ANALYSING CSTP REPORTS

UNDER THE OECD SEMANTIC ANALYSIS FRAMEWORK

CSTP-TIP Workshop: Semantic Analysis for Innovation Policy
12 March 2018

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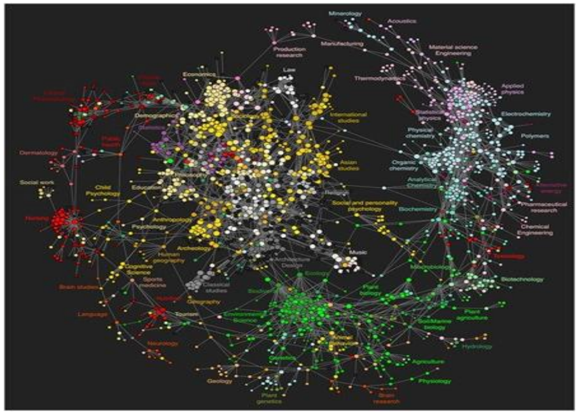
OECD
BETTER POLICIES FOR BETTER LIVES

THE OECD SEMANTIC ANALYSIS FRAMEWORK

Breaking the barriers

Taxonomies/Ontologies

Of LANGUAGE and WORDS



Create concepts and link them so that machines can use them as a cloud of knowledge (Semantic layer)

Capture and formalise Subject-Matter-Experts' knowledge

Identify synonyms, related terms in official languages

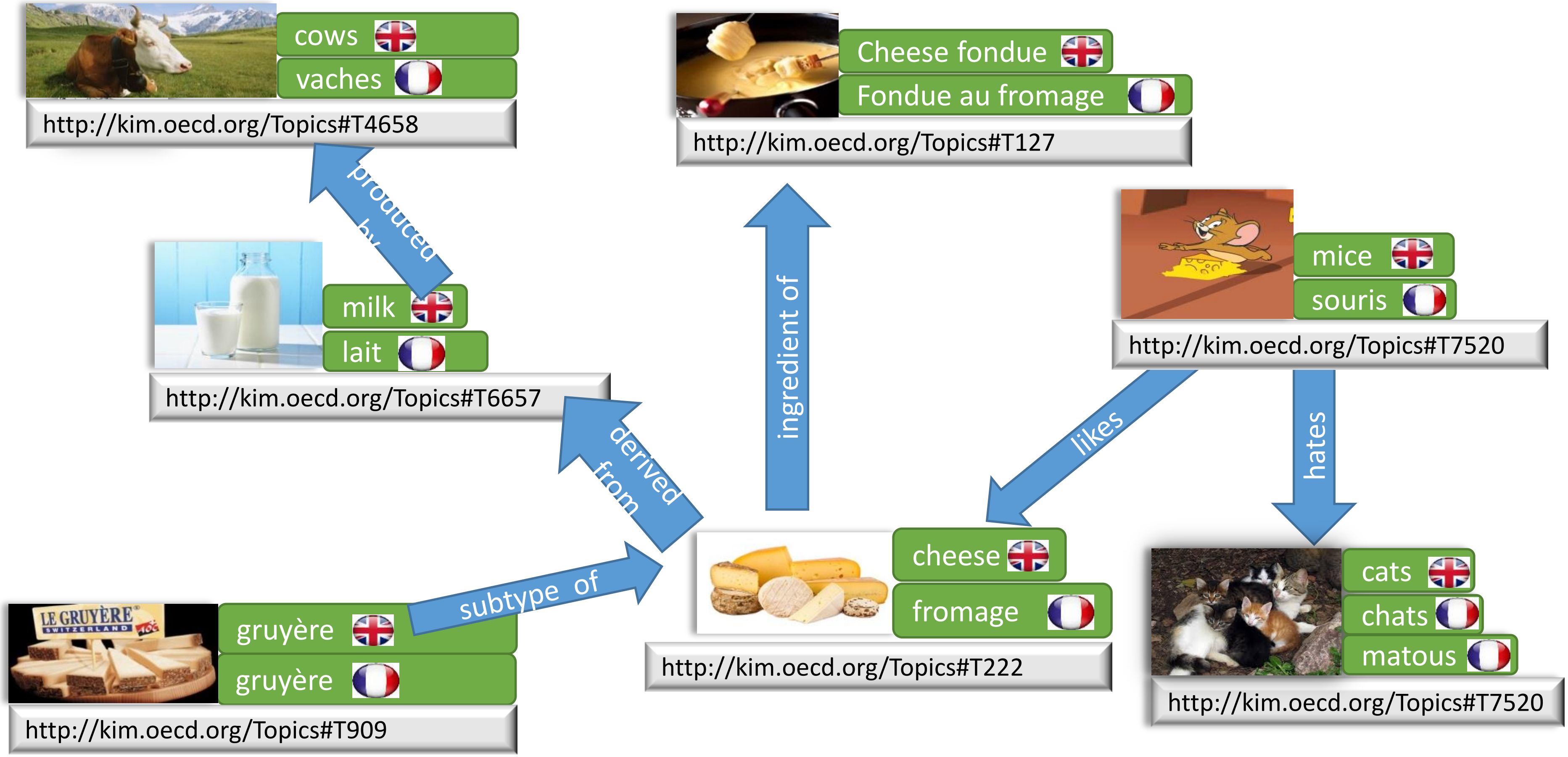
Use URIs not labels

Use in:

Semantic analysis tools

Search and discover tools

Breaking the barriers



cows

vaches

http://kim.oecd.org/Topics#T4658

Cheese fondue

Fondue au fromage

http://kim.oecd.org/Topics#T127

milk

lait

http://kim.oecd.org/Topics#T6657

mice

souris

http://kim.oecd.org/Topics#T7520

cheese

fromage

http://kim.oecd.org/Topics#T222

gruyère

gruyère

http://kim.oecd.org/Topics#T909

cats

chats

matous

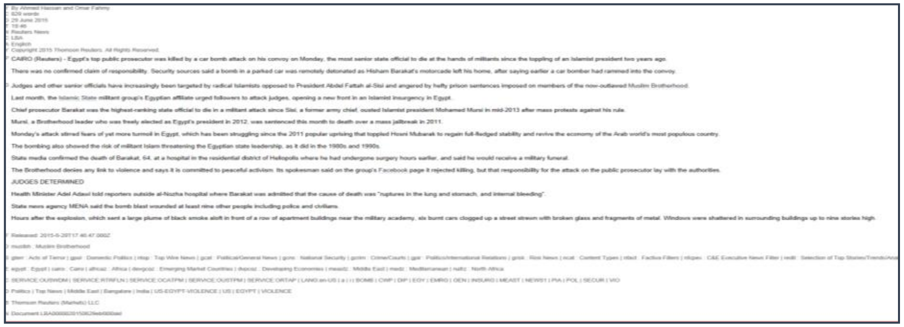
http://kim.oecd.org/Topics#T7520

How do we create the semantic robots?

- Use lexicon (taxonomies)
- Use text patterns (part of speech)
- Identify relationships (ontologies)
- Test the results on a set of documents
- Debug - Disambiguate
- Test on the complete corpus
- Put in production using Web Services

36 different robots in production

Semantic enrichment



By Ahmed Hassan and Omar Fahmy
829 words
29 June 2015
19:46
Reuters News
LBA
English
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CAIRO (Reuters) - Egypt's top public prosecutor was killed by a car bomb attack on his convoy on Monday, the most senior state official to die at the hands of militants since the toppling of an Islamist president two years ago.

There was no confirmed claim of responsibility. Security sources said a bomb in a parked car was remotely detonated as Hisham Barakat's motorcade left his home, after saying earlier a car bomber had rammed into the convoy.

Judges and other senior officials have increasingly been targeted by radical Islamists opposed to President Abdel Fattah al-Sisi and angered by hefty prison sentences imposed on members of the now-outlawed Muslim Brotherhood.

Last month, the Islamic State militant group's Egyptian affiliate urged followers to attack judges, opening a new front in an Islamist insurgency in Egypt.

Chief prosecutor Barakat was the highest-ranking state official to die in a militant attack since Sisi, a former army chief, ousted Islamist president Mohamed Mursi in mid-2013 after mass protests against his rule.

Mursi, a Brotherhood leader who was freely elected as Egypt's president in 2012, was sentenced this month to death over a mass jailbreak in 2011.

Monday's attack stirred fears of yet more turmoil in Egypt, which has been struggling since the 2011 popular uprising that toppled Hosni Mubarak to regain full-fledged stability and revive the economy of the Arab world's most populous country.

The bombing also showed the risk of militant Islam threatening the Egyptian state leadership, as it did in the 1980s and 1990s.

State media confirmed the death of Barakat, 64, at a hospital in the residential district of Heliopolis where he had undergone surgery hours earlier, and said he would receive a military funeral.

The Brotherhood denies any link to violence and says it is committed to peaceful activism. Its spokesman said on the group's Facebook page it rejected killing, but that responsibility for the attack on the public prosecutor lay with the authorities.

JUDGES DETERMINED

Health Minister Adel Adawi told reporters outside al-Nozha hospital where Barakat was admitted that the cause of death was "ruptures in the lung and stomach, and internal bleeding".

State news agency MENA said the bomb blast wounded at least nine other people including police and civilians.

Hours after the explosion, which sent a large plume of black smoke aloft in front of a row of apartment buildings near the military academy, six burnt cars clogged up a street strewn with broken glass and fragments of metal. Windows were shattered in surrounding buildings up to nine stories high.

Released: 2015-6-29T17:46:47.000Z
muslbh : Muslim Brotherhood
gterr : Acts of Terror | gpol : Domestic Politics | ntop : Top Wire News | gcat : Political/General News | gcns : National Security | gcrim : Crime/Courts | gpir : Politics/International Relations | grisk : Risk News | ncat : Content Types | nfact : Factiva Filters | nfcpex : C&E Executive News Filter | redit : Selection of Top Stories/Trends/Ana
egypt : Egypt | cairo : Cairo | africaz : Africa | devgcoz : Emerging Market Countries | dvpcoz : Developing Economies | meastz : Middle East | medz : Mediterranean | nafrz : North Africa
SERVICE:OUSWDM | SERVICE:RTRFLN | SERVICE:OCATPM | SERVICE:OUSTPM | SERVICE:ORTAP | LANG:en-US | a | i | BOMB | CWP | DIP | EGY | EMRG | OEN | INSURG | MEAST | NEWS1 | PIA | POL | SECUR | VIO
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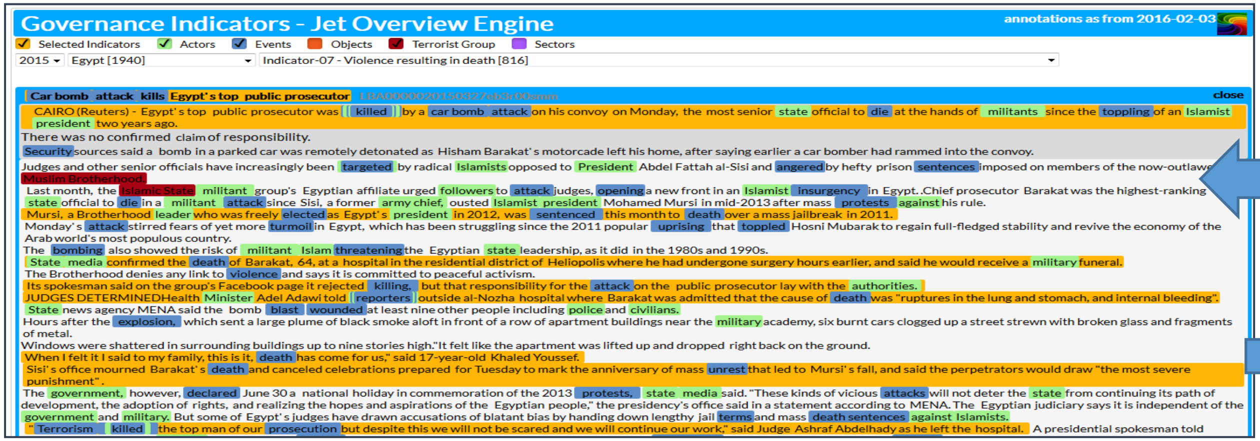

Governance Indicators - Jet Overview Engine

annotations as from 2016-02-03

☑ Selected Indicators ☑ Actors ☑ Events 🟧 Objects ☑ Terrorist Group 🟪 Sectors

2015 ▾ Egypt [1940] ▾ Indicator-07 - Violence resulting in death [816] ▾

Car bomb attack kills Egypt's top public prosecutor LBA0000020150327eb3r00smm close

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Hours after the explosion, which sent a large plume of black smoke aloft in front of a row of apartment buildings near the military academy, six burnt cars clogged up a street strewn with broken glass and fragments of metal.

Windows were shattered in surrounding buildings up to nine stories high."It felt like the apartment was lifted up and dropped right back on the ground.

When I felt it I said to my family, this is it, death has come for us," said 17-year-old Khaled Youssef.

Sisi's office mourned Barakat's death and canceled celebrations prepared for Tuesday to mark the anniversary of mass unrest that led to Mursi's fall, and said the perpetrators would draw "the most severe punishment".

The government, however, declared June 30 a national holiday in commemoration of the 2013 protests, state media said. "These kinds of vicious attacks will not deter the state from continuing its path of development, the adoption of rights, and realizing the hopes and aspirations of the Egyptian people," the presidency's office said in a statement according to MENA. The Egyptian judiciary says it is independent of the government and military. But some of Egypt's judges have drawn accusations of blatant bias by handing down lengthy jail terms and mass death sentences against Islamists.

" Terrorism killed the top man of our prosecution but despite this we will not be scared and we will continue our work," said Judge Ashraf Abdelhady as he left the hospital. A presidential spokesman told

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   <e>^@Entity^@Actor^@Consulat</e>
   <e>^@Entity^@Actor^@ForcesSécurité</e>
   <e>^@Entity^@Actor^@Gouvernement</e>
     >^@Entity^@Actor^@GroupesArmés</e>
     >^@Entity^@Object^@Législation</e>
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   <e>^@Entity^@Actor^@Officier</e>
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Search for protests in Africa

Returns articles covering protests, demonstrations, manifestations, etc…

ANALYSING TEXTS

TIP, CSTP and Research Policy

The Making of the IPP Vocabulary

IPP Vocabulary has +1000 unique concepts
relevant within the field of STI policy

MAIN SOURCES USED

- Consultations with STI colleagues
- Oxford Handbook of Innovation
- Semantic analysis of OECD / World Bank flagship publications
  - Ranking of the **10 000** most frequently used terms

Features

- +300 synonyms
- Generic concepts (e.g. firms) are not used for tagging

Limitations

- Flat structure, not taxonomy has been built on top
- Needs updating (e.g. digital economy and inclusive innovation)

Text analysed

Source	Number of items	Text analysed	Time-period
CSTP substantive reports	782	Full text	1993-2017
Subset: TIP substantive reports	100	Full text	1994-2016
Research policy articles	2 527	Titles + abstracts	1988-2016

Output from Luxid system:

- Maximum of 20 IPP topics identified per item.
- For CSTP+TIP documents: A total of 12 390 topics identified.

Treatment of semantic analysis results

- Creation of **word clouds** for topics (50 most recurrent).
- Calculation of **yearly occurrences** of IPP topics identified as keywords.
- **Normalisation** of yearly occurrences by number of items analysed in the respective year (to make occurrences comparable over time).
- **Data aggregation** in time-periods of 8 years: 1993-2000, 2001-2008 and 2009-2017.
- **Ranking** topics in terms of **variance** across the 3 time-periods to identify key trends.