

Vertical and horizontal links in constructional networks

– two sides of the same coin?

ICCG11, Antwerp, 18 August 2021

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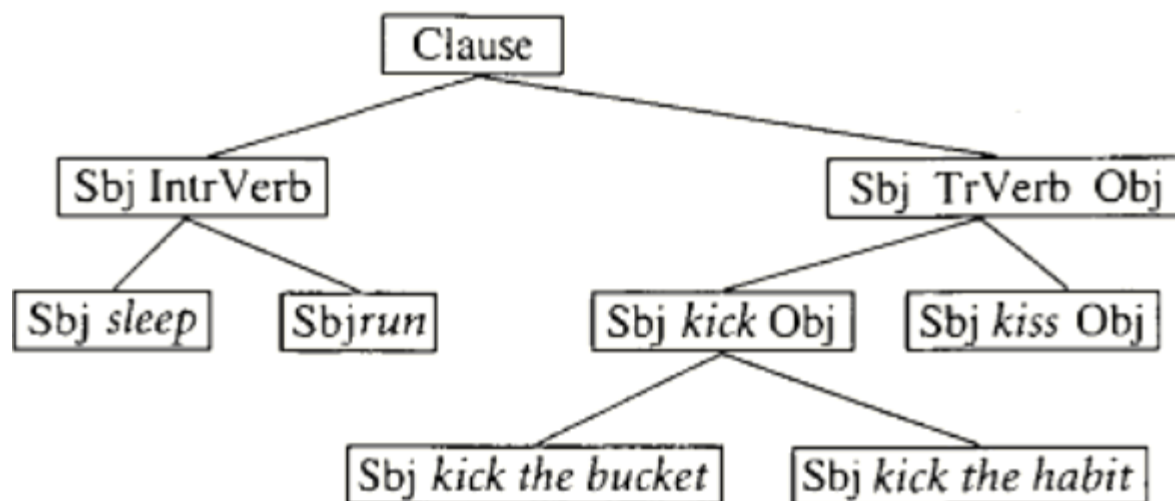
Outline of the talk

- 1 An unclear distinction: vertical vs. horizontal links between constructions
- 2 The proposal: vertical and horizontal links as representational variants
- 3 Some possible objections (and replies)
- 4 Summary

An unclear distinction:
Vertical vs. horizontal links between constructions

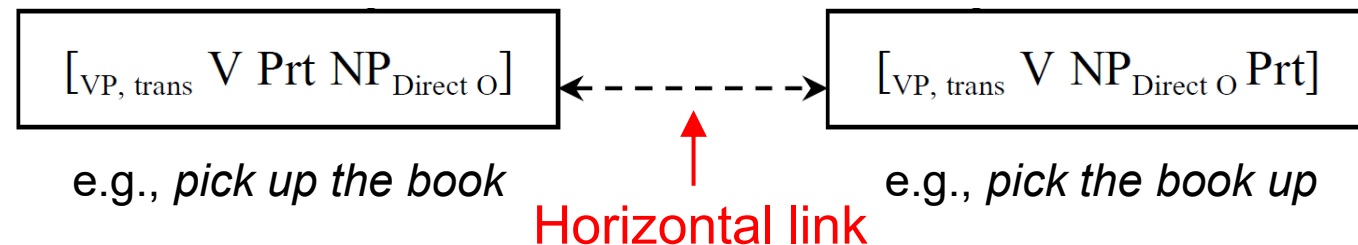
Vertical links

- Construction Grammarians assume that speakers' grammatical knowledge is organised as a **taxonomic network** that consists of **vertical relations** between schemas and their subtypes (Diessel 2019; Goldberg 2013; Croft 2007)
- Vertical links are usually couched in terms of '**inheritance**': subconstructions 'inherit' their shared characteristics from the schema (Goldberg 1995; Hilpert 2014)
- Example: a taxonomy of transitive and intransitive constructions (Croft 2001: 26)



Horizontal links

- More recently, it has been argued that speakers also encode **horizontal relations** “between similar or contrastive constructions” (Diessel 2019: 200; see also Cappelle 2006; Perek 2015; Sommerer and Smirnova 2020; Van de Velde 2014; Zehentner 2019)
- For instance, horizontal similarity links have been posited between ‘allostructions’ (i.e., semantically near-equivalent constructions)
→ Example: English verb-particle alternation (Cappelle 2006: 18)



Distinct cognitive mechanisms?

- “Most scholars differentiate between ‘taxonomic links’ (symbolizing **relatedness through inheritance**) and ‘horizontal links’ (symbolizing **partial similarity but non-inheritance**)” (Sommerer 2020: 92; my emphasis)
- But intuitively, vertical taxonomic links encode relationships of categorisation (or abstraction), “which crucially relies on the recognition of similarity” (Diessel 2019: 16)
- So could it be the case that vertical and horizontal links capture **the same notion of constructional similarity**?
- Note that several researchers use both vertical and horizontal links in their diagrams to represent constructional similarities (Cappelle 2006; Sommerer 2020; Van de Velde 2014; Zehentner 2019; Zehenter & Traugott 2020)
- This is also in line with certain observations in the literature...

Questioning the distinction

- “We could say that these **horizontal links** are actually reinterpretations of the **vertical links** in another possible configuration of the network.” (Gyselinck 2020: 135)
- “Note that visual representations of this kind quickly get quite complex, and the distinction between **vertical and horizontal links** is difficult to uphold” (Zehentner & Traugott 2020: 194)
- “In spite of the appearance in Figure 8, a metaconstruction is **not a node on a higher taxonomic level** but simply a formulation of analogy relations, that is, a paradigmatic association, or **horizontal link**.” (Lorenz 2020: 266)
- [in a discussion of vertical links] “in essence, the semantic relatedness of constructions could as well be captured by **direct relations [i.e., horizontal links, T. U.]** between constructions” (Perek 2015: 153)

The present proposal

- Both vertical and horizontal links encode similarities between constructions
- The content of a schema that (vertically) subsumes two constructions is identical to the content of the horizontal link between those two constructions
- **And therefore:**

**Vertical and horizontal links do not encode distinct cognitive mechanisms,
but they constitute alternative ways of representing constructional similarities.**

The proposal:
Vertical and horizontal links as representational variants

The present proposal

Vertical and horizontal links do not encode distinct cognitive mechanisms, but they constitute alternative ways of representing constructional similarities.

Two follow-up questions:

- Q1: Why is it that vertical and horizontal links are often interpreted as distinct cognitive mechanisms?
- Q2: If vertical and horizontal links are merely representational variants, what distinguishes them?

A possible explanation

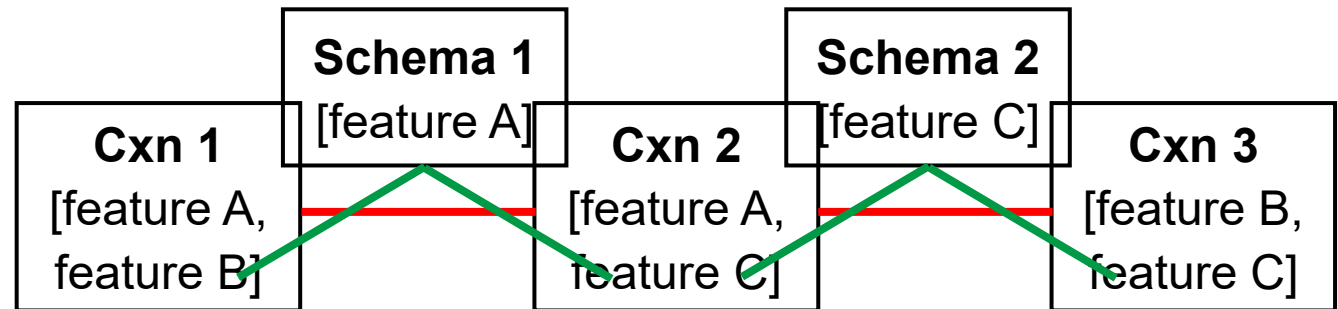
Q1: Why are vertical and horizontal links interpreted as distinct cognitive mechanisms?

- This may be the result of taking the concept of a taxonomic hierarchy too literally
- Schemas and their subconstructions sometimes seem to be treated as *reified entities* that form “independent node[s]” (Croft 2001: 53) in the network and thus need to be stored separately
- This makes it tempting to treat vertical links between two subtype nodes and a schema node as distinct from a ‘direct’ horizontal link between the subtype nodes
- But: emergentist accounts of grammar assume that schemas ‘emerge’ from the similarities among their subtypes (Bybee 2010; Goldberg 2006; Ibbotson et al. 2019)
- In other words, schemas *are* the similarities of their subtypes
→ compare Langacker (2006): schemas are ‘immanent’ in their subtypes
- Thus, vertical links to a common schema are equivalent to a horizontal link between subtypes

Representational variants

Q2: What distinguishes vertical and horizontal representations?

- As with any type of representation, vertical and horizontal representations each have their respective advantages and limitations
- Horizontal representations are more compact and flexible (because they take up less space, and do not require similarities to be stated explicitly); this is particularly useful for depicting multiple similarities between one construction and several other constructions
- On the other hand, vertical representations make the nature of the similarities explicit and highlight the hierarchical structure of the network



Some possible objections (and replies)

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Objection 1: What about other ‘horizontal’ links, for example syntagmatic relations (e.g., *the – dog*)?

Reply:

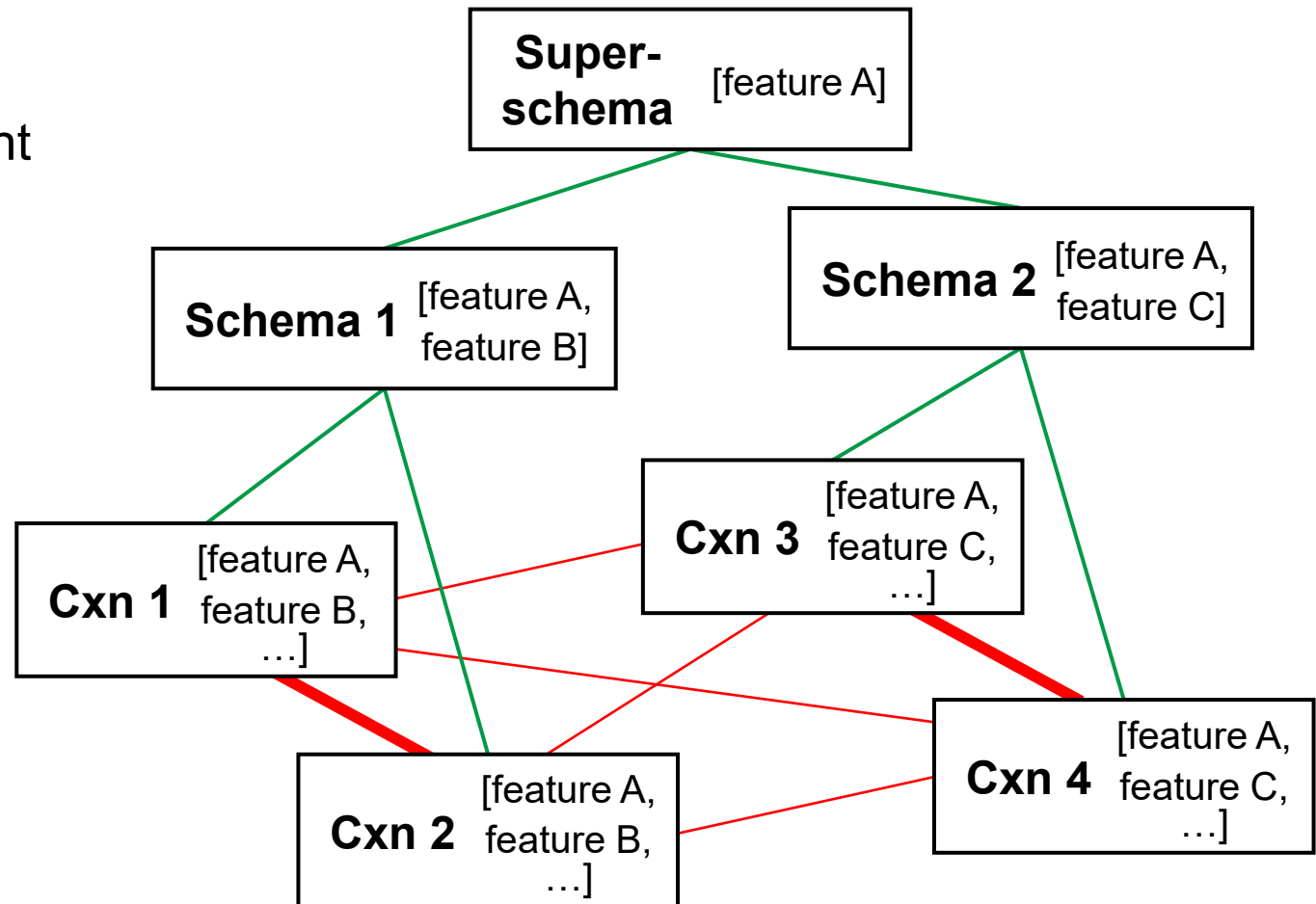
- The present discussion focuses on **paradigmatic links (i.e., similarity relations)**, which are ‘horizontal’ and ‘vertical’ only in a metaphorical sense
- Syntagmatic links are **‘horizontal’ in a different sense** (due to their spatial arrangement), and thus cannot be compared with vertical paradigmatic links

Some possible objections (and replies)

Objection 2: Are horizontal links not unable to represent multiple taxonomic levels?

Reply:

- No, horizontal links can represent hierarchies of similarity relations via **links of varying strength**, or **links between links**



Some possible objections (and replies)

Objection 3: Could it be the case that only once horizontal links are strong enough, they give rise to a (vertically related) schema?

- Cf. Zehentner (2019: 324): “Horizontal connections may hold between many constructions, but only very strong, systematic and pervasive links will lead to abstractions forming in the minds of at least large parts of the speaker population.”

Reply:

- But why should horizontal links vary in strength, while schemas do not?
- It seems more plausible to assume that **both horizontal and vertical links can vary in strength**; i.e., weak horizontal links correspond to weakly entrenched schemas and strong horizontal links correspond to strongly entrenched schemas

Summary

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- Construction Grammarians frequently invoke the distinction between vertical and horizontal links, but previous accounts of that distinction remain unclear
- Both vertical and horizontal links encode similarities between constructions
- The proposal: *Vertical and horizontal links do not encode distinct cognitive mechanisms, but they constitute alternative ways of representing constructional similarities.*
- Each type of representation has its distinct advantages and limitations, so the choice of representation depends on the specific purposes of the analysis
- Some possible objections have been addressed, but... I am looking forward to more questions and comments
- Thank you!

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