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29.1 Introduction

The term ‘cognitive linguistics’ can be understood in different ways. On a broad understanding, any approach which sees language as primarily a mental phenomenon, located in the minds of its speakers, can be described as cognitive. Even linguists who focus on the formal properties of language, or on its use in social and interactive contexts, must acknowledge that these properties derive ultimately from the behaviour of individual speakers, which in turn is a function of their cognitive processes and mental representations. Nowadays, it seems reasonable to say, most linguists are cognitive, on this broad understanding.

For the purpose of this chapter, however, cognitive linguistics is understood in a narrower and more specialized sense. The term refers to a movement which had its origins in the United States in the final decades of the last century and which arose largely as a reaction to certain trends in the theory prevailing at the time, namely Chomsky’s transformational-generative grammar (see Chapter 28). An important date is 1987, the year which saw the publication of Lakoff’s Women, Fire, and Dangerous Things and the first volume of Langacker’s Foundations of Cognitive Grammar; the impact of these two works will be discussed below (§29.3). A number of other scholars also provided input to the new movement; key names are Charles Fillmore (for his work on frame semantics, Fillmore 2006), Leonard Talmy (noted for his studies in conceptual semantics; these are assembled in Talmy 2000), and Gilles Fauconnier (who explored the processes of ‘meaning construction’ by way of mental spaces and, subsequently, conceptual blending: Fauconnier 1994; Fauconnier and Turner 2002).

Institutionally, cognitive linguistics may be said to have come of age in 1991, a year which saw the first international conference of cognitive linguistics, hosted by René Dirven at the University of Duisburg. The conference was the occasion for the founding of the International Cognitive Linguistics Association (ICLA), whose biennial meetings continue to this day, and also for the launch of the journal Cognitive Linguistics, still the major organ for publications in the field. Since then, the movement gradually gained adherents worldwide, along with a broadening of its theoretical scope and descriptive range. While in its early years, cognitive linguists tended to emphasize their polemical opposition to dominant
Chomskyan approaches to linguistic analysis, subsequent years saw a certain degree of convergence, and even dialogue, with scholars working in other traditions, such as functionalism, corpus studies, psycholinguistics, historical linguistics, and language acquisition (both first and second). Indeed, cognitive linguistics can itself be said to have now entered the mainstream, and its concerns and research agendas are shared rather broadly with a wide range of linguistic researchers.

This chapter addresses the nature and scope of cognitive linguistics from various perspectives. First, we consider some basic philosophical assumptions and their implications for the research themes of cognitive linguistics. Then we outline the contribution of the two most important of the movement’s founding figures, Lakoff and Langacker. The chapter concludes with a discussion of some recent trends, with a focus on constructions and the impact of corpus-based studies on cognitive linguistic research.

29.2 Philosophical stance

It should be stated at the outset that cognitive linguistics does not constitute a unified, integrated theory of language but rather subsumes a cluster of approaches related by a number of general assumptions and shared research interests.

In view of its origins, it is not surprising that throughout much of its early history there was a polemical aspect to cognitive linguistics, in that it tended to define itself in opposition to the themes, assumptions and research agendas of Chomskyan approaches. The polemics may be characterized in terms of the unashamedly empiricist stance of cognitive linguistics versus the predominantly rationalist approach of Chomsky and his school. In keeping with the empiricist stance, cognitive linguists have been sceptical of the notion that language constitutes an autonomous module of the mind, encapsulated from other mental abilities; that acquisition proceeds in accordance with a genetically inherited blueprint; and that the overall architecture of a language is predetermined by the parameters of Universal Grammar. Rather, the emphasis has been on the embeddedness of linguistic knowledge in general cognitive abilities, on the role of input, socialization and general learning mechanisms in acquisition, and on language structure as emerging from its use in communicative contexts.

Here we review some manifestations of the empiricist stance, and their impact on cognitive linguistic research.

29.2.1 Rejection of modularity and the autonomy of language

According to the modularity hypothesis (Fodor 1983), the properties of human language(s) are a function of a specialized module of the mind. Although linguistic knowledge must evidently interface with other cognitive abilities – such as social cognition, rational thinking and general world knowledge – language is taken to be in its essential structure autonomous of other cognitive abilities. In contrast, cognitive linguists work on the assumption that linguistic knowledge is embedded in more general cognitive abilities, such as perception, attention, memory, categorization, abstraction, automatization, creativity, theory of mind, symbolic thought, etc. A recent focus of interest has been embodiment – the thesis that human cognition (and hence language abilities) is intimately reliant on the nature of our bodies and their interaction with the physical environment. Consistent with this philosophical stance, a major endeavour of cognitive linguistics has been to examine linguistic phenomena in light of these more general cognitive properties. These aspects of the cognitive linguistic
enterprise are extensively covered in the collected volumes by Geeraerts (2006), Geeraerts and Cuyckens (2007) and Littlemore and Taylor (2014).

29.2.2 Rejection of the autonomy of syntax hypothesis

A specific claim of the modularity hypothesis concerns the components of linguistic knowledge itself. In particular, syntax is taken to be autonomous of other levels of linguistic structure, such as word-formation and phonology, as well as semantics and pragmatics, in the sense that the syntax operates over elements (such as lexical categories) and relations (such as clausal subject) unique to this level. (Another feature of the Chomskyan approach is that the syntax itself is understood as comprising a number of distinct, interacting principles, such as the binding principle, the X-bar principle, and so on.) While some scholars concede that syntactic organization may well be motivated at its edges by semantic, pragmatic, and functional considerations, it is taken as axiomatic within the Chomskyan approach that ‘core’ syntactic phenomena – phrase structure, binding, control, etc. – cannot be reduced to elements on other levels; they must, in other words, be described in uniquely syntactic terms.

Cognitive linguists have rejected this approach, seeking, rather, to understand syntax with reference to semantic/pragmatic (and even, phonological) aspects. There is now a considerable body of cognitive linguistic research on this topic. An early study, and harbinger of future developments, was Langacker’s (1982) analysis of the English passive, whose properties he related to the semantics of its component elements, such as the verb be, the participle, and the by-phrase. Another important landmark was Langacker’s proposal that major lexical categories, such as noun and verb, and their subcategories of count and mass (in the case of nouns), stative and dynamic (in the case of verbs), can each be satisfactorily and insightfully explained in semantic (or, more precisely, in Langacker’s terminology, symbolic) terms; other elements of syntactic structure, such as complement and modifier, nominal case, and relations such as subject, object, and indirect object, were also characterized in semantic/conceptual terms (Langacker 1987). Subsequent research by Langacker and others has tackled supposedly core elements of autonomous syntax, such as raising and control, anaphora and binding, and long-distance dependencies.

29.2.3 Motivation

The cognitive linguistic position on syntax is sometimes (erroneously) taken to mean that syntactic organization can be fully ‘read off’ from semantic representations (in association, possibly, with functional considerations). Such an approach can scarcely be defended, if only because of the enormous diversity in syntactic organization in the languages of the world (and even variation amongst dialects of the same language) and the absence of independent means for establishing the corresponding diversity in semantic representations. Nevertheless, this straw man would appear to be at the heart of Jackendoff’s (2010: 224) reluctance to align himself with the cognitive linguistic movement, in spite of his sympathy with many cognitive linguistic developments, such as the treatment of constructions. In truth, the focus of cognitive linguists has been to take a somewhat weaker position and to emphasize the semantic, pragmatic, discourse, etc. motivation of linguistic structure. One may not be able to predict (e.g. from semantic considerations) that structure X will be the norm in a language. However, given that X is indeed the norm in language Y, reasons for this can be sought, admittedly post hoc, in well-established facts about cognition, social
interaction and discourse structure; important, also, may be other facts about language Y, such as the semantic values of the component elements of the structure in question and parallelisms between the structure and other, similar structures in the language. It is true that motivation can only deliver a partial post hoc explanation for linguistic facts and that other outcomes may be equally plausible. On the other hand, appeal to motivation serves to reduce the perceived arbitrariness of linguistic facts (Panther and Radden 2011), thereby enhancing their learnability and their durability in a language.

Consider, as an example, the status of English nouns as count or mass, and, in the latter case, as invariably singular or invariably plural (the so-called pluralia tantum). As mentioned, cognitive linguists would be keen to emphasize the semantic-conceptual basis to these categories. At the same time, we are faced with considerable cross-linguistic diversity with the respect to the status of nouns along these parameters, thus rendering implausible the possibility of a direct mapping from meaning to form. Why, for example, should *information* be a singular mass noun in English, while its translation equivalent in many other European languages is a count noun? Or why should *shorts* — the clothing item — be plural mass? Nevertheless, within a given language, a certain logic can be discerned, rendering the situation far from arbitrary (Taylor 2002). Moreover, the status of a given noun is rarely fixed; in appropriate contexts, it can assume different statuses in accordance with the logic exploited within the language in question.

### 29.2.4 The core and the periphery

Even die-hard generativists concede that a significant range of linguistic phenomena cannot be brought under high-level generalizations; these, perforce, lie outside the scope of Universal Grammar. At issue are ‘peripheral’ constructions and all manner of idiomatic phraseologies, as well as the properties (semantic, phonological, distributional, etc.) of individual lexical items. It is true that some linguists nurtured in the generativist tradition have made insightful studies of these kinds of data; notable is Jackendoff’s interest in unusual, ‘oddball’ constructions (many of his studies are assembled in Jackendoff 2010). In the main, however, Chomskyan linguists have been concerned with what they regard as the elements of core syntax and their determination by the setting of the parameters of Universal Grammar.

Interest in the periphery has become, to some extent, a hallmark of the cognitive linguistic enterprise, and for good reason, given its empirical stance. Peripheral phenomena, almost by definition, cannot be explained by universal principles and must, therefore, be learned by exposure to actual data. Notable, for example, has been the interest in lexical items, their polysemy and their use in idiomatic phrases, as well as their historical development (here we touch on another input to the cognitive linguistics movement, namely, the predominantly European tradition of historical lexicography; see Geeraerts 2010). Prepositions (and prepositional particles) have been a favourite topic, an important trigger being Claudia Brugman’s thesis on the word *over*, whose main elements are presented in Lakoff (1987: Case Study 2). There is now a veritable cottage industry devoted to the word *over* (and its equivalents in other languages); see Taylor (2012: 233–8) for details. Indeed, for a number of decades, the Brugman/Lakoff study served as a model for polysemy studies more generally.

A second manifestation of interest in the periphery has been the rise of construction grammar, an approach which had its origins in the examination of idiomatic and oddball expressions, and which was subsequently broadened to embrace even core syntactic phenomena (see below §29.4).
29.2.5 Surface orientation

For Langacker, the only objects of linguistic study are actually occurring contextually-bound utterances and generalizations over these. The so-called ‘content requirement’ (Langacker 1987: 53–4) thus rules out in principle, as elements of linguistic description, ‘invisible’ (and inaudible) objects such as PRO, pro, traces and gaps; also rejected is the idea of ‘underlying’ structures that can be ‘transformed’, or whose constituents can be ‘moved’ or ‘deleted’. A focus on ‘the surface’ is by no means unique to cognitive linguistics, of course; it is a feature of many contemporary approaches, including, even, some latter-day versions of generative grammar.

There is, however, a second aspect to the surface orientation of cognitive linguistic research. It is not denied that speakers make generalizations over encountered utterances. It is in virtue of these generalizations (‘schemas’, in Langacker’s terminology) that speakers are able to extend beyond the reproduction of already encountered expressions. A crucial question, however, is the content of these generalizations, in particular, their degree of abstraction vis-à-vis their instances. A hallmark of much linguistic theorizing has been the search for high-level generalizations about language structure and syntactic organization. On the whole, linguists have tended to seek high-level generalizations – the higher the better – covering, if not all of a language, then at least as wide a range of phenomena as possible. For many, ‘doing linguistics’ consists, precisely, in the quest for such generalizations. In contrast, a notable feature of cognitive linguistics has been the realization that proficiency in a language may reside, not so much in the knowledge of a small number of very broad generalizations, but in the knowledge of a host of rather specific facts, comprising memories of specific utterances alongside relatively low-level generalizations, not too far removed from surface phenomena.

A further aspect concerns the relation between generalizations, whatever their degree of abstraction, and the data which they are supposed to capture. The standard approach seeks to maximize economy of mental storage; accordingly, knowledge of a rule expunges the need to store examples of the rule’s applications (and on whose basis, presumably, the rule was abstracted in the first place). If you know how to form a passive clause, or a prepositional phrase, you do not need to store instances of passives or prepositional phrases, since these can be generated by application of the relevant rules. Langacker (1987: 29) addresses the issue in terms of what he calls the ‘rule/list fallacy’. He suggests that perfectly regular expressions (in terms of the rules which they exemplify) may well coexist in the speaker’s mental grammar alongside the generalizations themselves. Furthermore, high-level generalizations may well coexist with a plethora of shallower generalizations. A characteristic of the mental grammar, therefore, is that it potentially incorporates a high degree of redundancy. There is much empirical evidence pointing to just such a state of affairs. For example, high frequency phrases, such as I like it, elicit shorter response latencies that less frequent examples of the same structure, such as I keep it, suggesting that the former is indeed stored in memory as such; for a review of the relevant evidence, see Taylor (2012: 127–33).

29.2.6 Acquisition

In line with the view that language structure is likely to be grounded in general cognitive abilities, cognitive linguists have looked beyond the possible role of a genetic blueprint in language acquisition, and have explored the thesis that languages are acquired from exposure to situationally embedded utterances, in interaction, to be sure, with general learning abilities
and processes of socialization (including, crucially, a child’s ability to read the intentions of others). The approach is encapsulated in the slogan that cognitive linguistics is a ‘usage-based’ model of grammar (Langacker 1987: 46). The usage-basis of acquisition has been a dominant theme of Michael Tomasello’s research. An important finding is that child learners tend not to go too far beyond what they have learned from input, indeed, that much child language production consists in the cutting and pasting of pre-learned chunks – that, in brief, the creativity of child language is very much constrained by previous exposure. A well-known case study concerns the learning of the English passive. One might imagine that once the learner has hit on the rule for the formation of a passive clause, she will be able immediately to apply the rule to all eligible (that is, transitive) verbs. This, it seems, is not how it happens. Rather, the passive is acquired verb-by-verb, each use of the passive having the status of an idiomatic ‘constructional island’ (Tomasello 2003: 121), and it is only when a critical mass of such ‘islands’ have been learned that the relevant generalizations emerge.

29.2.7 The encyclopaedia versus the dictionary

A notable feature of cognitive linguistics has been its focus on semantic matters. This should not be too surprising, given the interest in lexical items and their polysemy. Syntactic structures have also been approached with a view to elucidating the meanings which they symbolize. These meanings may, in many cases, be somewhat schematic, or skeletal, in that they need to be filled out with the semantic content provided by the constituent words. The approach is, however, consistent with the view that syntactic organization is inherently meaningful.

Cognitive linguists have always taken a rather broad perspective on the nature of linguistic meaning. It has to do, namely, with the ways in which a speaker conceptualizes a given situation, and incorporates such aspects of viewpoint, focusing, figure–ground alignment and contextual grounding. Meaning, in cognitive linguistics, therefore goes well beyond matters of reference and truth conditions. It is taken as axiomatic that the meaning associated with linguistic forms is broadly encyclopaedic in scope, encompassing (potentially) any aspects of knowledge that might be associated with a linguistic form. To be sure, some aspects might be more entrenched, or more central than others. Nevertheless, it is generally acknowledged that practically any facet of an expression’s contextual use may be taken up and conventionalized in usage. The study of historical change is replete with many examples of just this process (Geeraerts 2010).

The approach contrasts markedly with the syntacto-centrism of Chomskyan linguistics, in which lexical items have been studied primarily, or even exclusively, with regard to their syntactic properties, specifically, their availability to occur in phrase-structure configurations; the focus, in other words, has been largely on such matters as a word’s membership in one of a small number of lexical categories, its subcategorization frames, and its theta-role assignment. While walk, run, jog and lope designate different kinds of activities, from a syntactic point of view the four verbs can be regarded as roughly equivalent; all are manner of motion verbs and share much the same syntactic distribution, all take as their subject the moving entity and accept a complement designating the place or goal of the movement. The specific details of the manner of motion can therefore be relegated to the encyclopaedia (the repository of nonlinguistic knowledge), while the dictionary (a component of strictly linguistic knowledge) records only the syntactically relevant facts. Cognitive linguists, on the other hand, would be drawn to the fact that run has given rise to a much more extensive network of idiomatic and metaphorical uses than the other verbs; moreover, the individual
senses of *run* turn out to be associated with distinctive lexico-syntactic contexts (Gries 2006). An exclusion of encyclopaedic aspects of word meaning thus results not only in an impoverished account of semantics, it also ignores the subtle interplay of words and their preferred contexts of occurrence.

### 29.2.8 Background cognition

As mentioned above, cognitive linguists have been sceptical of underlying structures and of transformations which convert deep syntactic representations into surface forms. But while syntactic organization is taken to be fully transparent, it has become increasingly apparent that semantic structure is considerably more complex than that which is symbolized by elements of surface structure. There is, namely, a great deal of ‘background cognition’ going on in the understanding of even the simplest utterances. Attempts to elucidate these processes have constituted some of the more exciting and hotly debated developments in cognitive linguistics. Mention might be made, for example, of Fauconnier and Turner’s (2002) work on conceptual blending, the process whereby elements of two or more conceptual structures are creatively combined into a new emergent structure. Blending has been applied to studies of metaphor and of narrative, and, indeed, to many aspects of nonlinguistic cognition. Other important topics include Talmy’s notion of force dynamics, and Langacker’s work on reference points and subjectification. Force dynamics (Talmy 2000) develops the intuition that interactions can be seen in terms of the relative strength and inherent dynamics of interacting entities; it has been applied, pre-eminently, to the study of causing, letting and preventing, and to expressions of modality (Sweetser 1990). The reference point notion (Langacker 1991: 170) was initially applied to possessive expressions (where the possessor is taken as a reference point for providing mental access to the possessed), but has subsequently been extended to such diverse areas as metonymy, topicalization, complementation patterns, and the ‘double subject’ constructions of Japanese and Korean. Subjectification (Langacker 1991, 2008) concerns the relation between the conceptualizer and the conceptualized, that is, between the speaker and her circumstances (the ‘ground’) and the overt content of an expression; it has ramifications for tense and modality, for epistemic stance, and is an important factor in lexico-semantic change.

### 29.3 Founding figures: Lakoff and Langacker

A crucial year in the history of cognitive linguistics was 1987, the year which saw the publication of Lakoff’s *Women, Fire, and Dangerous Things* and the first volume of Langacker’s *Foundations of Cognitive Grammar*. Both Lakoff and Langacker started their careers as adherents of the newly emerging Chomskyan approach, and both became disenchanted with its focus on formal aspects of grammatical structure and for its relative neglect of semantic issues. After briefly flirting with the generative semantics movement, both went on to develop their own approaches to linguistic analysis.

#### 29.3.1 George Lakoff

The dominant theme of Lakoff’s volume is a rejection of ‘objectivist’, or truth conditional approaches to semantics. According to the latter, a sentence is true if it corresponds to some verifiable state of affairs in the world. Lakoff, on the contrary, pursued the view that
the relation between language and the world is mediated by how humans categorize and conceptualize their environment. Thus, the categories that humans operate with are not defined by a set of objectively verifiable necessary and sufficient features, but rather are centred on a ‘prototype’, or best example, often understood in the context of frames, or idealized cognitive models (ICMs) of the world, how it is structured, and how it functions. An often quoted example is that of bachelor, defined, not simply in terms of the necessary features human, adult, male, unmarried – each of which, it might be noted, are far from being the universal semantic primitives assumed by formal semantics – but also against a set of assumptions pertaining to expected marriage practices in a society. The fact that some individuals, such as Catholic priests or Tarzan, are not good examples of the category is due to the fact that their circumstances do not fit the ICM against which bachelor is defined.

Lakoff extended the notion of prototype category to the study of lexical polysemy (cf. Taylor 2003). The various senses of a word do not have to share a common meaning core; more usually, they cluster around a central, prototypical sense, to which they are related, directly or indirectly. The premier example of a radial category (in addition to the one hinted at in the title of Lakoff’s 1987 volume, which refers to the members of a noun class in the Australian language Dyrbal), is the polysemy of the word over. The basic sense is taken to involve ‘above’ and ‘across’, as in The bird flew over the garden. Extended senses, related in virtue of some common shared features, include the static ‘above’ sense, as in the helicopter is hovering over the hill, the ‘across’ sense (without vertical separation), as in Sam drove over the bridge, the ‘covering’ sense, as in She spread the tablecloth over the table, the dispersal sense, as in The guards were posted all over the hill, and several more.

Lakoff went further, and proposed that syntactic phenomena may also cluster in a radial category structure, an outstanding example being his analysis of the couple of dozen uses of deictic/presentational there (1987: Case Study 3). The idea of constructional polysemy was taken up by Adele Goldberg (1995). In addressing the ditransitive construction in English, for example, she identified as prototype a situation of successful and immediate transfer (give the dog a bone). Deviations from the prototype may involve merely intended transfer (I mailed him a parcel, but he didn’t receive it), future intended transfer (I bequeath you my estate), as well as instances of metaphorical transfer (tell someone a story) and denial of transfer (refuse someone access). Somewhat further away from the prototype are ‘light-verb’ expressions (give the door a kick, do me a favour), as well as some outlier expressions (forgive us our sins).

Lakoff is perhaps best known for his work on metaphor. Again, the underlying theme is the role of conceptualization in linguistic semantics. The thesis, presented in Lakoff and Johnson (1980) and elsewhere, is that metaphor is not just a matter of language. To speak of one thing using words appropriate for something else – as when intellectual arguments are spoken of as if they were buildings (you construct, or demolish an argument), or when life is spoken of as if it were a journey (we’ve lost our way), or when time is spoken of as if it were a spatial dimension (the near future, the distant past) – points to the fact that the one domain of experience (the target domain) is conceptualized in terms of the source domain. Time really is understood in terms of spatial parameters; life really is conceived of as a journey; and so on.

While the ubiquity of metaphor (and its step-sister, metonymy) in language is now widely accepted, Lakoff’s original proposals have been subject to considerable elaboration and modification, partly in response to critical evaluations and nuanced with the advent of
corpus- and discourse-based studies. Crucially, though, the basic thesis has been upheld by a large number of psycholinguistic studies (Gibbs 2014). An important development has been the claim that foundational metaphors are ‘embodied’, in the sense that they may ultimately be grounded in bodily experience, giving rise, for example, to the (probably universal) positive associations of ‘up’ with health, life and well-being, and conversely negative associations with ‘down’.

29.3.2 Ronald Langacker

Langacker’s contribution to the cognitive linguistic enterprise is different in character. Rejecting the apparatus of transformational-generative grammar, Langacker set about building a linguistic theory – Cognitive Grammar – on simple, clear principles. He opens Foundations by endorsing Saussure’s conception of the linguistic sign, namely as the association of an ‘acoustic image’ (a phonological representation, in Langacker’s terminology) with a ‘concept’ (or semantic representation) (1987: 11). In fact, for Langacker, there are only three objects of study in language: (1) language in its perceptible form; (2) meaning, understood very generally to incorporate construal, encyclopaedic aspects, discourse aspects, and so on; and (3) symbolic relations between (1) and (2). Langacker makes the bold claim that all of language structure – not only the individual words and morphemes, but all aspects of syntax and morphology – can be adequately and insightfully described in these terms.

In order to implement this ‘minimalist’ approach, a number of additional constructs are needed. These are: (1) the schema/instance relation; (2) the part/whole relation; and (3) the similarity relation. A schema abstracts what is common to its instances; conversely, the instances elaborate the schema in different, often contrasting ways. The part–whole relation refers to the fact that structures may be broken down into their component parts; conversely, that smaller units can be assembled into larger configurations, in accordance with existing schemas. The schema/instance and the part/whole relations are recursive; A may be an instance of B, which in turn is an instance of C, etc. The relations are also interdependent. The very possibility of analysing a complex structure into its parts is conditional upon the analysis conforming with a pre-existing schema. This is where the third relation comes into play, in that similarity (or, more accurately, speakers’ subjective perception of similarity) plays a crucial role in the emergence of schemas. The fact that A and B come to be regarded as instances of C rests on the prior recognition that A and B are similar in some respect(s). Moreover, the similarity between A and B may be perceived to be similar to the way in which D and E are similar. The commonality between the two cases may give rise to a higher order schema. To give an example from morphophonology: the perceived similarity between word pairs such as urbane/urbanity, insane/insanity, profane/profanity may give rise to a schema representing the alternating phonological forms. An even higher order schema may emerge to capture the similarity between these pairs and pairs like obscene/obscenity, serene/serenity.

As an illustration of how all this works, consider the expression can-opener. (Only a very partial explication is possible here.) We can identify component parts, namely can, open and –er, largely because these units occur elsewhere in the language, with roughly comparable semantic properties. The component unit can is an instance of the more schematic unit Noun, the whole expression being an instance of the complex schematic unit [N V–er], this itself being an instance of Noun, with its associated semantics (roughly: ‘a device that can be used for V–ing Ns’). The schematic unit can sanction an open-ended set of instantiations;
in this way, Cognitive Grammar is able to handle syntactic and morphological generalizations. It should also be noted that the unit has other semantic values (think of examples such as dog-lover, which denotes a person, not a thing, and city-dweller, where the initial noun designates the place where a person dwells); in other words, the unit is polysemous, just like the words of a language.

On the Cognitive Grammar view, a language thus comes to be seen as a vast and complex network of relations amongst linguistic units (phonological, semantic and symbolic). Any usage event involves accessing the network and activating the relevant relations, while acquisition is a matter of a speaker gradually building up the network structure and becoming proficient in its use.

29.4 Constructions

For many syntacticians, constructions are epiphenomena; they are the outcome of general syntactic principles and their interaction and possess no particular ontological status in themselves. For cognitive linguists, in contrast, constructions have come to be regarded as the fundamental unit of linguistic description, and the point of access of learners into the linguistic system (Croft 2001; Tomasello 2003).

There is, to be sure, some variation in how the notion of construction is understood (Taylor 2012: 124–7). What is probably the dominant view corresponds with Langacker’s notion of an internally complex symbolic unit, in which a formal specification is paired with a (schematic) semantic value; some scholars further stipulate that at least some aspects of the form–meaning pairing should not be predictable from other constructions in the language (though this restriction has now largely been abandoned, thus making it possible to assign constructional status to perfectly regular configurations, provided that they have become sufficiently entrenched through usage). Other approaches regard a construction as any stable association of a form with a meaning (thus, a monomorphemic word such as dog, or a bound morpheme like –er, are regarded as constructions). Others, yet again, take a construction to be any internally complex unit; thus, syllables, and patterns of syllable structure, can be regarded as phonological constructions.

A number of themes in cognitive linguistics have converged on the notion of construction, thereby putting the construct in centre stage. These include the long-standing interest in idioms, phraseologies and (syntactically) peripheral expressions; an enduring interest in the semantic value of syntactic configurations; the recognition of the role of usage frequency in the establishment and entrenchment of linguistic knowledge; along with a general aversion to deep structures and to the thesis of autonomous syntax.

A landmark paper was Fillmore et al. (1988). Although the body of the paper focused on the semantics and pragmatics of the phrase let alone, its lengthy preamble surveyed a wide range of constructional idioms, that is, patterns (of varying degrees of productivity and schematicity) for the formation of expressions, but whose syntactic, semantic, pragmatic and even phonological properties cannot be derived from general principles, whether universal or language-specific. Their examples range from the ‘cousin idiom’ (nth cousin x-times removed) and the ‘correlative comparison construction’ (the X-er the Y-er) to the ‘incredulity response construction’ (exemplified by Him be a doctor?). A follow-up paper (Kay and Fillmore 1999) addressed the so-called WXDY construction, exemplified by What are you doing, lying on the floor? This expression does not enquire into what the addressee is doing (the utterance itself provides that information); rather, the construction is used to express the speaker’s surprise at such a situation, and requests an explanation.
The significance of these studies is threefold. First, the constructions in question are productive, in the sense that they contain slots which can be filled by a range of items with the appropriate semantic/syntactic properties; since, in some cases, the set of possible fillers is quite large, the constructions have considerable generative power. The second point of significance is the idiomatic status of the constructions. They are idiomatic in the sense that their properties cannot be fully predicted from other facts about the language (nor, indeed, from general facts about the human language faculty). Their properties therefore have to be learned on the basis of exposure. This leads to the third point. If language users are able, on the basis of exposure, to learn the idiosyncratic properties of constructional idioms (which they clearly are), then precisely the same learning mechanisms will be able to guarantee acquisition of ‘core’ linguistic phenomena, the more so since core constructions are, if anything, more easily learnable, since they are subject to many fewer idiosyncratic and language-specific constraints. Indeed, the logical outcome is to deny any qualitative difference between peripheral and core constructions; any differences that may exist are merely a matter of degree of productivity, of descriptive scope and of frequency of occurrence in the language. It is also worth noting that the range of oddball constructions in a language (indeed, the scope of the idiomatic more generally) is truly massive. If anything, it is the highly abstract, ‘regular’ constructions in a language which constitute the exception. It is therefore not surprising that a constructionist account is now commonly proposed for all syntactic phenomena, even for very general phrase-structure configurations such as transitive clause, ditransitive clause and so on. As a matter of fact, on closer examination, even these very general phrase-structure configurations also turn out to be ‘idiomatic’, in the sense that their specific properties (such as the set of verbs which are eligible to occur in them, and the range of meanings that can be associated with them) turn out to be language-specific, and thus have to learned; in this respect, they are no different from more obviously idiomatic expressions.

On a constructionist account, acceptability (or grammaticality: cognitive linguists see little reason for differentiating between the two concepts) is a matter of an expression’s conformity with a constructional schema or, more commonly, a number of constructional schemas; thus, the various components of a transitive clause, such as its subject noun phrase and its adverbial modifiers (if present) also need to be sanctioned by the appropriate schemas. Importantly, minor deviations from a construction’s specifications may be tolerated; this is in keeping with the prototype view of linguistic categories and is in fact a major driver of syntactic change. For example, it is no longer a requirement of the prenominal possessive construction (the man’s hat) that the possessor nominal be human; inanimates and abstracts are increasingly found in this function.

29.5 Corpus-based studies

Langacker has stated that cognitive grammar is a usage-based theory of language. There are several ways in which this claim can be understood. The first we have already mentioned: language is acquired through exposure to instances of its use and through the abstraction of generalizations over usage instances; it is not driven by the setting of parameters of a supposedly universal grammar. What is grammatical in a language is determined by conformity with schemas and patterns extracted from previous usage, not by reference to abstract innate principles.

A second understanding is with reference to fluency and ease of processing. Through repeated use, a structure becomes entrenched, or automated. It can be stored and accessed as
a whole; it need not be subjected to internal analysis for its comprehension and does not have to be assembled from its parts in its production. Entrenchment thereby promotes fluency on the part of the speaker and facilitates comprehension on the part of the listener. The occurrence of entrenched structures in a text thus contributes significantly to its ‘idiomaticity’; indeed, non-native authorship can often be detected by their absence. This links to a third aspect of usage basis, namely, its role in diachronic change (Bybee 2001). Entrenched expressions are able to ‘drift’ away from their initial configuration and are free to acquire new or additional meanings and uses, and even distinctive pronunciations. *Evening* (the noun) is usually spoken as two syllables, whereas the much rarer *evening* (participle of the verb *to even*) has three. A baker is not simply ‘one who bakes’ (the compositional meaning); the word comes to be used as the name of a kind of retail outlet, and speakers may not even perceive the word to be related to the base verb. At the same time, alternative designations tend to be eclipsed; since *baker* is available as the name of the retail outlet, we do not need to search for alternative designations.

The usage-based model constitutes a hypothesis about the nature, origin and evolution of linguistic knowledge; it does not in itself define a research methodology. It is worth noting, in this connection, that many of the foundational works in cognitive linguistics – Lakoff (1987), Lakoff and Johnson (1980), Langacker (1987, 1991), Talmy (1988) and others – were based almost exclusively on the methodology favoured by Chomskyan linguists, namely, the introspective analysis of invented data. More recently, it has become apparent that the usage-based hypothesis, on its various understandings, needs to be tested and refined against actually occurring data. Some of the more important developments in cognitive linguistics have in fact emerged on the back of interactions between cognitive linguistic theory and the analytic methods of corpus linguistics.

Several areas of investigation can be mentioned. The first, and most obvious, concerns the accessing of frequency data on words, morphemes, word combinations (collocations), phraseologies and constructions, often as a function of register and modality (spoken or written), as evidence for the relative entrenchment of the units in question. A particularly fruitful line of research has been to examine the patterns of association between linguistic units (typically words, though the methodology can be applied to units of any size) and the constructions in which they occur (Stefanowitsch and Gries 2003). It is not the case, for example, that all verbs are equally likely to occur in the past tense or as imperatives, nor are all nouns equally likely to occur in the plural or in definite noun phrases. An often-cited syntactic example is the ‘waiting to happen’ construction. In principle, practically any event-denoting noun can occur in the idiomatic phrase *It was a N waiting to happen*. Yet the two most likely nouns are *accident* and *disaster*. The frequency of these two nouns in the construction by far exceeds what might be expected on the basis of their overall frequency in the language. Similarly, any occurrence of the word *put* is very strongly associated with the caused motion construction [V NP PP], whereby the referent of NP ends up (literally or metaphorically) in a place designated by PP. The view that emerges from these kinds of studies is that a word needs to be characterized, not only in terms of its lexical category and its phonological and semantic properties, but also with respect to the constructions in which it is most likely to occur. Conversely, a construction needs to be characterized, not only in terms of its meaning and its formal structure, but also with reference to the lexical items which are most likely to fill its various slots. (The kinds of texts in which the constructions occur constitutes a further variable.) The traditional distinction between lexis and syntax is thereby blurred; instead of being thought of as distinct levels of organization, the two are inextricably intertwined.
Another line of research addresses the factors which influence the choice between linguistic items (words, morphemes, constructions) which are roughly synonymous. A well-studied case is the so-called dative alternation – the choice between *give the dog a bone* versus *give a bone to the dog*. With the aid of sophisticated statistical techniques, the various factors which influence a speaker’s choice can be identified and quantified relative to each other. The methodology also allows the characterization of ‘prototypical’ examples of the two constructions.

Corpus-based studies has also revolutionized our understanding of polysemy, lexical polysemy in the first instance, but also the various semantic values which attach to larger constructions. Most words are polysemous to some extent; in fact, as a general rule, the more frequent a word, the more distinct meanings it has. In principle, polysemy should give rise to ambiguity (cf. such textbook examples as *She can’t bear children* and *It was a colourful ball*, which rely on the different meanings that can be attached to *bear* and *ball*). Yet misunderstandings are comparatively rare (jokes and word-play aside). Mostly, a hearer is able immediately to zoom in on the intended sense, without even being aware of the existence of possible alternative readings. In spite of the twenty-odd senses that have been attributed to *over*, occurrences of the word rarely if ever give rise to ambiguity, and few readers will be aware of the three distinct senses that can be attributed to *Time flies like an arrow* (Taylor 2012: 167–73). Corpus studies suggest an explanation for this paradox. Each sense of a word is associated with a distinct lexico-syntactic context; the context serves to prime the relevant sense, thereby suppressing other possible readings.

A final area concerns the productivity of morphological and syntactic schemas (‘rules’, in more traditional parlance). Nominalization in –*ness* is more productive than nominalization in –*th* or –*ity*. It is not just that nouns in –*ness* are more numerous overall than nouns in –*th* or –*ity*. Productivity is not to be confused with token frequency. No doubt, the way-construction (*I made my way to the exit*, *We can’t spend our way out of recession*, *He lied his way through the interview*) is not particularly frequent, measured in terms of its occurrence per million words of text. Yet the construction is productive, in that the verb slot can be filled by a virtually unrestricted set of activity-denoting verbs. (Curiously, the only verbs which seem to be prohibited are motion verbs like *go* and *come*.) What renders a construction productive is the number of different types that can occupy its slots, relative to the total number of construction tokens. The nominalizing suffix –*ness* can be attached to practically any adjective; –*th* and –*ity*, on the other hand, are restricted to a fairly stable set of entrenched examples.

The patterns, regularities and associations that can be discovered in a corpus of texts go well beyond what is available to introspection and casual observation. This fact raises a fundamental conceptual question, namely, how, if at all, are the properties of a corpus represented in the mind of an individual speaker? Early pioneers in corpus studies were keen to emphasize the ‘objective’ and ‘factual’ character of their work, and to differentiate it from ‘subjective’ speculations of theoretical linguists about what might be in the minds of speakers. However, the focus of cognitive linguistics, almost by definition, is language as a cognitive, and therefore mind-internal phenomenon. The issue boils down to the relation between ‘language in the world’ and ‘language in the mind’. Taylor (2012) has emphasized the dialectic relation between the two. Language in the world is the product of linguistic acts of individuals; these individuals behave in accordance with their acquired knowledge; their acquired knowledge, in turn, is the product of their encounters with external language. Looming over this is the fact that while language is certainly located in the minds of individuals, language is also a social, cooperative endeavour. In order to be able to function...
in a linguistic community, speakers need to calibrate their internal grammar to the grammars presumed to exist in the minds of other speakers.

References