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# Sign-Based Construction Grammar

# Contents

2

# Making the Case for Construction Grammar

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## 2.1 Introduction

The good news[1] for advocates of Construction Grammar (CxG) is that language scholars from a wide array of backgrounds have adopted its fundamental insight: knowledge of language includes grammatical generalizations of varied grains. CxG, or construction-based syntax more generally, informs models of acquisition (Tomasello 2003, Diessel and Tomasello 2000), aphasia (Gahl 2002), syntactic processing (Kaschak and Glenberg 2000, Goldberg and Bencini 2005, Bencini and Valian 2008, Boyd et al. 2009), concept learning by autonomous agents (Steels and De Beule 2006) and mental simulation, the activation of neural motor programs during perception (Feldman 2006). A variety of natural-language processing projects, includi

1999, 2002).

The bad news is that CxG has affected neither the theory nor the practice of mainstream syntax: at least as far as the popular imagination is concerned, the Chomskyan revolution of the 1960s, rather than, say, the constructionist correction of the 1990s, is the most recent notable development in the field of syntax:

> Chomsky is widely regarded as having retained his place at the center of the discipline. It's his theories that you'll find today in most linguistics textbooks. "When the intellectual history of this age is written, Chomsky is the only linguist whom anybody will remember," says Geoffrey Nunberg, an adjunct professor at the School of Information at the University of Cali

constructions in the licensing of complements and the interleaving of core and periphery during production. Finally, I will attempt to counter six entrenched falsehoods about CxG: that it is nonrigorous, that it does not offer generalizations, that it is a theory of linguistic marginalia, that it is opposed to compositional semantics, that it is not constrained and that it does not provide a universal framework for syntax. The remainder of this paper will be structured as follows: section 2 will be devoted to foundations, section 3 to functionality, section 4 to facts and section 5 to falsehoods. Section 6 contains concluding remarks.

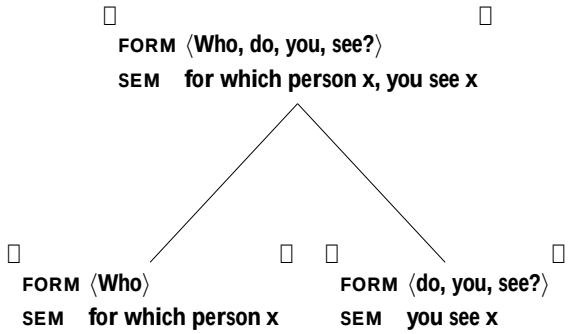
## 2.2 Foundations

To some linguists, Construction Grammar seems to make an obvious point. Why would anyone think that syntax isn't based on constructions? After all, the category of construction has been a part of grammatical discourse since ancient times. But while we find continuations of that tradition in pedagogical and field grammars, as far as syntacticians are concerned, construction-based analysis stopped making theoretical sense when grammar was redefined, according to the transformational tradition, as a mechanism for assembling symbols into phrases. According to this tradition, syntactic rules do only one thing: determine what symbol sequences function as units for syntactic purposes. They cannot add conceptual content to that contributed by the words. If sentence meaning does not come from 'construction meaning', there seems little point in positing constructions. It is clear, however, that the transformational rules of early transformational grammar – among them, passive, raising, dative movement and equi – mentioned so many morphological and lexical constraints on input and output phrase structures, that they were essentially representations of functional oppositions between constructions. It was not until the 1980s, when Chomsky's focus changed to a 'rule free' conception of grammar designed to articulate with Universal Grammar, that grammatical constructions became a 'theoretical taboo' (see Sag 2010 for discussion). According to the rule-free conception, grammatical constructions are 'taxonomic epiphenomena' whose properties are predictable from the interaction of fixed principles with language-particular parameter settings (Chomsky 1989: 43).

The difference between a construction-based approach to grammar and one based on interacting universal principles can be viewed in part as a dis-

cency. The theory is deemed successful if each of the ill-formed sentences of the language under study violates at least one constraint. Constraints in such theories are inviolable, and in this respect differ from the 'soft' constraints of optimality- theoretic (OT) syntax (Legendre et al. 2000, Sells 2001), which

(1)




These two combinatoric constructions flow together into the Nonsubject Wh-Interrogative Construction, which directly licenses constructs like (1), i.e. appropriately interpreted structures consisting of an interrogative wh-phrase followed by an auxiliary-initial clause containing an appropriate gap. Constructional interactions of this kind are described in terms of type hierarchies, to be discussed in section 2.3.3.

Why would anyone prefer a licensing-based model? After all, suppression-based syntactic theories offer constraints of potentially universal significance, and they are arguably more economical than licensing-based models, since there are far fewer general constraints than there are constructions. Construction grammarians prefer the licensing model not because it is more elegant, but because it is more realistic, in at least three respects.

First, the licensing-based model, as a static, declarative model of grammar, has greater psychological plausibility. As Malouf (2003) points out,[2] it is biased neither toward utterance synthesis nor utterance analysis, and avoids the procedural metaphors that form the basis of both transformational and optimality-theoretic grammars (whether the procedures involve movement of constituents from one structural position to another or selection of a least-marked alternative from a set of candidate structures). In addition, since the constructional 'licensors' combine syntactic, semantic, pragmatic and phonological information, the licensing-based view articulates closely with models of human sentence processing based on simultaneous constraint-satisfaction, e.g. Spivey's (2007) 'continuity of mind' framework, in which attractor networks are used to simulate the coalescence of distinct neuronal activation

[2] See also Sag et al. 1986, Fenstad et al. 1987, and Sag and Wasow 2011.

patterns during syntactic ambiguity resolution.

Second, the licensing-based model provides descriptive precision that suppression-based approaches cannot. CxG retains descriptive goals that generative-transformational grammar long ago exchanged for the promise of bright-line tests that would separate the relevant ('core') grammatical phenomena from the irrelevant ('peripheral') ones. If one takes Chomsky's claims seriously, the loss of descriptive coverage that this move entailed is a sign of progress in the 'search for explanatory adequacy' (Chomsky 1995: 435). But, as Sag (2010), observes, the generative-transformational tradition finesses the core phenomena too: when one considers that tradition's signature phenomenon, the English filler-gap dependency, one finds that it is silent concerning obvious parameters of variation among the extraction constructions, including the syntactic categories of the filler and head daughters, the type of wh-element within the filler daughter (if any) and the use of the auxiliary-initial pattern in the head daughter. This in turn should lead us to ask: how can a theory that takes cross-linguistic parametric variation seriously overlook intra-linguistic variation of a similar nature?

Third, suppression-based approaches fail to account for speakers' struc-

Certainly, there is reason to question the presumed unity among 'subject extractions': the subject wh-interrogative (e.g. Who called?) is structurally identical to the subject relative, and yet it is both highly marked typologically (Aissen 1999, Van Valin and La Polla 1997: Chapter 5) and exceedingly rare in English conversation (Homer 2000). But even when confined to subject relatives, the processing explanation appears inadequate. In conversational data, as has been widely observed, subject relatives are not preferred across the board. They are in fact rare among modifiers of subject nominals; for example, as shown by Duffield and Michaelis 2009, only 8 percent of the finite subject relatives in the Switchboard corpus are modifiers of subjects (see also Geisler 1999). Subject relatives are preferred only by object nominals. For example, as Duffield and Michaelis (2009) report, 74 percent of the finite relative clauses that modify object or oblique nominals are subject relatives. Because lexically headed object NPs are far more common than lexically headed subject NPs in conversation (Michaelis and Francis 2007), this ensures that subject relatives (the relative-clause type preferred by object nominals) will prevail overall. But this preference for subject relatives lacks a discourse-pragmatic explanation akin to that used by Fox and Thompson (1990) to explain the inverse pattern among subject nominals. Subject nominals prefer to be modified by object or oblique relative clauses, as in (3):

(3) [Our friend the President right now says no new taxes [but] at the same time], the budget he sent to Congress has tax and fee increases, [so uh I know the politicians uh aren't straightforward]. (Michaelis and Francis 2007, example (48))

**relatives. That construction is the Pseudorelative Construction (McCawley 1981, Lambrecht 1987, 1988, 2002). Attested examples of this construction are given, for English and French, respectively, in (4)–(5):**

## 2.3 Functionality

For many years, the only formal reference work available to construction grammarians has been an unpublished (but widely circulated) course reader, Fillmore and Kay (1995). It outlines a model that has come to be known as Berkeley Construction Grammar (BCG). This work contains a compelling treatment of interactions between argument-structure constructions (e.g. passive and ditransitive) and demonstrates that the mechanism of lexeme-construction unification enables one to describe English nominal and verbal syntax without recourse to the overly complex phrase structures containing many 'inaudible' elements that are commonplace within GB

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in accordance with Jackendoff (1997: 49), as a 'default in a wider array of options'. Constructions may include specifications requiring that the daughters' meanings be assembled in some particular way to form an idiosyncratic meaning or that the resulting sign be subject to a particular felicity condition absent from any of the daughter signs.

In this section, we will discuss three properties that make SBCG a useful formalism for construction-based syntax. The properties are: localism, variable-grain description and a model of inheritance that captures the family resemblance relationships described in earlier versions of CxG while offering both reduced stipulation and enhanced data coverage.

### 2.3.1 Localism

In SBCG, the phrase types in the target language are described by means of combinatoric constructions. Combinatoric constructions describe constructs – signs that are built from one or more distinct signs. Constructions in SBCG take the form of type constraints. A type constraint is a conditional statement that tells what properties a construct will have if it is an instance of the type in question. Intuitively, constructs are local trees (mother-daughter configurations) with feature structures (specifically, signs) at the nodes. Constructions can describe only such mother-daughter dependencies and not, e.g. mother-granddaughter dependencies (Sag 2007, 2010).

A local tree is distinct from an analysis (or 'derivation') tree. Analysis trees record the process of phrase construction through the recursive expansion of phrasal nodes, and can, of course, have many more than two levels. While analysis trees can be used to describe the recursive licensing of constructs, such trees are not objects of grammatical description in SBCG. Only

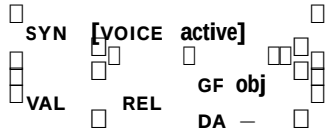



FIGURE 1 The Transitive Construction in Berkeley Construction Grammar (Fillmore and Kay 1995)

- CNTXT (CONTEXT): TOPIC and FOCUS, indexical coordinates, felicity conditions...

By treating phrases as feature structures, SBCG captures properties common to lexemes and phrase types in a way that BCG did not. As already mentioned, according to the BCG vision, the grammar is an inventory of trees (nested boxes) with an indefinite depth of recursion. By contrast, argument structure constructions like the Transitive Construction are represented by feature structures, as in Figure 1.

The construction shown in Figure 1 expresses a constraint on transitive lexemes: each such lexeme assigns the grammatical relation object to one argument in its valence set, provided that this argument is not the highest ranking or 'distinguished' argument. The Transitive construction presumably represents a class of lexemes (those that take direct objects), but it is unclear why a lexeme description like that in Figure 1 should qualify as a construction, as it does not contain nested boxes. SBCG, by contrast, proposes two types of constructions: the aforementioned combinatoric constructions, which describe properties of phrase types, and lexical-class constructions, which describe properties shared by classes of lexemes (like devour) and words (like devoured

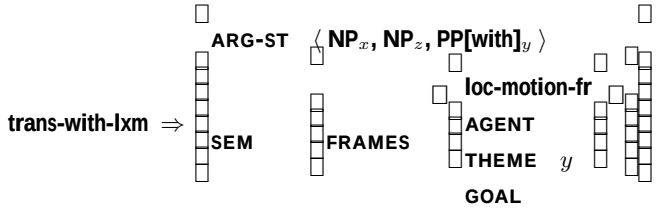



**FIGURE 2 The (lexical-class) Applicative Construction (based on Sag this volume, (99b))**

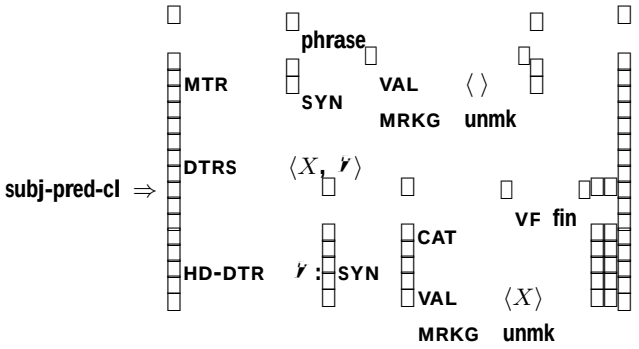



**FIGURE 3 The (Combinatoric) Subject-Predicate Construction (Sag this volume, (110))**

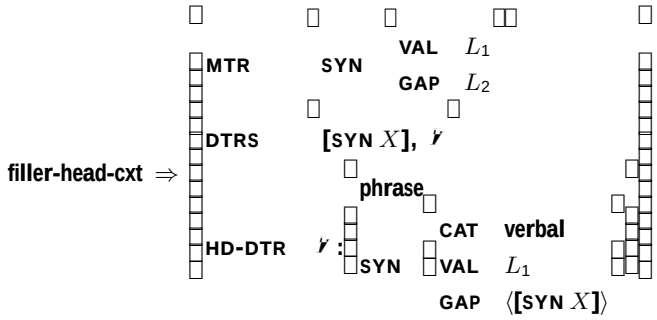



FIGURE 4 The Filler-Head Construction (Sag 2010)

### 2.3.3 Inheritance Without Stipulation

A leading insight of CxG from its inception is that grammar rules are not procedures but category descriptions, and as such, subject to taxonomic organization. Such taxonomies, which have come to be known in the CxG literature as inheritance networks, provide for cross-cutting generalizations about constructions. The idea, simply put, is that a construction can be an instance of multiple types at once. Goldberg (1995) simplified the description of inheritance networks by conflating two major inheritance relations: the instance relation and the subpart relation. Both relations are illustrated by the Extraposed Exclamative Construction, as in (10):

(10) It's amazing what she said.

The Extraposed Exclamative can be regarded as an instance of the Extraposition Construction that contains as a subpart the Wh-Interrogative Clause Construction described by Sag (2010).

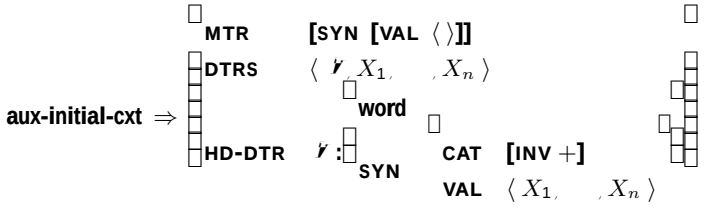



FIGURE 6 **Auxiliary-Initial Construction (Sag 2010)**

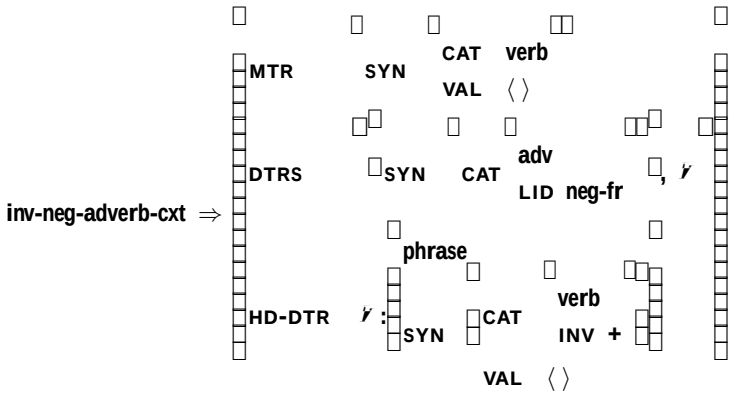
**followed by all its valents. Because a clause like (12) is an instance of the inverted exclamative construct, it must also be an auxiliary-initial construct, and hence must satisfy all the constraints imposed by the Auxiliary-Initial Construction, as well as the additional constraints included in the Inverted Exclamative Construction, e.g. that the mother's meaning is the appropriate exclamation constructed from the meanings of the daughters.**

**Because SBCG is a localist theory of syntax, as described in section 3.1, its treatment of subpart relations will necessarily diverge significantly from that found in BCG works. Constructions are configurations of signs rather than configurations of constructs; therefore, a construction cannot include another construction in its DTRS list, and a construction – a description of a class of constructs – can make no reference to the daughters of a construct's daughters. Such a practice would be no more acceptable in SBCG than would placing a phrase-structure rule in the expansion of another phrase-structure rule in a context-free grammar. How then are 'subpart' relations to be represented in SBCG? The example in (13) will serve to illustrate SBCG's approach to 'subpart' relations:**

**(13) Never have I seen one.**

**Looking at the construct type illustrated in (13), Inverted Negative Adverb Preposing, we might intuitively say that it contains two daughters, the first of which is a negative adverb and the second of which is the Auxiliary-Initial construct type. However, as discussed above, constructions cannot contain other constructions. Instead, we would say that the head daughter of a particular construct type shares one or more features with the MTR of some other construct type. To see how this works, let us look at the Inverted Negative Adverb Preposing construction, shown in Figure 7.**

**The construct type shown in Figure 7 has a head-daughter sign with the property [INV +]. This feature is shared by the Auxiliary Initial construct type, shown in Figure 6: its head daughter is [INV +], as is its mother (this is guaranteed by a general constraint of HPSG/SBCG called the Head Feature Principle). Because the mother of any auxiliary-initial construct is so spec-**


inv-neg-adverb-cxt ⇒
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DTRS
SYN
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adv
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HD-DTR
′ :
SYN
CAT
verb
INV +
VAL ⟨ ⟩

FIGURE 7

Examples like (15) are not problematic for analyses of the sort required within SBCG. These simply require that the second daughter of the Negative Adverb Preposing construction is a clause specified as [INV +]. Finally, example (16) undermines the BCG assumption that the Subject-Predicate Construction inherits the Head-Complement Construction as its head daughter. Because in (16) there are adverbial expressions preceding the matrix verb (complains), the head daughter would be licensed by a modification construction, and not the Head-Complement construction. If, however, we assume, in line with SBCG, that the Subject-Predicate Construction merely constrains its second daughter to be [VFORM fin], (16) is unproblematic. In sum, while it may be conceptually appealing to refer to clauses like (14)–(16) as inheriting (or even 'containing') other constructions as their head daughters, accounting for the full array of head-daughter phrases that we actually encounter requires

**CxG. Obviously, we have not validated a constructionist approach by simply showing that it replicates what other theories do under another name. But CxG can also describe linguistic structures in which the mother of a given local tree allows more than one interpretation. Can a syntactic theory based on strict composition do the same thing? It appears that the answer is 'no', at least if we use the following definition of compositionality, taken from Szabó (2007, Stanford Encyclopedia of Philosophy): 'If a language is compositional, it cannot contain a pair of non-synonymous complex expressions with identical structure and pairwise synonymous constituents'. The problem with this understanding of meaning composition is that it yields a cou**

(21) As structural arguments, patient arguments of accomplishment verbs, e.g. kill and break, should never be omissible.

However, each of these predictions is demonstrably false. First, the second argument of a bivalent state, achievement or activity verb is not always omissible, as shown by (22)–(24):

(22) She resembles *(people).

(23) She found *(something).

(24) We discussed *(issues).

Second, null instantiated second arguments need not have indefinite interpretations; they may instead be interpreted as definite anaphors, as in (25)–(27):

(25) I remember (that).

(26) I prepared (for that event) for weeks.

(27) She arrived (there).

Third, as shown by Goldberg (2005), accomplishment verbs do allow null instantiated patient arguments. For example, verbs of emission and ingestion license indefinite null complements, as in (28)–(29):

(28) He cried (lachrymal fluid) into his beer.

(29) He swallowed (saliva) nervously.

In addition, as observed by Ruppenhofer (2004: 372-375), almost any accomplishment verb in an iterated-event context allows an existential null complement, as in (30)–(32):

(30) The police only arrest ∅ if there is a high-profile situation.

(31) You just take ∅ and take ∅.

(32) She has never failed to impress ∅.

The problem of accounting for null complements as both a syntactic and interpretive affordance becomes all the more significant when we consider that even if one were to accept the RHL model of null instantiated verbal arguments, null complements of nouns, prepositions, adjec

(33) I made a copy (of that).

(34) She walked out (of the room).

(35) I'm afraid (of that).

We will now look at how a construction-based model of null complementation circumvents the problems described above. Instead o

specialized communicative functions. A look at these phenomena suggests that highly detailed constructions, rather than non-category-specific phrase-structure rules, pair predicates and their complements. In this section, we will look at two cases of weird sisterhood: Nominal Extraposition and Just

that pairs a specifier with a head to account for the pattern in (51)–(52). Instead, as Bender and Kathol argue, the grammar of English must contain an argument-structure construction that allows the verb mean, when negated, to license a clausal subject introduced by just because.

### 2.4.3 Core and Periphery Are Interleaved During Production

A final argument for a constructional approach comes from the fact that stretches of speech licensed by idiomatic constructions can contain within them stretches licensed by 'regular rules' and vice versa. To illustrate this point, let us consider the following example:

(53) A politician pull the leg of a philosopher? No way.

Sentence (53) is an example of the Incredulity Response (IR) Construction. According to Lambrecht (1990), the IR construction consists of a property predicate (e.g. pull the leg of a philosopher), an entity (e.g. a politician), and an expression of incredulity concerning the entity's membership in the class of individuals named by the property predicate. Formally, the Entity is expressed by a NP and the predicate by a nonfinite VP or other XP. IR qual-

- CxG is obsessed with linguistic marginalia.
- CxG is opposed to compositional semantics.
- CxG is not constrained.
- CxG does not provide a universal framework for syntax.

### 2.5.1 CxG Is Anti-formal And Therefore Nonrigorous

Not all work in CxG is formal, nor should it be. Without descriptive work,

alternative framework that relates the idiomatic patterns to the general ones through constraint inheritance. Kay's 2002 analysis of subjectless tagged sentences (e.g. Fooled you, didn't I?) exemplifies this mode of argumentation. After ruling out an analysis based on verb-phrase fronting, Kay proceeds to show that the covert subjects of subjectless tagged sentences cannot be identified with any of the empty categories proposed to account for sentence-initial missing subjects (e.g. diary subjects) in the generative-transformational literature. He then concludes that subjectless tagged sentences are a subtype of tagged sentence, as reflected in shared syntactic, intonational and interpretative behaviors. Kay's account captures shared properties a

is stately broadly enough to give constructional meaning a role in composition. According to Linnebo's (2004) translation, Frege's principle states: 'the meaning of a complex expression is determined by the meanings of its constituent parts, in accordance with their syntactic combination' (emphasis mine). If, as we presume, rules of syntactic combination are constructions, constructional meaning is 'compositional'.

### 2.5.5 CxG Is Not Constrained

One of the most common criticisms of C

The two 'discoveries' referenced in the above passage are in fact simply mutually reinforcing assumptions. The need to capture relationships between constructions by relating them transformationally comes from the assumption that syntax is autonomous, which in turn requires that semantic properties play no role in syntactic generalizations. The result is that the syntactician does not relate two constructions (e.g. the passive and active argument-structures) by describing them as alternate syntactic realizations of a given semantic role. Instead, she or he uses procedures to change the position of a given syntactic constituent in hierarchical syntactic structure. And of course transformations are what make it possible to maintain that all languages have hierarchical constituent structure (and that this structure underlies the assignment of morphological case, among other things): in free-word order languages, the lack of observable constituent structure is attributed to permutations called 'scrambling'. Certainly, Transformational Grammar captured discontinuous dependencies (like complement extraposition) that could not be described by immediate-constituent analysis, as practiced within the then-dominant American structuralist paradigm. But this does not prove that grammar involves movement rules. One need only consult works like Sag's (2010) analysis of filler-gap constructions and Kay and Sag's (2009, this volume) analysis of degree-word syntax to see that discontinuous dependencies can be described in a static grammar model based on the combinatoric properties of words and phrases.

Because they rest on theory-particular assumptions like the autonomy thesis, most P&P principles are immune to refutation. The same cannot be said of P&P parameters, which are vulnerable to construction-based counterarguments. Pullum and Zwicky (1991) show, for example, that the prohibition against double-ing sequences in English (e.g. *stopping walking) is not a 'transconstructional filter' but a constraint on a single constituency-defining rule. In addition, as Van Valin and LaPolla (1997: Chapter 6) have argued, the patterns of semantic-role neutralization and restriction that define syntactically privileged arguments (e.g. covert arguments in control constructions, controllers of reflexive pronouns) vary not merely from language to language but also from construction to construction within a given language. The English imperative construction (e.g. Hurry up!) provides an illustration. The covert addressee argument cannot be indentified with 'subject', because it

constructi1.663973(r)-4.2603(n)0Td24((i)0.963071a)-1.66393(x)-5.8887(a)-1.66638(u)-5.89115(s)0.96367(a)-1

**February 13, 2012**

the exclamatory construction that Michaelis and Lambrecht (1996) refer to as the Antitopic Exclamative. In this construction, a preclausal interjection receives prosodic prominence and the following clause receives the intonational contour of a right-dislocated phrase, as in, e.g. GOD it's hot!, MAN I'm tired!, DAMN you're good!. The point here is that, as Croft and Cruse (2002: 247) put it, '[c]onstructions, like the lexical items in the lexicon, are 'vertical' structures that combine syntactic, semantic and even phonological information (for the specific words in a construction), as well as any unique prosodic features that may be associated with a construction'. The more general point,

Fillmore, C. J., R. Lee-Goldman and R. Rhodes. this volume. SBCG and the Frame- Net Constructicon.

Flickinger, D. P. 2000. On Building a More Efficient Grammar by Exploiting Types. Natural Language Engineering 6(1): 15-28.

**February 13, 2012**

Malouf, R. 2003. Cooperating Constructions. Mismatch: Form-Function Incongruity and the Architecture of Grammar, eds. E. Francis and L. Michaelis, 403-424. Stanford: CSLI Publications.

McCawley, J. 1981. The Syntax and Semantics of English Relative Clauses. Lingua 53: 99-149.

Michaelis, L. 2001. Exclamative Constructions. Language Universals and Language Typology: An International Handbook, eds. M. Haspelmath, E. König, W. Österreicher and W. Raible, 1038-1050. Berlin: Walter de Gruyter.

Michaelis, L. 2004. Type Shifting in Construction Grammar: An Integrated Approach to Aspectual Coercion. Cognitive Linguistics 15: 1-67.

Michaelis, L. and H. Francis. 2007. Lexical Subjects and the Conflation Strategy. Topics in the Grammar-Pragmatics Interface: Papers in Honor of Jeanette K. Gundel, eds. N. Hedberg and R. Zacharski, 19-48. Amsterdam: Benjamins.

Michaelis, L. and K. Lambrecht. 1996. Toward a Construction-Based Model of Language Function: The Case of Nominal Extraposition. Language 72: 215-247.

Michaelis, L. and J. Ruppenhofer. 2001. Beyond Alternations: A Constructional Account of the Applicative Pattern in German. Stanford: CSLI Publications.

Mithun, M. 1991. The Role of Motivation in the Emergence of Grammatical Categories: The Grammaticization of Subjects. Approaches to Grammaticalization, vol 2, eds. E. C. Traugott and B. Heine, 159-184. Amsterdam: John Benjamins.

Pesetsky, D. 1997. Optimality Theory and Syntax: Movement and Pronunciation. Optimality Theory: An Overview, eds. D. Archangeli and D.T. Langendoen, 134- 170. Oxford: Blackwell.

Pollard, Carl J. 1996. The Nature of Constraint-Based Grammar. Paper presented at the PaciïňĄc Asia Conference on Language, Information, and Computation. Kyung Hee University, Seoul, Korea. Available at http://195.113.2.21/knihovna/pollard_talk1.pdf.

Pollard, C. and I. A. Sag. 1987. Information-based Syntax and Semantics. Volume 1: Fundamentals. Stanford: CSLI Publications.

Pollard, C. and I. A. Sag. 1994. Head-Driven Phrase Structure Grammar. Chicago: University of Chicago Press

Pullum, G. and A. Zwicky. 1991. Condition Duplication, Paradigm Homonymy and Transconstructional Constraints. Berkeley Linguistics Society Proceedings 17: 252-266.

Pinker, S. 1989. Learnability and Cognition. Cambridge, MA: MIT Press

**Rappaport Hovav, M. and B. Levin. 1998. Building Verb Meanings. The Projection of Arguments, eds. M. Butt and W. Geuder, 97-134. Stanford: CSLI Publications.**

**Traxler, M., R. Morris and R. Seely. 2002. Processing Subject and Object Relative clauses: Evidence from Eye Movements. Journal of Memory and Language 47: 69-90.**

**Van Valin, R. and R. LaPolla. 1997. Syntax. Cambridge: Cambridge University Press.**

**Zwicky, A. 1994. Dealing out Meaning: Fundamentals of Grammatical Constructions. Berkeley Linguistics Society Proceedings 20: 611-25.**