RVerbalExpressions, where were you 10 years ago
rverbalexpressions.netlify.com/index.html #rstats

```
x <- rx_start_of_line() %>%
  rx_find('http') %>%
  rx_maybe('s') %>%
```

A screenshot of a Twitter search results page for the hashtag #epitwitter. The interface is similar to the #rstats search. The main content area displays several tweets from users like Christina Ludema (@christinaludema) and Malcolm Barrett (@malco_barrett). One tweet from Christina Ludema includes a large callout box with instructions for writing recommendation letters, including fields for due date, recipient, submission method, and goals. The STAT 545 project is also mentioned in one of the tweets.

Christina Ludema @christinaludema · Sep 10
After 2 years of wading through recommendation letter request emails, I found a system that works like a dream.
1) Student requests letter
2) I send this form
3) Form + CV go straight to Box
4) When I'm ready to recommend, I dive in!
#AcademicChatter #epitwitter #MentoringMondays

Recommendation for (describe and if possible include a link to the webpage for this opportunity):

Due date:
(NOTE: if the due date is less than two weeks away, I likely will not be able to accommodate this request)

To whom should the letter be addressed?

How does the letter need to be submitted?

How do we know each other (and for how long)?

Tell me about your educational or career goals. How does this opportunity fit into those goals?

What positive traits or abilities did you demonstrate in our interactions in class or elsewhere?

Are there certain ideas or themes you want me to emphasize in your letter? Are there weaknesses in your record that you'd like me to help explain or minimize?

Once you have completed the form save it with this title: Yourlastname_reform_duedateletter_Email

Malcolm Barrett 🐾 🐾 @malco_barrett · Sep 17
ggdag 0.2.0 is now on CRAN! 🚀 ➡️ 😊. ggdag fuses the powerful algorithms in dagitty for analyzing causal diagrams with the unlimited flexibility of ggplot2. Blog post: malco.io/2019/09/17/tid... Package website and vignettes: ggdag.malco.io #rstats #epitwitter



Ashley Holub
@ashtroid22

Read about us. Send us your posts
ashleyholub@gmail.com

Upcycled Science was launched in August 2019 with the goal of providing a home for the science that never was. As scientists and communicators, we are often busy writing, scrapping and rewriting. During this process, it is common that useful content gets cast aside and forgotten. The problem with forgotten content is that, while you may have no use for it, someone else may derive inspiration from it. In identifying gaps within the science communication community, it seems having content that doesn't quite fit anywhere is leading to a lot of lost material, that could be reinvented and spark further interest, even if the author is no longer interested.

So for those of you who have written something that you felt should be seen, but didn't know where it should live, for those of you who have ever written an extensive background only to change directions, for those of you who have the occasional writing bug but don't want their own blog, or for those of you just have thoughts that should be heard, welcome home.

HOUSE RULES

We welcome content of all topics and types. Unlike the journal submission process, we allow all submissions to be posted provided that content meets the following criteria:

- Content must not be offensive, harmful or contain foul language.
- Content must be evidence-based or scientific in nature, posts promoting harmful alternative therapies will not be permitted. Opinion pieces on science and policy related topics are welcome, provided they follow the above rules.
- Respect.

SUBMISSION AND AUTHORSHIP

Analyze data

Saturday, August 26, 2017

Quickly play with Polity IV and OECD data (and see the danger of US democracy)

The [Polity IV Project](#) released new data yesterday, with democratization scores for 169 countries up to 2016. I wanted to check if the ongoing erosion of US democratic institutions since the 2016 elections registered in the US's Polity score, and, lo and behold, it did! We dropped from our solid, historically consistent 10 to an 8.

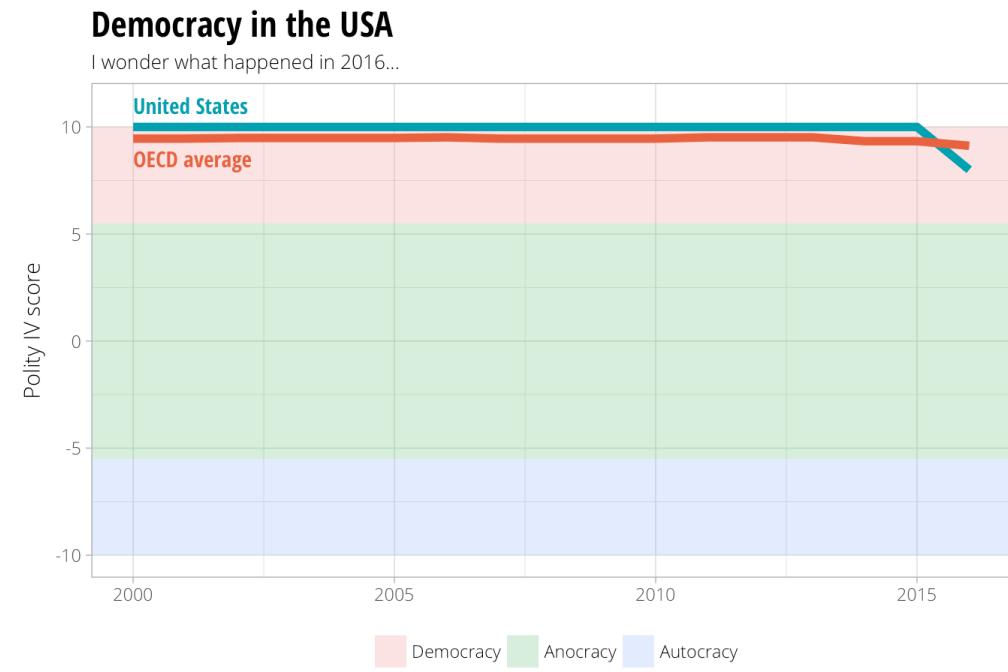
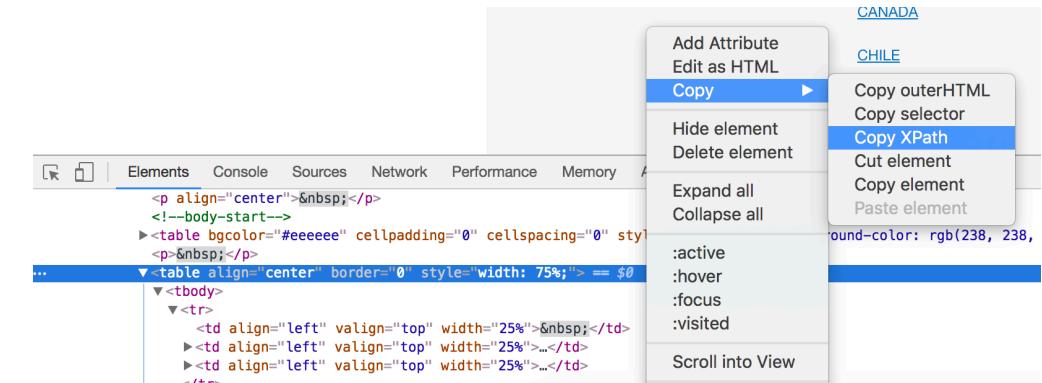
But is that bad? How does that compare to other advanced democracies, like countries in the OECD?

What follows below shows how relatively easy it is to quickly and reproducibly grab the new data, graph it, and compare scores across countries. (This notebook is also in a [GitHub repository](#).)

Before we start, we'll load all the libraries we'll need:

```
library(tidyverse)    # dplyr, ggplot, etc.  
library(readxl)        # Read Excel files  
library(forcats)       # Deal with factors  
library(countrycode)   # Deal with country codes and names  
library(rvest)         # Scrape websites  
library(httr)          # Download stuff  
library(ggrepel)        # Place non-overlapping labels on plots
```

First, we have to download the new Polity data. We could navigate to the [Polity IV data page](#) and download the data manually, but that's not scriptable. Instead, we can use `GET()` from



Source: Polity IV Project

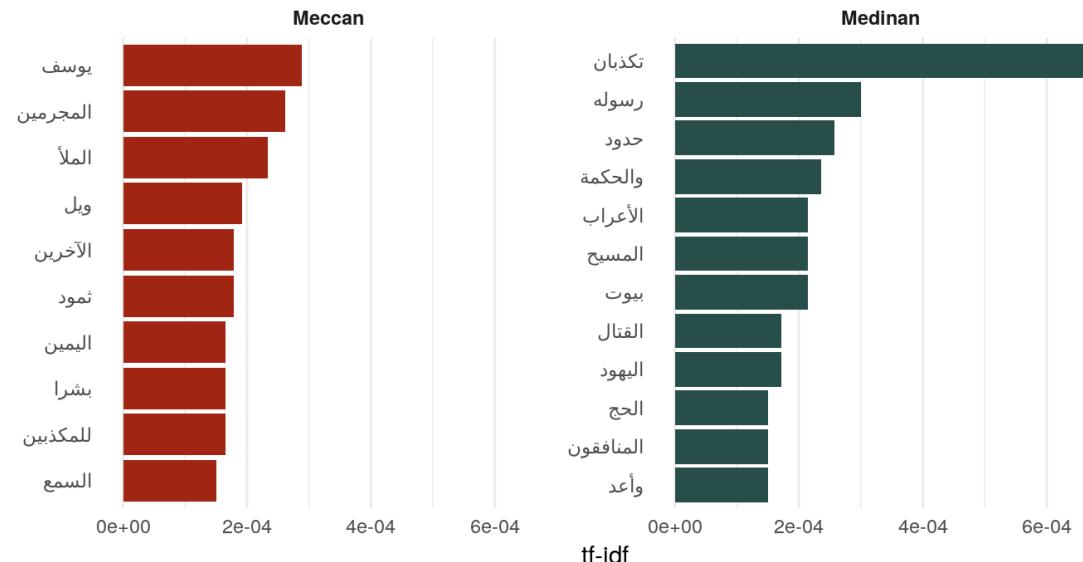
Tidy text, parts of speech, and unique words in the Qur'an

(See this notebook on [GitHub](#))

As I showed in a previous blog post, the [cleanNLP package](#) is a phenomenal frontend for natural language processing in R. Rather than learn the exact syntax for NLP packages like [spaCy](#) or [CoreNLP](#), you can use a consistent set of functions and let [cleanNLP](#) handle the API translation behind the scenes for you.

Previously, I used [spaCy](#) to tag the parts of speech in the Four Gospels to find the most distinctive nouns and verbs in the Gospel of John. Here, I'll show a quick example of how to use [CoreNLP](#) to tag parts of speech in Arabic. [CoreNLP](#) is far far far slower than [spaCy](#), but it can handle languages like Arabic and Chinese, which is pretty magical.

Most unique nouns in the Meccan and Medinan surahs



Tidy text, parts of speech, and unique words in the Bible

(See this notebook on [GitHub](#))

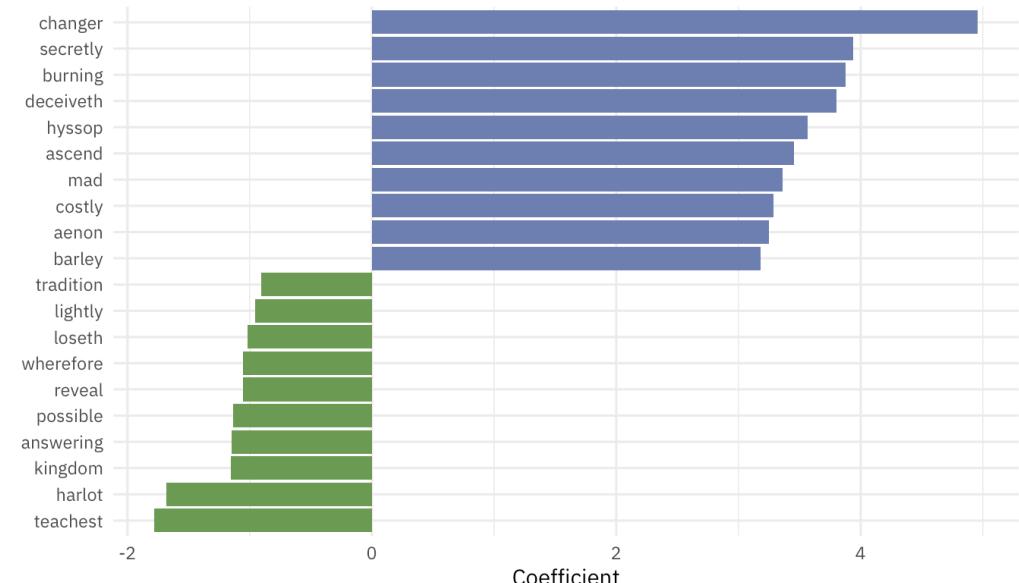
As part of my goal to read some sort of religiously themed book every day ([what I've read so far](#)), I've been reading [Eric Huntsman's new *Becoming the Beloved Disciple*](#), a close reading of the Gospel of John from an LDS perspective.

Near the beginning, Huntsman discusses several word frequencies that make John unique compared to the [synoptic gospels](#) of Matthew, Mark, and Luke (which all [draw on the same sources](#)). For instance, Huntsman states that John focuses more on themes of disipleship

Words that change the likelihood of being in John

A verse with "hyssop" in it is probably from John

■ Increases likelihood of being from John ■ Increases likelihood of being from Synoptic Gospels



Blog about research



Philip Guo

@pgbovine

Following

every published research paper should ideally have an accompanying summary blog post. i've tried to do this for everything i've published post-Ph.D. (sometimes batching several papers into one post) & encourage my students to do the same. 10-100x more people will read blog posts.

12:14 PM - 19 Jul 2018

196 Retweets 820 Likes



24

196

820



Teach a concept

Tuesday, January 29, 2019

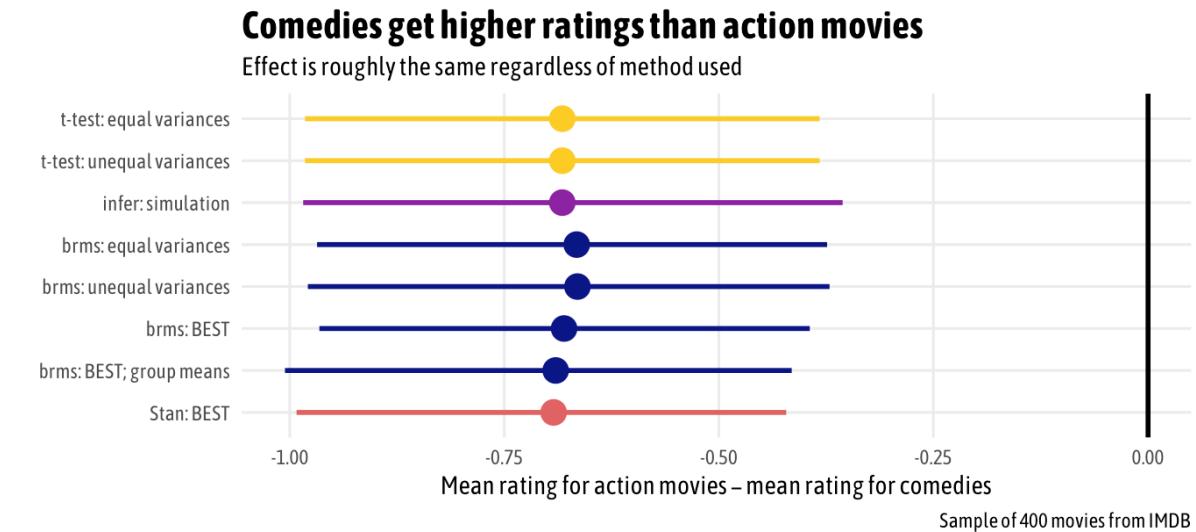
Half a dozen frequentist and Bayesian ways to measure the difference in means in two groups

(See this notebook on [GitHub](#))

Taking a sample from two groups from a population and seeing if there's a significant or substantial difference between them is a standard task in statistics. Measuring performance on a test before and after some sort of intervention, measuring average GDP in two different continents, measuring average height in two groups of flowers, etc.—we like to know if any group differences we see are attributable to chance / measurement error, or if they're real.

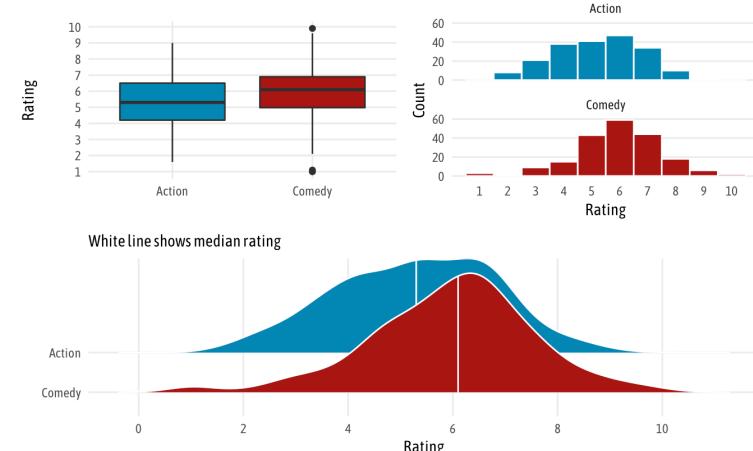
Classical frequentist statistics typically measures the difference between groups with a [t-test](#), but t-tests are 100+ years old and statistical methods have advanced a lot since 1908. Nowadays, we can use simulation and/or Bayesian methods to get richer information about the differences between two groups without worrying so much about the assumptions and preconditions for classical t-tests.

Mostly as a resource to future me, here are a bunch of different ways to measure the difference in means in two groups. I've done them all in real life projects, but I'm tired of constantly searching my computer for the code to do them:)



Do comedies get higher ratings than action movies?

Sample of 400 movies from IMDB



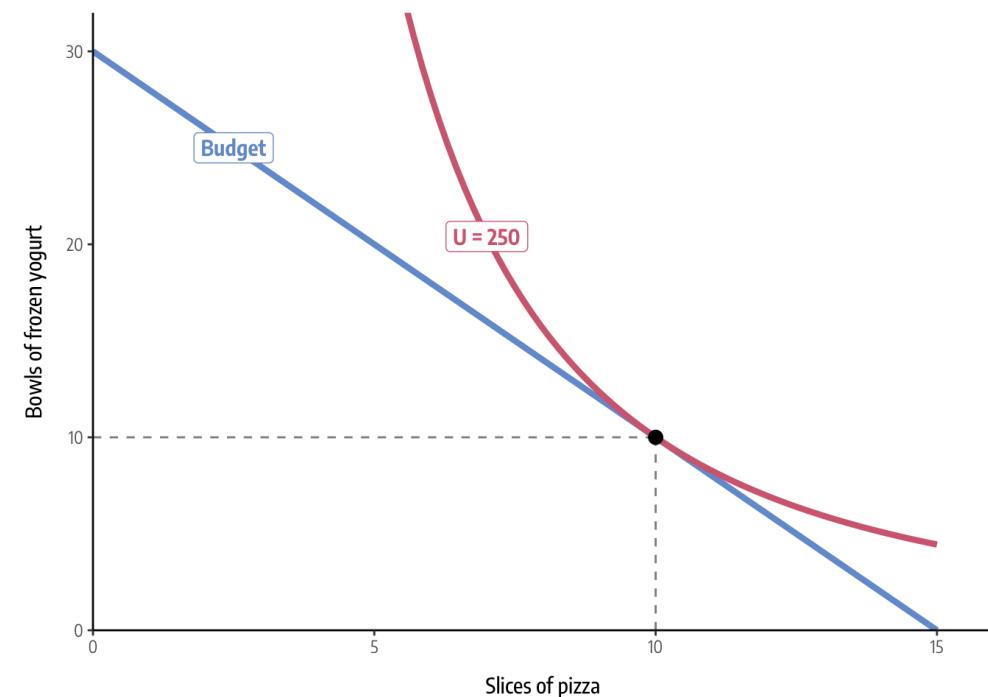
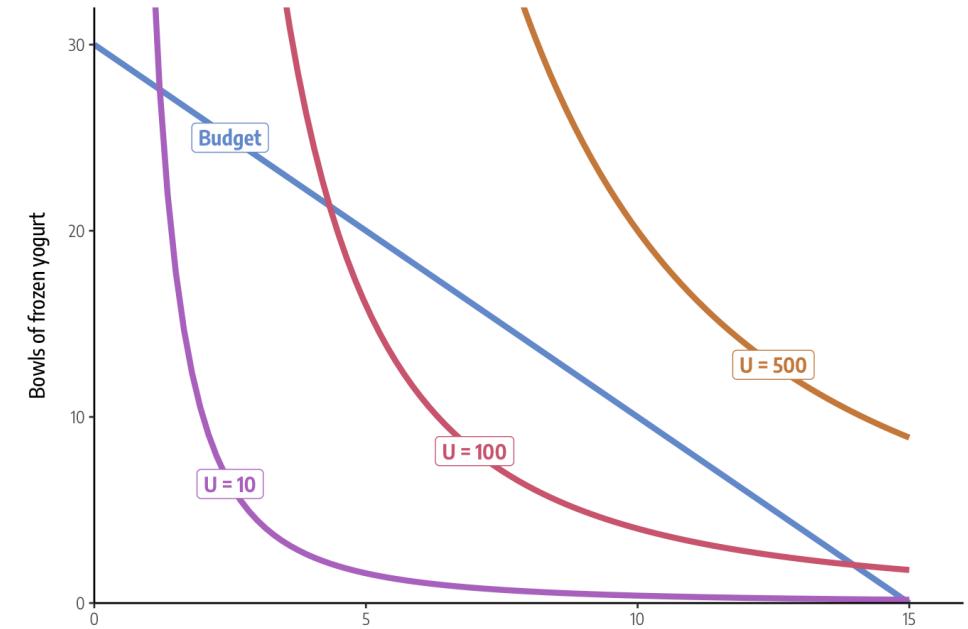
Saturday, February 16, 2019

Chidi's budget and utility: doing algebra and calculus with R and yacas

(See this notebook on [GitHub](#))

A year ago, I wrote about [how to use R to solve a typical microeconomics problem](#): finding the optimal price and quantity of some product given its demand and cost. Doing this involves setting the first derivatives of two functions equal to each other and using algebra to find where they cross. I showed how to use neat functions like `Deriv::Deriv()` and `splinefun()` and make fancy plots showing supply and demand and it's pretty cool. I wrote it mostly because I was teaching an introductory microeconomics course and wanted an easy, generalizable, and manual math-less way to make these plots for my students' exercises and problem sets, and it works great.

I'm teaching microeconomics again this year and decided to tackle a trickier problem that involves curvier curves, more variables, and more math. And the results are even cooler and open the door for more doing math and symbolic algebra directly with R.



Make research public



Andrew Heiss, "Taking Control of Regulations: How International Advocacy NGOs Shape the Regulatory Environments of their Target Countries," *Interest Groups and Advocacy* (forthcoming), doi:

10.1057/s41309-019-00061-0

Presented at the workshop on Interest Groups, International Organizations, and Global Problem-Solving Capacity, Stockholm University, Sweden, June 2018, organized by Elizabeth Bloodgood and Lisa Dellmuth

[Full details](#) [PDF](#) [Code](#)



Andrew Heiss and Judith G. Kelley, "Between a Rock and a Hard Place: International NGOs and the Dual Pressures of Donors and Host Governments," *Journal of Politics* 79, no. 2 (April 2017): 732–41, doi: 10.1086/691218

[Full details](#) [Ungated](#) [Gated](#) [Code](#)



Andrew Heiss and Judith G. Kelley, "From the Trenches: A Global Survey of Anti-TIP NGOs and their Views of US Efforts," *Journal of Human Trafficking* 3 (2017), doi: 10.1080/23322705.2016.1199241

[Full details](#) [Ungated](#) [Gated](#) [Code](#)

[andrewheiss / Between-rock-and-hard-place](#)

Code for Andrew Heiss and Judith G. Kelley. 2017. "Between a Rock and a Hard Place: International NGOs and the Dual Pressures of Donors and Host Governments." *Journal of Politics* 79, no. 2. doi: 10.1086/691218 <https://dx.doi.org/10.1086/691218>

international-ngo political-science public

46 commits

Branch: master New pull request

andrewheiss Add JOP citation details

analysis

data

figures

manuscript

submissions/response

[andrewheiss / From-the-Trenches-Anti-TIP-NGOs-and-US](#)

Code for Andrew Heiss and Judith G. Kelley. 2017. "Views of US Efforts." *Journal of Human Trafficking.*

Manage topics

288 commits 2 branches

Branch: master New pull request

andrewheiss Finally add a README

R Increase microscopic

data Add anonymous data

data_external Plot maps

figures Get rid of recursive

manuscript Add published note

[andrewheiss / donors-ngo-restrictions](#)

Suparna Chaudhry and Andrew Heiss, "Are Donors Really Responding? Analyzing the Impact of Global Restrictions on NGOs" <https://stats.andrewheiss.com/donors-...>

research political-science international-ngo ngo civil-society-restrictions foreign-aid Manage topics

489 commits 1 branch 3 releases 1 contributor View license

Branch: master New pull request Create new file Upload files Find File Clone or download

andrewheiss Compendiumization; go to 7fa01b3 for previous history ... Latest commit 03edd56 15 days ago

Data Compendiumization; go to 7fa01b3 for previous history 15 days ago

R Compendiumization; go to 7fa01b3 for previous history 15 days ago

Writing Compendiumization; go to 7fa01b3 for previous history 15 days ago

analysis Compendiumization; go to 7fa01b3 for previous history 15 days ago

lib Shorter tables 11 months ago

.Rbuildignore Compendiumization; go to 7fa01b3 for previous history 15 days ago

.gitignore Compendiumization; go to 7fa01b3 for previous history 15 days ago

CONDUCT.md Compendiumization; go to 7fa01b3 for previous history 15 days ago

Moral of the story

Research is hard and alienating and
lonely and (sometimes) crushing

Be open about failure
and struggles

Embrace curiosity
and share your work