Quantitative Content Analysis: Lecture 6

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Today's Outline

- Krippendorff's α by hand
- Classical hand coding/CMP

Krippendorff's α example

Simple example from Krippendorff (2004):

- Ten units (e.g. newspaper articles) to be coded by two coders
- Binary choice (e.g. mentions the USA or not)

Article	1	2	3	4	5	6	7	8	9	10
Coder A	1	1	0	0	0	0	0	0	0	0
Coder B	0	1	1	0	0	1	0	1	0	0

Calculating Krippendorff's α by hand

Direct computation:

$$\alpha = 1 - (n-1)\frac{0_{01}}{n_1 * n_0} = 1 - 19 * \frac{4}{84} = 0.095$$

Conceptual computation:

Step 1: Create contingency matrix

	0	1
0	10	4
1	4	2
# of values	14	6

Calculating Krippendorff's α by hand (II)

Step 2: Create matrix of expected coincidences

- Assume one random process to create the coding results:
  - Use the number of values as the distribution to draw from: 20 balls with 6 labelled as '1' and 14 labelled '0'
- Calculate the expected number of results:

$$e_{00} = n_0 * \frac{(n_0 - 1)}{n - 1}; e_{11} = n_1 * \frac{(n_1 - 1)}{n - 1}$$

$$e_{01} = e_{10} = n_0 * \frac{(n_1)}{n - 1} = 4.42$$

	0	1
0	9.6	4.4
1	4.4	1.6
# of values	14	6

Calculating Krippendorff's α by hand (II)

Step 3: Use the conceptual form of α

- $\alpha = 1 - \frac{D_0}{D_E}; D_0 = 4; D_E = 4.4$
- $\alpha = 1 - \frac{D_0}{D_E} = 1 - \frac{4}{4.42} = 0.095$

```
library(irr)
a=c(1,1,0,0,0,0,0,0,0,0)
b=c(0,1,1,0,0,1,0,1,0,0)
rd=rbind(a,b)
kripp.alpha(rd)
```

```
##  Krippendorff's alpha
##
##  Subjects = 10
##    Raters = 2
##     alpha = 0.0952
```

Spatial models and saliency

Saliency theory to party competition

- "In multidimensional issue competition, parties may compete not by converging to similar positions but, rather, by emphasizing the importance/salience of the distinct issues which give them the advantage with the voters." (Grofman 2003)
- "[. . .] parties compete by accentuating issues on which they have an undoubted advantage, rather than by putting forward contrasting policies on the same issues." (Budge et al. 1987)

Classical content analysis: Hand coding

Key features

- Human Coders
- Predefined coding scheme
- Coders read and code text elements

Differences to other approaches

- Human judgement is central element
- Dictionary approaches (Week 9) use human input for creating dictionaries, hand coding judges text elements directly

Work flow of hand coding

1. Unititing
   - Splitting text in units to be coded
2. Coding
   - Classification of the text units created in the previous step
3. Summarizing
   - Counting of the numbers of codes appearing in the texts (and generating measures)
4. Reliability testing
   - Checking reliability (usually between coders)

Comparative Manifestos Project (CMP)

The CMP was originally created by Ian Budge und David Robertson in 1979.

- Sampling Units: Party manifestos
  - All democratic elections after WW2
  - Full census (intended)
  - $>$ 50 countries

Unitizing

- Unitization: Systematically distinguish text segments/recording units relevant for the analysis
  - Words, sentences, paragraphs, pages, chapters...
  - Quasi-Sentence
- Unitizing/Recording unit in the CMP: Quasi-sentence
  - "an argument or phrase which is the verbal expression of one political idea or issue" (Klingemann 2006)

Unitizing: CMP "Quasi-sentences"

Identifying quasi-sentences

- Natural sentence as starting reference
- Natural sentences are split, if they include two or more seperate ideas/issues
- Quasi sentence ends either with a change in argument or on a period

Unitizing: Conservative Party UK 2015

We will rebalance our economy and build a Northern Powerhouse

We are committed to a truly national recovery, benefiting all parts of our country. We have devolved powers to Scotland and Wales, and set out long-term economic plans to raise the growth rate of all parts of England, bringing areas which have grown more slowly up to at least the national average. Over the last year, the North grew faster than the South. By connecting up the North with modern transport links, we will enable its great cities and towns to pool their strengths. We will invest a record £13 billion in transport for the North. We will electrify the main rail routes, build the Northern Hub, and provide new trains for the North. We will upgrade the A1, M62, M1 and A555 link road. And that is on top of our £50 billion commitment to build High Speed 2 – the new North-South railway linking up London with the West Midlands, Leeds and Manchester – and develop High Speed 3 to join up the North.

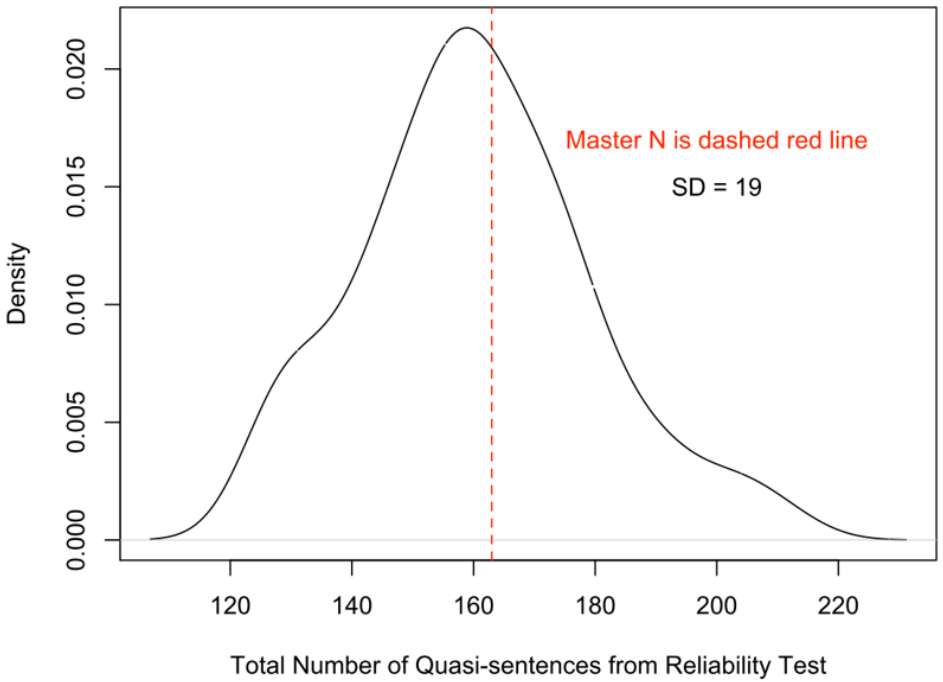
Unitizing: Conservative Party UK 2015 (II)

We will rebalance our economy and build a Northern Powerhouse |

We are committed to a truly national recovery, benefiting all parts of our country. | We have devolved powers to Scotland and Wales, | and set out long-term economic plans to raise the growth rate of all parts of England, bringing areas which have grown more slowly up to at least the national average. | Over the last year, the North grew faster than the South. | By connecting up the North with modern transport links, we will enable its great cities and towns to pool their strengths. | We will invest a record £13 billion in transport for the North. | We will electrify the main rail routes, build the Northern Hub, and provide new trains for the North. | We will upgrade the A1, M62, M1 and A555 link road. | And that is on top of our £50 billion commitment to build High Speed 2 – the new North-South railway linking up London with the West Midlands, Leeds and Manchester | – and develop High Speed 3 to join up the North. |

Unitizing: CMP-Training

- In training CMP coders unitize and code a manifesto that is coded as a "gold standard"
  - Enables comparing the coders' unitizing to what the PIs intended
  - Applies to "gold standardized" text only



Coding: General

- Task: Allocating each of the quasi sentences to one category of the coding scheme
- Coding scheme: Predefined set of categories with rules for when to use which category

Coding: CMP

- Hierarchical structure
- Scheme has 56 categories grouped in 7 larger categories (policy domains)
  - Directed categories: Where appropriate there is categories for right and left statements
  - Not all categories have such a negation
  - 13 „left“ and 13 „right“ Categories
  - Codes are singular: Each quasi sentence gets one code

CMP coding categories: Domain 1

Domain 1: External Relations

- 101 Foreign Special Relationships: Positive
- 102 Foreign Special Relationships: Negative
- 103 Anti-Imperialism: Positive
  - 103.1 State Centred Anti-Imperialism
  - 103.2 Foreign Financial Influence
- 104 Military: Positive
- 105 Military: Negative
- 106 Peace: Positive
- 107 Internationalism: Positive
- 108 European/LA Integration: Positive
- 109 Internationalism: Negative
- 110 European/LA Integration: Negative

CMP coding categories: Domain 2

Domain 2: Freedom and Democracy

- 201 Freedom and Human Rights: Positive
- 201.1 Freedom
- 201.2 Human Rights
- 202 Democracy
  - 202.1 General: Positive
  - 202.2 General: Negative
  - 202.3 Representative Democracy: Positive
  - 202.4 Direct Democracy: Positive
- 203 Constitutionalism: Positive
- 204 Constitutionalism: Negative

CMP coding categories: Domain 3

Domain 3: Political System

- 301 Decentralisation: Positive
- 302 Centralisation: Positive
- 303 Governmental and Administrative Efficiency: Positive
- 304 Political Corruption: Negative
- 305 Political Authority: Positive
  - 305.1 Political Authority: Party Competence
  - 305.2 Political Authority: Personal Competence
  - 305.3 Political Authority: Strong government
  - 305.4 Pre-Democratic Elites: Positive
  - 305.5 Pre-Democratic Elites: Negative
  - 305.6 Rehabilitation and Compensation

CMP coding categories: Domain 4

Domain 4: Economy

- 401 Free-Market Economy: Positive
- 402 Incentives: Positive
- 403 Market Regulation: Positive
- 404 Economic Planning: Positive
- 405 Corporatism: Positive
- 406 Protectionism: Positive
- 407 Protectionism: Negative
- 408 Economic Goals
- 409 Keynesian Demand Management: Positive
- 410 Economic Growth
- 411 Technology and Infrastructure: Positive
- 412 Controlled Economy: Positive
- 413 Nationalisation: Positive

CMP coding categories: Domain 4 (II)

- 414 Economic Orthodoxy: Positive
- 415 Marxist Analysis: Positive
- 416 Anti-Growth Economy: Positive
  - 416.1 Anti-Growth Economy: Positive
  - 416.2 Sustainability: Positive

CMP coding categories: Domain 5

Domain 5: Welfare and Quality of Life

- 501 Environmental Protection: Positive
- 502 Culture: Positive
- 503 Equality: Positive
- 504 Welfare State Expansion
- 505 Welfare State Limitation
- 506 Education Expansion
- 507 Education Limitation

CMP coding categories: Domain 6

Domain 6: Fabric of Society

- 601 National Way of Life: Positive
  - 601.1 General
  - 601.2 Immigration: Negative
- 602 National Way of Life: Negative
  - 602.1 General
  - 602.2 Immigration: Positive
- 603 Traditional Morality: Positive
- 604 Traditional Morality: Negative
- 605 Law and Order
  - 605.1 Law and Order: Positive
  - 605.2 Law and Order: Negative

CMP coding categories: Domain 6 (II)

- 606 Civic Mindedness: Positive
  - 606.1 General
  - 606.2 Bottom-Up Activism
- 607 Multiculturalism: Positive
  - 607.1 General
  - 607.2 Immigrant Integration: Diversity - 607.3 Indigenous rights: Positive
- 608 Multiculturalism: Negative
  - 608.1 General
  - 608.2 Immigrant Integration: Assimilation - 608.3 Indigenous rights: Negative

CMP coding categories: Domain 7

Domain 7: Social Groups

- 701 Labour Groups: Positive
- 702 Labour Groups: Negative
- 703 Agriculture and Farmers
- 703.1 Agriculture and Farmers: Positive
- 703.2 Agriculture and Farmers: Negative
- 704 Middle Class and Professional Groups: Positive
- 705 Minority Groups: Positive
- 706 Non-Economic Demographic Groups: Positive

000 No meaningful category applies

Coding Conservative Party UK 2015

We will rebalance our economy and build a Northern Powerhouse NA

We are committed to a truly national recovery, benefiting all parts of our country. 601 We have devolved powers to Scotland and Wales, 301 and set out long-term economic plans to raise the growth rate of all parts of England, bringing areas which have grown more slowly up to at least the national average. 404 Over the last year, the North grew faster than the South. 410 By connecting up the North with modern transport links, we will enable its great cities and towns to pool their strengths. 410 We will invest a record £13 billion in transport for the North. 411 We will electrify the main rail routes, build the Northern Hub, and provide new trains for the North. 411 We will upgrade the A1, M62, M1 and A555 link road. 411 And that is on top of our £50 billion commitment to build High Speed 2 – the new North-South railway linking up London with the West Midlands, Leeds and Manchester 411 – and develop High Speed 3 to join up the North. 411

Coding Conservative Party UK 2015: Gold standard

Domain 3: Political System

301 "Decentralisation: Positive"

Domain 4: Economy

404 "Economic Planning"

410 "Productivity: Positive" (2)

411 "Technology and Infrastructure: Positive" (5)

Domain 6: Fabric of Society

601 "National Way of Life: Positive"

Summarizing

- Deriving theoretically meaningfull measures based on the occurence of the codes assigned in the previous step. e.g.:
  - Occurence of categories: Relative share of a policy domain in a manifest; Share devoted to the codes of the domain "Economy" measures salience of economic issues
  - Range/Variance: Number of overall employed categories may measure the bandwith of policies

Summarizing: Rile Scale

Saliency Theory/ Issue Ownership

- Parties try to differentiate from their opponents
- Compete by empasizing different issues
  - How frequently are certain policy domains discussed in the manifestos
- How frequently are those codes that are considered left or right used
  - Left/right assignment is not self-evident: Changes over time?
  - Rile-Skala: CMP's "crowning achievement" (Budge et al. 2001)

Rile: Calculation

$Rile = \frac{R-L}{N}$

- R, L, N = Right, left, total number of codes assigned
- Range [-100, 100]

Example: 200 Quasi Sentences, 40 right, 100 left

- Rile = -30

Rile: Alternatives

Disadvantages

- Adding irrelevant text shifts RiLe towards 0, i.e. the middle
- Linear in increasing left and right codes

Alternative 1 (Laver and Garry 2000):

$$\frac{R - L}{R + L}$$

- Linearity
- Range [-1,1]
- Solves irrelevant text and tendency to the middle

Rile: Alternatives (II)

Alternative 2 (Lowe et al. 2010):

$$\log \frac{R}{L}$$

- Middle: $\log(1) = 0$
- Previous example: -0.916 (200 QS, 40 Right, 100 Left)
- Additional right/left codes enter logged: An additional right/left code shifts the scale stronger in the middle than in the extremes

CMP Coding Exercise

In this exercise your goal is to code parts of a manifesto using the CMP coding categories. Please carefully read the instructions and the coding scheme and code each quasisentence to the best of your ability.

Group 1: UK Independent Party 2015

`https://goo.gl/forms/v7VZBvZ3leQ9dWaA3`

Group 2: Liberal Party of Canada 2015

`https://goo.gl/forms/TiMaEl30SRLC5oL82`

Next Session

- NO CLASS NEXT WEEK!
- Challenges involved in working with CMP data