# Winter Institute in Data Science

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2 January 2020

Goals

Skills

Examples

# Welcome!

- Political methodologist in Dept of Government in SPA

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- Methods Fellow at Office of Evaluation Sciences (US GSA)

# Data Science

Particular intersection of

- Statistical practice
- Computational tools
- Substantive knowledge

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- Substance: social science

# Computers!

# Social Meaning

Harvard Business Review

Data | Data Scientist: The Sexiest Job of the 21st Century

## Data Scientist: The Sexiest Job of the 21st Century

by Thomas H. Davenport and D.J. Patil

From the October 2012 Issue

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. . . and stay tuned . . .

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- Do original research using data sci methods. Contribute methods, substance, both.

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  - neural nets
  - text as data

# Examples

# What is a data science task?

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```
social <- read_csv("http://j.mp/2Et71U0")
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```
## # A tibble: 161,275 x 6
##    sex    yearofbirth primary2004 messages   primary2006
##    <chr>        <dbl>       <dbl> <chr>            <dbl>
##  1 male          1941           0 Civic Duty           0
##  2 female        1947           0 Civic Duty           0
##  3 male          1951           0 Hawthorne            1
##  4 female        1950           0 Hawthorne            1
##  5 female        1982           0 Hawthorne            1
##  6 male          1981           0 Control              0
##  7 female        1959           0 Control              1
##  8 male          1956           0 Control              1
```

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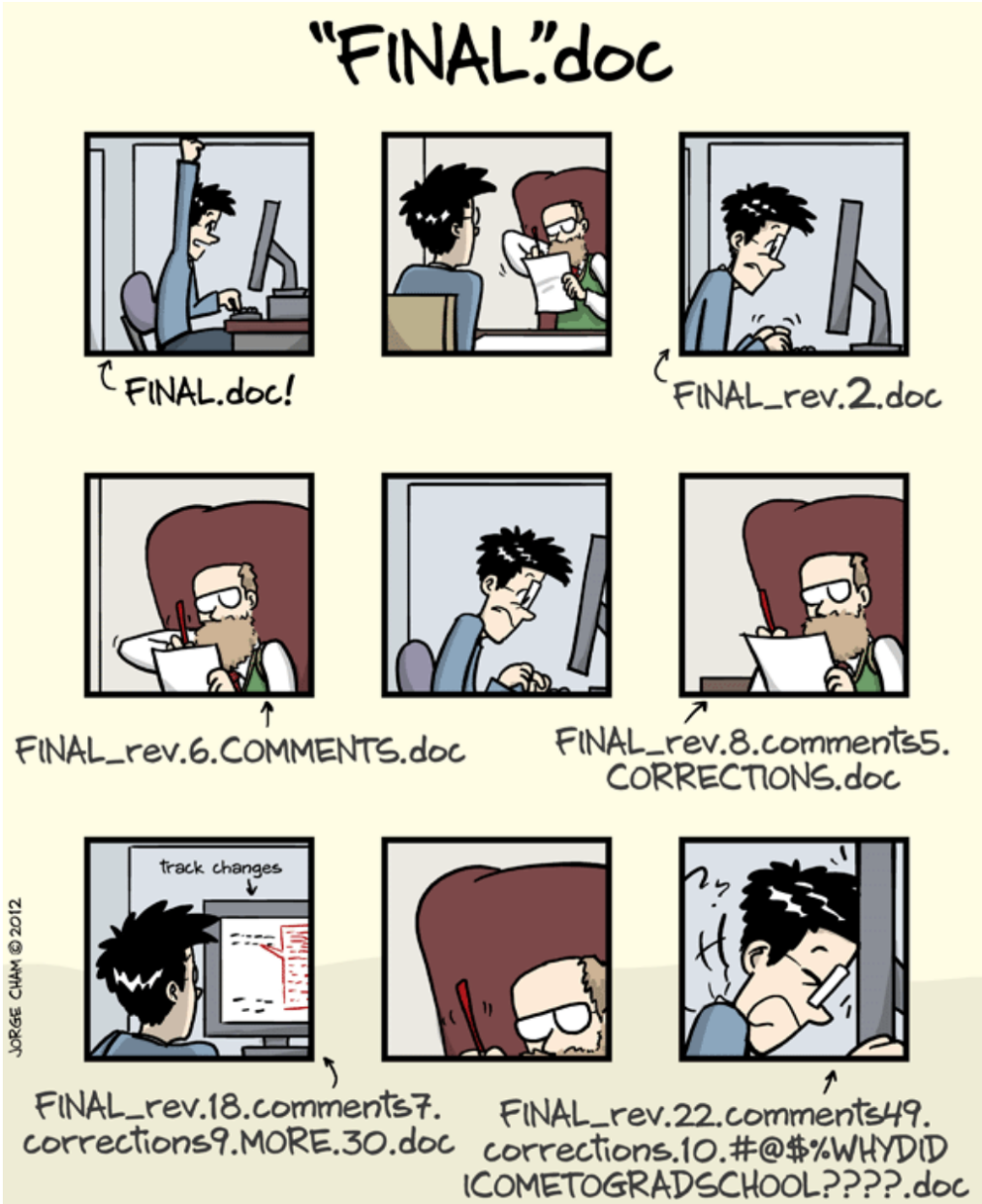
```
parse_date("15 enero 2000",
           locale = locale("es"),
           format = "%d %B %Y")
```

```
## [1] "2000-01-15"
```

# What is a data science task?

I collaborate, but `FinalLAST draft.v.2.doc (1)` is painful.



# What is a data science task?

I need to collaborate, but `FinalFinalLAST draft.v.2.doc (1)` isn't working for me anymore.

```
git add paper.tex
git commit paper.tex
git push
```

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- What characteristics of rodent complaints actually lead to successful abatement?
- How can we fairly estimate probability defendant will appear?
- Are intersections with new patterns less prone to traffic accidents?

Course GitHub page:

https://github.com/ryantmoore/winter-inst-2020

(syllabus tour)

# Installations

- R:
  https://cran.r-project.org
- RStudio (Desktop):
  https://rstudio.com/products/rstudio/
- Anaconda:
  https://www.anaconda.com/distribution/