

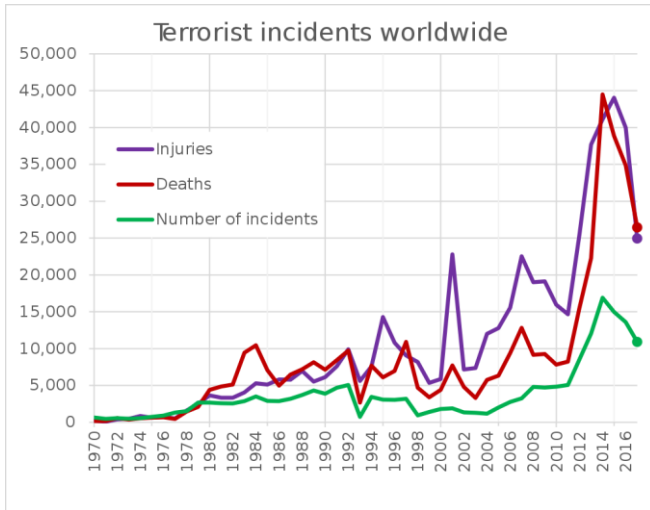


Textual Analysis for Radicalisation Narratives aligned with Social Sciences Perspectives

Text2Story @ ECIR 2019 – April 14th, 2019

Ronald Denaux and Jose Manuel Gomez-Perez

Motivation



Worldwide non-state terrorist incidents 1970–2017

Flickr user [TheMachineStops \(Robert J. Fisch\)](https://commons.wikimedia.org/wiki/User:Phoenix7777), <https://commons.wikimedia.org/wiki/User:Phoenix7777>,
<https://vimeo.com/236596488>, <https://www.flickr.com/photos/139453419@N05/26346865853>

Motivation: Terrorism pRevention Via rAdicalisation countEr-NarraTive



VIDEO



Zanasi & Partners



Motivation: Existing Automatic Detection

- Naïve: list of keywords
- Machine Learning:
 - high quality **datasets**?
 - **Up to date** datasets?
 - Annotation **guidelines**?
 - **Explainability**?
 - ethics/discrimination?



Anonymous 'anti-Islamic State list' features Obama and BBC News

By Grace Dean
Newsbeat reporter

TECH | 26 Nov 2015



Anonymous "declared war" on so-called Islamic State (IS) after the jihadist group claimed responsibility for the Paris attacks on Friday 13 November.

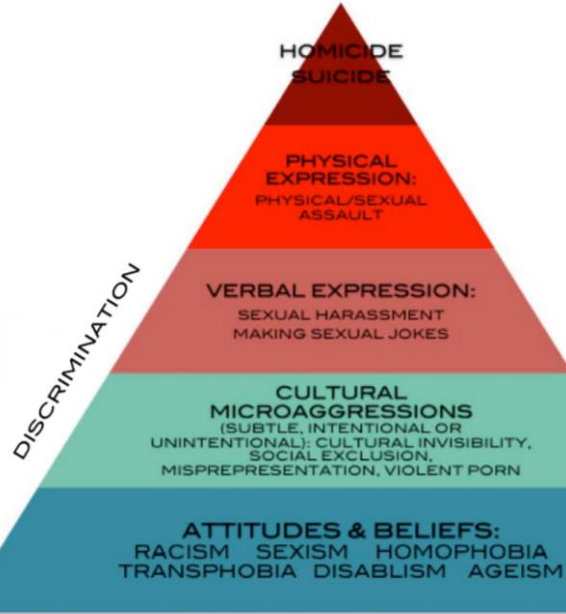
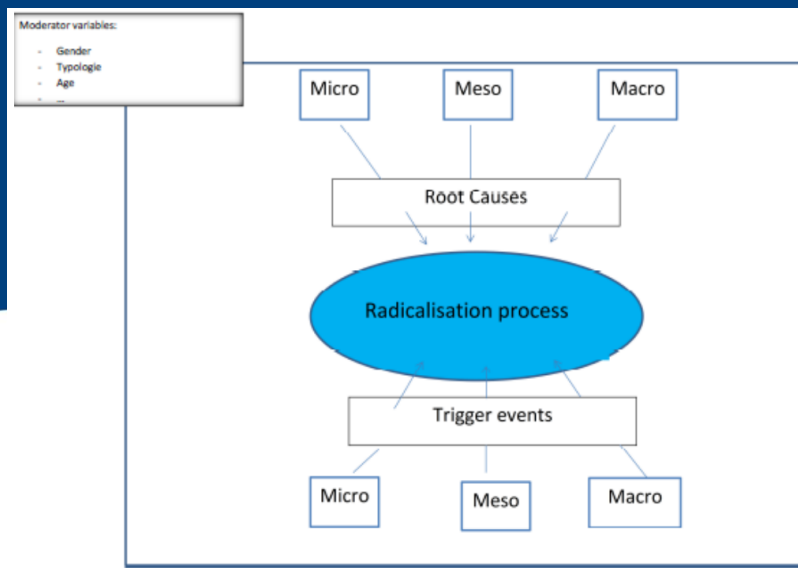
Most Popular

<http://www.bbc.co.uk/newsbeat/article/34919781/anonymous-anti-islamic-state-list-features-obama-and-bbc-news>
<https://www.standard.co.uk/news/london/london-child-aged-three-in-terror-alert-over-radicalisation-10418455.html>

Approach and Goal

- Use wealth of knowledge about **radicalization processes** from social science and terrorism experts
- Develop an **automated annotation system** aligned to social science models

Social Science models



COMMENTARY (Foreign Policy Research Institute)

Defeating the ISIS Nostalgia Narrative Challenging the Narrative of the “Islamic State”

Dr. Alex P. Schmid

4 Jun 2015



Social Science models: what is a “narrative”?

Not as a single story, but as a *system of stories*

- **Master narratives:** linked to a (cultural) group identity
- **Strategic narratives:** compelling storylines which
 - can explain events convincingly and from which inferences can be drawn
 - deliberately constructed out of current ideas
 - express a “sense of identity and belonging”
 - provide a “sense of purpose”
 - “appeal to emotion” and
 - make use of “suspect metaphors and dubious historical analogies”
- **Local and individual narratives**

Halverson, J. R., Goodall H. Lloyd, J., & Corman, S. R. (2011). *Master narratives of Islamist extremism*. Palgrave Macmillan.

<https://doi.org/10.1007/978-0-230-11723-5>

Betz, D. (2008). The virtual dimension of contemporary insurgency and counterinsurgency. *Small Wars & Insurgencies*, 19(4), 510–540.

<https://doi.org/10.1080/09592310802462273>

Capturing models as taxonomies

STRATEGIC NARRATIVE

[ID : STRATEGIC_NARRATIVE]

uri urn:x-trivalent:strategic_narrative

labels **STRATEGIC NARRATIVE** (1a)

NOTES

Definition (en): Strategic narratives are "compelling storylines which can explain events convincingly and from which inferences can be drawn". These narratives are deliberately constructed out of current ideas, express a "sense of identity and belonging" and provide a "sense of purpose". Importantly, these narratives often "appeal to emotion" and make use of "suspect metaphors and dubious historical analogies". (Betz, 2008)

http://trivalent.expertsystemlab.com/thes/conceptschemes/STRATEGIC_NARRATIVE



Building an annotator

- **ML?**
 - **Abstract taxonomies**
 - **Train annotators?**
- **Rule-based**
 - **It's what Expert System does**
 - **Technology Stack:**
 - **Knowledge Graph**
 - **Disambiguator**
 - **Rule Languages**

Rule based categorizer for master narratives

| | |
|-------------|--------------------------|
| 01 | Strategic Narrative |
| 01.01 | Discredit other group |
| 01.01.01 | Discredit competition |
| 01.01.02 | Discredit enemy |
| 01.02 | Group identity |
| 01.02.01 | Adventure and resilience |
| 01.02.02 | Homophily |
| 01.02.03 | Promote group ideology |
| 01.02.04 | Winners image |
| 01.02.04.01 | Group's achievements |

```
473 //Islamic State succeeded in assassinating the murtadd
474 DOMAIN(01.02.04.01)
475 {
476     ANCESTOR(102429253)//# 102429253: ISIS, A-Ddawla al-Islamiyya, Al-Dawla al-Is
477     <:4>
478     LEMMA("succeed","success","come through","manage")
479     <:2>
480     LEMMA("attack","target","kill","killing","murder","murdering","attacking","ta
481     <:2>
482     KEYWORD("christian","christians","infidel","murtaddin","murtad","murtadd","th
483 }
```

- 80+ handcrafted rules

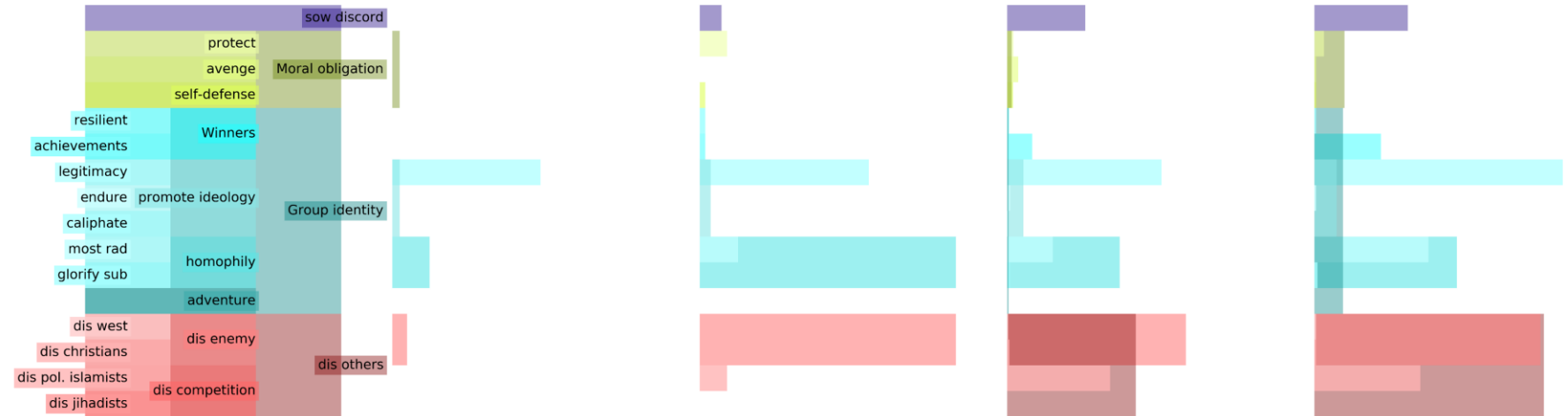
Rule based categorizer for master narratives

ymd (max % pages=37.74)

risalah (max % pages=65.28)

dabiq (max % pages=45.62)

rumiyah (max % pages=63.31)



Conclusion and Future Work

- **Encouraging results**
- **Evaluate with more texts**
 - **Social media**
 - **Expand to other radical groups**
- **Get feedback from LEAs**

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