

A contrastive analysis of keywords in newspaper articles on “Kyoto Protocol”

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Outline

- Introduction
- Data corpora
- Semantic fields
- Alarm/disaster meaning
- Environment, gas collocations
- Conclusions

Introduction

- Kyoto protocol (1997)
- Two newspapers
 - Italian La Repubblica
 - American The New York Times
- Contrastive analyses of keywords

Data

- La Repubblica
 - 832 texts
 - 500,000 words
- The New York Times
 - 657 texts
 - 650,000 words
- Articles from 1997 – 2006
- Selected manually according to the theme

Reference corpora

- The New York Times portion of the American National Corpus (4148 articles, 3.6 mil. words)
- La Repubblica corpus (380 mil. words)
- Tools used:
 - TreeTagger
 - WordSmith Tools 4.0

Extracting keywords

- Positive and negative keywords
- Manually grouped into semantic fields (economics, family, entertainment)

Table 1. Negative keywords semantic fields

<i>La Repubblica</i>	<i>The New York Times</i>
Economics (borsa, titoli, tassi...)	Economics (investors, stock, financial...)
Family (moglie, fratello, figlio...)	Family (family, mother, parents...)
Entertainment (film, spettacolo, concerto...)	Entertainment (sport, film, music...)

Positive keywords semantic fields

Table 2. Positive keywords semantic fields

<i>La Repubblica</i>	<i>The New York Times</i>
Economics	Economics
Effect on the Planet	Effect on the Planet
Power sources	Power sources
Environmentalist jargon	Environmentalist jargon
Negotiation	Negotiation
Politicians	Politicians
Parts of the Planet	Part of the Planet
	Politics
Change	Reduction
Science	Science
Chemical substances	Chemical substances
States	States
Transports	Transports

Differences among keywords in one semantic group - negotiation

- Mainly in negotiation, change, effect on the planet
- Negotiation
 - NYT - discussing two different positions: talks, debate, negotiators
 - LR – reaching an agreement: accords, targets, ratification

semantic group – change

- NYT – privation and deficiency:
 - reduction, cut, limits
- LR – also other changes:
 - reduction, increase, development

semantic group – effect on the planet

- NYT – general effect, indirect :
 - warming, greenhouse, pollution
- LR – disasters, direct consequences:
 - hurricane, floods, drought

Detailed table

Table 3. Words in semantic fields

Negotiation		Change		Effect on the planet	
<i>LR</i>	<i>NYT</i>	<i>LR</i>	<i>NYT</i>	<i>LR</i>	<i>NYT</i>
Ratifica	talks	ridurre	reductions	inquinamento	warming
impegni	ratification	riduzione	reduce	riscaldamento	greenhouse
accordo	delegates	aumento	reducing	surriscaldamento	pollution
obiettivi	debate	crescita	cut	caldo	heat
accordi	negotiators	sviluppo**	reduction	calore	
obiettivo	ratified		limits	uragani	
ratificare	rejected			disastri	
ratificato*	ratify			alluvioni	
	issues			desertificazione	
	issue			siccità***	

* Ratification, dealings, accord, targets, accords, target, to ratify, ratified.

** To reduce, reduction, increase, growth, development.

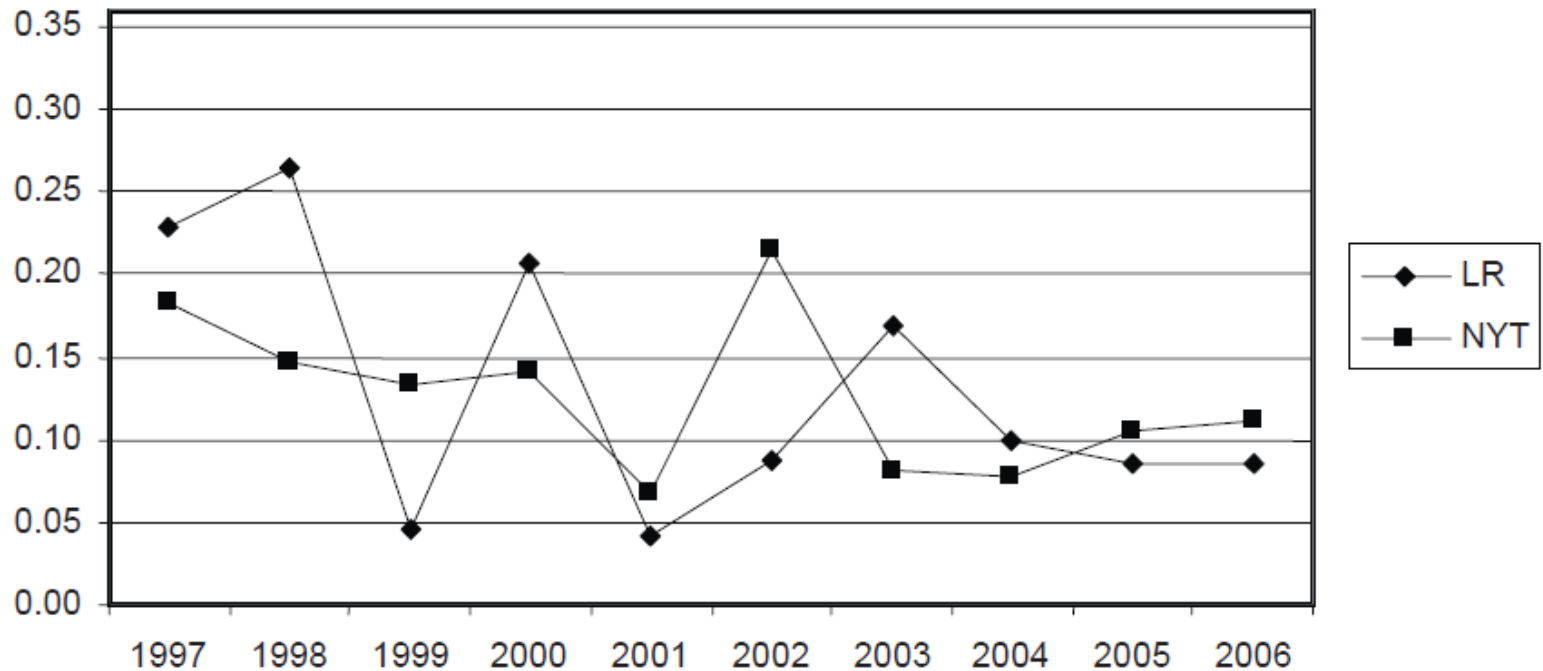
*** Pollution, warming, overheating, warm, warmth, hurricane, disasters, flood, desertification, drought.

Alarm sub-corpora

- To explain the last divergence
- Articles selected manually
- Reference corpora - whole Kyoto corpora
- NYT - remote, distant problems:
 - Ice melting, sea rising, birds, bears
- LR – natural calamities:
 - Disastre, hurricane, uragane

Time evolution of selected words (natural events)

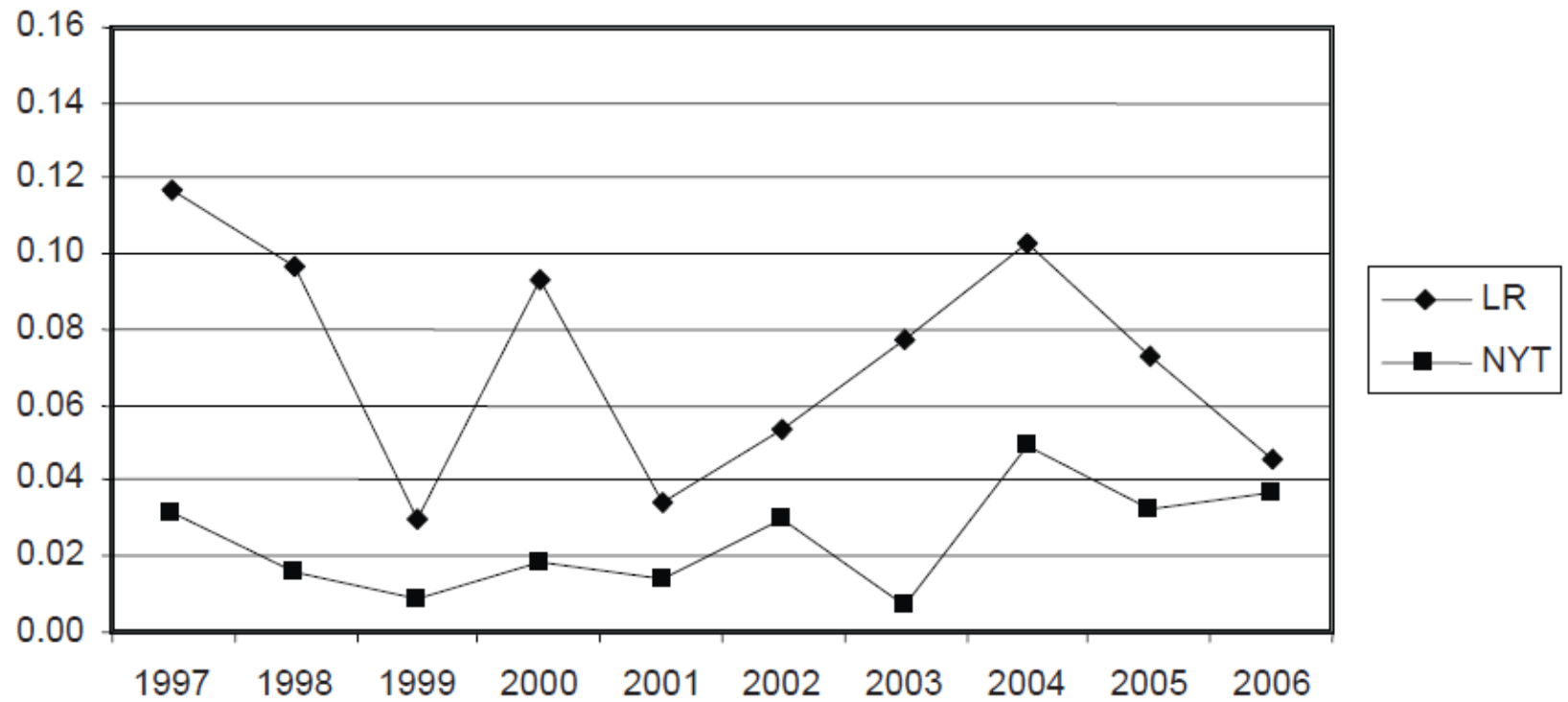
- According to whole Kyoto corpora



Graphic 1. Warm/hurricane/ice trend (1997–2006)

Time evolution of selected words

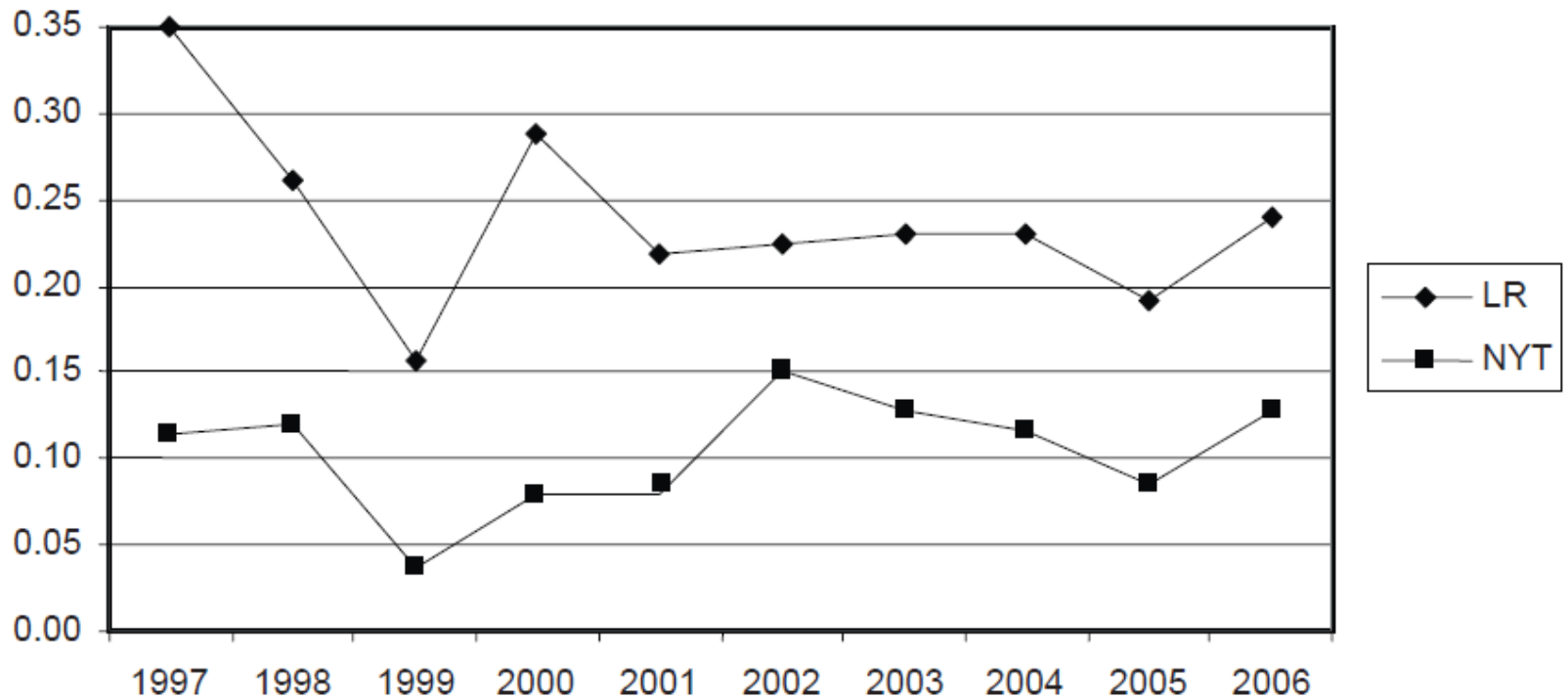
- In the semantic field of “disaster”



Graphic 2. Disaster trend (1997–2006)

Time evolution of selected words

- In the semantic field of “alarm”



Graphic 3. Alarm trend (1997–2006)

Concordance of “environment” and “gas”

- Environment –
 - 1st positive in LR,
 - 35th in NYT
- Gas –
 - LR – judgement, negative attitude (harmful, toxic, cause, responsible)
 - NYT – uncertainty, doubts (contribute, believed, linked, scientists)

Concordance of “gas”

Table 6. Concordances “gas”

La Repubblica

- (1) firmarono un accordo per diminuire in modo drastico l'emissione dei gas responsabili dell'effetto serra. Sostenuti dalle varie lobbies, Hagel
 - (2) i governi di molti paesi si sono impegnati a ridurre le emissioni di CO2 e dei gas responsabili dell'effetto serra, ha lanciato “Cambio di clima (meno consumi
 - (3) è di gran lunga il paese più inquinante per quanto riguarda le emissioni di gas responsabili dell' effetto serra. In caso di rifiuto degli accordi di Kyoto,
 - (4) discorso sullo stato dell'unione per annunciare una inversione di rotta sui gas che provocano l'effetto-serra. Resta infatti il problema numero del nostro
 - (5) approvare i provvedimenti assunti alla conferenza di Kyoto per la riduzione dei gas che provocano l'effetto serra”.
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The New York Times

- (1) loser to final approval of the first international treaty to limit emissions of gases linked to global climate change. The council voted
 - (2) how their current emissions contribute to concentrations of carbon and other gases linked by scientific organizations to a global warming trend. Some
 - (3) would be obligated under the Kyoto accord to specific cuts in emissions of the gases believed to contribute to global warming. At least initially, developing
 - (4) a specific reduction in the emission of carbon dioxide and the other greenhouse gases that contribute to global warming, agreeing only to “substantial reduction
 - (5) the Kyoto agreement on climate change. Steps are being taken to control gases that contribute to planetary warming, even though it could be
-

Concordance of “gas” – uncertainty in NYT

- (1) have,” the site says, using the scientific shorthand for carbon dioxide, the gas some scientists say helps cause global warming, “and that these high levels
- (2) year trying to build a consensus for long-range policies to reduce greenhouse gas emissions scientists have linked to warming. The new round of negotiations
- (3) national commitments to cut emissions of carbon dioxide and other heat-trapping gases that scientists link to global warming. “You are watching 163 nations
- (4) measures is used to stem tailpipe and smokestack emissions of heat-trapping gases that scientists say are contributing to global warming. “When you’re
- (5) binding limits on the output of carbon dioxide and other so-called greenhouse gases that scientists believe are causing traumatic changes in the climate.
- (6) advice and publish audited inventories of the companies’ emissions of the gases, which scientists say appear to be contributing to a potentially harmful
- (7) deadline in Kyoto, Japan, for talks on an agreement to cut emissions of the gases that scientists warn may be warming the planet. After delegates caucused

Conclusions

- Same semantic fields, different meanings
- USA – negotiations, difficulty of change
- Italy – agreement, awareness of negative consequences
- Which approach is better?
 - USA – unrealistic difficulties, ignoring Kyoto protocol as a solution
 - Italy – myth of an easy redemptive solution