



# **Syntax & Semantics WiSe 2022/2023**

## **Lecture 15: Construction Grammar**

**15/12/2022, Christian Bentz**



# Overview

## Q&As

### Section 1: Recap of Lecture 14

### Section 2: Historical Notes on CxG

### Section 3: Goldbergian Construction Grammar

- Definition of Constructions

- Notational Conventions

- Identifying Constructions

- Arguments for Constructions

### Section 4: Basic Concepts in CxG (Goldbergian)

### Section 5: Pros and Cons of CxG

- Pros (Advantages)

- Cons (Disadvantages)

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## Q&As



## Lecture 14: LFG

*Why is the copula (is worshipped) not represented in the passive f-structure?*

I cannot find an explicit reference in Müller (2019) or Bresnan (2016). But the discussion of passive verbs in Bresnan (2016), p. 24 suggests to me that the copular would here be seen as a type of inflection, rather than a separate verb. Note that given the feature value *passive* in your matrix, you can straightforwardly retrieve the passive form of any verb as *auxiliary + past participle* (e.g. see → is seen, feel → is felt, cut → is cut, etc.).

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## **Section 1: Recap of Lecture 14**



# Functional Structure (F-Structure)

The **functional structure (f-structure)** is essentially a *feature description for a whole phrase*. The a-structure of a head is given under PRED, the grammatical functions which it *governs* (e.g. SUBJ and OBJ) receive separate features with their embedded feature descriptions.

Müller (2019). Grammatical theory, p. 223.

**f-structure** for *David devoured a sandwich*:

PRED	'devour' < SUBJ, OBJ >
TENSE	<i>past</i>
SUBJ	[ PRED 'david' ]
OBJ	[ SPEC a PRED 'sandwich' ]

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# Argument Structure (A-Structure)

The **argument structure (a-structure)** is a standardized representation of the valency of the main verb of a sentence. The general representational format is:

$$\text{verb}\langle x, y, z, \text{etc.} \rangle,$$

where x, y, z correspond to symbols which represent the participant roles of arguments and adjuncts of the verb.

Bresnan (2016), p. 15.

## Sentence

Peter sleeps.

Mary sees him.

She gives the child a book.

## a-structure

sleep  $\langle \text{SUBJ} \rangle$

see  $\langle \text{SUBJ}, \text{OBJ} \rangle$

give  $\langle \text{SUBJ}, \text{OBJ}, \text{OBJ}_{\text{THEME}} \rangle$

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# Governable Grammatical Functions

Against the backdrop of the definitions above **governable grammatical functions** are functions which have to be specified by the *head* of the overall phrase/sentence.

- ▶ SUBJ: subject
- ▶ OBJ: object
- ▶ OBJ<sub>θ</sub>: so-called *secondary* object(s). In English, there is only OBJ<sub>THEME</sub>, where the *theme* typically corresponds to the direct object of a ditransitive sentence (e.g. *gave the book ...*)
- ▶ COMP: *sentential* complement (*that*-clause). Beware that this definition is different from our earlier usage of the term *complement*, where we referred to direct and indirect objects as complements (according to the valency of the verb).
- ▶ OBL: so-called *oblique grammatical functions*, e.g. OBL<sub>LOC</sub>. Often correspond to adpositional phrases which are *necessary* to build a grammatical sentence. For example, when the phrase *to be located* is used (e.g. *The cinema is located ...*) then it takes an *obligatory* argument, namely, a prepositional phrase starting with *in...* or *at...*, which we typically wouldn't call an object.

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Adopted from Müller (2019). Grammatical theory, p. 224.





# Non-Governable Grammatical Functions

**Non-governable grammatical functions** are then the ones which are not specified by the head (i.e. not being arguments of the head).

- ▶ ADJ: adjuncts (typically adpositional phrases)
- ▶ TOPIC: the topic of an utterance
- ▶ FOCUS: the focus of an utterance

Note: TOPIC and FOCUS are grammatical functions which can be used to model, for instance, word order variation when particular NPs are topicalized.

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# F-Structure Examples: Intransitive Sentence + Complement

**f-structure** for *David knows that he snores*:

PRED	'know' < SUBJ, <b>COMP</b> >														
NUMBER	① <i>sg</i>														
PERSON	② 3														
TENSE	<i>pres</i>														
SUBJ	<table> <tr> <td>PRED</td><td>'david'</td></tr> <tr> <td>NUMBER</td><td>①</td></tr> <tr> <td>PERSON</td><td>②</td></tr> </table>	PRED	'david'	NUMBER	①	PERSON	②								
PRED	'david'														
NUMBER	①														
PERSON	②														
<b>COMP</b>	<table> <tr> <td>PRED</td><td>'snore' &lt; SUBJ &gt;</td></tr> <tr> <td>NUMBER</td><td>③ <i>sg</i></td></tr> <tr> <td>PERSON</td><td>④ 3</td></tr> <tr> <td>SUBJ</td><td> <table> <tr> <td>PRED</td><td>'he'</td></tr> <tr> <td>NUMBER</td><td>③</td></tr> <tr> <td>PERSON</td><td>④</td></tr> </table> </td></tr> </table>	PRED	'snore' < SUBJ >	NUMBER	③ <i>sg</i>	PERSON	④ 3	SUBJ	<table> <tr> <td>PRED</td><td>'he'</td></tr> <tr> <td>NUMBER</td><td>③</td></tr> <tr> <td>PERSON</td><td>④</td></tr> </table>	PRED	'he'	NUMBER	③	PERSON	④
PRED	'snore' < SUBJ >														
NUMBER	③ <i>sg</i>														
PERSON	④ 3														
SUBJ	<table> <tr> <td>PRED</td><td>'he'</td></tr> <tr> <td>NUMBER</td><td>③</td></tr> <tr> <td>PERSON</td><td>④</td></tr> </table>	PRED	'he'	NUMBER	③	PERSON	④								
PRED	'he'														
NUMBER	③														
PERSON	④														

Governable functions  
(arguments): SUBJ, COMP

Non-Governable functions  
(adjuncts): –

Note: The structure shared features of the subject in the main clause have to get different indices to the structure shared features of the complement clause (i.e. 1 and 2 versus 3 and 4). While in this particular example, the feature values are the same (i.e. *sg* and 3), this does not have to be the case. For example, for the sentence *David knows that we snore* the feature values would be 3 and *sg* for the main clause, but 2 and *pl* for the complement clause.

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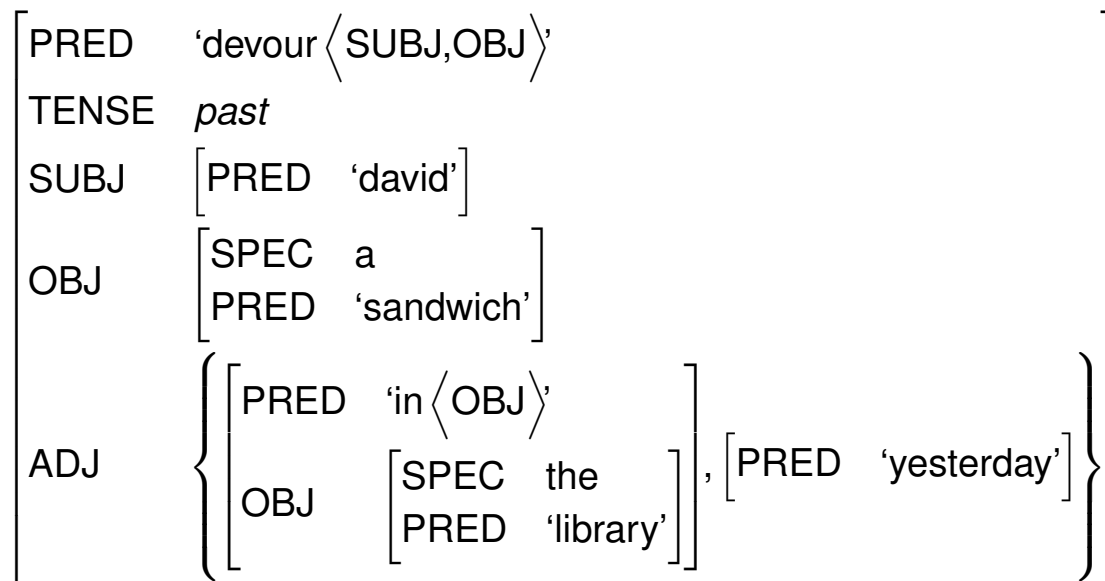
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# F-Structure Examples: Transitive Sentence + Adjuncts

**f-structure** for *David devoured a sandwich in the library yesterday*:



Note: For adjuncts, **curly brackets** (indicating a set) are used instead of the list brackets, since the order of adjuncts is irrelevant.

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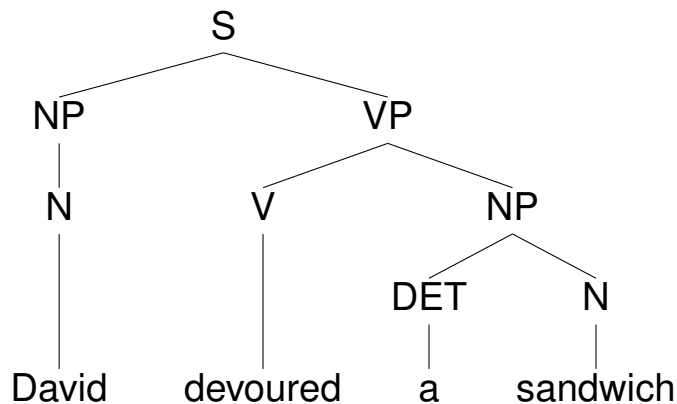
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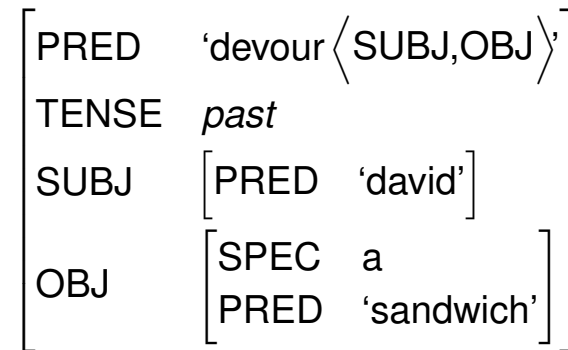
# Constituent Structure (C-Structure)

Here is another example with the transitive sentence from above.

**c-structure:**



**f-structure:**



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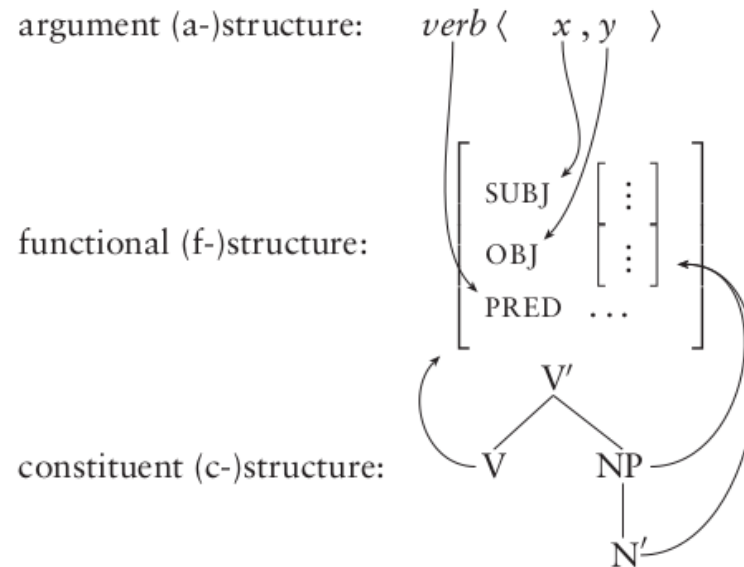


## Summary: Structural Levels

“Each structure models a different dimension of grammatical substance: role, function, or category. **Roles** correspond to the grammatically expressible participants of eventualities (modeled by a-structure), **syntactic functions** belong to the abstract system of relators of roles to expressions (modeled by f-structure), and **phrase structure categories** belong to the overt structure of forms of expression (modeled by c-structure).”

Bresnan et al. (2016), p. 15.

Parallel structures (LFG):



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# The Passive

In LFG, the passive construction is dealt with by having a simple mapping rule for the respective **active** and **passive** argument structures:

$$verb\langle SBJ, OBJ \rangle \rightarrow verb\langle (OBL_{AG}), SBJ \rangle$$

This is then also translated into differing f-structures. Notably, this is valid for both *configurational* and *non-configurational* languages (see examples on the next slides).

Bresnan et al. (2016), p. 22.

Note: In the passive a-structure, the oblique agent comes before the subject, which is the patient in a passive construction. So this again follows the thematic hierarchy: agent > patient.

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# Malayalam (Dravidian) Example (Non-Configurational)

## active f-structure:

PRED	'worship' < SUBJ, OBJ >				
TENSE	<i>past</i>				
SUBJ	<table> <tr> <td>PRED</td><td>'child'</td></tr> <tr> <td>CASE</td><td>NOM</td></tr> </table>	PRED	'child'	CASE	NOM
PRED	'child'				
CASE	NOM				
OBJ	<table> <tr> <td>PRED</td><td>'elephant'</td></tr> <tr> <td>CASE</td><td>ACC</td></tr> </table>	PRED	'elephant'	CASE	ACC
PRED	'elephant'				
CASE	ACC				

- (1) kutti      aanaye      aaraadicuu.  
child.NOM elephant.ACC worship.PAST  
"The child worshipped the elephant."

## passive f-structure:

PRED	'worship' < (OBL <sub>AG</sub> ), SUBJ >								
TENSE	<i>past</i>								
VOICE	<i>passive</i>								
(OBL <sub>AG</sub> )	<table> <tr> <td>PRED</td><td>'by' &lt; OBJ &gt;</td></tr> <tr> <td>OBJ</td><td> <table> <tr> <td>PRED</td><td>'child'</td></tr> <tr> <td>CASE</td><td>INSTR</td></tr> </table> </td></tr> </table>	PRED	'by' < OBJ >	OBJ	<table> <tr> <td>PRED</td><td>'child'</td></tr> <tr> <td>CASE</td><td>INSTR</td></tr> </table>	PRED	'child'	CASE	INSTR
PRED	'by' < OBJ >								
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PRED	'child'								
CASE	INSTR								
SUBJ	<table> <tr> <td>PRED</td><td>'elephant'</td></tr> <tr> <td>CASE</td><td>NOM</td></tr> </table>	PRED	'elephant'	CASE	NOM				
PRED	'elephant'								
CASE	NOM								

- (2) kuttiyaal      aana      aaraadhikkappettu.  
child.INSTR elephant.NOM worship.PASS.PAST  
"The elephant was worshipped (by the child)."

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Adopted from Bresnan et al. (2016), p. 34-35.



## Passive Without Transformations

“The order of NPs in the Malayalam sentences of these examples is **freely interchangeable**: only the case-marking of the NPs and the suffixation of -appet to the verb mark the passive construction [...]

The idea that passivization involves a syntactic transformation moving an NP (or a DP) in a sentence from the object position to the subject position is (from the vantage of LFG) an illusion, an **epiphenomenon of the lexical alternation.**”

Bresnan et al. (2016), p. 33-36.

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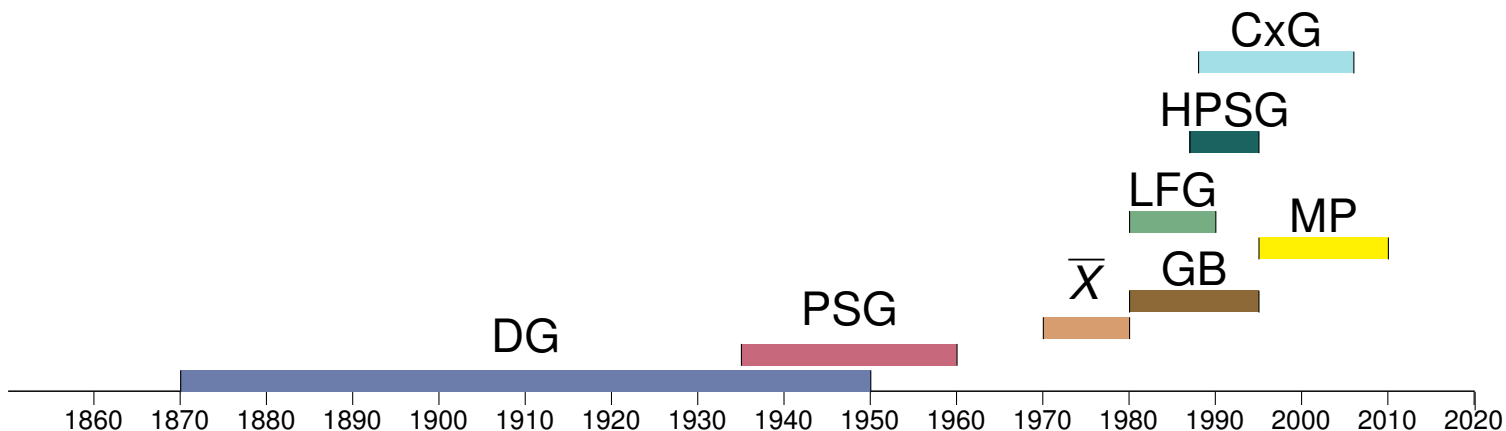
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# Historical Perspective

“Like LFG and HPSG, Construction Grammar (CxG) forms part of West Coast linguistics. It has been influenced considerably by Charles Fillmore, Paul Kay and George Lakoff (all three at Berkeley) and Adele Goldberg (who completed her PhD in Berkeley and is now in Princeton) (Fillmore 1988; Fillmore, Kay & O’Connor 1988; Kay & Fillmore 1999; Kay 2002; 2005; Goldberg 1995; 2006).”

Müller (2019). Grammatical theory, p. 311.



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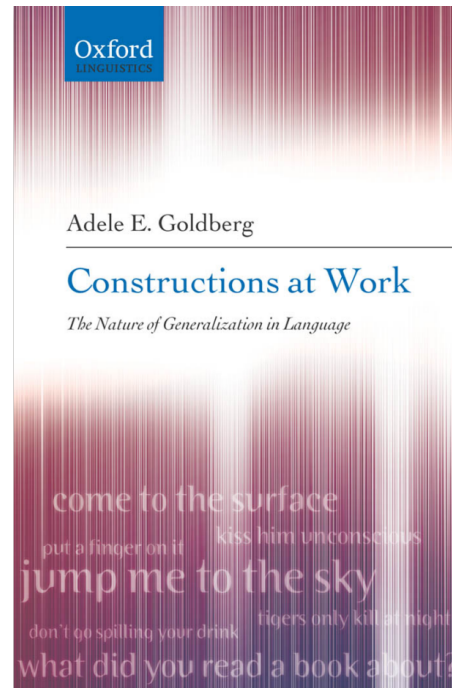
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# The Term *Construction*

- ▶ “The primary motivation for the term [constructionist] is that constructionist approaches emphasize the role of grammatical *constructions*: conventionalized pairings of *form and function*.”
- ▶ “[... ] constructionist approaches generally emphasize that languages are learned – that they are constructed on the basis of the input together with general cognitive, pragmatic, and processing constraints.”



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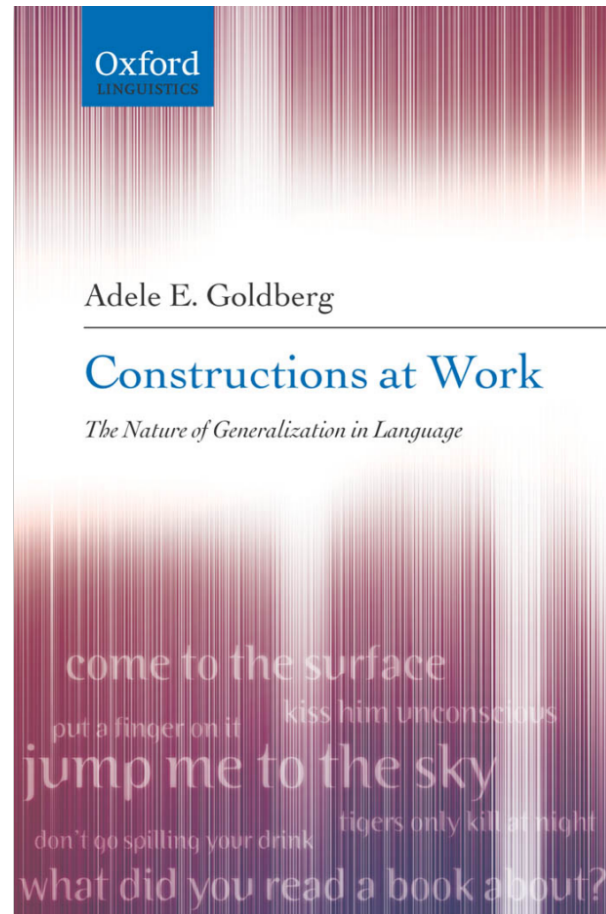
Goldberg (2006). *Constructions at work*, p. 3.



# CxG and Generative Grammar: Similarities

- ▶ “Constructionist approaches share certain foundational ideas with the mainstream “generative” approach [...]”
- ▶ “Both approaches agree that it is essential to consider language as a **cognitive (mental) system**,”
- ▶ “both approaches acknowledge that there must be a way to **combine structures** to create novel utterances;”
- ▶ “both approaches recognize that a non-trivial **theory of language learning** is needed.”

Goldberg (2006). *Constructions at work*, p. 4.



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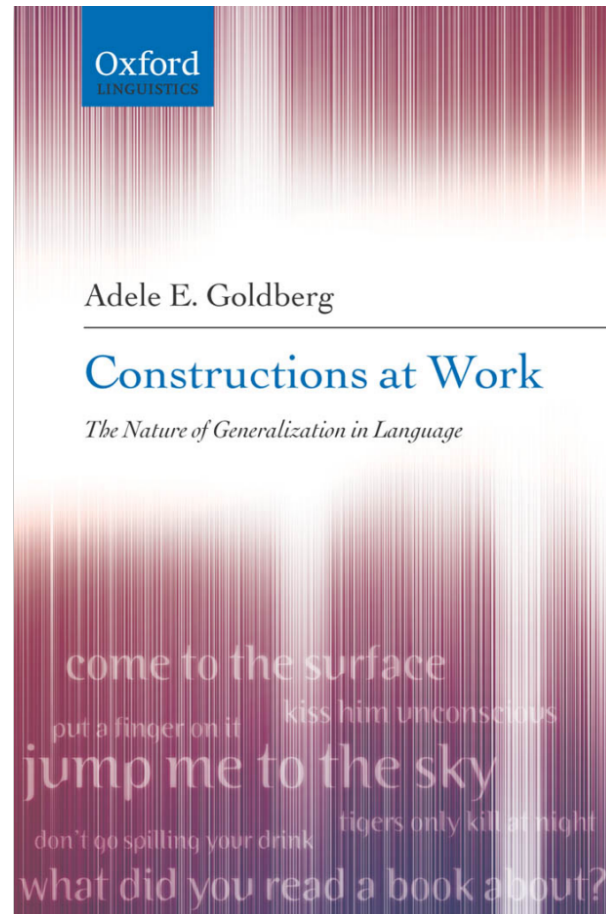
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# CxG and Generative Grammar: Differences

- “In other ways, constructionist approaches contrast sharply with the generative approach. The latter has held that the nature of language can best be revealed by studying formal structures independently of their semantic or discourse functions [...]”

Goldberg (2006). *Constructions at work*, p. 4.



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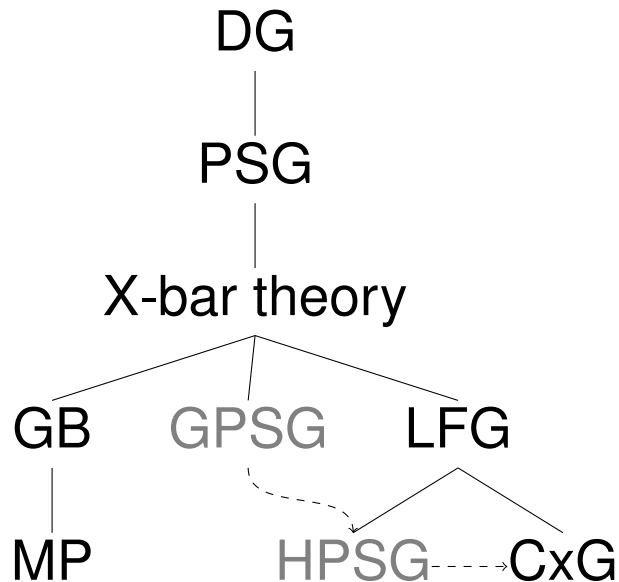
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# Syntactic Framework Tree



DG: Dependency Grammar

PSG: Phrase Structure Grammar

GB: Government & Binding

MP: Minimalist Program

GPSG: Generalized Phrase  
Structure Grammar

LFG: Lexical Functional Grammar

HPSG: Head-Driven Phrase  
Structure Grammar

CpG: Construction Grammar

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# Types of Construction Grammar

- ▶ Berkeley Construction Grammar (main proponents: Fillmore, Kay)
- ▶ **Goldbergian/Lakovian Construction Grammar (Goldberg, Lakov)**
- ▶ Cognitive Grammar (Langacker)
- ▶ Radical Construction Grammar (Croft)
- ▶ Embodied Construction Grammar (Bergen, Chang)
- ▶ Fluid Construction Grammar (Steels)
- ▶ Sign-Based Construction Grammar (Sag)

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## Example: Sign-Based CxG

“HPSG is a strongly lexicalized theory, where phrasal dominance schemata have only been increasingly more used in the last ten years [...] Crucially, all phenomena that interact with valence receive a **lexical analysis** (Sag, Boas & Kay 2012: Section 2.3). In CxG, on the other hand, **predominantly phrasal analyses** are adopted due to the influence of Adele Goldberg.”

Müller (2019), p. 362.

<i>head-comp-cx</i>	
MOTHER	$\left[ \begin{array}{l} \textit{phrase} \\ \text{FORM} \langle \textit{ate}, \textit{a}, \textit{pizza} \rangle \\ \text{SYN} \left[ \begin{array}{l} \text{HEAD} \textit{verb} \\ \text{SPR} \langle \text{NP}[\textit{nom}] \rangle \\ \text{COMPS} \langle \rangle \end{array} \right] \\ \text{SEM} \dots \end{array} \right]$
HEAD-DTR [1]	$\left[ \begin{array}{l} \textit{word} \\ \text{FORM} \langle \textit{ate} \rangle \\ \text{SYN} \left[ \begin{array}{l} \text{HEAD} \textit{verb} \\ \text{SPR} \langle \text{NP}[\textit{nom}] \rangle \\ \text{COMPS} \langle [2] \text{NP}[\textit{acc}] \rangle \end{array} \right] \\ \text{SEM} \dots \end{array} \right]$
DTRS	$\langle [1], [2] \rangle$

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## **Section 3: Goldbergian Construction Grammar**



## Construction

“Any linguistic pattern is recognized as a **construction** as long as some aspect of its form or function is **not strictly predictable from its component parts** or from other constructions recognized to exist.

In addition, **patterns are stored as constructions** even if they are fully predictable as long as they occur with **sufficient frequency**.”

Goldberg (2006). *Constructions at work*, p. 5.

Example:

**What** is the bread **doing** on the fridge?

**What** was her name **doing** in my calender?

General pattern: **What** be[fin] X **doing** Y?

→ This is the so-called WXDY construction.

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# Remember Lecture 1: Form and Meaning

“Every linguistic expression we utter has a meaning. We are therefore dealing with what has been referred to as **form-meaning pairs** (de Saussure 1916b). A word such as *tree* in its specific orthographical form or in its corresponding phonetic representation is assigned the meaning *tree*’ [read: “tree prime”]. **Larger linguistic units can be built up out of smaller ones:** words can be joined together to form phrases and these in turn can form sentences.”

Müller (2019). Grammatical theory, p. 3.

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## Problem: Idioms

- (3) Kim ha-t                      de-n                      Wald vor                      lauter  
kim have-PRS.3SG ART-ACC.SG forest because.of all.the  
Bäum-en      nicht ge-seh-en  
tree\-DAT.PL not    PTCP-see-PTCP  
literal translation: “Kim hasn’t seen the forest because of all the  
trees.”  
actual meaning: Kim was so concerned with the details that s/he  
didn’t see the overall picture.

In the case of idioms (e.g. *kicking the bucket*), the intended meaning of the sentence is not a *linear combinatorial* derivation of its parts. Rather, a complex meaning is assigned to the **whole phrase**.

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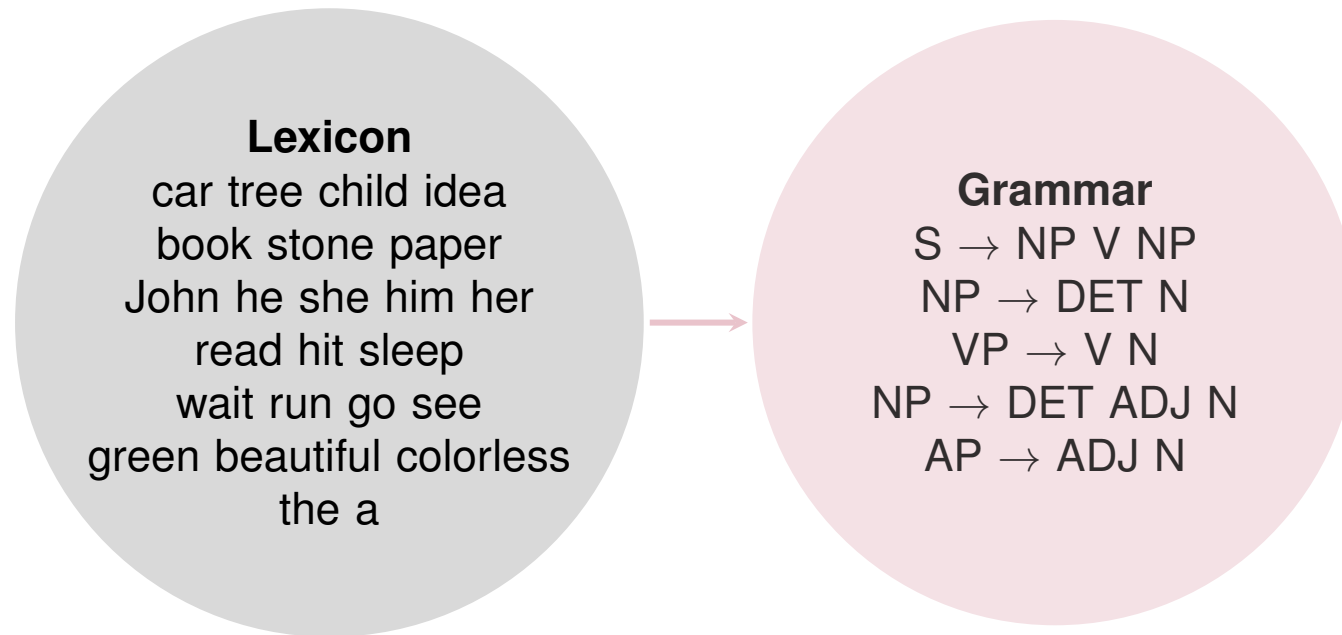
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# Traditional Idea of Grammar



## Output

The child reads a book.  
Colorless green ideas sleep.  
The car hits the tree.  
She runs.  
etc.

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# What is stored in the Human “Mental Lexicon”?

- ▶ **PSG answer:** the set of terminals, i.e. lexical items **corresponding to words**.
- ▶ **GB answer:** lexical items **corresponding to words** *with some specification* of what syntactic rules they can be involved in (i.e.  $\theta$ -roles (valency) for verbs)
- ▶ **LFG (and HPSG) answer:** lexical items **corresponding to words** with *exact specifications* of the argument structures they require.
- ▶ **CxG answer: constructions**, which can be morphemes, words, idioms, phrasal patterns.

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# Constructions

**“All levels of grammatical analysis involve constructions:** learned pairings of form with semantic or discourse function, including morphemes or words, idioms, partially lexically filled and fully general phrasal patterns.”

Goldberg (2006). *Constructions at work*, p. 5.

TABLE 1.1. Examples of constructions, varying in size and complexity

Morpheme	e.g. <i>pre-</i> , <i>-ing</i>
Word	e.g. <i>avocado</i> , <i>anaconda</i> , <i>and</i>
Complex word	e.g. <i>daredevil</i> , <i>shoo-in</i>
Complex word (partially filled)	e.g. [N-s] (for regular plurals)
Idiom (filled)	e.g. <i>going great guns</i> , <i>give the Devil his due</i>
Idiom (partially filled)	e.g. <i>jog &lt;someone's&gt; memory</i> , <i>send &lt;someone&gt; to the cleaners</i>
Covariational Conditional	The Xer the Yer (e.g. <i>the more you think about it, the less you understand</i> )
Ditransitive (double object)	Subj V Obj <sub>1</sub> Obj <sub>2</sub> (e.g. <i>he gave her a fish taco</i> ; <i>he baked her a muffin</i> )
Passive	Subj aux VP <sub>pp</sub> (PP <sub>by</sub> ) (e.g. <i>the armadillo was hit by a car</i> )

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# Beware Notational Confusion

Note that the way **constructions** are formulated within this framework can differ. Sometimes, POS (N, V) or grammatical functions (SUBJ, OBJ) are used to represent the “unfilled” elements, sometimes other variables such as X or Y are used, sometimes elements in  $\langle \rangle$  are given. This is partly due to the fact that the examples are drawn from the literature, and different authors use different notations.

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## Examples:

- ▶ Complex word (partially filled): **[N-s]** (regular plurals)
- ▶ Idiom (partially filled): send **<someone>** to the cleaners
- ▶ Covariational Conditional: the **Xer** the **Yer**
- ▶ Ditransitive (double object): **Subj V Obj<sub>1</sub> Obj<sub>2</sub>**





## Beware Notational Confusion

For consistency, we will here use **POS symbols**. If necessary, these can be further specified by indices.

### Examples:

- ▶ Complex word (partially filled): **[N-s]** (regular plurals)
- ▶ Idiom (partially filled): send **N**<sub>person(s)</sub> to the cleaners
- ▶ Covariational Conditional: the **ADJ**<sub>1</sub>-er the **ADJ**<sub>2</sub>-er<sup>1</sup>
- ▶ Ditransitive (double object): **NP**<sub>Subj</sub> **V** **NP**<sub>Obj<sub>1</sub></sub> **NP**<sub>Obj<sub>2</sub></sub>

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<sup>1</sup>The number indices are here used to indicate that normally a different adjective is used in the second position.



## How to Identify a Construction?

In order to identify a **construction** we have to ask whether in a set of different words, phrases, sentences there are reoccurring elements that can be learned and used as a *fixed scaffolding* to built further utterances according to the same template.

### Example (complex words):

- ▶ seeing
- ▶ laughing
- ▶ going
- ▶ sleeping
- ▶ etc.

Construction: V-ing

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## Example (phrase):

- ▶ **into** the wild
- ▶ **into** a cinema
- ▶ **into** himself
- ▶ **into** blue
- ▶ etc.

Construction: **into** NP/PRON/ADJ

## Example (sentence):

- ▶ **Go** do your homework
- ▶ **Go** tell him the truth
- ▶ **Go** get me pizza
- ▶ etc.

Construction: **go** VP *bare infinitive*

Adopted from Goldberg (2006), p. 54.

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# How to Identify a Construction?

Note that the reoccurring elements might not be material at “the surface” but the underlying sentence structure represented by POS symbols.

## Example (sentence):

- ▶ He gave Pat a ball
- ▶ Pat baked George a cake
- ▶ The child handed her the book
- ▶ etc.

Standard Construction: **NP**<sub>Subj</sub> **V** **NP**<sub>Obj<sub>1</sub></sub> **NP**<sub>Obj<sub>2</sub></sub>

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# Multiple Constructions

“Constructionist theories do not derive one construction from another, as is generally done in mainstream generative theory. An actual expression typically involves the combination of at least half a dozen different constructions.”

Goldberg (2006), p. 10.

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(4) What did Liza buy Zach?

- ▶ *Liza, buy, Zach, what, do* constructions (i.e. individual words)
- ▶ ditransitive construction
- ▶ question construction (wh-word VP)
- ▶ subject-auxiliary inversion construction (aux Subj, i.e. *did Liza*)
- ▶ VP construction
- ▶ NP construction



# Arguments for Constructions

## ► **Argument 1 (Creativity/Productivity):**

The idea that main verbs specify the valency of whole sentences does not match the **creative use of linguistic patterns**.

Constructions are a better alternative to analyze the productivity of sentence patterns.

## ► **Argument 2 (Non-Compositionality):**

There are many examples across languages of the world, where the overall **meaning of a sentence is not derivable from the component parts**, but is rather assigned to the whole construction.

## ► **Argument 3 (Core and Periphery):**

The distinction between “core” syntax and the “periphery” is arbitrary. **Constructions**, while often seen to be part of the periphery, might in fact constitute a **core property of language**.

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# Argument 1 (Creativity): The Problem of Valency

## Remember from the Lecture on Basic Concepts:

*“Nous avons vu qu’il y avait de verbes sans actant, des verbes à un actant, des verbes à deux actants et des verbes à trois actants.”*

*Tesnière (1959). Éléments de syntaxe structurale, p. 238.*

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	Verb	V	V	V	V
				^	^
	Arguments	—	A	A A	A A A
<b>Sentence Type:</b>		impersonal sentence	intransitive sentence	transitive sentence	ditransitive sentence
<b>Valency:</b>		avalent (0)	monovalent (1), one-place predicate	bivalent (2), two-place predicate	trivalent (3), three-place predicate



## Argument 1 (Creativity)

“[...] the interpretation and form of sentence patterns of a language are not reliably determined by independent specifications of the main verb.”

Goldberg (2006), p. 6.

Prototypical examples for traditional intransitive verbs:

- (5) He sneezed.
- (6) She smiled.
- (7) We laughed.

Creative examples going beyond typical valency patterns:

- (8) He sneezed his tooth right across town.
- (9) She smiled herself an upgrade.
- (10) We laughed our conversation to an end.

Are these *intransitive*, *transitive*, *ditransitive*?

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## Argument 1 (Creativity)

“Examples need not be particularly novel to make the point. Verbs typically appear with a wide array of complement configurations. Consider the verb *slice* and the various constructions in which it can appear [...] It is the **argument structure constructions** that provide the direct link between surface form and general aspects of the interpretation.”

Goldberg (2006), p. 7.

- (11) He sliced the bread. (transitive)
- (12) Pat sliced the carrots into the salad. (caused motion)
- (13) Pat sliced Chris a piece of pie. (ditransitive)
- (14) Emeril sliced and diced his way to stardom. (way construction)
- (15) Pat sliced the box open. (resultative)

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## Argument 2 (Non-Compositionality)

“While English has some dramatic instances in which basic argument structure constructions convey contentful meaning, examples exist in other languages as well.”

Goldberg (2006), p. 7.

Croatian (hbs, Indo-European)

- (16) Pil-o                      mi      se      piv-o  
      drink-3SG.PAST I.DAT REF beer-NOM.3SG.NEUT  
      Lit. “To me, the beer drank itself”: real meaning “I felt like  
      drinking beer”

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## Argument 1/2 (Creativity/Non-Compositionality)

“Many languages have constructions in which no verb is expressed at all. These cases are prime examples of argument structure constructions, since their meaning cannot naturally be attributed to a (non-existent) verb.”

Goldberg (2006), p. 8.

French (fra, Indo-European)

- (17) tout le monde qui part en weekend  
all the world who leaves in weekend  
“Everyone is leaving for the weekend.”

Russian (rus, Indo-European)

- (18) Kirill v magazin  
Kirill-NOM to store-ACC  
“Kirill goes/will go to the store.”

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## Argument 3 (Core and Periphery)

“Crucially, all linguists recognize that a wide range of **semi-idiosyncratic constructions** exists in every language, constructions that cannot be accounted for by general, universal, or innate principles or constraints.”

Goldberg (2006), p. 14.

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TABLE 1.2. Productive or semi-productive constructions that are unusual cross-linguistically and must be learned on the basis of the input

Construction Label	Example (reference)
Time <i>away</i> construction	<i>Twistin' the night away</i> (Jackendoff 1997b)
What's X doing Y?	<i>What's that fly doing in my soup?!</i> (Kay and Fillmore 1999)
Nominal Extraposition	<i>It's amazing the difference!</i> (Michaelis and Lambrecht 1996b)
Mad Magazine construction	<i>Him, a doctor?!</i> (Lambrecht 1990)
N P N construction	<i>house by house; day after day</i> (Williams 1994)
Stranded preposition construction	<i>Who did he give that to?</i>
Omitted determiners (and vocatives)	<i>I don't think, Mac!*, cabby, that this is the best way to go.</i> (Zwicky 1974)



## Argument 3 (Core and Periphery)

“Generative linguists argue that these constructions exist only on the “**periphery**” [...] – that they need not be the focus of linguistic or learning theorists. [...] Since every linguist agrees that the “peripheral”, difficult cases must be learned inductively on the basis of the input, constructionists point out that there is no reason to assume that the more general, regular, frequent cases [i.e. “**core**” grammar] cannot possibly be.”

Goldberg (2006), p. 14.

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## **Section 4: Basic Concepts in CxG (Goldbergian)**



## Basic Concepts in CxG (Goldbergian)

- ▶ Constituency ✓<sup>2</sup>
- ▶ POS ✓
- ▶ Heads ✓<sup>3</sup>
- ▶ Valency ✗<sup>4</sup>
- ▶ Grammatical Functions ✓

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<sup>2</sup>Still marginally relevant for building construction patterns. For example, for learning the WXDY construction the learner needs to identify different constituents like  $X \rightarrow NP$ , and  $NP \rightarrow DET N$ .

<sup>3</sup>Headedness is still mentioned in some construction types, i.e. a prepositional phrase construction being headed by a preposition (e.g. Goldberg 2006, p. 36), but in other cases, e.g. sentence constructions without verbs (Goldberg, 2006, p. 7), there is arguably no head.

<sup>4</sup>At least in the Goldbergian variant, it is argued that *valency* does not play a role anymore.



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## Section 5: Pros and Cons of CxG





## Pros (Advantages)

- ▶ It is not based on an arbitrary distinction between **core and periphery of grammar**, but tries to cover all linguistic structures within the same framework.
- ▶ It has (arguably) high **psycholinguistic relevance** for both learning and processing.
- ▶ Since it abandons the ideas of headedness and valency, it is more flexible to deal with the **productivity and creativity** of human languages.

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## Cons (Disadvantages)

- ▶ It is unclear how to identify constructions without recurrence to more traditional analyses, such as **phrase structure rules** and **constituency**.
- ▶ CxG (depending on the particular framework) is often only **partially formalized**. Müller (2019), p. 357 argues that all fully formalized CxG variants (Sign-Based Construction Grammar, Embodied Construction Grammar, and Fluid Construction Grammar) are virtually equivalent to HPSG (since they largely use the same formal apparatus).

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# Thank You.

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