

LINGCLIM:
LINGuistic representations
of CLIMate change discourse
and their individual and collective interpretations

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1 Point of departure

- Climate change (CC) has moved from being mainly a physical phenomenon to being simultaneously a social, cultural, political and ethical phenomenon
- Both individual and collective attitudes and lack of action seem an equally serious challenge as scientific knowledge of the phenomenon itself
- The meaning people ascribe to CC is closely related to how the phenomenon is portrayed -> the importance of language
- Language not only reflects and expresses but also influences attitudes and behaviour
- Language can create new “realities”





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Scientific discourse

Arctic sea ice decline and ice export

A new study uses the CMIP5 historical simulations to find out more about Arctic sea ice decline and ice export.

The Arctic sea ice is shrinking, both in extent and thickness. [...]

Our climate models also show that the Arctic is losing sea ice, **but it is not known** how they represent the ice export in the Fram Strait. [...]

We have therefore investigated the ice export in 6 current climate models that provides 24 different simulations. **Perhaps surprisingly**, most of these coarse resolution models manage to reproduce a realistic seasonal cycle of the ice export, with more ice floating through the strait during winter than summer.

On the other hand, not all simulations show an increase in the ice export.

Bjerknes Centre for Climate Research (BCCR), Bjerknes.uib.no, accessed 23.01.13



Political discourse

“I would give you the piece of advice, not to provide us with too many moving targets, because it is already a very, very complicated process. And I need your assistance to push this process in the right direction, and in that respect, **I need fixed targets and certain figures, and not too many considerations on uncertainty and risk and things like that.**”

(Anders Fogh Rasmussen, 2009, former Danish PM)



Media discourse

In the "Christmas panel" of Dagens Næringsliv (Norwegian Financial/Economic Newspaper, 24.12.12) :

After a statement by Jens Ulltveit-Moe signaling the dramatic dimension of climate change and that something has to be done, Erik Haugane (Det norske oljeselskap (Norwegian Oil Company)) says:

"Relax, the climate becomes what it becomes. Whatever happens, business will go on. It has paid to build churches and mosques for 1500 years without God showing up. [...] **"the climate prognoses are "way out" regarding frightening pictures"**.



2 Objectives

Overarching question:

To what extent and in what way does language matter?

Objectives

- (1) generate integrated knowledge about the role of language in CC discourse through developing a multidisciplinary methodology incl. opinion survey and psychological experiment
- (2) investigate CC discourse linguistically
 - (a) on a micro-/word/sentence level, and
 - (b) on a macro-/narrative text level based on contextual factors established through the multidisciplinary approach
- (3) unveil the relationship between linguistic representations and collective and individual interpretations
- (4) explore the role of the perspectives of "gloom-and-doom" vs. "opportunities-in-a-new-sustainable-society"



3 Main research components

1) Linguistic and discursive analyses

-> linguistic representations of CC knowledge and discourse

As linguists we can investigate multiple constructions and hypothesise about their (rhetorical) functions, but we need to collaborate with other disciplines to understand how they influence public opinion and individual responses →

2) Opinion survey (through the national Citizens Panel, UiB)

-> collective interpretations

3) Psychological experiment -> individual interpretations

4) Interaction with high-school students, collaboration with University School Laboratory and high-school teachers⁸



4 Hypotheses

Overarching hypothesis:

Linguistic representations (language) influence which knowledge structures and connotations that are activated and which inferences that are drawn by people

Other factors to be taken into account:

- source (voice) and context of what is said
- the recipient's background, values and attitudes

Two interrelated sub-hypotheses related to

- a) the notion of narrative (different “stories” are told),
- b) the multivoiced (polyphonic) character.

Focus on linguistic expressions conveying uncertainty/certainty (epistemic), obligation (deontic) and values (axiologic)



5 Opinion survey as part of "Citizens panel"

- To be tested:
hypotheses about how language use and voices influence attitudes and beliefs as well as possible action regarding CC
- Questions related to :
 - preferences for specific policy measures (e.g. taxes, transport, household restrictions)
 - the scope of the measures (global/international, national or local)
 - social justice ("rich" world versus "poor" world)
 - view of the future (positive/negative)



6 Psychological experiment

- Through different *scenarios*, with a world, a national (Norway) and a local (Bergen) setting
- The scenarios will be constructed according to a narrative structure
- Variation in the statements according to linguistic representations of uncertainty (epistemic modality), of obligation (deontic modality) and of future perspectives (evaluative expressions).
- Online experiment with approx 1,000 participants



7 Previous linguistic and discursive analyses

A. MICROLEVEL

CC discourse is particularly polyphonic/multivoiced

-> Main interest in the presence of voices, explicit and implicit (open and hidden interaction)

Theoretical framework – ScaPoLine (Nølke, Fløttum & Norén 2004):

- different linguistic markers signal the explicit AND implicit presence of other points of view, or “voices”, than that of the speaker
- language as fundamentally dialogical
- the speaking subject is not unique



Classical example – reported speech and citations:

*Prime Minister Stoltenberg **said/claimed** that Norway will maintain its leading role in international climate negotiations.*

Multiple voices present:

Sentant qu'ils allaient passer pour les *bad guys* de la négo, les Américains se sont montrés plus ouverts à « *une plateforme légale commune* » ou « *partagée* », termes juridiques flous censés désigner ce fameux « *cadre légal* ». « *Un cadre légal ? Ça ne veut rien dire, rigole Pierre Radanne*, vieux briscard des négociations, familier de la novlangue climatique. *Le protocole de Kyoto est déjà un cadre légal!* » « *Avec un tel texte, on passe du mauvais au pire, soupire Pablo Solon*, l'ancien chef de la délégation bolivienne. *Si l'Europe valide une telle formulation, elle cède aux Américains et aux Chinois.* » (Lib 20111210)



- Polyphonic representations with "hidden" voices:

Refutation: The long time scales of thermal expansion and ice sheet response to warming imply that stabilisation of GHG concentrations at or above present levels would **not** stabilise sea level for many centuries. (IPCC 2007, p. 20)

Concession: Such changes [in metres of sea level rise] are projected to occur over millennial time scales, **but** more rapid sea level rise on century time scales cannot be excluded. (IPCC 2007, p. 13)

Hesitation: Without substantial investment flows and effective technology transfer, it **may** be difficult to achieve emission reduction at a significant scale. (IPCC 2007, p. 20)

Presupposition: With this, Government will **continue** to engage actively and meaningfully in international climate change negotiations, specifically [...] the UNFCCC negotiations [...]. (SA Green paper 2010, p.4)

Obligation: If the world is to succeed in reducing emissions according to the goal of two degrees, an international price on carbon emission **must** be established. (NO White paper 2012, p.8)



B. MACROLEVEL

Research related to genre issues and narrative perspective

- What are the **stories** told in the climate debate?
- "Climate change narratives":
 - text and talk that present climate change as a certain type of **problem**, with implicit or explicit recommendations or imperatives for **actions** which take place or should take place to achieve some particular effect(s)/**resolution**.
- Narrative characters: hero, villain, victim



- Made-up example of Climate Change Narrative:

1. **Initial situation:** Human beings lived in harmony with nature.
2. **Complication:** CO₂ emissions have increased dramatically since 1990 and have caused serious climate change.
3. **Re-action:** The UN organises international summits (COPs) to discuss action on climate change.
4. **Outcome (Resolution):** But the negotiating countries have not reached any binding agreement of measures to undertake.
5. **Final situation:** Climate change constitutes a serious threat to the Planet and future generations, and those who have contributed least to the problems are the ones most vulnerable to the consequences.



Narrative analyses

- *IPCC - Summary for policymakers 2007* (4th AR)
 - A "story" about the complexities and uncertainties inherent in CC; nature as victim; human beings and society as villains
- *Human Development Report 2007/2008* (UNDP)
 - a story about the battle against CC as part of the fight for humanity
- *World Development Report 2010* (World Bank)
 - a story about promoting growth, which can be threatened by CC
- South Africa's *Green paper* (2010) & *National Climate Change Response White Paper* (2011)
 - a story of attributing a double role of victim and villain to the country
- Norway's White Papers on 1) *The Arctic* (StM7, 2011) and 2) *Climate policy* (StM21, 2012) (Norsk klimapolitikk):
 - Two stories ???



From linguistics to cross-disciplinary collaboration

- How are these representations
 - stories as well as micro-linguistic phenomena – interpreted by the collectivity of the public and by individual citizens ?
 - What do the linguistic representations mean for people's attitudes, opinions and engagement in action?
- > Cross-disciplinary collaboration between linguists, psychological, political and climate scientists



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