Linguistic relativity, combinatorial competence, and noun-noun compounds in English

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An intricate question

Do speakers of different languages differ in their world views?
Two factions

"Universalists"

"Relativists"
Two factions

"Universalists"

- non-linguistic cognition independent from language
- universals in the linguistic and non-linguistic domains
- intelligence without language possible
Two factions

"Relativists"

• non-linguistic cognition determined by language
• language and thought dependent on culture
• no intelligence without language
Goal

- Existing empirical findings lead into an **impasse**!
- Differences between languages in their **combinatorial capacities**: A way out?
Outline

1. Empirical data: An impasse
2. New perspective: Combinatorial differences
3. Implications: Compounding in English
4. Conclusion
Does language determine thought?
Empirical data come from several cognitive domains.

- space cognition
- event conceptualization
English prefers relative, ego-centric reference frames to localize objects in space:

(1) *The man is standing to the left of the house.*

see Levinson (1996), Pederson et al. (1998)
Tzeltal uses **absolute** reference frames that are **geo-centric**:

\[
(2) \quad te \quad winik-e \quad jich \quad tek'el \quad ta \quad alan \quad ine
\]

**ART** man-PHRASE thus standing **AT** downhill there

'The man is thus standing downhill there'

see Levinson (1996), Pederson et al. (1998)
Speakers of "relative" languages reproduce object arrays relative to their own position:

see Pederson et al. (1998)
Tzeltal speakers reproduce object arrays in an **absolute** manner.

**Conclusion:** Absolute and relative languages cause **different** space conceptualizations, i.e. world views.

see Pederson et al. (1998)
But: An increase of geographical information causes an increase of absolute responses in English speakers too!

Alternative conclusion: It is the environment that determines space cognition.

see Li & Gleitman (2002)
Languages differ in their expressions for bounded motion, its manner, and the use of (PATH-) resultatives.

For bounded motion, English prefers the pattern MANNER-VP + PATH-PP:

(3) *A man is skating to a snowman.*

Greek prefers the pattern PATH-VP + MANNER-PP here:

(4) *Enas anthropos plisiazi ena xionanthropo me patinia.*
    'A man is approaching a snowman with skates'
Eye tracking studies: Speakers of different languages focus on distinct situational aspects of a scene to be verbalized.

Papafragou et al. (2008); von Stutterheim (2007), (2008); von Stutterheim & Carroll (in press)
English vs. Greek verbalizers (0 ms after motion onset):

Papafragou et al. (2008)
Conclusion: Different grammatical properties of the verb frames determine our viewing behavior **during the verbalization process**.
We are confronted with an impasse.

The original "language-and-thought" question is very broad.
Language production model, Levelt (1989)
A way out?

**Combinatorial capacity** in language enables thinking?

“Once a speaker has learned the terms of a language and the **rules** by which those terms **combine**, she can represent the meanings of all [...] **combinations** of those terms without further learning.” (Spelke 2003: 306)

**Combinatorial differences** between languages cause Whorfian effects?

“Questions about the existence of **cultural differences** in human conceptual capacities [...] hinge [...] on questions about the origins and nature of **compositional** semantics.” (ibid.: 307)
Combinatorial mechanisms and recursion as the key property of cognitive creativity:

\[ X \rightarrow Y \ldots X \]
Combinatorial mechanisms in syntax:

(1)  *the notebook on the table in the conference room of the university ...*
see Hauser, Chomsky & Fitch (2002); Jackendoff & Pinker (2005)
Potential implication – I

The comparative view:

Can we expect Whorfian effects in apparently "recursion-less" languages like Pirahã, Iatmul, etc.?

No!
In these languages recursion is simply not visible but still part of the cognitive endowment ("UG").

see Hauser, Chomsky & Fitch (2002); Everett (2005); Hârlt (2009b)
Potential implication – II

The comparative view:

Whorfian effects related to the **compositional procedures** in languages?

Empirical domains: **Polysynthesis** in language, **word formation** ...
Potential implication – II

Noun-noun compounds in English:

1. morpho-lexical type: 'handbag, 'dog bed, 'truck driver, 'beer drinker
2. syntactic type: toy 'frog, summer 'dress, stone 'wall, pet 'goat

... and in German:

1. morpho-lexical type: 'Biertrinker, 'Sommerkleid, 'Plüschtüpfel
Potential implication – II

Can we hypothesize a Whorfian effect for N-N composition?

- **aphasic** impairment for syntactic phrases (*strange fever vs. yellow fever*)
- **syntax** can participate in word formation in English: *equal rights amendment, new books shelf, all-or-nothing strategy*
- German X-Ns are always potential "**names**": *Blautee, Hemdstuhl*
- in English end-stressed N-Ns are conceptually ambiguous and not necessarily suggestions for **lexicalization**
- morphological products can be **memorized** more easily than syntactic products

cf. Jesperson (1942); Ladd (1984); Mondini et al. (2002); Motsch (2004); Wiese (1996); Wunderlich (2009)
Potential implication – II

A hypothesis for a future work program:

- In the **memorization** of **English novel N-N compounds** a performance difference can be detected, which correlates with stress distribution.

No such difference can be observed in **German**.
Empirical research on linguistic relativity, by comparison,

- faces an impasse, which is due to
- critical broadness of the underlying question.

New perspectives may be promising, which implement

- the combinatorial capacity in human language
- as the driving mechanisms behind concept acquisition, which implies
- language-specific differences at the "language-thought" interface.
Thank you.
References


References (cont.)


