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Constructions all the way everywhere: Four new directions in constructionist research

Ronny Boogaart, Timothy Colleman, and Gijsbert Rutten

1. From Construction Grammar(s) to constructionally informed linguistics

Some ten years ago, Adele Goldberg summarized one of the basic tenets of constructionist approaches to language—viz. the view that the *whole* of grammar consists of a structured network of conventionalized form/meaning-pairings—in the often-quoted catchphrase "It's constructions all the way down!" (cf. Goldberg 2003: 223, 2006: 18). An important part of what presently goes on in the field of cognitive linguistics, broadly construed, could in the same vein be described as "It's constructions *all the way everywhere*". Indeed, linguistic research on a broad variety of language phenomena seems to be increasingly informed by constructionist ideas about the organization of grammar and the nature and acquisition of grammatical knowledge.

While construction grammar was intended as a theory that would account for the entirety of language right from the start, it can be observed that, until fairly recently, the majority of existing work in its various strands was concerned with the elucidation of the syntax and semantics of selected complex (in the sense of 'multi-word') constructions from present-day standard English or the present-day standard variety of another language. The seminal publications of the 1980s and early 1990s on the formal and semantic idiosyncrasies of by-now notorious bits and pieces of the grammar of present-day standard (American) English strove for completeness in that they gave centre stage to grammatical patterns which were deemed too "peripheral" to merit linguistic attention in mainstream generative grammar (e.g. Fillmore, Kay, and O'Connor 1988 on the let alone construction, Lakoff 1987 on the presentational there-construction) and/or in that they did not solely focus on the formal properties of the investigated constructions but also, crucially, on their semantics (e.g. Goldberg 1992, 1995 on the semantics of the ditransitive construction and other argument structure constructions). In this way, the emerging family of constructionist approaches immediately cast its net wider than was customary in the then-dominant grammatical theories. However, while the groundbreaking work laid by the above-mentioned and other early studies is not to be underplayed or minimized, it can also be observed that there is more to accounting for the "entirety" of language than doing away with the core/periphery distinction and adopting a holistic approach to grammar and meaning. Sure enough, the investigation of "idiosyncratic" or otherwise noteworthy bits of contemporary grammar remains a worthwhile enterprise in its own right, which can potentially lead to new insights on the network structure of the grammar and as such is central to the constructionist agenda. Still, if construction grammar truly wants to develop into an overall theory of language, it should address a variety of other questions and issues as well, ranging from issues related to the cognitive representation of constructions, over issues of lectal variation in the properties of constructions and the structure of the construction, to topics as diverse as the emergence of constructions and constructional meaning (both ontogenetically and phylogenetically), the validity of constructions for cross-linguistic comparison, the role of constructions in interaction

and dialogue, et cetera, et cetera. And, in fact, it has. In recent years, construction-based linguistics has been expanding to other domains and methodologies and important progress has been made in several of the above-mentioned domains — as is evident also from the breadth of coverage of the papers included in the recent handbook by Hoffmann and Trousdale (2013), to give just one example.

The present volume is comprised of 11 original research articles which represent and illustrate such emerging new research directions in construction-based linguistics, and which are organized into four complementary sections, viz. (i) methodological advances, (ii) construction morphology, (ii) variation and change and (iv) interaction. About half of these papers originated in a workshop on 'The construction grammar of Dutch' held in Leiden, the Netherlands on March 25-26, 2011 and co-organized by the Leiden University Centre of Linguistics (LUCL) and the Ghent University Linguistics Department. The other papers were solicited by the editors in order to further reinforce the thematic coherence of the volume as well as to broaden its language focus. In the next sections, we proceed to a detailed overview of the contents of the four sections, taking care to position each of the four selected sub-fields in the wider context of the extending scope of constructionist approaches.

Before we move on, however, it should be stressed that this increase of scope in construction grammar could just as well be described as a process in which various other branches of linguistics have started incorporating constructionist ideas and terminology. Construction grammar has never been a single unified framework. As is well-known, there rather is a family of constructionist approaches—several different construction grammars, so to speak—which share certain key ideas, most prominently including the symbolic view of syntax and the concept of stored form/meaningpairings as constituting the basic units of grammatical organization, but which also display substantial mutual differences (see, e.g., Goldberg 2003, 2013; Croft and Cruse 2004; Östman and Fried 2005; Langacker 2005 for discussion). In addition, there are many scholars whose work is informed by these foundational constructionist views on grammar but who would not necessarily dub themselves construction grammarians, let alone commit themselves to any of the well-established strands of construction grammar, such as Berkeley Construction Grammar (Fillmore 1988; Fried and Östman 2004), Cognitive Construction Grammar (Goldberg 1995, 2006), Radical Construction Grammar (Croft 2001), Sign-Based Construction Grammar (Sag 2012), and so on. The papers in this volume are all constructionally informed in important respects, but they display different degrees of adherence to constructionist formalism and use a variety of notational styles.

2. Methodological advances

The fact that the volume starts off with a separate section on methodological advances should of course not be taken to imply that the chapters in the remaining three sections have no bearing whatsoever on methodological innovation in constructionist linguistics. What sets the two chapters in this section apart from the rest, however, is that their *primary* aim is to illustrate the great potential for constructional analysis of advanced new methodologies from computational linguistics.

Goldberg (2003: 219) states that the constructionist approaches emerging in the 1980s and 1990s had a number of assumptions in common with mainstream generative linguistics, such as the

view "that it is essential to consider language as a cognitive (mental) system" and the acknowledgement "that there must be a way to combine structures to create novel utterances". It can be observed that, in addition to these shared theoretical assumptions, there was a striking methodological parallel, too: the above-mentioned near-exclusive focus on (decontextualized) standard language(s) in the early days of construction grammar was coupled with a near-exclusive reliance on introspective data. Since then, constructionist linguistics has come a long way, leading Gries (2013: 94) to observe that "empirically speaking, Construction Grammar as a family of closely related grammars is probably one of the methodologically most pluralistic fields, as it utilizes a large number of different data and methodologies." The chapter by Natalia Levshina and Kris Heylen presents a radically data-driven approach to constructional semantics based on Semantic Vector Space models. The paper starts out from the observation that corpus-based studies of constructional semantics often employ semantic classifications of the nouns, verbs, etc. filling the slots of the construction(s) under investigation—which are either defined a priori, for instance in order to include a "semantic verb class" label as a predictor variable in a regression study of an argument structure alternation, or a posteriori, as in the interpretation of the results from a collexeme analysis—but that these classifications themselves are more often than not ad hoc and largely based on introspection. The authors make a case for bottom-up semantic classifications based on Semantic Vector Spaces, a distributional method widely used in computational linguistics, which computes an overall collocational profile for all the target words attested in a given corpus on the basis of their cooccurrences with all other (content) words in the corpus. The method is shown at work on the basis of a set of 6863 corpus instances of the near-synonymous Dutch causative constructions with doen 'do' and laten 'let': the results from this case study do not only corroborate earlier observations about the semantic determinants of the doen/laten-alternation but also provide empirical evidence about the optimal level of granularity of semantic classifications.

The chapter by **Barend Beekhuizen and Rens Bod** is concerned with the computational modeling of the *acquisition* of constructions. As is well-known, constructionist theories embrace a *usage-based* view on grammar and language acquisition: a crucial assumption is that constructions are learned from the input, through generalization over encountered examples (see, e.g., Tomasello 2003; Goldberg 2006). Over the last decade, a number of formalizations have been developed which are aimed at modeling this learning process, such as Fluid Construction Grammar (Steels 2011) and Embodied Construction Grammar (Chang 2008). Beekhuizen and Bod's chapter adds to this growing body of literature at the intersection of construction grammar and computational linguistics: the authors present the modeling procedure of Data-Oriented Parsing (DOP) as well as its unsupervised incarnation U-DOP and propose an extension of this formalism that is able to incorporate meaning (μ -DOP). The results from an initial experiment with artificial data show that this extended model can acquire both compositional and idiomatic structures from a noisy data set, using one and the same learning mechanism.

3. Construction morphology

In the second section of the volume, the constructional approach to grammar is extended to the field of morphology. While it is a crucial assumption of constructionist linguistics that there is no

fundamental distinction between words and morphemes on the one hand and multi-word grammatical patterns on the other, grammar being a vast repository of conventionalized form/meaning-pairings of varying levels of formal complexity, it can also be observed that the attention of construction grammarians has always been primarily focused on the upper and middle parts of the lexicon-syntax cline, i.e. on phrasal and clause-level constructions. Until very recently, indepth constructionist analyses of morphological phenomena were in fact scarce. The chapters in this section both take the landmark publication on construction morphology by Booij (2010) as their point of departure, while embarking upon new territory through a comparative outlook, as in the chapter by Booij and Hüning, or by the application of construction morphology to language history, as in the chapter by Scott.

In their chapter on 'Affixoids and constructional idioms', Geert Booij and Matthias Hüning discuss the category of affixoids, i.e. compound constituents with an affix-like behaviour as in the German case of fähig 'able'. This occurs in complex adjectives such as veränderungsfähig 'able to change', where the original meaning of the adjective is maintained. There are, however, also examples such as kreditfähig 'fit for getting credit', where a related though different meaning occurs, which is restricted to complex words. Booij and Hüning argue that it is not necessary to introduce a new category such as affixoid to account for such phenomena. Instead, they argue that research on affixoids has illustrated that there is no sharp distinction between derivation and compounding. Affixes and lexical words are at the two ends of a scale and the same is true for the two word formation processes, i.e. derivation and compounding. In between, there are formations with properties of both sides. While affixoid may be a useful descriptive term for the bound meanings of words when embedded in complex words, their behaviour can be insightfully accounted for within the framework of construction morphology, which does not make an absolute distinction between compounding and derivation. From a constructionist point of view, affixoids can be characterized as the lexically specified parts of so-called constructional idioms, that is, subschemas for compounding that are partially lexically fixed, with specific semantic properties. This analysis of affixoids fits into a conception of the lexicon as hierarchical, with different layers of abstraction at which the word formation possibilities of a language are specified.

Alan Scott, in his chapter on 'The survival and use of case morphology in Modern Dutch', discusses relics in present-day Dutch of the language's now defunct case system, in particular the use of what once were regular genitive forms in examples such as *een nieuw hoofdstuk in de geschiedenis der verkeerstechnologie* 'lit. a new chapter in the history of the.GEN traffic-technology'. Scott uses a usage-based diachronic approach in order to account for the survival of this piece of case morphology into Modern Dutch, incorporating corpus analyses from sixteenth- and seventeenth-century Dutch up to the present day. He analyzes how constructions with *der* became isolated from a dying case system and reinterpreted as an open frame construction within which, unexpectedly, agreement morphology was preserved. Building on Booij (2010), Scott suggests that the construction in question involves a non-canonical type of construction-dependent morphology. Having offered an account of the survival of *der* in the history of Dutch, Scott goes on to discuss the use of constructions with *der* in present-day language. It turns out that in present-day Dutch, constructions with *der* constitute a stylistic tool mainly used in specific registers and contexts, which Scott interprets as an example of the interplay of construction morphology and (morpho-)pragmatics.

4. Constructions in variation and change

The more or less exclusive focus on decontextualized "standard" language in the early days of construction grammar is a thing of the past: recent years have seen a marked increase in studies combining a construction-based view on grammar with an interest in issues of language variation and change. This shift in constructionist attention can be related to three more general trends in contemporary (cognitive) linguistics. First, since the mid-2000s, there has been an increasing rapprochement between constructional approaches to language change and research on grammaticalization. While constructions have to a certain extent always played an important role in theories of grammaticalization - see, e.g., Lehman's (1992: 402) often-quoted observation that "grammaticalization does not merely seize a word or morpheme [...] but the whole construction formed by the syntagmatic relations of the elements in question" - the arrival of constructionist theories of grammar has inspired grammaticalization scholars to refine the notions of "construction" and "constructional network" and to further reflect on the exact role of constructions as the input and/or outcome of processes of language change (see, e.g., Traugott 2008a, 2008b; Trousdale 2010, 2012; Traugott and Trousdale 2013; Noël 2007; Hilpert 2013). A second larger trend is the advent of Cognitive Sociolinguistics, a novel field of research that integrates methods and models from Cognitive Linguistics on the one hand and (variationist) sociolinguistics on the other, with a view to the uncovering of socio-cognitive dimensions of meaning (Kristiansen and Dirven 2008; Geeraerts, Kristiansen, and Peirsman 2010; Harder 2010; Pütz, Robinson, and Reif 2012). Needless to say, there is a social dimension to constructional meanings, too: several of the papers in, for instance, the edited volume by Geeraerts, Kristiansen and Peirsman (2010) are explicitly constructionist in their approach to grammar. Thirdly, and related to the previous trend, there has been a kind of methodological turn in Cognitive Linguistics research at large, including various strands of construction grammar, in the form of an increasing reliance on empirical methods of data investigation – which can of course be related to the usage-based view on language and language acquisition embraced in Cognitive Linguistic theorizing. As pointed out by Geeraerts (2006: 30), doing corpus research implies coming to terms with variation in the data, as bringing in real language data automatically brings in sociolinguistic variation. In addition to the above-mentioned studies, we can also refer to Hoffmann and Trousdale (2010), Fried (2013), Östman and Trousdale (2013) and Hollmann (2013) for further discussion of the ways in which and reasons why construction grammar is particularly suited to deal with the inherent variability of language.

The first two chapters in this section focus on long-term constructional change. Freek Van de Velde's chapter 'Degeneracy: the maintenance of constructional networks' applies the biological concept of degeneracy to language variation and change, arguing that language is a complex adaptive system not unlike, for instance, ant colonies. Degeneracy is a technical term from evolutionary biology for the phenomenon that structurally different elements can fulfil the same function. An example from biology is thermoregulation in the human body, which is degenerately controlled by perspiration, arteriolar vasodilation, shivering, countercurrent flow, wearing protective clothing, huddling, and so on. A simple example from the Germanic languages is the coexistence of the expression of the past tense by ablaut and by a dental suffix (English spoke vs. talked). Degeneracy is related to the notion of redundancy, but one of the differences is that degenerate features may play a role elsewhere in the system as well. Applying degeneracy to language, Van de Velde argues that horizontal or paradigmatic relations in construction networks – in which related

constructions in a functional domain are mutually defined by differential values they take on a set of grammatical parameters — can be transmitted through time, even if the specific grammatical parameters on which they are defined are under threat. In other words, related functions are often degenerately expressed by different forms, which in the context of form-function change is important, according to Van de Velde, in that such changes should not be seen as renewal, i.e. compensating for the loss of a grammatical strategy by the development of something new. Rather, form-function changes involve the strengthening of degenerately already available resources, which can extend to new domains when a subsystem comes under pressure. To make this argument, Van de Velde discusses two case studies from the history of Dutch, viz. argument realization in experience processes and adverbial subordination.

The second chapter in this section, 'Social and constructional diffusion. Relative clauses in seventeenth- and eighteenth-century Dutch', written by **Gijsbert Rutten** and **Marijke van der Wal**, argues that a full account of language variation and change should combine constructional analyses and sociolinguistic research. Focusing on a case of morphosyntactic change in Dutch, viz. the rise of w-relativizers such as waar 'where' at the expense of d-relativizers such as daar 'lit. there, where', Rutten and Van der Wal claim that the trajectory of this change is subject to different types of diffusion. Using a corpus of private letters by writers with various social backgrounds, they show that the change displays social variation in the late seventeenth century as well as in the late eighteenth century, with the upper (middle) ranks of society behaving more progressively than the lower (middle) ranks. Zooming in on formulaic sequences, which are very characteristic of these historic private letters, they also argue that the change from d- to w-relativizers displays constructional diffusion, that is, the change proceeds through constructions. As sound changes may affect concrete words at different rates (lexical diffusion), similarly morphosyntactic changes may affect constructions at different paces (constructional diffusion).

The chapter by **Muriel Norde, Bernard De Clerck, and Timothy Colleman**, entitled 'The emergence of non-canonical degree modifiers in non-standard varieties of Dutch: A constructionalization perspective' shifts the focus to incipient language change. It is concerned with a set of high-quantity expressions that are all developing degree modifier uses in (substandard varieties of) present-day Dutch, thus adding to the large and diverse set of available degree modifiers in the language, a class that is particularly prone to language change due to rapid pragmatic wear and tear. The four cases singled out for the investigation are *massa's* ('masses'), *duizend* ('thousand'), *een partij* ('a batch') and *tig* ('umpteen'). On the basis of data from a variety of informal web sources, the authors lay bare similarities and differences between these cases as different instantiations of the quantifier-to-degree modifier pathway of change, and they discuss these cases of incipient constructional change in terms of Traugott and Trousdale's (2013) recent theory on (grammatical) constructionalization.

Hand in hand with the increasing attention for issues of intralingual variation and change discussed in the beginning of this section, construction grammarians have in recent years also taken a wider interest in issues of *cross-linguistic* comparison, see for instance the volume edited by Boas (2010a). In the introduction to that volume, Boas (2010b: 15) reflects on the potential of constructions for language comparison and concludes that "[s]ince constructions are linguistic signs that pair [phonological, morphological, syntactic, semantic, and pragmatic] aspects, they are extremely well suited to capture all of the different (and partially idiosyncratic) distributional

properties of grammatical structure across languages simultaneously." In the present volume, this constructional approach to contrastive linguistics is represented by the chapter by Bert Cappelle on 'Conventional combinations in pockets of productivity: English resultatives and Dutch ditransitives expressing excess'. Cappelle starts off from a classic example from the early days of construction grammar, viz. Pat sneezed the napkin off the table, first discussed in Goldberg (1995). He argues against the view that such examples underscore the existence of a productive caused-motion argument structure construction by showing that the pattern is in fact idiosyncratically constrained in ways that are not predicted by the semantics of the general construction. Rather, Cappelle argues, following recent work by Kay (2013), such novel uses are better treated as analogical extensions from more conventional three-argument verbs, such as blow. Focusing on the so-called Body Part Off Construction (e.g. work one's head off) (BPOC), Cappelle shows that the action-intensifying semantics of this pattern cannot simply be explained on the basis of the overall meaning of the caused-motion construction, with general pragmatic reasoning ruling out the literal resultative reading. The fact that a direct translation of the BPOC does not occur in Dutch, which does have the caused-motion construction, shows that the BPOC has to be learnt independently. Dutch has a couple of related caused-motion patterns expressing excess, but the most commonly used Dutch construction in this domain has ditransitive rather than resultative syntax. For both the Dutch and the English constructions, corpus data reveal some highly conventional combinations (semiproductive subpatterns) that may prevent the use of other combinations that could have been possible.

5. Constructions in interaction

The final section of the volume is dedicated to research conducted at the crossroads of construction grammar and conversation analysis. As a matter of principle, and in line with the theoretical presuppositions of Cognitive Linguistics, (most) constructionist approaches to grammar do not distinguish between semantic and discourse-functional properties of constructions, since both of these may become conventionally associated with specific forms. Moreover, in Cognitive Linguistics at large a development can be observed from an almost exclusive focus on the individual, subjective construal of reality to incorporating the social, intersubjective dimension of speaker-hearerinteraction (Verhagen 2005; Croft 2009). Still, in the words of Linell (2009: 97), "it is undeniable that many variants of CxG suffer from an interactional deficit". The absence of interactional approaches from, for instance, Hoffmann and Trousdale's (2013) handbook, should, however, not lead one to conclude that there have not been attempts to fill this hiatus, see, e.g., the German-language volumes edited by Deppermann, Fiehler, and Spranz Fogasy (2006), Günthner and Imo (2006), and Günthner and Brücker (2009). The chapters in this section likewise deal with discourse functions of selected grammatical patterns - viz. prepositional phrases (Brücker), appositions (Imo), and complement clauses (Wide) - that can be attested only in detailed qualitative analyses of situated interaction. All three authors explore the possibilities and limitations of combining a methodological commitment to conversation analysis with the degree of generalization that is inherent to the notions of 'construction' and 'constructional network'.

In his contribution on 'tying constructions with the preposition *mit* in German talk-in-interaction', **Jörg Bücker** demonstrates that not only particles, adverbs and conjunctions, but also

prepositional phrases may be used as discourse-structuring devices. Specifically, for German *mit* ('with') + Noun Phrase it is shown that in spoken talk-in-interaction it often functions as a 'tying construction': in such cases, the speaker uses it to refer to a topical antecedent in the preceding discourse that is considered to be accessible, to different degrees. Bücker distinguishes between two patterns – attributive and non-attributive uses of 'tying' *mit* + Noun Phrase – that differ slightly in both form and in function. These differences, however, can be explained fully compositionally as resulting from their different positions in the clause and different degrees of subordination. Bücker argues, therefore, that only one encompassing *mit*_{tying} + Noun Phrase-construction needs to be assumed, modeled along the lines of Goldberg (1995), that can be realized as two different "constructs" in conversation. The semantics of the abstract construction is phrased in terms of a blend of two frames, corresponding to the two contexts tied together by means of the construction, that are in a figure/ground relationship.

Wolfgang Imo, in the chapter entitled 'Appositions in monologue, increments in dialogue? On appositions and apposition-like patterns in spoken German and their status as constructions', deals with patterns in conversation that, more or less, resemble what have traditionally been called appositions. He shows that in his non-monological data, not a single instance can be found of the classic, "wide scope" NP+NP apposition (as in I met John, my old friend, in London). Instead, interactional data feature a kind of pattern that resembles an apposition but that exhibits quite different properties, both in syntax and in function. Whereas in typical appositions the two NPs are juxtaposed, the second NP in the interactional pattern occurs at guite a distance from the first one. It may in fact be used after the so-called right verb brace, which is a strong signal for syntactic closure in German. In this respect, the second NP behaves more like a syntactic unit expansion or increment. As for its function, the "interactional" type of apposition is added 'on line' to respond to a real or potential problem of understanding and is thus used to re-focus, paraphrase or repair a previous utterance. The NPs in such "very wide scope" or "peripheral" appositions do not necessarily refer to persons; the latter is a typical feature of wide scope appositions in written and monologic discourse. In addition to a formal and a functional entry for characterizing constructions, at least a sequential entry is needed to capture this type of information. In order to determine the exact relation between these apposition-like patterns and other syntactic constructions in a constructional network, more empirical data are required about the actual use of related syntactic patterns in conversation.

In the final chapter, 'Constructions as resources in interaction: syntactically unintegrated *att* 'that'-clauses in spoken Swedish', **Camilla Wide** analyses instances of *insubordination* with the complementizer *att* 'that' in spoken Swedish (both Swedish Swedish and Finnish Swedish): these 'subordinate' clauses are syntactically unintegrated since they are used without a main clause. Wide focuses on the phenomenon of *discourse insubordination*, that has also been observed for independent complement clauses in German and Dutch. Rather than being licensed by the syntactic context, the use of such clauses is licensed by the interactional and pragmatic context. Wide distinguishes between two types: one with a rephrasing function and one with a reasoning function. In the first type, the speaker adds more specific information or makes the intended speech act, such as a question or a suggestion, more explicit. The second type equally relates to something said in the preceding discussion, but here the speaker expands the line of reasoning by expressing a consequence of what another speaker has said. The two types clearly fulfill different functions in interaction and they may have developed from a different source. However, whether or not they instantiate two different constructions in the sense of construction grammar depends on the weight

that is given to semantic/functional differences, as compared to formal differentiation. If the relationship to the prior context is itself regarded as a formal or form-related feature, it would be possible to treat the two types as different nodes in a constructional network since their 'external syntax' (Linell 2009) is different.

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