


REVIEW

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Holger Diessel, *The constructicon: Taxonomies and networks* (Elements in Construction Grammar). Cambridge: Cambridge University Press, 2023. Pp. vi + 93. ISBN 9781009327817.

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Holger Diessel's book constitutes an outstanding contribution to *Construction Grammar* (henceforth CxG), a linguistic theory that views language as consisting of form–meaning pairings. The book offers a thought-provoking introduction to the *constructicon*, prioritizing a multidimensional network analysis thereof developed from a usage-based model. Emphasis in the book is placed on the introduction of the five distinct types of associations that integrate constructions into a network, as well as on the network account of syntactic categories such as words, phrases and grammatical relations, all of which are shaped by domain-general cognitive processes and influenced by usage frequency. The multidimensional network perspective presents a critical challenge to the long-standing inheritance hierarchies, where constructions are often viewed as isolated in nature.

The book excels in numerous aspects. First, conciseness is the prominent feature regarding style. The discussion does not dwell on lengthy details, but focuses on the fundamental tenets and pivotal facts central in CxG. As such, the contents are organized in an accessible way. Second, the discussion is corroborated by much psychological evidence. This empirical foundation not only lends considerable credibility to the overall demonstration but also facilitates the account by contextualizing the theoretical component. Further, the discussion provides much commentary on the current state of research, delineating avenues for future inquiry into the nature of the constructicon.

The first two chapters provide a brief introduction to the development of research paradigms in CxG, emphasizing that the network approach evolved from the usage-based variety ('Introduction', pp. 1–2, 'From taxonomies to networks', pp. 2–15). On the one hand, the aforementioned emphasis in CxG resides with the analysis of various constructions, whereas the system that constructions integrate into, i.e. the *constructicon*, has not yet been sufficiently explored. On the other hand, the author advocates for the stance that the central tool of analysis in CxG should switch from taxonomic relations to networks. The formal variety emphasizes formal aspects of constructions. A central notion is taxonomic relations coined from computer science. In the taxonomic system, lower-level expressions inherit properties from higher-level

ones, forming matrices characterized by features. For instance, English relative clauses can be classified using taxonomic relations, according to finiteness and to the syntactic form of the nominal head. The inheritance relations can be classified into various types of links, e.g. instance links, polysemy links, etc. Although the inheritance hierarchy serves as a critical tool to understand language, Diessel argues that the inheritance model itself ignores a large part of the associations among constructions.

Diessel hence supports a more cognitive understanding of constructions, one contending that taxonomic relations are not the only relationships among constructions. This cognitive understanding of constructions is consistent with a usage-based CxG that values network science. It highlights the influence of domain-general processes prevalent in human cognition. The approach draws heavily on psychological studies, featuring the domain-general processes in human cognition and the influence of usage frequency. The principles underpinning the cognitive approach render it well-suited to analyze linguistic constructions as multidimensional networks. Constructions are linked together through different types of associations. These associations are influenced by domain-general properties, and include five relations: (1) taxonomic, (2) sequential, (3) symbolic, (4) filler–slot and (5) horizontal relations. In the third chapter, ‘Constructions as networks’ (pp. 15–35), Diessel characterizes these five associations central to the network.

Taxonomic associations relate abstract schemas to concrete lexical units. They differ from an inheritance model in that the taxonomic relation is bidirectional in nature. The connection from a lower level to a higher one is stimulated by abstraction or schematization, and the reverse (i.e. the connection from a higher level to a lower one) is stimulated by categorization. The abstraction process is of significance in research on language acquisition. Psychological studies reveal that children grasp the schema incrementally. Specifically, fixed expressions are learned at the earliest stage, then pivotal schemas with a relational expression fulfilled by fillers, and lastly fully schematic constructions. As for adults, it is argued that they obtain schemas mainly from constructional change and *constructionalization*.

Sequential relations are created by automatization and influenced by conceptual processes. Expressions are grouped together by an automated sequential connection. Investigations have empirically verified the presence of bidirectional automatization processes, whereby both forward and backward automatization mechanisms are observed. This process is subject to the influence of usage frequency. Studies have demonstrated that the strength of the sequential associations is amplified among constructions that exhibit higher rates of co-occurrence. Additionally, conceptual cognitive processes also exert a substantive influence on the strength of sequential associations, as the grouping of lexical units must be semantically licensed. Verbs, for example, often entail arguments as complements, and adjectives typically anticipate the subsequent appearance of nouns.

Symbolic relations integrate form and meaning. Both lexical items and constructions can have meanings, but these meanings arise from different conceptual processes. Word meaning derives primarily from world knowledge. Words not only evoke the activation of

mental concepts directly associated with the word, but also prompt a multitude of related concepts. Conversely, constructions constitute a more abstract level of representation building upon lexical components, offering guiding principles for the proper interpretation of particular lexical units. For example, many languages employ distinct markers to signal different kinds of relative clauses.

Filler–slot relations place lexical items into abstract schemas. Argument-structure constructions, for instance, are slots that select verbs and noun phrases as fillers. Semantic compatibility and usage frequency are the two determinant factors in this relation. The fusion of lexical items and constructions is expected to achieve semantic compatibility, as suggested by Goldberg's (1995) *Semantic Coherence Principle*. On the other hand, lexical items are biased in their combination with constructions. Some lexical items are more frequently associated with particular constructions than others, a phenomenon which in turn facilitates the processing of these frequently appearing pairs. Evidence from structure priming reveals that usage frequency in terms of filler–slot associations exacts different processing costs. Relative clauses in the passive voice are, for instance, more easily processed if the main verb they contain is such that it itself often occurs in the passive voice outside of relative clauses.

The last kind of association, the horizontal relation, arises among constructions of the same level of abstraction. For example, alternations in verb–particle and dative-shift constructions comprise horizontal relations. These relations constitute a central thematic focus discussed later in chapter 5.

In the fourth chapter, Diessel presents an original network account of syntactic categories, such as word classes, phrasal constituents and grammatical relations ('Syntactic categories as networks', pp. 35–57). Specifically, word class can be characterized by filler–slot relations, phrases by associative relations and syntactic functions by taxonomic relations. The network account of syntactic categories marks a radical shift from the traditional view of these categories. Instead of regarding syntactic categories as primitive concepts, the network account sees them as emergent concepts derived from language use.

Usage-based linguists view word classes like nouns, verbs and adjectives as concepts emergent from the interconnectedness of lexemes and constructions. Nouns, verbs and adjectives are licensed by the N-schema, the V-schema and the A-schema, respectively. These schemas exhibit distinctions in relation to the functions of speech acts and their construal. For the speech act functions, N-schemas designate an act of reference, V-schemas denote an act of predication and A-schemas specify an act of predication for predicative adjectives and an act of modification for attributive adjectives. Langacker (1991) assumes that these three schemas lead to distinct construals, that is, to distinct types of the cognitive structuring of information. N-schemas interpret lexemes as interconnected entities that are atemporal and nonrelational, V-schemas interpret lexemes as processes that are temporal and relational, and A-schemas perceive lexemes as properties that are atemporal and relational. The pairing of lexical items with schemas is contingent upon lexical meaning and usage frequency. Lexical expressions filling the slot of the three schemas are semantically aligned with the schema. Usage frequency explains

the idiosyncrasies and cross-category distribution that cannot be solely predicted based on the lexical meanings themselves.

Diessel discusses four factors that affect phrasal constituents: relational terms, automatization, analogy and grammaticalization. A relational expression can be both head and dependent. For instance, verbs are relational terms that are heads over their complements, while adjectives are relational elements that require nouns as heads. The impact of automatization is substantiated by the prevalence of idiosyncratic phrases, various degrees of cohesion within phrases and collocations that do not align with canonical syntactic phrases. Analogy and grammaticalization are primary factors driving the word order of phrases. The former governs the ordering correlation of compound phrases, while the latter licenses grammatical phrases such as auxiliaries, adpositions and adverbial subordinators.

Diessel analyzes grammatical relations as comprising taxonomic associations. The semantic encoding of grammatical relations, i.e. semantic roles and topicality, are likely to be universal across languages. To illustrate, expressions that rank higher in terms of semantic role and topic scale are likely to be realized as grammatical subjects. However, the formal plane of the grammatical relation such as word order, case marking and agreement patterns exhibits cross-linguistic and cross-construction heterogeneity. In view of this, Croft (2001) suggests that syntactic functions arise from constructions, challenging the traditional view that syntactic functions are primitive units. To accommodate this, syntactic functions can be encoded by taxonomic networks that subsume analogous types of participants instantiated across divergent argument-structure constructions.

The fifth chapter underscores the central assertion that horizontal relations constitute integral components of constructional associations ('The global network: Paradigms, families, and neighborhoods', pp. 57–75). The author introduces two subcategories of horizontal relation: grammatical paradigms and construction families. The former is motivated by construction contrast, characterized by a complementary relational nature manifest across both morphological and syntactic representations. Morphological paradigms are prevalent in languages with rich inflections. For example, noun inflection revolves around a basic stem relating to other forms that include inflectional affixes. Together, the stem and the inflectional affixes constitute a network containing a slot for a content word. The complementary feature of paradigms is also evident in syntactic structures. Sentences with basic patterns and syntactically marked sentences form a network with contrastive relations. For example, negation and interrogatives often entail extra morphemes across languages compared to declarative clauses, which is indicative of their linguistically marked status. To summarize, linguistically marked lexical items or syntactic structures are natural complements of zero-coded ones. Evidence from psycholinguistic experiments reveals that the linguistic productivity of participants comes from the recognition of structures that complement each other.

Diessel presents two subtypes of construction similarity, *family* and *neighborhood*. These two concepts both involve expressions that share similarities in form or meaning, but they diverge with respect to their taxonomic relations. A construction

family involves constructions that are classified as subtypes of the same schema, whereas a construction neighborhood depicts similar constructions of a different schema. For example, English verb–particle constructions can be viewed as a construction family that contains transitive and intransitive verbs. Transitive verb–particle constructions can be classified further depending on whether the particle precedes or follows the object NP. Each construction is related to different construction neighbors. The intransitive verb–particle construction resembles constructions that consist of an unaccusative verb paired with a directional adverb or resultative adjective (e.g. *He went outside*). The transitive verb–particle construction, in which the NP follows the particle, is similar to the construction with a transitive verb plus a prepositional phrase (e.g. *He jumped off the building*). The transitive verb–particle construction, in which the NP precedes the particle, can be similar to the time-away construction (e.g. *He slept the afternoon away*). Diessel emphasizes that similarity and contrast do not serve as clear-cut indicators, but represent both ends of a spectrum with continuous degrees of variation.

To underpin the theoretical credibility of construction family and construction neighborhood, Diessel points to several experimental sources featuring structure priming, L1 acquisition and constructional change. Structure priming is not confined to sentences of the same structure. Experimental results show that a locative *by*-phrase can facilitate the processing of an agentive *by*-phrase. L1 acquisition is also observed to be influenced by construction families and neighborhoods. For instance, German stative passive and copular clauses both contain *sein* ‘be’. Children’s prior knowledge on copular clauses can promote the acquisition of the stative passive construction. Lastly, construction neighborhood is arguably a driving force behind constructional change. Evidence comes from the emergence of OV word order in subject relative clauses in Middle English.

Throughout the book, Diessel contrasts the tenets distinguishing CxG from phrase structure grammar. But it is noteworthy to point out the crucial fact that *Dependency Grammar* (DG) can readily translate into CxG. Syntactic units in the form of DG dependencies are arguably more suitable than phrase structure nodes in instantiating constructions in CxG. On the one hand, head-dependent relations in DG are manifest as word–word dependencies rather than in terms of phrasal nodes (Hudson 2007: 156, 165–7; Osborne & Groß 2012). Constructions that pose challenges to constituency-based syntax such as idioms, ellipsis and discontinuities can be addressed in terms of DG dependencies by acknowledging *catenae* (Osborne & Groß 2012). Further, a network model is also acknowledged in DG. An example is the conceptual network system comprising atomic nodes connected by directional links in *Word Grammar* (WG). In this system, links are of different types, including primitive relations that instantiate inheritance hierarchies such as *Isa*, *Argument*, *Value*, *Quantity* and *Identity*, as well as associative relations characterized by dependency types.

To sum up, Diessel’s book is an up-to-date account of how constructions are organized into dynamic networks, in which nodes stand for various linguistic elements such as morphemes, words, phrases and more complex constructions

connected by different types of associations. Diessel demonstrates how the usage-based account can seamlessly accommodate findings from cognitive linguistics and psycholinguistics, with particular emphasis on the influence of usage frequency. The book provides clear arguments with concrete linguistic examples, rendering the content easily accessible. It is informative for both novices who aim to acquire a general overview of CxG and scholars who long to familiarize themselves with the latest developments of the network model of the construction.

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