

Discourse-semantic changes of "risk" in the New York Times, 1987-2014

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Overview

- The problem: Competing sociological theories to risk
- Shift in perspective: Some research questions
- A theory of language: Systemic Functional Linguistics (SFL)
- Outcomes and perspectives

Sociology of Risk and Uncertainty

A crucial question for Sociology:

- Why, at times we live in average longer, healthier, and wealthier than ever before, we are more worried about all kinds of risk?
- Why do modern industrialised Western societies witness increasingly more public debate about all kinds of risk?

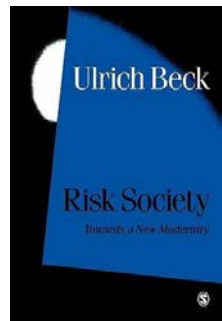


Sociology of Risk and Uncertainty: The Risk Society (Beck)

- Modern societies transform into Risk Societies or a World Risk Society.
- Characterised by:
 - new mega risks
 - individualisation (Beck, Giddens)
- New risks cannot be dealt with by insurance and science.
- Risk become a normal experience of our times.



Ulrich Beck
German
Sociologist
1944-2015



Risk Society 1992, World Risk Society 1999; World at Risk 2008, Metamorphosis of the World 2016

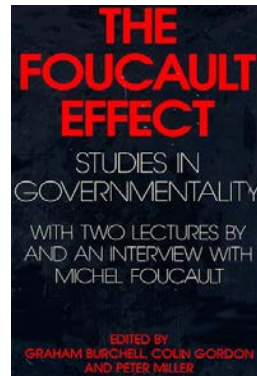


Sociology of Risk and Uncertainty: Governmentality

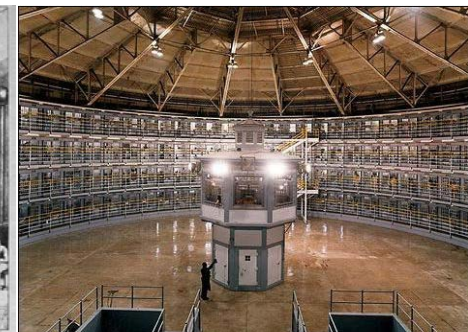
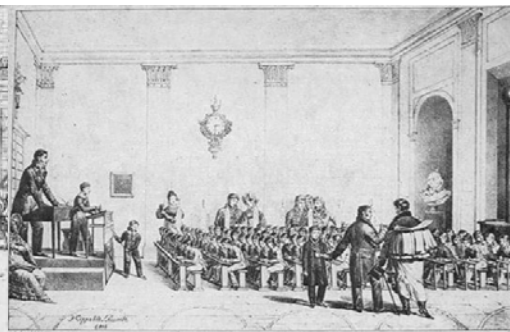
- A shift in the understanding of governing:
 - Sovereign society (punishment)
 - Discipline society (control and surveillance)Governmentality = ‚govern‘ and ‚mentality‘
 - Responsibilisation and calculative technologies
- Imagining things as governable (discourses and practices)



Michel Foucault
French
Philosopher
1926-84



M. Foucault 1992, M. Dean 1999, P. O'Malley 2004, N. Rose 1999 etc.



Competing definitions of the core concept: RISK

- Risk as ...
 - a possible disaster
 - a calculative technology (statistics & probability theory)
 - a decision

Competing definitions of the core concept: RISK

- Shifting the research perspective:
 - How do different theories contribute to understanding of discourse-semantic change?
- RISK as ...
 - A word with different meanings.
 - Examining the meaning of risk in different co-text and con-text.

Hypotheses & Questions

- Increasing normalisation of risk in discourse and social practice?
- A growing dominance of a calculative worldview? (Governmentality)
- An heightened feeling of uncertainty/lack of control? (Risk Society)
- Institutional expectations of individuals planning their life but less control about outcomes? (Risk Society/Individualisation)

Conceptual assumptions



- Mass media constitute an arena for social discourses and reflect/influence individual comprehension:
 - on the content plane of discourse semantics and
 - the expression plane of lexis and grammar
- Social change and language change are connected.
- Meaning can be made only with reference to a structured background of experience, beliefs, or practices (Fillmore & Atkinson 1992; Halliday & Matthiessen 2004)

The study: Methodology

- We built a specialised corpus of the New York Times (NYT):
- Full corpus: containing approximately:
 - 153.828k, words,
 - 149k articles and
 - 240k risk words.
- Diachronic, is spanning the years 1987 to 2014 (utilising the New York Times annotated corpus for all articles 1987-2006, (Sandhaus 2008); ProQuest for articles from 2007 to 2014).
- Parsed the data (Stanford CoreNLP's parsers, Manning et al. 2014) for linguistic structure and performed queries of the lexicogrammar of clauses containing risk words.
- Please compare for more detail online available research report (Zinn & McDonald 2015).



The study: Methodology

- Frame semantics and beyond – The Risk Frame

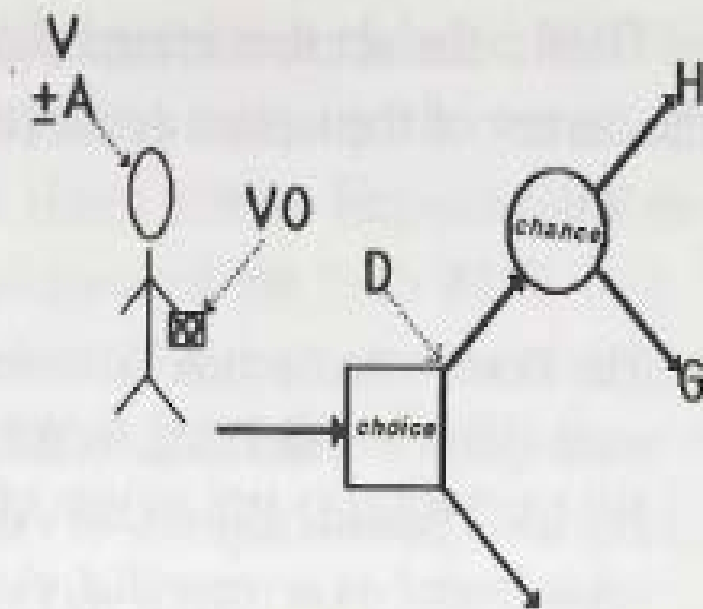
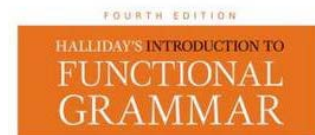


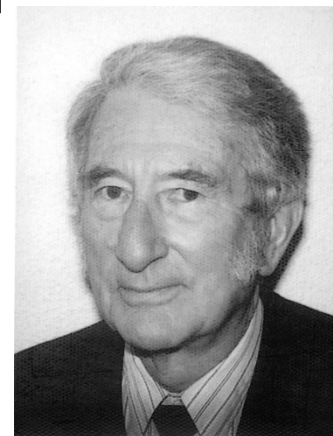
FIG. 2.3. H = Harm, G = Goal,
D = Deed, VO = Valued Object,
V = Victim, A = Actor.

The study: Methodology

- We augmented the frame semantic approach with core tenets of systemic-functional grammar because:
 - The components of the risk frame are often difficult to automatically extract from corpora (even when grammatically structured).
 - The valued object or the possible harm is often grammatically unmarked (I risked my life/I risked death).
 - When risk is a modifier (e.g. adjective) or a participant (e.g. noun) fewer of the components of the frame being mentioned overtly at all.



"Essential reading ... inspiring with insights"
Michael Toolan, University of Birmingham, UK



M. A. K. Halliday
1925-
English Linguist

The study: Methodology

- When risk is not the **process** (e.g. verb) or **participant** (e.g. noun), the extent to which the risk frame is instantiated is difficult to assess:
 - In 1999, we sold the company, and the next year, we moved to the United States with our two children—a third was born in 2003—so I could pursue my idea of helping low-income, **at-risk youth**.
 - Mr. Escobedo said that Vioxx was especially dangerous to Mr. Garza because of his other **risk factors** and that he should never have been prescribed the drug.

The Study: Methodology

Systemic functional linguistics (SFL)

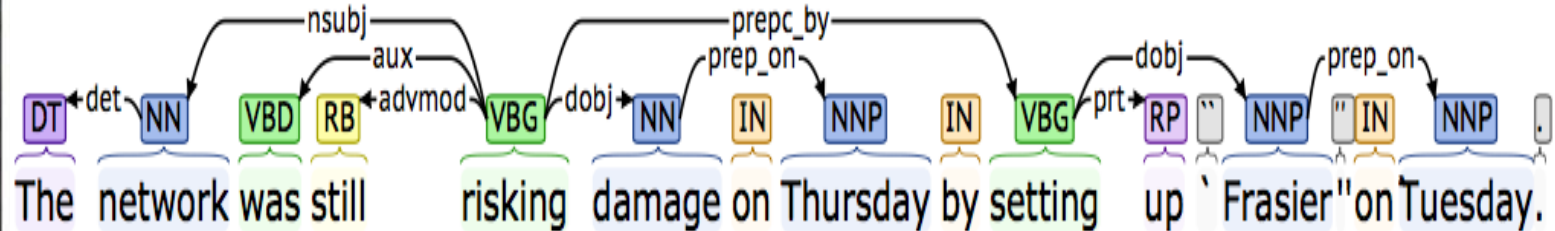
- Lexis and grammar as meaning making resources (not cognitive semantic theory).
- Context is embedded in the linguistic choices made in a text (Egins 2004).
- We position our analysis in the *transitivity system* (SFL) as the means through which experiential meanings are made with the functional roles:
 - **Participant** (similar to noun/noun phrase)
 - **Process** (similar to verb/verbal phrase)
 - **Circumstance** (propositional phrases and adverbs)

The Study: Methodology

- Example of a transitivity analysis of a clause containing risk (NYT 2005)

| | | | | |
|-----|---------------------------------|---------------------------------------|---------------------------|-------------------------|
| But | the <u>bang</u> of the gavel | can <u>hold</u> | <u>risk</u> | for novices |
| | Participant: carrier | Process: relational attributive | Participant: attribute | Circumstance: extent |

Dependency grammar



> *Can we translate this to SFG?*

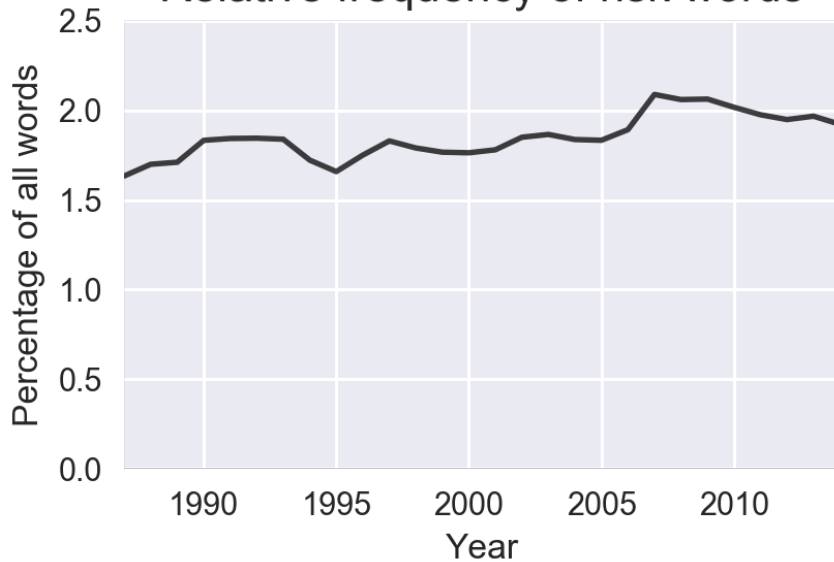
... to insight into discourse?

Empirical results

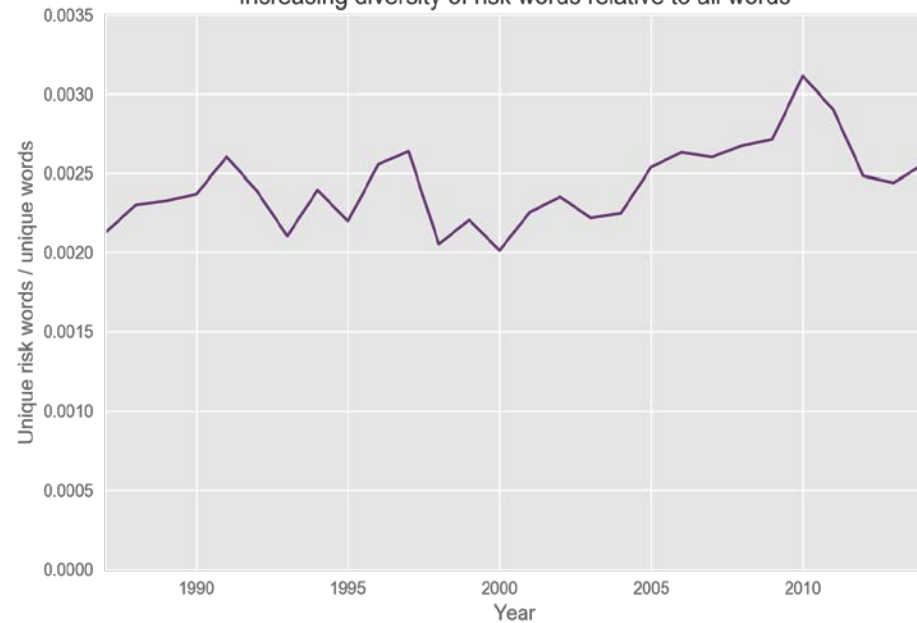
1. Increasing frequency of RISK words
2. Increasing diversity of RISK words



Relative frequency of risk words



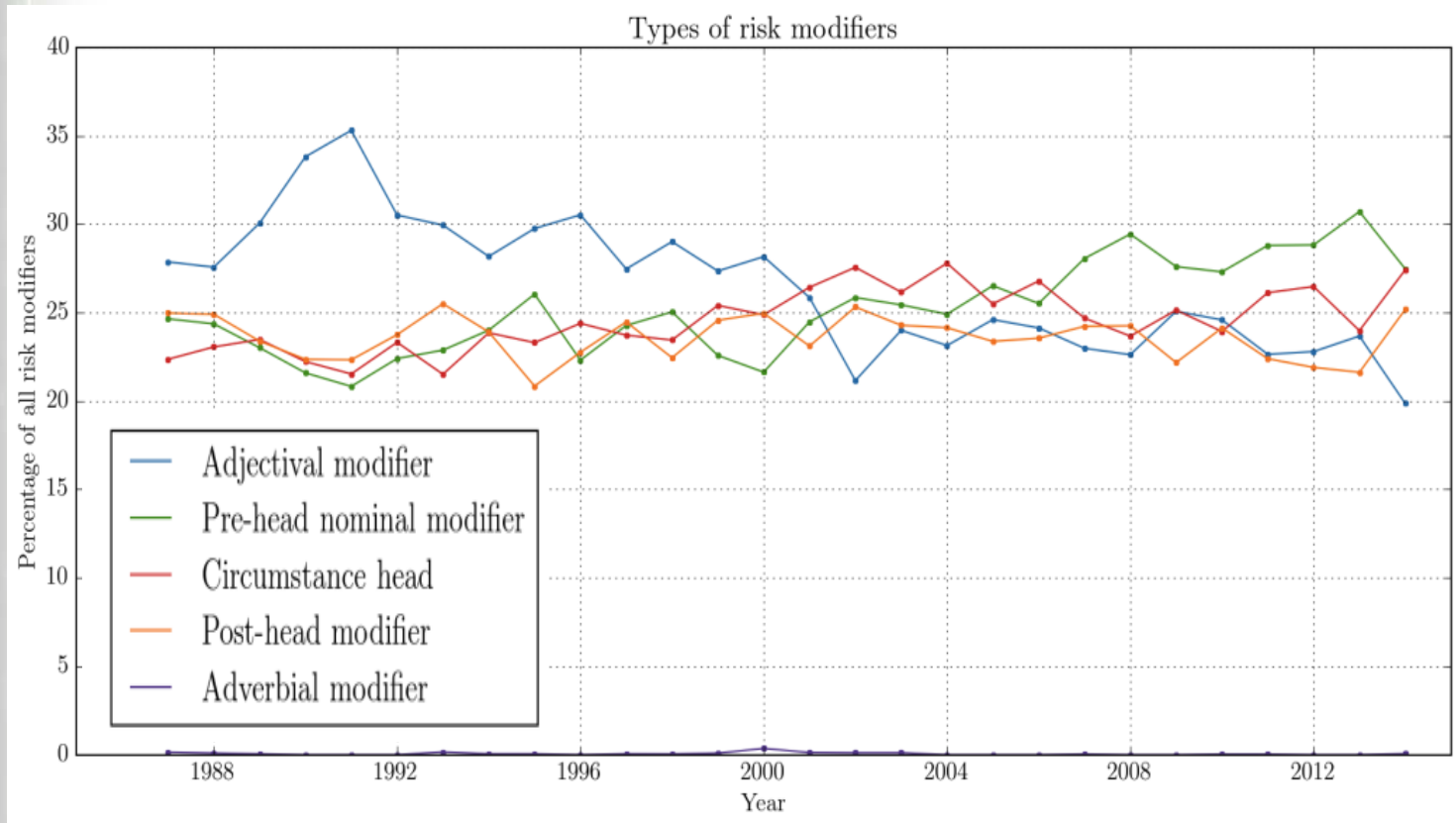
Increasing diversity of risk words relative to all words



Empirical results

- Is there an increasing normalisation and institutionalisation of risk in society?
- To answer this question we examined modifiers of risk:
 - **Adjectival modifier** (a *risky* decision)
 - **Adverbial modifier** (he *riskily* chose)
 - **Nominal modifier** (*risk* management)
 - **A head of a nominal group** inside a prepositional phrase, serving the role of modifying the main verb of the clause (They were appalled by the *risk*).

Institutionalisation of risk practices – risk modifiers



Nominal risk modifiers increase indicating a growing institutionalisation of risk practices!
From risky decision to risk management

Institutionalisation of risk practices: nominal modifiers

- "That's why more companies are turning to certified **financial risk managers**," the ad continues.
- Many clients asked Teresa Leigh, owner of **Household Risk Management**, a North Carolina-based advisory service for wealthy households, to explain just what all the headlines are about.
- Rather than downsizing their lifestyles, "they're spending more money on protecting their homes," said Paul M. Viollis Sr., the chief executive of **Risk Control Strategies**, a security advisory firm based in New York City, whose clients have an average net worth of more than \$ 100 million.
- A recent survey by the Spectrem Group found that "while somewhat more moderate in **risk tolerance** than in 2009, investors remain more interested in protecting principal than growing their assets."
- Mr. Munson suggested a more enlightened view that looks at "**risk budgeting**," or gauging how much risk you can take, and design a portfolio that tracks your tolerance -- or intolerance -- for stock market exposure. (all examples from 2012)

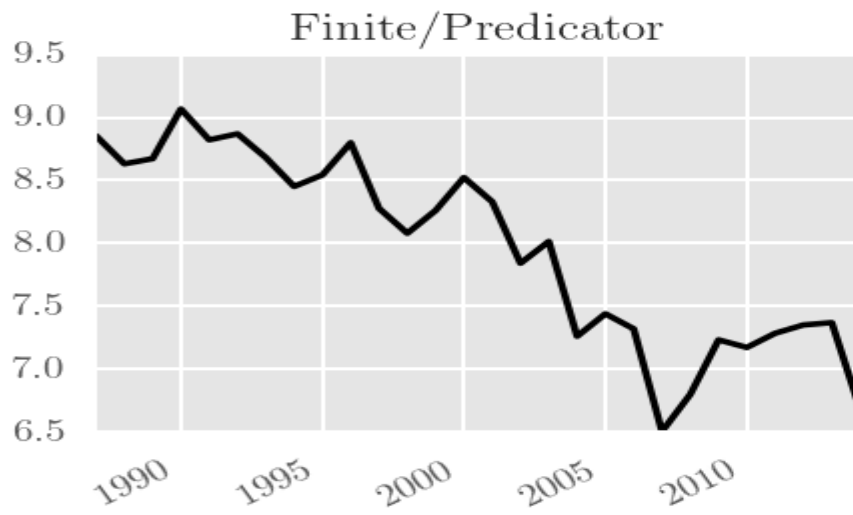
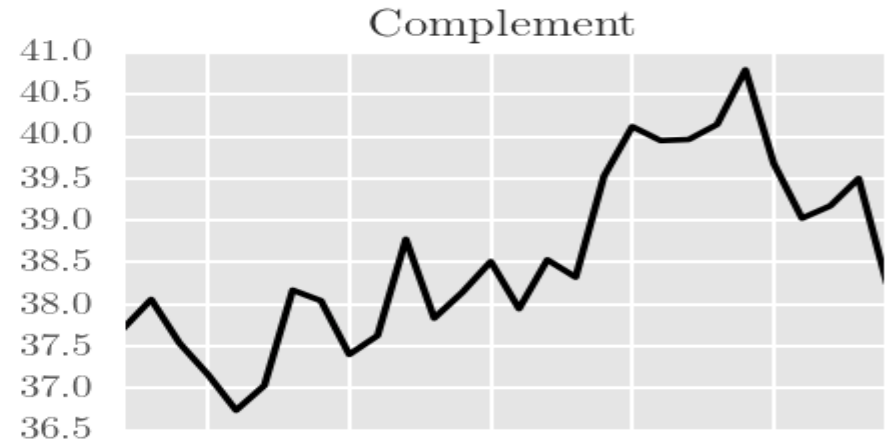
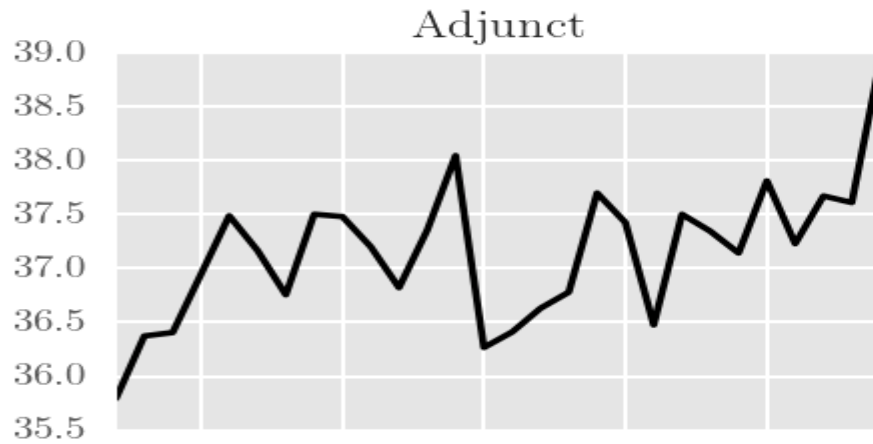
Lemma modified by nominal risk

| | relative | absolute |
|------------|----------|----------|
| factor | 21.23 | 13372 |
| management | 6.65 | 4964 |
| assessment | 3.61 | 2531 |
| manager | 2.15 | 1438 |
| taker | 2.11 | 1312 |
| business | 1.92 | 1189 |
| group | 1.89 | 1287 |
| premium | 1.83 | 1849 |
| tolerance | 1.73 | 1246 |
| analysis | 1.48 | 1033 |
| profile | 1.45 | 1235 |
| level | 1.35 | 992 |
| pool | 1.31 | 885 |
| aversion | 1.12 | 1081 |
| officer | 1.02 | 891 |
| reduction | 0.81 | 585 |
| appetite | 0.76 | 839 |
| program | 0.7 | 444 |
| insurance | 0.66 | 482 |
| control | 0.57 | 535 |

Trend toward greater implicitness of risk

- In SFL, the **process** is the central part of experiential meaning. The **process and participants** coupled together form the **nucleus of the clause**—they are what is effectively being discussed. **Modifiers** and **circumstances**, on the other hand, provide **ancillary information**, describing these participants, or the manner in which the process occurred.
- **Shifts toward modifier** forms thus suggest an **increased implicitness of risk** within the texts, where risk permeates discussion of an ever-growing set of domains, but less and less forms the propositional nub of what is being focally represented in the discourse.
- As a result RISK-words move over time from the centre of a clause of what is actually debated to auxiliary positions.

Trend toward greater implicitness of risk



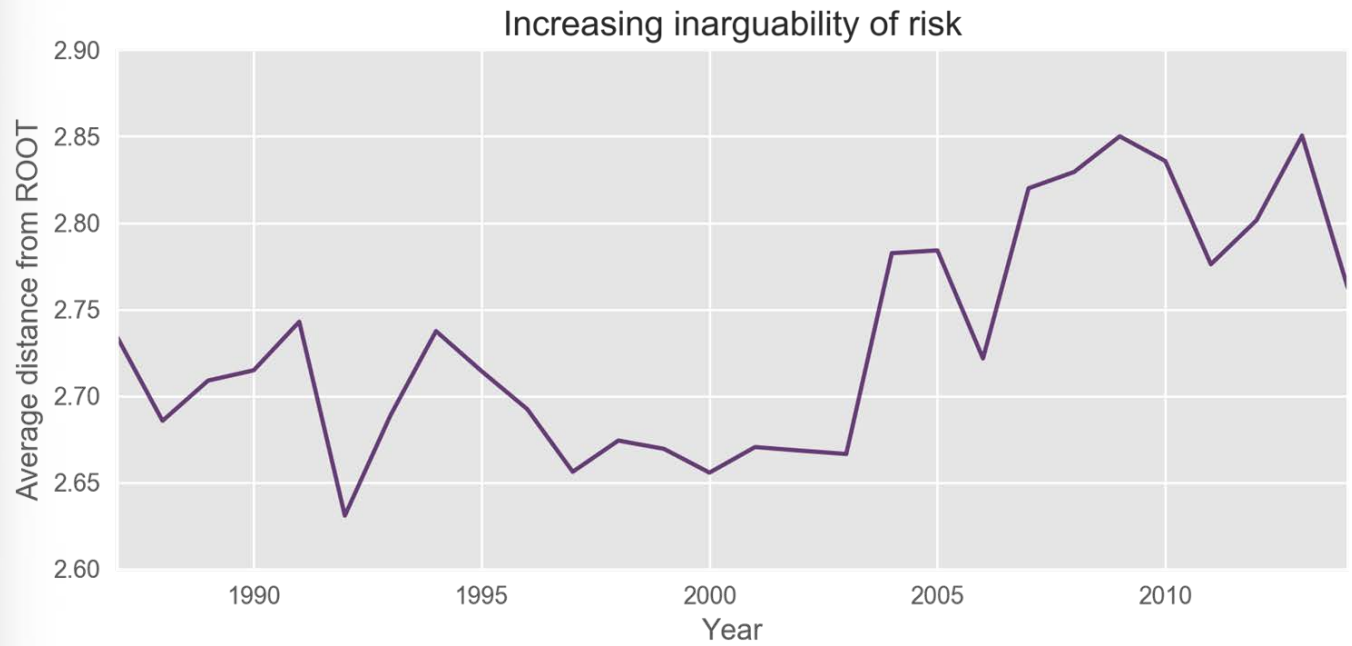


(In-) Arguability

Examples of risk words near and far from *root* in 2014

- 0 John Paul **risked** his life attending an underground seminary as priests he admired were killed with the Jews.
- 0 In such cases, the woman **risks** a prison sentence of up to two years.
- 0 Doctors who use the word 'obese' in their notes may **risk** alienating patients.
- 1 'Generally all vehicles have some **risk** of fire in the event of a serious crash.'
- 1 It may do so again despite its misgivings, because the alternative of an uncontrolled default is too **risky**.
- 1 There is **risk**, because Montero, for all his defensive questions, could be a star.
- 1 But Latino political leaders say the **risk** in changing the questions could create confusion and lead some Latinos not to mark their ethnicity, shrinking the overall Hispanic numbers.
- 11 The use of air power has changed markedly during the long Afghan conflict, reflecting the political costs and sensitivities of civilian casualties caused by errant or indiscriminate strikes and the increasing use of aerial drones, which can watch over potential targets for extended periods with no **risk** to pilots or more expensive aircraft.
- 12 An article on Saturday about a moratorium on research involving a highly contagious form of the H5N1 avian flu virus misstated the professional affiliation of Dr. Anthony Fauci, who said the scientific community needed to clearly explain the benefits of such research and the measures taken to minimize its possible **risks**.
- 13 They are even at odds with Pope Benedict XVI, who has approved the use of condoms 'in the intention of reducing the **risk** of infection.'
- 14 The United Nations Convention Against Torture prohibits the transfer of a detained person to the custody of a state where there are substantial grounds for believing that the detainee is at **risk** of torture.
- 15 The trading blowup that followed has now become a flash point in the fierce debate over the Volcker Rule, which would ban banks from trading with their own money in an effort to prevent them from placing **risky** wagers while enjoying government backing.

(In-) Arguability



A calculative worldview? – LOW RISK

Does risk increasingly become a new way of seeing the world that even situation of low or no risk are framed by risk?

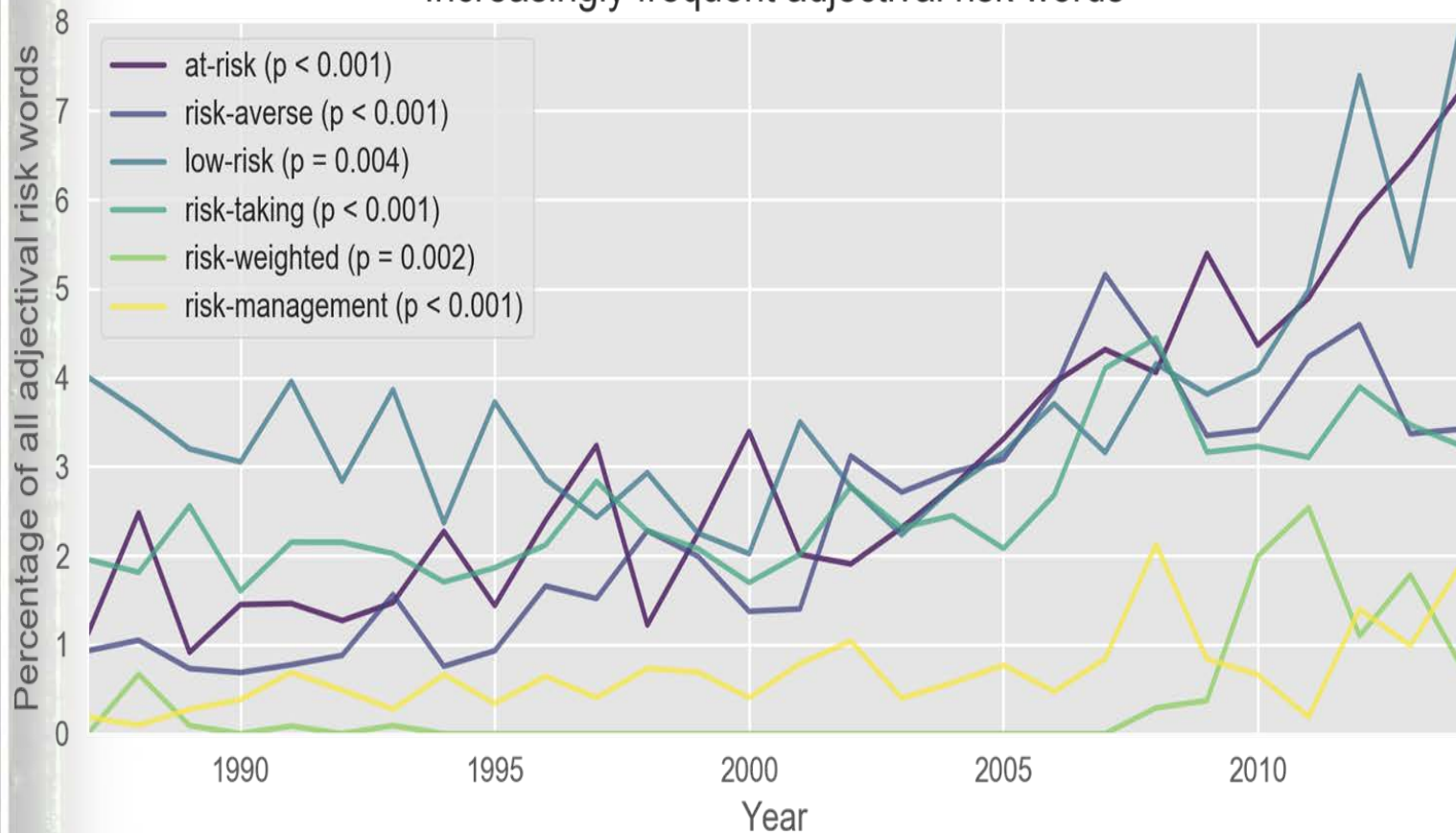
During the first years of the U.S. spread of HIV, for example, people were classed into low-risk, moderate-risk and high-risk groups:

- Hemophiliacs, at **high risk** of AIDS, have been hard hit by the disease.
- Another 25 percent are **at moderate risk**.
- But why on this isolated campus, where no AIDS cases have been reported among students at **low risk** of catching the disease, are students so concerned?



A calculative worldview? – LOW RISK

Increasingly frequent adjectival risk words





A calculative worldview? – RISK FACTOR

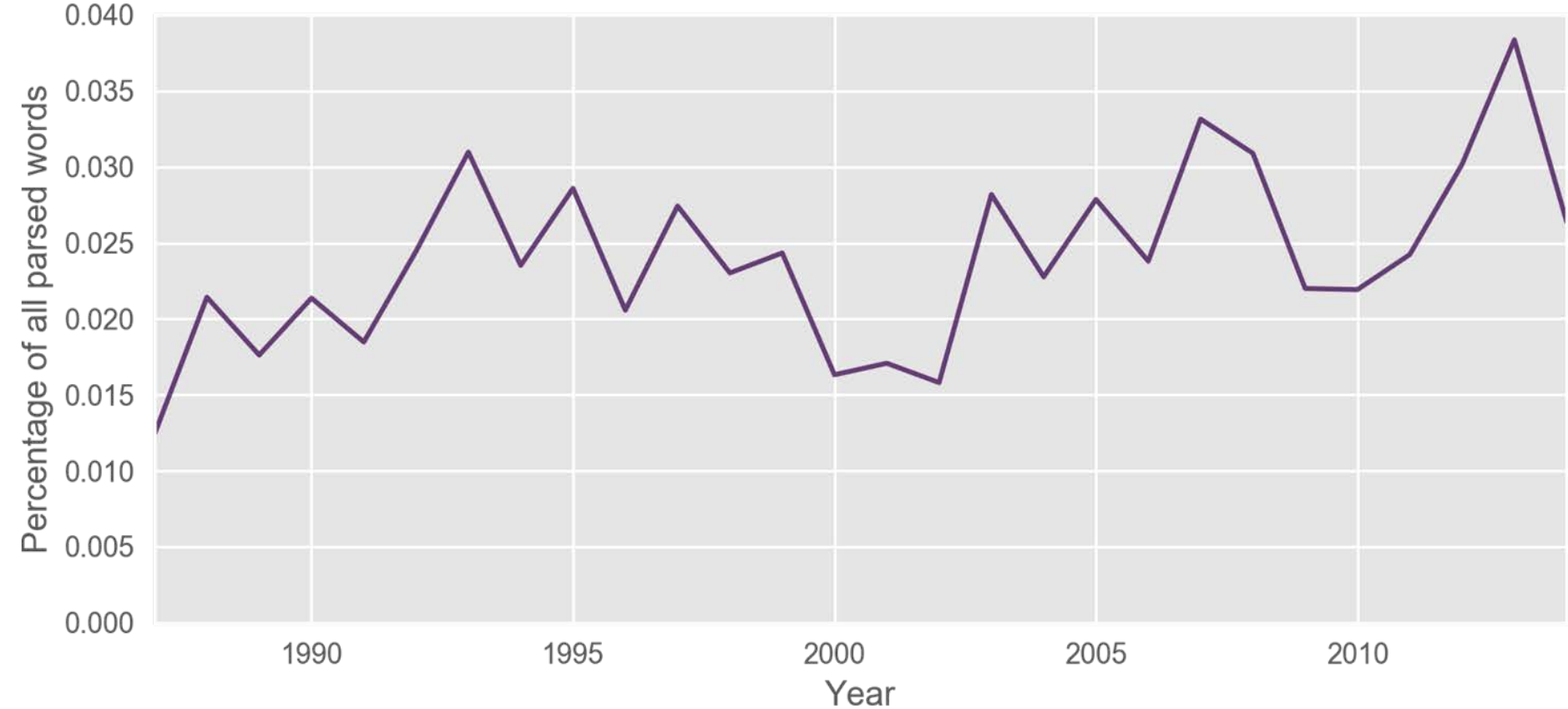
| | relative | absolute |
|---------------|--------------|--------------|
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| manager | 2.15 | 1438 |

- states have periodontitis , and it is a known **risk factor** for atherosclerosis , the buildup of plaque
- large sugary drinks are not the main **risk factor** for obesity it makes sense , she said
- to treat this **risk factor** as early as possible , even if not everyone
- smoking and drinking were considered the dominant **risk factors** for cancers of the throat
- inflammation leads to atherosclerosis , a known **risk factor** for stroke and dementia
- bones after age 50 or those with significant **risk factors** for fracture
- about capitalization or operations , no ‘ **risk factors** ’ - the sort of thing one typically
- selling stock to make some disclosures about **risk factors** and debt that were not explicitly required
- is dementia in his family , and cardiovascular **risk factors** are also risk factors for dementia

A calculative worldview? – RISK FACTOR



Risk factor



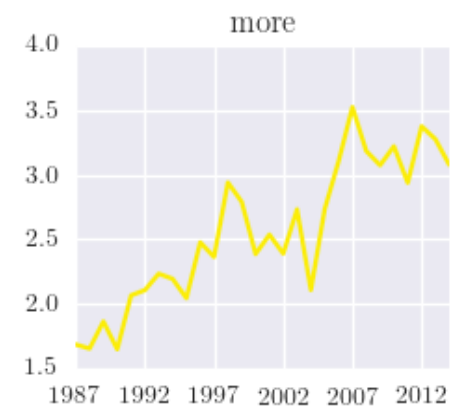
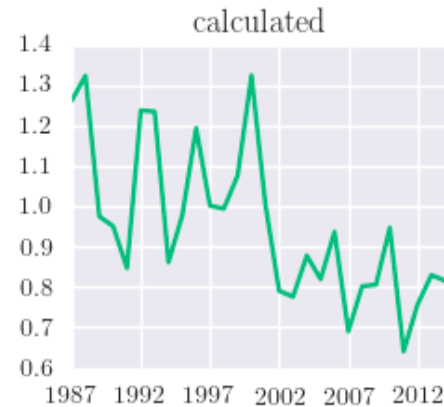
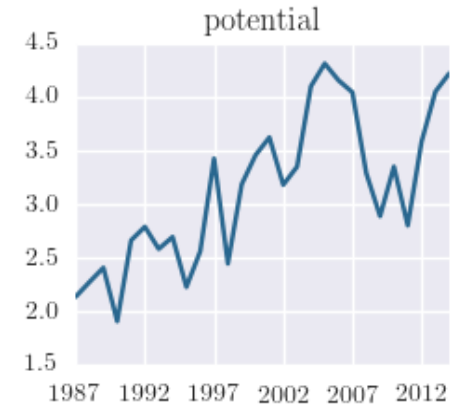
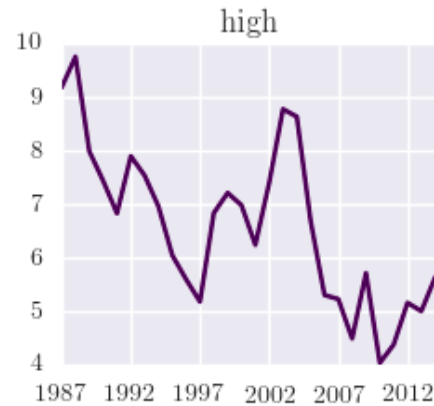
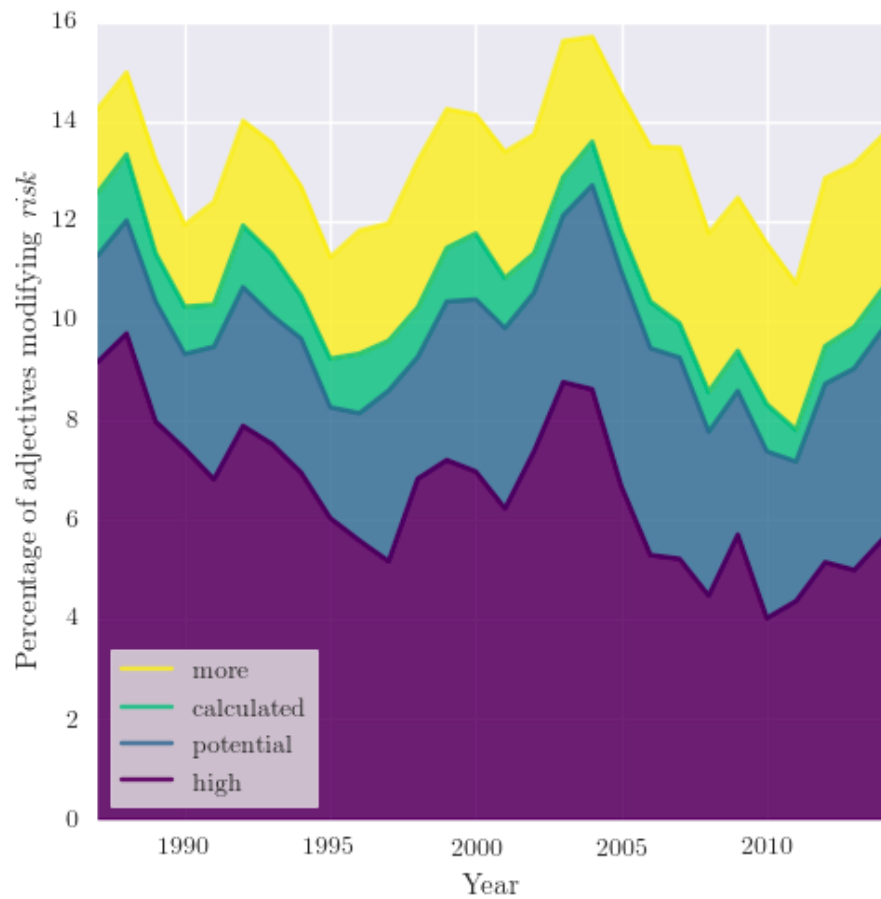
From calculated risk to possibilistic risk

- The modern dream as formulated by M. Weber assumes the in principle calculability of the future:
- *“The increasing rationalization ... means ... the knowledge or belief that ... **one can, in principle, master all things by calculation.** ... One need no longer have recourse to magical means in order to master or implore the spirits, as did the savage ... **Technical means and calculations perform the service.**”*
- We analysed adjectives modifying risk-as-participants.



M. Weber 1864-1920,
German political economist
and sociologist

From calculated risk to possibilistic risk



From calculated risk to possibilistic risk

0 ision to abrogate the agreement a **calculated risk** , exposing himself to
1 consensus may inhibit the kind of **calculated risks** by the african nation
2 nce today at the convention was a **calculated risk** , an effort to quiet a
3 les and sides , and while it 's a **calculated risk** , it 's a way to impro
4 the athletics took a **calculated risk** in making van poppel t
5 at franciscan vineyards , took a **calculated risk** .
6 it was a **calculated risk** , but we figured the o
7 e of timing , an ability to gauge **calculated risks** and a little luck .
8 y minutes early in the season , a **calculated risk** that could backfire .
9 `` i have to take **calculated risks** because one of my rol

From calculated risk to possibilistic risk

- 0 is demonstration if they knew the **potential risk** they were putting stud
- 1 ch campaigns , he added , and the **potential risk** to a global brand is h
- 2 harder for regulators to identify **potential risks** .
- 3 tment grade , but on the level of **potential risk** of default , said uwe
- 4 large amounts of capital against **potential risk** from the loans .
- 5 de island , who contends that the **potential health risks** of marijuana h
- 6 dvisers on tuesday to discuss the **potential risks** of rna interference .
- 7 ng fellow athletes get hurt , the **potential risk** of injury is a bit too
- 8 al , the aol episode exposes some **potential privacy risks** .
- 9 ggerated and that there were many **potential risks** to the budget , like

From calculated risk to possibilistic risk

- Risk is presented in its potentiality rather than its calculability/controllability.
- This supports Beck suggestion that risks in late modernity are increasingly experienced as uncertain, unexpected and difficult to manage.



U. Beck,
1944-2015
German
Sociologist

Degreasing agency in risk processes? ambivalent individualisation

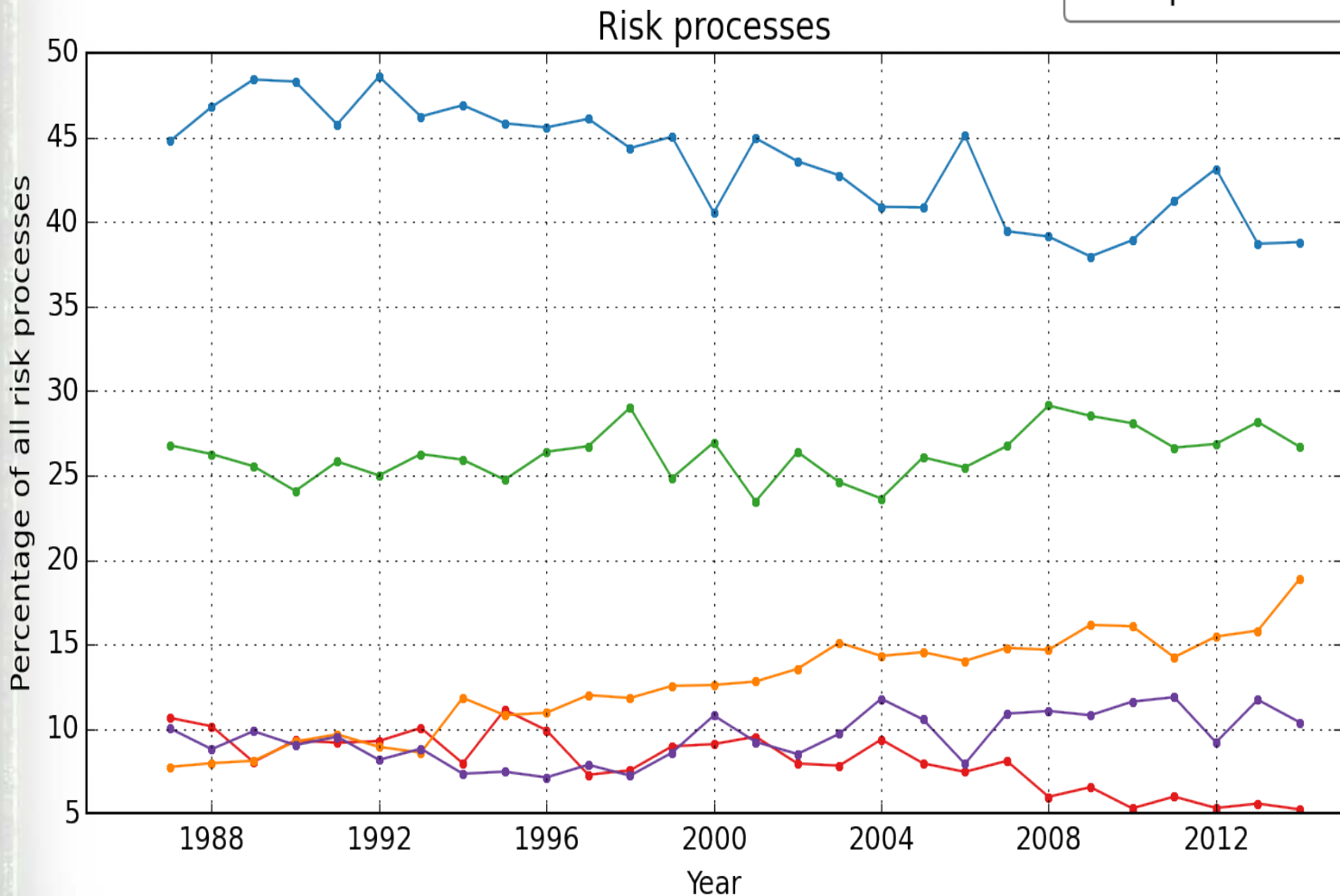
- Ambivalent individualisation or risky freedoms:
- Institutions expect more autonomous individual life planning at times where control of outcomes is even less possible than before.



U. Beck,
1944-2015
German
Sociologist

Degreasing agency in risk processes?

- risk
- take risk
- run risk
- put at risk
- pose risk



Degreasing agency in risk processes? ambivalent individualisation

- “risking”, “taking risk” and “running risk” all conform to the semantic frames mapped out by Fillmore & Atkins (1992) with a risker, and positive and negative outcomes.
- “posing risk” and “putting at risk” divert from the risk frame.
- In neither construction does the actor take the role of the risker.
- These results support the hypothesis of degreasing agency in risk reporting.

Degreasing agency in risk processes?

POSE RISK

- The industry has also denied that electromagnetic emissions from overhead power lines **pose any health risks**.
- But if the newer antidepressants **posed a significant suicide risk**, suicide attempts would probably rise, not fall, after treatment began, Dr. Simon said.
- Those deemed by a judge to **pose a greater risk** to themselves or others are housed at the Bergen County Jail in Hackensack.
- The ministry said the workers **posed no risk** to others and had the A (H5N2) virus, a milder strain than A (H5N1) which has killed more than 70 people.
- Finance ministers from the world 's richest countries and Russia said Saturday that " high and volatile " energy prices **posed a risk** to global economic growth that otherwise appeared solid.

Degreasing agency in risk processes? - PUT AT-RISK

- Pharmacists also overlooked or approved cases in which medications were prescribed at questionable levels or in unsafe combinations that could **put patients at risk** of seizures, accidents or even death, according to the public health department.
- It also cited studies showing that women with unintended pregnancies are more likely to be depressed and to smoke, drink and delay or skip prenatal care, potentially harming fetuses and **putting babies at increased risk** of being born prematurely and having low birth weight.
- Last September, Qualitest Pharmaceuticals, a unit of Endo Pharmaceuticals, voluntarily recalled "multiple lots" of contraceptive pills -- also because of a "packaging error" that could **put women at risk** for pregnancy.
- The Japanese government 's failure to warn citizens about radioactive danger **put the entire city of Tokyo at health risk** -- and the rest of us as well.

Shift of responsibility to the individual

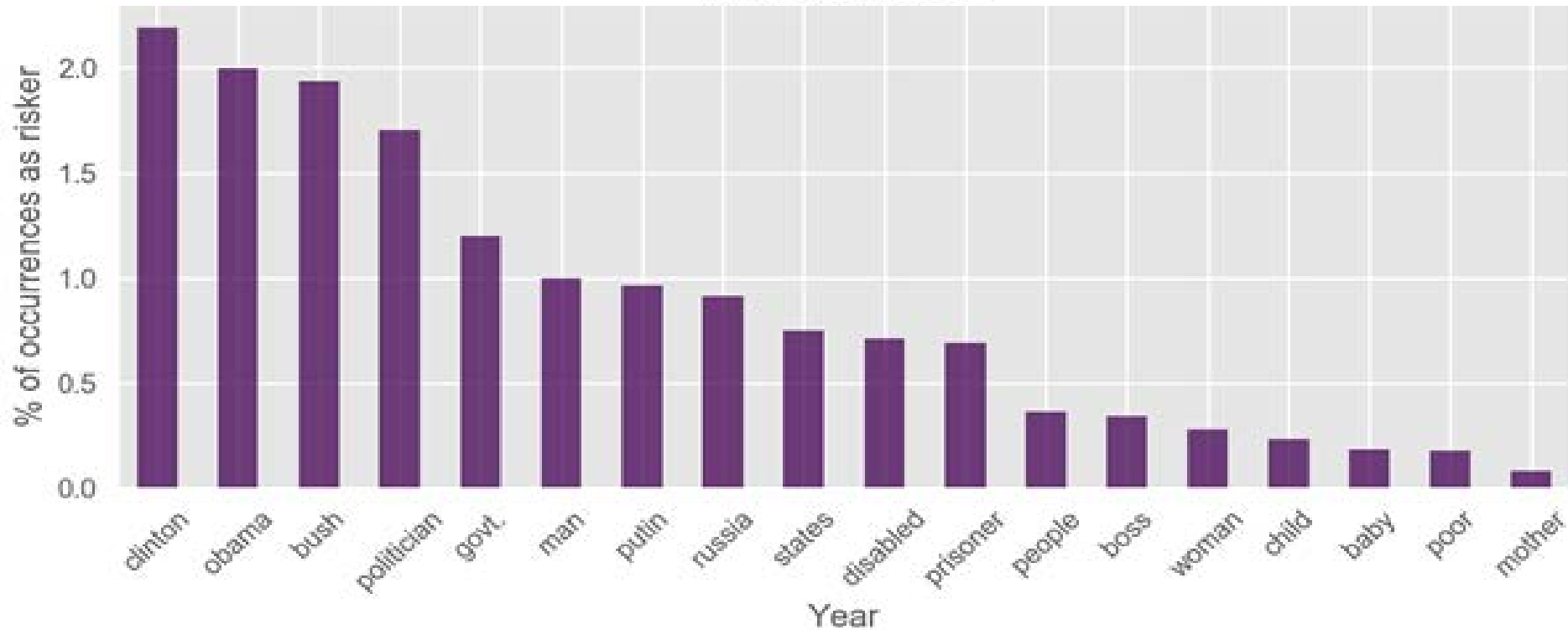
- Individualisation thesis states (U. Beck) that institutions increasingly expect individuals to behave like responsible riskers/risk takers even under conditions when they cannot.
- We observe less agency in media reporting that would contradict this expectation (or the lack of fulfilling this norm is more newsworthy).
- We used grammatical annotation to look for the subjects in risk processes to identify who are the common subjects behind risk processes.
- Powerful people, organisations as well as terms often used for everyday people.

Risk and power

- Words pertaining to normal, everyday people (person/people, man/men, woman/women, child/children, etc.) are associated increasingly with risk discourse: this class of nouns is becoming more frequent, overtaking words related to institutions.
- But banks, agencies and companies are becoming more frequent in riskier positions, while everyday people become steadily less prominent.

Risk and power

Risk and power



Selected participants by relative frequency in risker position

Risk and power

- Contextualised instances of different kinds of riskers reveal that the kinds of things that are reportedly risked by everyday people are less abstract, and often with little balance between the possible positive and negative outcomes.

Differences in TO RISK

- Perfectly normal **men** and **women** were **risking prison** by making a pass at someone
- “Some **people** will clearly **risk death** to reach Europe,” said Israel Díaz Aragón, who captains one of the boats of Spain’s maritime rescue services.
- Even those **women** who become cam models of their own free will take on **serious risks** associated with sex work
- **People** who were lactose intolerant could have **risks losing water** from diarrhea, Dr. Tishkoff said.
- The humiliating result, six workers said in separate interviews, was that **men** were sometimes forced to urinate in their pants or **risk heat exhaustion**.

Differences in TO RISK

- Today, George W. **Bush**, with his dauphin's presumption that the Presidency is his for the taking and his cocky refusal to depart from his canned stump speech, **may risk** repeating Dewey's error and **give** his opponents the **sentimental underdog's advantage**.
- After months of giving President Fox the cold shoulder, Mr. **Bush's** action on immigration may foretell an end to the tensions, particularly since Mr. Bush is **taking a political risk** by angering anti-immigration Republicans.
- By raising the question of his role in the Iran arms-for-hostages deal, even to decry those questions as part of a "Democrat-run" witchhunt, Mr. **Bush risked appearing defensive** and **risked prolonging** news coverage of a six-year-old scandal that has already eaten up one of his last four days of campaigning.
- Longtime Washington observers question if Mr. **Obama** would **risk a battle** over his secretary of state
- Ignoring the fact that it's her beloved Tea Party dragging the country to ruin, Palin suggested on Facebook that if the country defaults on its debt, **Obama is risking impeachment**.



Differences in TO RISK

- The list of embedded processes found a number of expressions which are fairly uncommon in general language use: *alienating*, *offending*, *undermining* and *angering*

As they do this dance, the candidates **risk alienating** their strongest supporters.

Criticism of the demonstrations **risks alienating** some parts of his constituency.

But for Mrs. Clinton ,... , the strategy **risks alienating** potential supporters.

Hollywood ,..., does not like to **risk alienating** potential ticket buyers

You do n't want to **risk alienating** your readers overnight.

but one thing is clear: A coach may **risk alienating** players

the mayor would **risk alienating** other Republicans

Raise taxes on houses and **risk alienating** homeowners.

Warner also **risked alienating** fans by delaying its release

Issues and perspectives

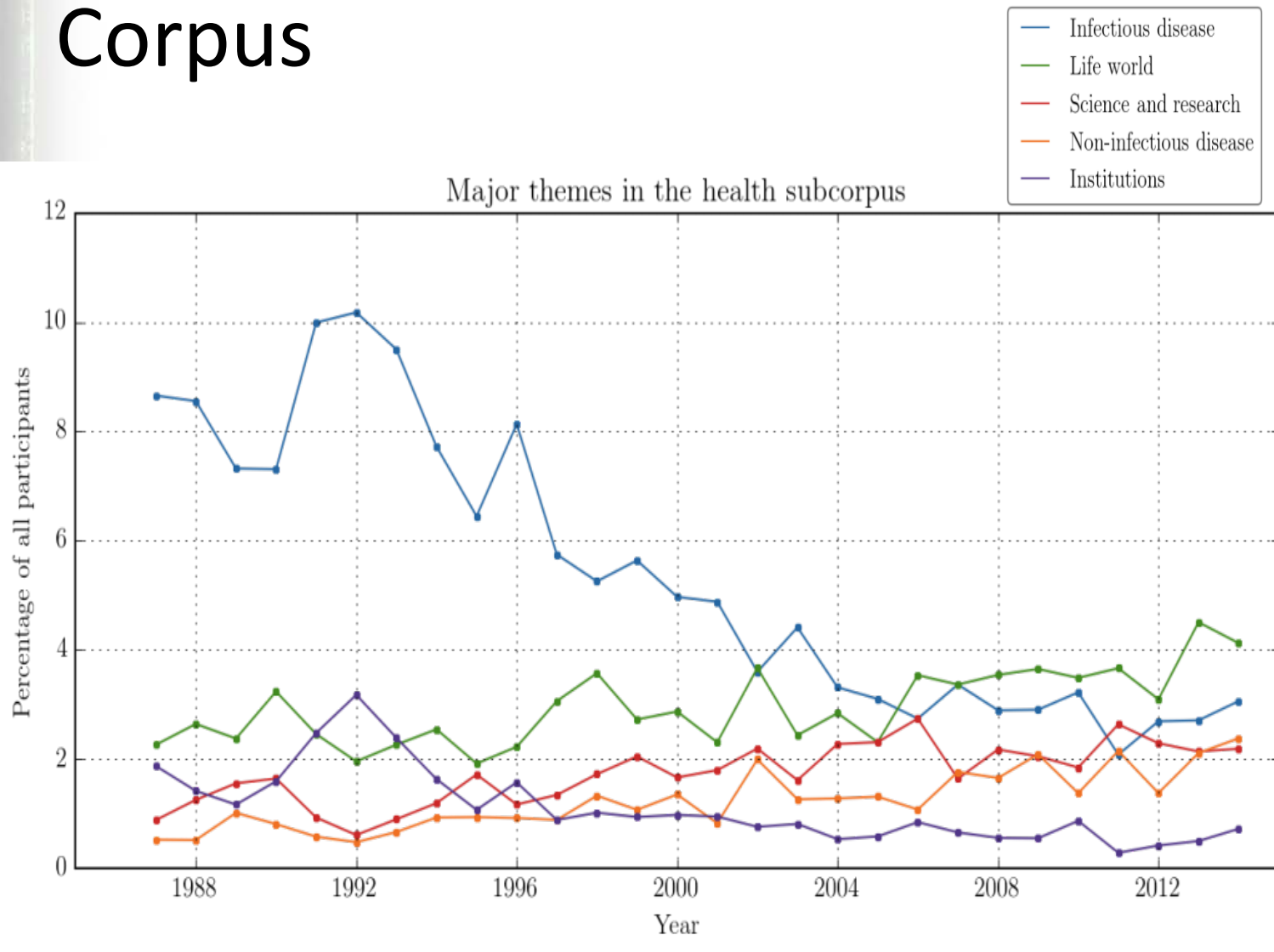
- Relationship between institutional/cultural and linguistic changes?
- How to present research results from different disciplines? (e.g. technical issues)
- Changes in the reporting of particular risks without using the risk phrase? (e.g. shift from climate change as risk to climate change as threat)
- Differences between newspapers?
- Differences between languages and national news cultures/institutional contexts?
- New EU funded Fellowship at CASS: UK and Germany in historical comparative perspective

Thank you!

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Major Themes in the Health Corpus



Zinn, J. O. & McDonald, D. 2016: Changing Discourses of Risk and Health Risk