An Example R Markdown Document

(A Subtitle Would Go Here if This Were a Class)

Maik Thalmann

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Georg-August-University Göttingen

Outline

Pop Songs and Political Science

Pop Songs and Political Science

Sheena Easton and Game Theory

Sheena Easton describes the following scenario for her baby:

1. Takes the morning train
2. Works from nine 'til five
3. Takes another train home again
4. Finds Sheena Easton waiting for him

R Stuff

```
# A tibble: 10 x 10
   carat cut       color clarity depth table price     x     y     z
   <dbl> <ord>     <ord> <ord>   <dbl> <dbl> <int> <dbl> <dbl> <dbl>
 1 0.23  Ideal     E     SI2      61.5    55   326  3.95  3.98  2.43
 2 0.21  Premium   E     SI1      59.8    61   326  3.89  3.84  2.31
 3 0.23  Good      E     VS1      56.9    65   327  4.05  4.07  2.31
 4 0.290 Premium   I     VS2      62.4    58   334  4.2   4.23  2.63
 5 0.31  Good      J     SI2      63.3    58   335  4.34  4.35  2.75
 6 0.24  Very Good J     VVS2     62.8    57   336  3.94  3.96  2.48
 7 0.24  Very Good I     VVS1     62.3    57   336  3.95  3.98  2.47
 8 0.26  Very Good H     SI1      61.9    55   337  4.07  4.11  2.53
 9 0.22  Fair      E     VS2      65.1    61   337  3.87  3.78  2.49
10 0.23  Very Good H     VS1      59.4    61   338  4     4.05  2.39
```

R Stuff cont'd

Some text to compare font sizes on this slide.

```r
library(psych)
desc <- as.data.frame(describeBy(d$price, d$color, mat = T, digits = 2))
kable(desc, booktabs = T) %>%
  kable_styling(latex_options = "scale_down")
```

	item	group1	vars	n	mean	sd	median	trimmed	mad	min	max	range	skew	kurtosis	se
X11	1	D	1	6775	3169.95	3356.59	1838.0	2457.57	1657.55	357	18693	18336	2.10	4.67	40.78
X12	2	E	1	9797	3076.75	3344.16	1739.0	2349.98	1537.46	326	18731	18405	2.17	4.89	33.79
X13	3	F	1	9542	3724.89	3784.99	2343.5	2974.69	2274.31	342	18791	18449	1.75	2.82	38.75
X14	4	G	1	11292	3999.14	4051.10	2242.0	3245.61	2277.27	354	18818	18464	1.50	1.72	38.12
X15	5	H	1	8304	4486.67	4215.94	3460.0	3755.13	3683.52	337	18803	18466	1.38	1.45	46.26
X16	6	I	1	5422	5091.87	4722.39	3730.0	4332.86	4067.51	334	18823	18489	1.16	0.42	64.13
X17	7	J	1	2808	5323.82	4438.19	4234.0	4721.87	4088.27	335	18710	18375	1.03	0.28	83.75

Plot
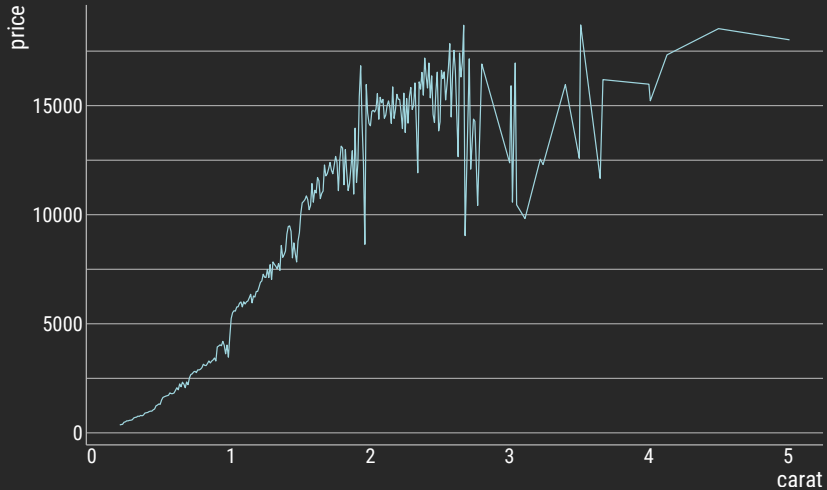
Rick Astley's Re-election Platform

Rick Astley's campaign promises:

- Never gonna give you up.
- Never gonna let you down.
- Never gonna run around and desert you.
- Never gonna make you cry.
- Never gonna say goodbye.
- Never gonna tell a lie and hurt you.

Are these promises (if credible) sufficient to secure re-election?

Rick Astley and Median Voter Theorem

Whereas these pledges conform to the preferences of the **median voter**, we expect Congressman Astley to secure re-election.

Caribbean Queen and Operation Urgent Fury

Billy Ocean released "Caribbean Queen" in 1984.

- Emphasized sharing the same dream
- Hearts beating as one

"Caribbean Queen" is about the poor execution of Operation Urgent Fury.

- Echoed JCS chairman David Jones' frustrations with military establishment.

Billy Ocean is advocating for what became the Goldwater-Nichols Act.

- Wanted to take advantage of **economies of scale**, resolve **coordination problems** in U.S. military.

The Good Day Hypothesis

We know the following about Ice Cube's day.

1. The Lakers beat the Supersonics.
2. No helicopter looked for a murder.
3. Consumed Fatburger at 2 a.m.
4. Goodyear blimp: "Ice Cube's a pimp." Heim & Kratzer (1998)
5. (Posner 1980, Hintikka 1969, Gries 2013, Grice 1989, Groenendijk & Stokhof 1984)

The Good Day Hypothesis
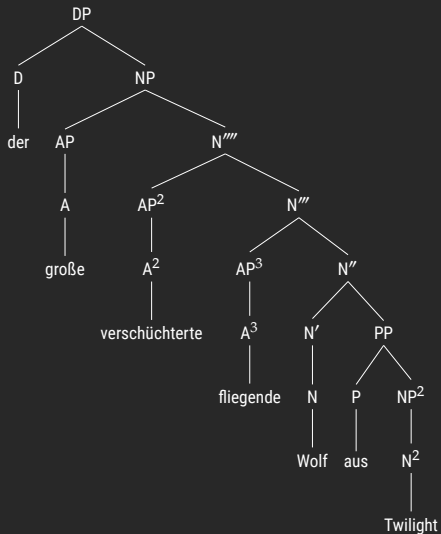
The Good Day Hypothesis

Colorless green ideas sleep furiously   (Noam Chomsky)

Functional Application (FA)   H&K:49

Wenn α ein verzweigender Knoten ist, $\{\beta, \gamma\}$ die Menge von α's Töchtern ist und $[\![\beta]\!]$ eine Funktion ist, dessen Domäne $[\![\gamma]\!]$ enthält, dann $[\![\alpha]\!] = [\![\beta]\!]([\![\gamma]\!])$.

Semantics

(1) Lexikoneinträge

⟦**not**⟧ = $\lambda p \in D_t \, . \, p = 0$

⟦**Carla**⟧ = Carla

⟦**invite**⟧ = $\lambda x \in D_e \, . \, [\lambda y \in D_e \, . \, y$ lädt x ein]

⟦**a**⟧ = $\lambda f \in D_{\langle e,t \rangle} \, . \, [\lambda g \in D_{\langle e,t \rangle} \, . \,$ es gibt ein x, sodass $f(x) = 1$ und $g(x) = 1]$

⟦**politician**⟧ = $\lambda x \in D_e \, . \, x$ ist ein Politiker

The Good Day Hypothesis

This leads to two different hypotheses:

- H_0: Ice Cube's day is statistically indistinguishable from a typical day.
- H_1: Ice Cube is having a good (i.e. greater than average) day.

These hypotheses are tested using archival data of Ice Cube's life.

All Code

All The Code I Used

```r
d <- diamonds
head(diamonds, 10)
library(psych)
desc <- as.data.frame(describeBy(d$price, d$color, mat = T, digits = 2))
kable(desc, booktabs = T) %>%
  kable_styling(latex_options = "scale_down")
ggplot(d, aes(x = carat, y = price)) +
  stat_summary(fun.y = mean, geom = "line", color = mygreen) +
  theme_maik()
```

Grice, H. Paul. 1989. *Studies in the way of words*. Cambridge, MA: Harvard University Press.

Gries, Stefan T. 2013. *Statistics for linguistics with r a practical introduction*. Berlin: de Gruyter Mouton.

Groenendijk, Jeroen & Martin Stokhof. 1984. *Studies on the semantics of questions and the pragmatics of answers*. University of Amsterdam dissertation.

Heim, Irene & Angelika Kratzer. 1998. *Semantics in generative grammar*. Oxford: Blackwell.

Hintikka, Jaakko. 1969. Semantics for propositional attitudes. In *Models for modalities*, 87–111. Dordrecht: Springer.

Posner, Roland. 1980. Semantics and pragmatics of sentence connectives in natural language. In John R Searle, Ferenc Kiefer & Manfred Bierwisch (eds.), *Speech act theory and pragmatics*, 168–203. Dordrecht: Reider.