

## The texture of thought: a corpus-based study in lexical pragmatics

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## The Theory of Lexical Complexity

Bertuccelli Papi, M. (2003), "Cognitive complexity and the lexicon", in Merlini Barbaresi, L. (ed), *Complexity in Language and Text*, Pisa: Plus Pisa University Press, pp.67-115

Bertuccelli Papi, M. and Lenci, A. (2007), "Lexical Complexity and the texture of meaning", in M. Bertuccelli Papi, G. Cappelli and S. Masi (eds.), *Lexical Complexity: Theoretical Assessment and Translational Perspectives*, Pisa: Plus Pisa University Press, pp.15-33

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## The Theory of Lexical Complexity

The theory aims at defining **informational complexity** and the processes that regulate lexical meaning construal in the actual context of use.

It shows in what sense **language and the lexicon** can be compared to other **complex dynamic systems** present in nature, with which they share fundamental properties.

## Dynamic Systems

A set of integrated and interrelated **dimensions** or aspects of the world that change and evolve through time.

Described in terms of

- the number and types of **dimensions**
- the forms and predictability of its **organization**.

## The lexicon: a complex dynamic system

- ♦ Dynamicity
- ♦ Complexity
- ♦ Emergent self-organization
- ♦ Non-linearity
- ♦ Adaptivity
- ♦ Nestedness

## Complexity and Organization

C ←→ O

Competing forces

A system is **more complex** if it is composed by a **higher number of dimensions** interacting with one another.

On the other hand, **organization** imposes **structure, constraints and regularity** to different extents, so that the system dynamics become more (easily) predictable.

## Words as pointers...

“... to conceptual structures (semantic spaces) out of which meanings are **dynamically construed in context-sensitive** modalities, following a non-linear process, but emerging in recurrent configurations with some degree of statistically relevant stability”

(Bertuccelli Papi and Lenci 2007:21)

## The principles of the organization

**General semiotic principles** that can surface at all levels of the linguistic structure.

They help shape a steady state of the system at a certain time and are connected to more **general cognitive procedures**.

## The principles of the organization

- ◆ Figure-ground
- ◆ Biuniqueness
- ◆ Iconicity/diagrammaticity
- ◆ Indexicality
- ◆ Transparency

## The forms of the organization

Frames, scenarios, schemata, scripts, etc.

### Frames:

- dynamic relational structures evoked by lexical items
- format is the emerging result of external pressure and of the interplay of intralinguistic and extralinguistic constraints,
- self-organized
- not built according to some pre-established intention.

## English Verbs of Cognitive Attitude

assume, believe, bet, conjecture, consider, doubt, expect, fancy, feel, figure, gather, guess, imagine, judge, know, presume, reckon, see (*I can't see...*), sense, suppose, surmise, **think**, trust, wonder (*I shouldn't wonder*)

## Verbs of cognitive attitude:

- ◆ allow the speaker to signal his own epistemic qualification of a state of affairs and, at the same time, to mention the sort of evidence he has for it
- ◆ allow the speaker to describe his past “epistemological” qualifications of states of affairs
- ◆ allow the speaker to describe (or ascribe to) somebody else's cognitive attitude.

## Verbs of cognitive attitude and complexity

- ✓ Complexity at the **conceptual** level
- ✓ Complexity at the level of **lexicalisation (I)**
- ✓ Complexity at the level of **lexicalisation (II)**
- ✓ Complexity at the level of the **single lexemes**

## Verbs of cognitive attitude and complexity

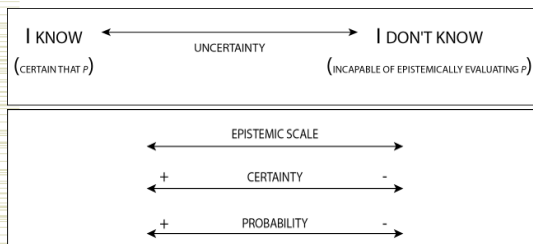
### ✓ Complexity at the conceptual level

Two quite *abstract* conceptual domains [epistemicity and evidentiality] operating at a higher cognitive level...  
(Nuyts 2001)

...internally *articulated*...

...(?) *weakly organised* internal structure

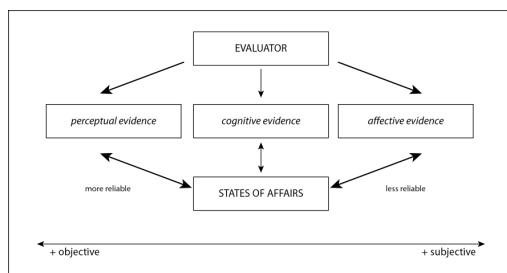
## Epistemicity



## Evidentiality

Any epistemic evaluation follows from some kind of *verification process*, an evaluative operation over available evidence, which is “assessed” against the *validating context*  
(Bertuccelli 1987, Sperber 1997)

## Evidentiality

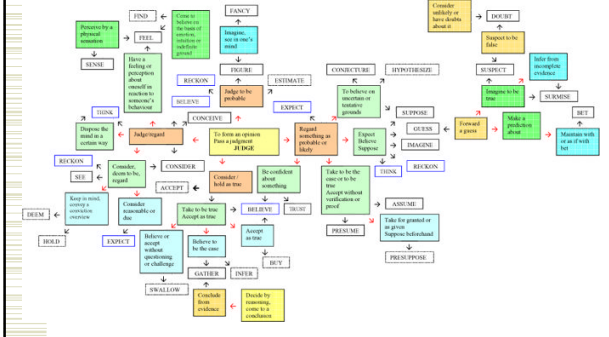


## Verbs of cognitive attitude and complexity

### ✓ Complexity at the level of lexicalisation (I)

- ✓ Various degrees of a relatively limited number of dimensions
- ✓ relatively high number of lexical items
- ✓ very subtle differences in meaning
- ✓ fairly high internal organization

## A visual map...



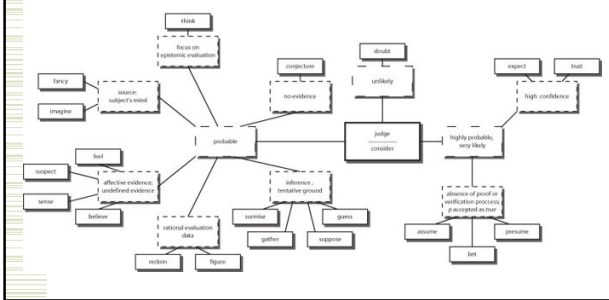
## Verbs of cognitive attitude and complexity

### ✓ Complexity at the level of lexicalisation (II)

Certain areas within the system itself present a **competing internal organisation**

## A visual map...

The Lexicalisation of Cognitive Attitudes: A Visual Map



## Verbs of cognitive attitude and complexity

### ✓ Complexity at the level of the single lexemes

Each item can be envisaged as a **complex dynamic microsystem** which can reach a relatively stable state only if particular constraints act as organizing principles  
*(i.e. syntactic and grammatical constraints, linguistic contextual constraints, etc.).*

## I think...

### Qualificational reading:

*I think that Mary will pass the exam*

vs.

### Non-qualificational reading:

*Stop talking to me! I am thinking!*

## Qualificational construal

Recurrent observable patterns constraining the construal:

- occurrence in simple tenses rather than in continuous tenses
- occurrence in the first person of the simple present tense
- frequent co-occurrence with certain adverbs
- occurrence in certain types of texts (*antagonistic, argumentative*)

## Verbs of cognitive attitude and complexity

### ✓ Complexity at the level of the single lexemes

Even when these constraints are at work, some of the verbs that occupy a more central position in the category, (e.g. *think*), show a remarkable *semantic “instability”* which evidences a somewhat *loose organisation within the system*.

## Verbs of cognitive attitude and complexity

⇒ high adaptivity to external pressures

## *I think...*

*Think* is a very “flexible” verb, which can cover a large area on the epistemic scales.

It has a rich meaning potential which can be lexicalised in a large number of contextualised interpretations. (Croft and Cruse 2003)

## *I think...*

### Dynamic system of high complexity:

A vast amount of information is needed in order to describe all its possible states.

### Loose internal organisation:

Few abstract scalar conceptual dimensions.

### Some constraints forcing qualificational construal:

- ◆ Continuous *vs.* simple tenses
- ◆ Syntactic pattern (1<sup>st</sup> person, simple present, complementiser *that*)
- ◆ Co-occurrence with epistemic adverbs

## *Think* lexicalises...

...the evaluator’s assignment of a positive degree of likelihood to *p* (while leaving the possibility open that he may be wrong), with a fairly high degree of commitment.

*I honestly think that there is no sign of things getting better.*

Evidentiality is not inherently lexicalised by the verb. **Purely epistemic verb.**

## The functions of *I think*

Prototypical cognitive attitude verb function - *signalling epistemic evaluation.*

- ◆ qualifies “factual theses”, i.e. verifiable states of affairs
- ◆ can be paraphrased with other expressions signalling probability (e.g. *probably*).
- ◆ generally expresses tentativeness

## The functions of *I think*

Prototypical cognitive attitude verb function -  
*signalling epistemic evaluation.*

He won't be er, but she was so she said you 're gonna chop the tree down , that tree whe, that he bumped into! But **I think** he won't do that again. [*≈ But he probably won't do that again*] Will he? Well he will go into something else. You know, he he could do. He's excitable isn't he? He 's sort of He 's determined.

## The functions of *I think*

Bleached cognitive attitude verb function – *signalling the speaker's viewpoint.*

- ♦ occurs with non-verifiable, evaluative propositions
- ♦ likelihood is backgrounded; certainty is foregrounded
- ♦ speaker's point of view is what is lexicalised

From: *The First Bush-Kerry Presidential Debate*,  
30 September 2004

This president has left them in shatters across the globe, and we're now 90 percent of the casualties in Iraq and 90 percent of the costs. **I think** that's wrong, and **I think** we can do better.  
(Senator Kerry)

**I think** that there needs to be checks and balances in a democracy, and made that very clear that by consolidating power in the central government, he's sending a signal to the Western world and United States that perhaps he doesn't believe in checks and balances, and I told him that.  
(President Bush)

## The functions of *I think*

**Politeness strategy** - “corrective face-work”  
(Brown & Levinson 1987; Goffman, 1967),  
hedge or downtoner:

- ♦ **I think** we'd better have a talk
- ♦ I mean they said, they they feel that it's no point anyway, it's already been decided . Well, **I think** they're wrong really.

## The functions of *I think*

**Cognitive discourse marker** (Chafe 1993): *I think* is quite rare in this use and it is generally in co-occurrence with some other discourse marker

- ♦ Well, **I think** -- listen, I fully agree that one should shift tactics, and we will, in Iraq. Our commanders have got all the flexibility to do what is necessary to succeed.  
(President Bush, *The First Bush-Kerry Presidential Debate*, 30 September 2004)

## Translating *I think*...

## Are Italian and English equal systems?

Apparently they have a similar organisation for the linguistic encoding of epistemic and evidential information (Nuyts 2001):

- ♦ Modal verbs (*dovere, potere*)
- ♦ Adjectives (*possibile, probabile, ovvio, evidente, etc.*)
- ♦ Adverbs (*chiaramente, probabilmente, forse, ovviamente*)
- ♦ Verbs of cognitive attitude (*credere, pensare, supporre, ritenere, etc.*)

1.EN **I think** the big thing about the game was that our kids for the third straight week stayed in there pitching and kept the pressure on.

1.IT **Credo** che la cosa importante nella partita sia stata che i nostri ragazzi per la terza settimana di seguito sono rimasti lì a lanciare *pitch* e hanno fatto pressione continua

2.EN “**I think** you're wrong, Eddie”, he said finally.

2.IT “**Penso** che tu ti sbagli, Eddie”, disse finalmente

Most frequent choices:

- ♦ *pensare*
- ♦ *credere*

The choice does not seem to follow from the function of *I think* in the sentence.

Hypothesis:

*credo* = commitment + evaluation

*penso* = personal responsibility in the foreground

*Credo*: more frequent both in parallel corpora and in spoken Italian (BADIP)

### Europarlament sessions

*penso (che)*: 6008 (3745) occurrences

*credo (che)*: 16000 (10748) occurrences

*ritengo (che)*: 12544 (7231) occurrences

➤ **is *penso* less formal than *credo*?**

### BADIP

*credo*: 389 occurrences

*penso* 233 occurrences

*secondo me*: 316 occurrences

*Secondo me* is common as parenthetical and hedge, but probably more informal than *penso*.

### *I think* as a politeness strategic device or discourse marker

- ♦ Well, **I just think** you should know that, um... there are lots of prospects here for a talented person.
- ♦ **Pensavo** dovessi sapere che ... che ci sono molte possibilità qui per...

### *I think* as a politeness strategic device or discourse marker

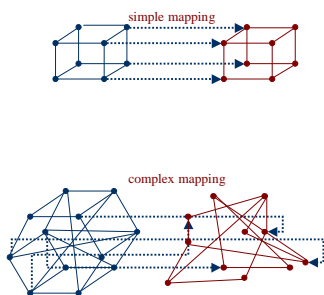
- ♦ *I think* we should pack, shouldn't we?
- ♦ *Bene*, dovremmo fare i bagagli no?

### *I think* as a politeness strategic device or discourse marker

- ♦ *I think* you know what I mean.
- ♦ *Sai perfettamente* a cosa mi riferisco.

Semantic information preserved.  
The pragmatic function is lost.

### "2nd Order" Lexical Complexity



- ♦ There is no easy one-to-one mapping between *think* and *pensare*, which is generally considered its Italian counterpart.
- ♦ *Think* as a lexeme can map onto several areas of the Italian system; *I think* maps onto a smaller area.
- ♦ In order to map the two systems and respect the functions, we need to resort to other conceptual domains (e.g. deontic domain).
- ♦ In some cases, the pragmatic effects and the intended meaning are inevitably lost.

Thank you!

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