# What is a cognitive approach to grammar?

As we have observed elsewhere in this book, cognitive linguistics is a collection of approaches rather than a single unified framework. This is particularly evident in the cognitive approaches to the study of grammar. As we saw for cognitive semantics, cognitive linguists who study grammar typically have a diverse set of foci and interests. Some cognitive linguists are primarily concerned with mapping out the cognitive mechanisms and principles that might account for the properties of grammar, as Ronald Langacker does in his highly detailed theory Cognitive Grammar, and as Leonard Talmy does in developing his 'Conceptual Structuring System Model'. Others are primarily concerned with characterising and delineating the linguistic units or constructions that populate a grammar; theories of this kind are called construction grammars. There are (at least) four distinct varieties of construction grammar, which we comment on later in this chapter. Finally, cognitive linguists who focus on grammatical change set out to explain the process of grammaticalisation, whereby open-class elements gradually transform into closed-class elements. Each of these paths of investigation are united by certain shared assumptions, which we set out in this chapter. We begin by identifying the guiding principles that underpin a cognitive approach to grammar (section 14.1) and present a brief overview of the distinct cognitive approaches to grammar that we will explore throughout Part III of the book (section 14.2). We then present an introduction to grammatical terminology (section 14.3). The purpose of this section is to provide an introduction to terms that are widely used in linguistics (not just in cognitive linguistics), which will be relied upon in the remainder of Part III. Finally, we examine some of the key characteristics, claims and assumptions that define cognitive approaches to grammar in general (section 14.4). This section provides a general overview of the **cognitive model of grammar**, and introduces the ideas that will be explored in detail throughout Part III of the book.

## 14.1 Guiding assumptions

In this section, we consider the two central guiding assumptions of a cognitive approach to grammar: the symbolic thesis and the usage-based thesis. We also sketch the architecture of the **cognitive model of grammar**. By 'cognitive model' we mean an approach to the study of language structure and organisation that assumes (1) the broad commitments of cognitive linguistics described in Chapter 2; (2) a cognitive semantics, particularly the assumptions described in Chapter 5; and (3) the guiding principles described below. Thus, when we use the term 'cognitive model of grammar', we do not have in mind a specific theory, but rather a model that generalises over the specific theories we discuss in this part of the book by drawing out what these theories share in common.

## 14.1.1 The symbolic thesis

The first guiding assumption is the symbolic thesis, which holds that the fundamental unit of grammar is a form-meaning pairing or symbolic unit (called a 'symbolic assembly' in Langacker's Cognitive Grammar framework or a 'construction' in construction grammar approaches). In Langacker's terms, the symbolic unit has two poles: a semantic pole (its meaning) and a phonological pole (its sound). The idea that language has an essentially symbolic function and that the fundamental unit of grammar is the symbolic unit has its roots in Saussure's theory of language. The Swiss linguist Ferdinand de Saussure (1857–1913) is often described as the 'father of modern linguistics'. Central to his theory was the view that language is a symbolic system in which the linguistic expression (sign) consists of a mapping between a concept (signified) and an acoustic signal (signifier), where both signified and signifier are psychological entities. While there are important differences between the Saussurean model and the cognitive model, the cognitive model adopts the idea of the Saussurean symbol. In the cognitive model, the semantic pole corresponds to the 'signified' and the phonological pole to the 'signifier'. These are both 'psychological entities' in the sense that they belong within the mental grammar (system of linguistic knowledge) in the mind of the speaker, which Langacker (1987: 57) describes as a structured inventory of conventional linguistic units. To illustrate, recall Figure 1.1 from Chapter 1 which is repeated here as Figure 14.1.

As we observed in Chapter 1, the visual image of the cat in the lower half of the figure represents the concept CAT, which is the semantic pole of a symbolic unit. The phonological pole of this symbolic unit is the speaker's knowledge of the string of speech sounds that correspond to the concept CAT, represented by



Figure 14.1 A symbolic unit



Figure 14.2 The symbolic unit (adapted from Langacker 1987: 77)

the International Phonetic Alphabet (IPA) symbols [kæt]. The symbolic unit is represented in Figure 14.2.

Of course, symbolic units can be expressed in different ways. In spoken language, the form is phonological: a string of speech sounds. However, language relies not only upon speech sounds but also upon written symbols, or manual gestures in the case of sign language. It follows that the idea of a symbolic unit does not relate solely to spoken language. The 'phonological' pole, in Langacker's terms, might therefore be realised in different ways, depending on the medium of communication.

The adoption of the symbolic thesis has an important consequence for a model of grammar. Because the basic unit is the symbolic unit, meaning achieves central status in the cognitive model. In other words, if the basic grammatical unit is a symbolic unit, then form cannot be studied independently of meaning. This means that the study of grammar, from a cognitive perspective, is the study of the full range of units that make up a language, from the lexical to the grammatical. For example, cognitive linguists argue that the grammatical form of a sentence is paired with its own (schematic) meaning in the same way that words like *cat* represent pairings of form and (content) meaning. Compare examples (1) and (2).

- (1) Lily tickled George. [active]
- (2) George was tickled by Lily. [passive]

In the English passive construction illustrated in (2), the entity that undergoes the action, which linguists call the PATIENT, is placed in subject position (before the verb). The sentence is also marked with a passive **verb string**, here *was tickled*. We can represent the generalised form of the passive construction as in (3).

(3) PATIENT 'passive verb string' by AGENT

According to cognitive linguists, this passive construction has its own schematic meaning that is independent of the specific words that 'fill' the construction. This meaning focuses attention on the PATIENT (e.g. what happened to George) rather than the AGENT (e.g. what Lily did). The idea that grammatical units are inherently meaningful is an important theme in cognitive approaches to grammar and gives rise to the idea of a **lexicon–grammar continuum**, in which content words like *cat* and grammatical constructions like the passive both count as symbolic units but differ in terms of the quality of the meaning associated with them. We return to this idea in more detail below (section 14.4), and it remains an important theme throughout Part III of the book.

## 14.1.2 The usage-based thesis

The second fundamental assumption of the cognitive approach to grammar is the usage-based thesis. As we saw in Chapter 4, the usage-based thesis holds that the mental grammar of the speaker (his or her knowledge of language) is formed by the abstraction of symbolic units from situated instances of language use. An important consequence of adopting the usage-based thesis is that there is no principled distinction between knowledge of language and use of language (competence and performance in generative terms), since knowledge emerges from use. From this perspective, knowledge of language is knowledge of how language is used.

### 14.1.3 The architecture of the model

The basic architecture of the cognitive model of grammar is represented in Figure 14.3. This diagram captures the idea that the act of deploying a symbolic unit in any given usage event involves both semantic space (meaning) and phonological space (form). In this diagram, the 'grammar' box represents the conventionalised knowledge of language in the mind of the speaker, and the 'usage' box represents the usage event or utterance. In intuitive terms, a usage event consists of speech sounds and their corresponding interpretations, hence the two boxes labelled 'conceptualisation' and 'vocalisation'. The horizontal arrows represent coding links or correspondences between the conventionalised units of knowledge in the mind of the speaker and the (vocal or conceptual) systems they interact with in instances of situated language use. In other words, the semantic pole of a linguistic expression corresponds to a concept, and the phonological pole of a linguistic expression corresponds to the string of sounds that realises it. The vertical arrows represent symbolic links which unite sound and meaning, or knowledge of sound and meaning. It is important to emphasise that, while knowledge of conventionalised units is represented in a separate box from usage events, this does not imply the distinction between competence and performance that is assumed in the generative approach.



Figure 14.3 The cognitive model of grammar (adapted from Langacker 1987: 77)

According to the generative model, competence determines performance (which may also be affected by other factors). In the cognitive model, usage gives rise to knowledge, which in turn underlies usage. This is indicated by the double-headed horizontal arrows in Figure 14.3.

## 14.2 Distinct cognitive approaches to grammar

Having outlined the central assumptions of a cognitive approach to grammar, we now introduce some of the specific theories that represent this approach. We identify four main types of theoretical approach here, which we explore in detail in Part III of the book. These are listed below, followed by a brief overview of each type of approach.

- 1. The 'Conceptual Structuring System Model'
- 2. Cognitive Grammar
- 3. Constructional approaches to grammar
- 4. Cognitive theories of grammaticalisation

## 14.2.1 The 'Conceptual Structuring System Model'

This model, which has been developed by Leonard Talmy, assumes the symbolic thesis and, like other cognitive approaches to grammar, views grammatical units as inherently meaningful. However, this model is distinguished by its emphasis on the qualitative distinction between grammatical (closed-class) and lexical (open-class) elements. Indeed, Talmy argues that these two forms of linguistic expression represent two distinct conceptual subsystems, which encode qualitatively distinct aspects of the human conceptual system. These are the lexical subsystem and the grammatical subsystem. The 'conceptual structuring system' is another name for the grammatical subsystem. As we first saw in Chapter 1, while closed-class elements encode schematic or structural meaning, open-class elements encode meanings that are far richer in terms of content. We will explore the idea that grammatical meaning is schematic later in this chapter and in more detail in the next. Because Talmy assumes the bifurcation of the conceptual system into two distinct subsystems, this cognitive model of grammar focuses more on the closed-class system than it does on the open-class system. We will look in detail at Talmy's approach in Chapter 15.

## 14.2.2 Cognitive Grammar

Cognitive Grammar is the theoretical framework developed by Ronald Langacker. This is arguably the most detailed theory of grammar to have been developed within cognitive linguistics and to date has been the most influential.

Langacker's approach attempts to model the cognitive mechanisms and principles that motivate and license the formation and use of symbolic units of varying degrees of complexity. Like Talmy, Langacker argues that grammatical or closed-class units are inherently meaningful. Unlike Talmy, he does not assume that open-class and closed-class units represent distinct conceptual subsystems. Instead, as we saw earlier, Langacker argues that both types of unit belong within a single 'structured inventory of conventionalised linguistic units' which represents knowledge of language in the mind of the speaker. It follows that Langacker's model of grammar has a rather broader focus than Talmy's model. We will focus on Langacker's approach in detail in Chapters 15–18.

#### 14.2.3 Constructional approaches to grammar

There are four main varieties of constructional approach to grammar. The first is the theory called Construction Grammar that was developed by Charles Fillmore, Paul Kay and their colleagues. While this theory is broadly generative in orientation, it set the scene for the development of cognitive approaches that adopted the central thesis of Fillmore and Kay's approach, namely that grammar can be modelled in terms of constructions rather than 'words and rules'. In part, Construction Grammar is motivated by the fact that certain complex grammatical constructions (e.g. idioms like kick the bucket or throw in the towel) have meaning that cannot be predicted on the basis of their sub-parts and might therefore be 'stored whole' rather than 'built from scratch'. We look in detail at Construction Grammar in Chapter 19, and in Chapter 20 we introduce three constructional approaches that are set firmly within the cognitive framework: (1) a model that we call Goldberg's Construction Grammar, developed by Adele Goldberg; (2) Radical Construction Grammar, developed by William Croft; and (3) Embodied Construction Grammar, a recent approach developed by Benjamin Bergen and Nancy Chang. It is worth pointing out that Cognitive Grammar could be also be classified as a constructional approach to grammar because Langacker also adopts a constructional view of certain types of grammatical unit. However, as we will see in later chapters, Langacker defines the construction in a different way from these models. Cognitive Grammar and constructional approaches to grammar share another feature in common: both are inventory-based approaches to the study of grammar. In other words, both types of approach view the grammar as an inventory of symbolic units rather than a system of rules or principles. This amounts to the claim that the language system does not work predominantly by 'building' structure (as in generative models of grammar) but by 'storing' it. We will return to this issue later in the chapter (section 14.4). Despite these important similarities, we have classified Langacker's model separately from constructional approaches because Cognitive Grammar places a



Figure 14.4 Inventory-based approaches to grammar

greater emphasis on the cognitive mechanisms and principles that underlie the grammar. Figure 14.4 summarises the main similarities and differences between Cognitive Grammar and constructional approaches to grammar.

## 14.2.4 Cognitive approaches to grammaticalisation

The final group of theories that we investigate in this part of the book are cognitive approaches to grammaticalisation (also called grammaticisation): the process of language change whereby grammatical or closed-class elements evolve gradually from the open-class system. Because it relates to language change, the process of grammaticalisation falls within the domain of historical linguistics. Grammaticalisation is also of interest to typologists, because patterns of language change can inform their explanations of current patterns in language. A subset of these historical linguists and typologists have developed models that are informed by cognitive linguistics, which attempt to explain the grammaticalisation process. In addition, Langacker has also made some proposals relating to the cognitive mechanisms that might give rise to the grammaticalisation process. There is a considerable literature in this area; we restrict ourselves to three representative types of approach: (1) metaphorical extension approaches (such as the model developed by Bernd Heine and his colleagues); (2) Invited Inferencing Theory (developed by Elizabeth Closs Traugott and Richard Dasher); and (3) the subjectification model developed by Ronald Langacker. Grammaticalisation is the topic of Chapter 21.

The four types of cognitive approach that we investigate throughout Part III of the book are summarised in Figure 14.5. (The parentheses around Fillmore



Figure 14.5 Cognitive approaches to grammar

and Kay's Construction Grammar indicate that this is not a fully 'cognitive' approach in the sense that we define it: while it subscribes to the symbolic thesis, it does not subscribe to the usage-based thesis.) As this diagram shows, the range of approaches that can be grouped together as 'cognitive' is considerable. We should emphasise that this diagram represents the way that we have grouped the approaches for the purposes of presentation in this book; while we have attempted to categorise these approaches on the basis of common themes or objectives, different taxonomies of cognitive approaches to grammar are certainly conceivable.

## 14.3 Grammatical terminology

All linguists, regardless of theoretical or descriptive orientation, rely upon a set of terms that enable them to describe and discuss the parts of language. In this section, we will introduce and define some key terms in the study of grammar. As we will see in the remainder of the book, not all these terms have equal status in different theories of language, but they nevertheless provide a core vocabulary that enable linguists of different theoretical orientations to communicate with one another and to understand grammatical descriptions of unfamiliar languages. We restrict ourselves here to the fundamentals and new grammatical terms will be elaborated as they are introduced in subsequent chapters.

## 14.3.1 Grammar

We begin with the term 'grammar', which we have taken largely for granted so far. This term has a number of different meanings. A grammar can be a written volume, such as a descriptive reference grammar prepared by a linguist for consultation by other linguists, or a teaching grammar prepared for language students. The term 'grammar' also refers to the discipline that focuses on morphology (word structure) and syntax (sentence structure), whether from the perspective of language learning (for example, French grammar, Latin grammar), from the perspective of language description, or from the perspective of general linguistics, where 'grammar' has the status of a subdiscipline alongside phonetics, phonology, semantics and so on. Indeed, an introductory 'grammar' course in a linguistics programme will usually focus solely upon word structure and sentence structure. If the approach taken is purely descriptive, this is known as 'descriptive grammar'. It is fair to point out, however, that even a 'purely descriptive' approach rests upon certain theoretical assumptions, even if these are not made explicit. The term 'grammar' is also used to refer to a theory of language such as Langacker's Cognitive Grammar or Chomsky's Generative Grammar. Finally, the term can also be used to refer to the psychological system that represents a speaker's knowledge of language. In these last two senses, the term is not (necessarily) restricted to word structure and sentence structure, but is applied to human language in general, and thus encompasses phonology and linguistic meaning as well as morphology and syntax.

## 14.3.2 Units of grammar

When grammarians break complex strings of language down into parts, they do so only as far as the smallest unit of meaning: the **morpheme**. Of course, individual speech sounds are smaller than most morphemes, but most individual speech sounds do not function as morphemes and therefore do not carry meaning. While 'grammar' in the broader sense might encompass a model of phonology, this area has its own complex set of terms that we do not explore here. The diagram in Figure 14.6 illustrates the grammatical units of varying sizes for which linguists have developed a set of terms. Some of these grammatical units should already be familiar from earlier chapters in the book. The sentence is represented as the largest grammatical unit because larger pieces of discourse consist of sentences joined together in a variety of ways.



Figure 14.6 Grammatical units

As we have seen, the morpheme is the smallest unit of language that can carry meaning. Some words, like *house*, consist of a single morpheme, while others, like *house-s* or *employ-ment* consist of more than one morpheme. The study of morphology, then, is the study of word structure. Morphemes that can stand alone, like *house*, are **free** morphemes, whereas those that need to attach to something, like plural *-s*, are **bound**. The simplest possible form of a content morpheme is called a **root**; this may be free, like *house*, or bound, like *pseudo-*. Bound morphemes like *-ment* or *-s* which do not have content meaning are called **affixes**. There are two types of affix: the **derivational** affix and the **inflectional** affix.

The derivational affix creates new words, often belonging to a different word class (we return to word classes below). In English, affixes that change word class are **suffixes**, which means that they attach to the end of words. For example, the verb *employ* plus the suffix *-ment* becomes a noun *employment*. The noun *nation* plus the suffix *-al* becomes the adjective *national*. Suffixes can be stacked; consider the noun *nation-al-is-ation*, for example. English also has some **prefixes** that do not affect word class, but do affect the meaning of the word (for example, *de-nationalise*, or *un-do*). These also fall within the category of derivational affixes.

The inflectional affix, which is also a suffix in English, does not change the category of the word, nor does it affect the content meaning. Instead, it marks a subclass of that word. Another way of saying this is that it marks a different grammatical form of the same lexical item. Some English inflectional morphemes are illustrated in Table 14.1. Some of the grammatical terms in the left-hand column will make more sense by the end of this section.

Of course, this brief discussion of morphology rests upon the assumption that we have a clear notion of what it means to describe something as a word. However, there are a number of different ways of defining this term (Trask 2004). We are used to thinking of a word in terms of an **orthographic word**: something that is written as a single unit. However, this does not necessarily tell us anything about spoken language, which is of primary interest to linguists. Orthographic systems are man-made and vary enormously, sometimes revealing little about the structure of the language they represent. A **phonological word** is a unit of pronunciation, defined according to the phonological rules of that language. In English, a phonological word usually contains one main stress. In rapid speech, some parts of an utterance are 'glued together' into single phonological words, which do not correspond to our idea of where

0	1
plural –s	books
possessive 's	Lily's book
third person singular present -s	Lily reads well
progressive -ing	She is working
past tense – <i>ed</i>	She worked
past participle -ed/-en	She has studied/broken

Table 14.1	English	inflectional	morphemes	\$
	0		1	

the word boundaries lie from a meaning or grammar perspective. Trask (2004) provides the following example, where the bracketed units in (4b) correspond to phonological words:

- (4) a. The rest of the books will have to go there.
  - b. [The rest] [of the books'll] [have to] [go] [there].

As this example shows, the boundaries laid down by the system of pronunciation do not always correspond with the boundaries laid down by meaning or grammar. While the phonological word reveals much about the phonological structure of a language, it is less useful in the study of grammar.

A third definition of 'word' is **lexical item**, a term that we have relied upon throughout earlier parts of the book. This term means a unit of our mental 'dictionary' (or encyclopaedia), and this is the sense in which linguists use the term. A lexical item has a more or less identifiable meaning (like *cat*) or function (like *this*). However, recalling the discussion of inflectional morphology above, each lexical item may have a number of **grammatical word forms**. Nouns like *cat*, for example, have both a singular and a plural form (*cat-cats*), and verbs like *go* have a whole list of forms (*go, goes, ment, going, gone*). The list for *be* is even longer (*be, am, are, is, mas, mere, being, been*). Adjectives like *big* also have a number of forms (*big, bigger, biggest*). We can think of each lexical item, then, as a bundle of forms, although some lexical items, like *my*, have only one form in English.

## 14.3.3 Word classes

Having arrived at a definition of 'word', we briefly introduce the notion of **word classes** or **parts of speech**. The idea that words can be straightforwardly grouped into classes is not uncontroversial, and some of these categories have a different status in different theories. In traditional descriptive grammar, where the word classes were inherited from Latin grammar via the traditional grammarians of the eighteenth and nineteenth centuries, English is usually described as having eight word classes: noun, pronoun, adjective, verb, adverb, preposition, conjunction and interjection. However, a new set of word classes has gradually emerged within modern descriptive linguistics which aims to present a more objective view of word classes from a cross-linguistic perspective. According to the **distributional approach** to word classes, words are grouped with certain classes mainly on the basis of their morphological and distributional behaviour: words of the same class will generally take the same sort of derivational and inflectional affixes (morphological behaviour), and will generally occupy the same positions or 'slots' in a sentence relative to members of other word classes (distributional behaviour). We illustrate here with English examples.

## Nouns

Nouns often refer to entities, including people, and abstractions (like mar and peace). Nouns typically take the inflectional plural affix -s (cats, dogs, houses) but there are exceptions (\*mans, \*peaces). Nouns also typically take the possessive affix -'s (man's best friend), and in terms of distribution, follow determiners like your and adjectives like funny (your funny face). Nouns can be divided into two main subclasses: common nouns and proper nouns. Proper nouns are names of people or places like Lily or London. Common nouns do not pick out particular individuals by name, but refer to classes. These are the 'ordinary' nouns like cat, house and mater, and this subclass is the one that we are most concerned with in this book because common nouns represent one of the major linguistic categories. Common nouns can be divided into count nouns and mass nouns. Count nouns can be counted (one book, two books) and have to be preceded by a determiner like the when singular (compare The book is on the table with \*Book is on the table). In the plural, however, count nouns can occur without a determiner (Books are expensive). Mass nouns cannot be counted or pluralised (\*two sands) and can occur with or without determiners. This classification of nouns is summarised in Figure 14.7.

## Verbs

Verbs typically denote actions, processes or events, and take inflectional affixes including the third person singular (*he/she/it*) present tense *-s*, the past tense affix *-ed* and the progressive participle affix *-ing*. These are illustrated in example (5).

- (5) a. She hopes
  - b. She hoped
  - c. She's hoping



Figure 14.7 Noun categories

These verb forms reflect a number of properties relating to **agreement**, **tense** and **aspect** to which we return below. Verbs can often take derivational affixes like noun-forming *-er* (*employ-employer*) or adjective-forming *-able* (*employ-employable*). In terms of distribution, the English verb follows the subject.

## Adjectives

Adjectives typically denote attributes or states, and some can inflect for grade (*tall, taller, tallest*). Adjectives can often be identified by the presence of a derivational affix like *-ful (careful), -y (funny)*, or *-ish (selfish)*. In terms of distribution, English adjectives occur in their **attributive** function preceding the noun or in **predicative** function following copular verbs like *be* or *become*:

(6) a. I love her funny face. [attributive]b. Her face was funny. [predicative]

The difference between the attributive and the predicative function of adjectives relates to how 'vital' the adjective is to the well-formedness of the grammatical unit. In (6a), we can remove the adjective and we still have a well-formed (although less informative) grammatical unit: *I love her face*. If we remove the adjective in (6b), we are left with an incomplete grammatical unit: *Her face mas...* 

## Adverbs

Adverbs are words like *suddenly*, *repeatedly*, *hopefully* and *soon*. These typically express information relating to time, manner, place and frequency, and have a modifying function within the sentence (providing information, for example, about how, where or when something happened). Some are recognisable by the

adverb-forming derivational affix -ly, and a few inflect for grade (soon, sooner, soonest), but on the whole these are difficult to identify by morphology or distribution because they have the widest distribution of all the English word classes. A further complication with this category is that members of other word classes can also perform the same function as adverbs. This is called an **adverbial** function, which means that something behaves in the same way as an adverb, providing modifying information about place, manner, time and so on, regardless of word class. For example, the expression *after supper* performs an adverbial function in the sentence *George arrived after supper*, but is not an adverb; it is a preposition phrase, consisting of a preposition and a noun phrase. The term 'adverbial' refers to a type of grammatical function (section 14.3.5).

The word classes introduced so far represent content words or open-class words. As we have seen, open-class words have a readily identifiable meaning and belong to classes that are large and constantly changing as new words are introduced and old words are lost. While open-class words provide the content meaning in utterances, there are several equally important word classes that contain grammatical words or closed-class words. These have a less readily identifiable meaning (often they are described as 'function words') and belong to classes that are small and more resistant to change. With the exception of some determiners (see below), none of these word classes has any inflectional or derivational properties in English, but they do show some predictable distributional patterns. The discussion of these categories in English rests upon some new terms like 'phrase' and 'clause' which will be discussed later in the section.

## Prepositions

Prepositions are words like *on*, *with*, *under* and *beyond*, which combine with a noun phrase to form a preposition phrase (*on the table*, *with my best friend*). These are called prepositions because they precede the noun phrase. In some languages, they follow the noun phrase and are called postpositions. The general term for both prepositions and postpositions is 'adposition'.

## Determiners

Determiners are words like *the*, *my* and *some*, which combine with a noun to form a noun phrase (*the garden*, *my cats*, *some flowers*). Apart from the determiners *this* and *that* which inflect for number (*these*, *those*), determiners have no other inflectional or derivational properties in English. It is important to remember that determiners are followed by nouns because some words can be both determiners (*I love these flowers*) and pronouns (*I love these*).

#### Pronouns

Pronouns are sometimes described as a subclass of nouns because they show the same pattern of distribution. In other words, pronouns substitute for nouns (hence the term 'pronoun'). However, pronouns can be viewed as a separate category from nouns because they belong to a closed class and because they provide what cognitive linguists call **schematic meaning** rather than **content meaning**. For example, you could probably draw a picture of *my favourite teacup* without having seen it, but you would be unable to draw a picture of *it* without having seen it. In isolation from context, *it* means 'a single inanimate object'. Of course, in reality we are never called upon to interpret *it* out of context, but this illustrates the difference between content meaning and schematic meaning. There are several different kinds of pronouns. To mention a few examples, personal pronouns are words like *you, me* and *her*; possessive pronouns are words like *mine* and *hers* (not to be confused with possessive determiners *my* and *her*), and demonstrative pronouns are words like *this/these* and *that/those*.

## Auxiliary verbs

Finally, we mention the closed-class category of auxiliary verbs. In English, this category includes the modal auxiliaries (for example, *can, must* and *will*) which introduce **mood** into the sentence, and the primary auxiliaries (*have* and *be*) which introduce **aspect** and passive **voice**. We return to tense, aspect, mood and voice in more detail in Chapter 18, limiting the present discussion to the grammatical properties of the auxiliary verbs. The modal auxiliaries share few characteristics with 'ordinary' (lexical) verbs in English. They do not inflect for progressive aspect, for example (*\*musting*) nor do they have a third person singular *-s* form (*\*she musts*). They are called auxiliary verbs because they belong inside the **verb string** (this is bracketed in (7a)), because they must be followed by a verb phrase (VP), and because they can function as **operators**. This means that they can invert with the subject (*she*) to form a question:

- (7) a. Lily [will sing] the blues.
  - b. Will Lily sing the blues?

The primary auxiliaries *have* and *be* look more like 'ordinary' verbs. They inflect for tense, for example. As we saw briefly in Chapter 11, the auxiliary *have* introduces **perfect aspect** into the sentence, which means that the event is viewed as completed, and has to be followed by a perfect (traditionally called 'past') participle (*sung*):

(8) Lily has sung the blues all her life.

The auxiliary *be* can introduce **progressive** or **continuous aspect** into the sentence, which means that the event is viewed as ongoing. In this case, *be* has to be followed by a progressive (traditionally called 'present') participle (*singing*):

(9) Lily is singing the blues.

The auxiliary *be* can also introduce **passive voice**. As we saw earlier, this means that the person or thing that undergoes the event depicted by the verb appears in subject position (before the verb). Example (10a) shows an active sentence and (10b) its passive counterpart. Observe that the passive auxiliary *mas* is followed by the same participle form as the perfect auxiliary *have* (e.g. *sung*). As we observed earlier, this is traditionally referred to as the 'past' participle:

- (10) a. Elvis sang that song.
  - b. That song was sung by Elvis.

Like the modal verbs, the primary auxiliaries can also function as operators (11). As example (11d) shows, the verb do also has an auxiliary function in English. This verb does not introduce its own aspect or voice into the clause. Instead, it occurs when the speaker wants to emphasise the truth of a statement (*Lily does like shellfish*), or when the sentence requires a verb that can function as an operator but lacks another modal or auxiliary to perform this function. For this reason, the auxiliary do is sometimes called a 'dummy' auxiliary.

- (11) a. Has Lily sung the blues all her life?
  - b. Is Lily singing the blues?
  - c. Was that song sung by Elvis?
  - d. Does Lily sing the blues?

The verbs *have*, *be* and *do* are not always auxiliaries. They can also be lexical verbs. If *have*, *be* or *do* is the only verb in the sentence, it is a lexical verb. This is illustrated by (12a). In some dialects of English, lexical *have* can invert with the subject to form a question (12b). If *have*, *be* or *do* is followed by another verb phrase, it is an auxiliary verb; the fact that these verbs can occur both as lexical and auxiliary verbs explains why it is possible to find a sequence of two instances of the 'same' verb in a single clause. This is illustrated by examples (12c)–(12e).

- (12) a. I have two cats and a goldfish.
  - b. Have you a pen I could borrow?
  - c. Lily has had a headache.

- d. George is being silly.
- e. Lily does do the washing up every morning.

When the verb *be* is a lexical verb, it is called the **copula**, which means 'linking verb'. It links the subject of the sentence (*Lily*) to the phrase that provides some information about the subject:

- (13) a. Lily is [my best friend].
  - b. Lily is [fond of fish and chips].
  - c. Lily is [in the cellar].

Lexical *be*, the copula, can also function as an operator:

- (14) a. Is Lily your best friend?
  - b. Is Lily fond of fish and chips?
  - c. Is Lily in the cellar?

As this discussion illustrates, the behaviour of the primary auxiliaries and their lexical counterparts is not entirely distinct. Another way of saying this is that lexical *have* and *be* are not prototypical lexical verbs.

There are several other closed-class categories that we will not discuss here, mainly including 'linking' categories that join sentences, like coordinating conjunctions (*and*, *but*), subordinating conjunctions (*although*, *because*), discourse connectives (*homever*, *therefore*) and complementisers (for example, *that* in *she hoped that they would be married in the snow*). We will also have little to say about interjections, words like *yuk*! or *wow*! that form independent utterances and do not participate in grammatical structure.

## 14.3.4 Syntax

The term 'syntax' relates to the structure of phrases and sentences, the larger grammatical units. A **phrase** is a group of words that belong together as a group. Inside each phrase, there is one 'central' word or **head** which carries the main meaning of the phrase and which determines what other kinds of words the phrase can or must contain. These other words are traditionally called **dependents** and are divided into **complements** (a phrase required by the head to 'complete' it) and **modifiers** (an 'optional' phrase with a modifying function). **Constituency** is the term used to describe the grouping of words within phrases and the grouping of phrases within sentences. Phrases can be identified by constituency tests. There are various kinds of constituency test, but we will limit ourselves to three examples here: **substitution**, **coordination** and

**'movement'**. Example (15) illustrates the substitution test, where the bracketed constituents in (15a) are identified as phrasal units (NPs) because they can be substituted as a coherent unit by pronouns (15b):

(15) a. [That friend of George's with the glasses] pinched [Lily's bike].b. [He] pinched [it].

The phrasal constituent *that friend of George's with the glasses* is identified as a noun phrase (NP) because it is headed by the noun *friend*. The same applies to the NP *Lily's bike*, which is headed by the noun *bike*.

Example (16) illustrates the **coordination** test, where a string of words is identified as a phrase by the fact that it can be coordinated with another phrase of the same category. For example, two NPs are coordinated in (16a), and two VPs are coordinated in (16b).

(16) a. He pinched [<sub>NP</sub> Lily's bike] and [<sub>NP</sub> her tent].
b. He [<sub>VP</sub> pinched Lily's bike] and [<sub>VP</sub> trashed her tent].

Example (17) illustrates the 'movement' test. The idea behind the term 'movement' is that a phrase can occur in a 'special' position in order to become more prominent in the sentence. In English, the **cleft construction** is a productive means of achieving this kind of discourse prominence. The cleft construction is shown in schematic form in (17). Example (18a) shows an 'ordinary' (non-cleft) construction, and examples (18b)–(18e) show how different phrasal constituents can be 'clefted'.

- (17) *It be* [CLEFTED PHRASE] *who/that* [REMAINDER OF CLAUSE]
- (18) a. George gave food poisoning to his guests on Tuesday.
  - b. It was [<sub>NP</sub>George] (who/that) gave food poisoning to his guests on Tuesday.
  - c. It was  $[\space_{\sf NP}$  food poisoning] (that) George gave to his guests on Tuesday.
  - d. It was  $[\spin \spin \spin$
  - e. It was  $[p_{pp} on Tuesday]$  (that) George gave food poisoning to his guests.

The idea of constituency, which has been influential in linguistics at least since Bloomfield (1933), is open to different interpretations. In generative approaches, phrasal constituents are thought of as units of grammar that are 'built' on the basis of grammatical rules or principles. In contrast, the cognitive model rejects this idea and assumes that phrases and sentences are 'stored whole' as generalised patterns emerging from repeated experience of usage events. Despite this important theoretical difference, which is central to Part III of this book, cognitive linguists nevertheless recognise the existence of phrases within sentences and share this common vocabulary with linguists of other theoretical persuasions.

Another important term, which we have taken for granted so far, is **sentence**. This overlaps with the term **clause**. Linguists define the clause as a string of words containing a **subject** and a **predicate**. In the grammatical sense, the predicate corresponds to the verb phrase (everything apart from the subject). In example (19), *Lily* is the subject, and *loves George to distraction* is the predicate. The term 'subject' (like 'object', 'predicate' and 'adverbial') refers to a grammatical function (section 14.3.5).

(19) Lily loves George to distraction.

Strictly speaking, a clause consists of a single subject and a single predicate, while a sentence may be more complex. A **simple sentence**, like the ones we have seen so far, consists of a single clause; in this case, the terms 'clause' and 'sentence' are equivalent. A **complex sentence**, however, may consist of more than one clause. There are various kinds of relations that hold between the clauses in a complex sentence which we will not address here, but two examples of complex sentences are provided in (20), where clauses are bracketed.

- (20) a. [Lily loves George] but [he is rather arrogant].
  - b. Her friends said [he was no good].

Despite the distinction between the terms 'clause' and 'sentence', these are often used interchangeably by linguists.

## 14.3.5 Grammatical functions

Subject and object are types of grammatical function. In other words, these terms describe what phrases *do* in a sentence rather than describing what phrases *are* in terms of their **category** (NP, VP and so on). This is a useful distinction, because phrases of different categories can perform the same grammatical function, and phrases of the same category can perform different grammatical functions. For example, NP can function either as subject or object:

(21)  $[_{NP-SUBJECT}$  George] wrote  $[_{NP-OBJECT}$  several different love letters].

Table 14.2	Structural	criteria f	or Engl	ish sub	iect
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(Canonical) subject position in English is clause-initial Subject inverts with auxiliary/modal verbs to form questions Subject agrees with the verb in person and number Subject pronoun shows subject (or nominative) case

While the category of a word or a phrase can usually be identified without context, the grammatical function of an expression can only be identified in the context of a particular sentence. This is because the same expression could be a subject in one sentence and an object in another. Compare (21) with (22):

Grammatical functions can be reflected in the word order of a language or by means of a **case** system (section 14.3.6). Many languages employ a combination of both word order and case.

#### Subject

The English subject, which is typically an NP but can also be a clause or a PP, can be characterised in terms of a number of morphological and distributional criteria which are summarised in Table 14.2.

We have already seen several examples of the clause-initial position of the English subject. It is worth observing, however, that a subject can be preceded by a topic (23a) or by an adverbial (23b), so that the subject is not always the very first element in the clause.

(23) a. [\_\_\_\_\_\_ That friend of George's], [\_\_\_\_\_\_ she] talks rubbish.
b. [\_\_\_\_\_\_ Strangely], [\_\_\_\_\_\_ George had an idea].

We have also seen examples of the inversion of subject with auxiliary verbs (section 14.3.3). We return below to case and agreement (section 14.3.6).

#### Predicate

The term 'predicate' refers to the main part of the sentence excluding the verb. Usually, this means the VP, or the verb plus its object(s). The idea that the sentence can be partitioned in this way is widespread in linguistics and reflects the idea that the verb phrase encapsulates the essence of the event that the sentence expresses while the subject is less crucial to defining the nature of the event. Compare the following examples:

- (24) a. George ate cakes.
  - b. Lily ate cakes.
  - c. George ate bananas.

In (24a), the predicate *ate cakes* describes a cake-eating event that happens to involve George. If we change the subject (24b), the sentence still describes a cake-eating event, whereas if we change the object (24c), the sentence describes a different kind of event. It is also striking that idioms occur within the predicate of a sentence:

- (25) a. George [threw in the towel].
  - b. Lily [threw in the towel].
  - c. George [threw in the flannel].

Observe that the idiomatic interpretation (meaning 'give up') is available in (25a) and (25b) regardless of the subject, but if the object is changed from *the towel* to *the flannel* the idiomatic interpretation is lost (25c).

#### Object

This grammatical function divides into two subtypes: direct object and indirect object. **Monotransitive** verbs like *eat*, *love* and *see* take a single object, which is the direct object. This is bracketed in the examples in (26).

- (26) a. George eats [cake].
  - b. Lily loves [him].
  - c. Lily saw [George].

In contrast, ditransitive verbs like *give* require two objects. Consider example (27).

(27) George gave [Lily] [a box of chocolates].

In this example, Lily is the indirect object and *a box of chocolates* is the direct object. This type of construction is called a **double-object construction**. An alternative construction in English reverses the order of the two objects. When this happens, the indirect object (Lily) is expressed by a preposition phrase (*to Lily*).

(28) George gave [a box of chocolates] [to Lily].

Table 14.3	Structural	criteria	for	English	obiect
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Object position in English is after the verb
Object can move to clause-initial position to become the grammatical subject of a passive
sentence
Object pronoun shows object (or accusative) case
Indirect object precedes direct object, unless the indirect object is expressed as PP

Objects are typically NPs but can also be clauses. The English object can be characterised in terms of a number of structural criteria which are summarised in Table 14.3.

Examples (27) and (28) above illustrate the final property in Table 14.3. The second property is illustrated by example (29), which shows that either the direct object *a box of chocolates* or the indirect object *Lily* can become the subject of a passive sentence. We return to case below (section 14.3.6).

- (29) a. A box of chocolates was given to Lily by George.
  - b. Lily was given a box of chocolates by George.

Predicative complement

The predicative complement is a complement of the verb that is co-referential with or describes either the subject or the object, as in (30a) and (30b) but not (30c):

(30) a.	George is [a heart-breaker].	subject complement
b.	Lily called George [a heart-breaker].	object complement
b.	Lilv loves [a heart-breaker].	direct object

Unlike objects, predicative complements cannot move to clause-initial position to form a passive sentence. In example (31), *been* is the past participle of the copula *be* and *mas* is the past tense form of the passive auxiliary *be*. The result is ungrammatical:

(31) \*A heartbreaker was been (by George).

#### Adverbial

Finally, as we saw earlier, it is important to distinguish the term 'adverb' from the term 'adverbial'. While 'adverb' refers to a word class (for example, *sud-denly, soon, fortunately*), 'adverbial' refers to a grammatical function that can be performed by various categories in addition to the adverb, as illustrated by the examples in (32).

- (32) a. George [ $_{ADVERB}$  distractedly] wrote the letters.
  - b. George wrote the letters [ $_{PP}$  in the back garden].
  - c. [<sub>CLAUSE</sub> Humming a happy tune], George wrote the letters.

For reasons that we will not pursue here, the expression *humming a happy tune* in (32c) is described as an embedded adverbial clause, even though it lacks a subject.

As these examples illustrate, adverbials are the 'optional' parts of sentence that modify the clause at some level and can be added or deleted without making the sentence ungrammatical. Adverbials typically express information about when, where or how something happened. It is difficult to pin down a set of structural criteria that characterise adverbials because they display considerable flexibility in terms of position. However, unlike the other grammatical functions, adverbials can be stacked (that is, can occur recursively):

(33) [<sub>CLAUSE</sub> Humming a happy tune], George [<sub>ADVERB</sub> distractedly] wrote the letters [<sub>PP</sub> in the back garden].

#### 14.3.6 Agreement and case

We saw earlier that the criteria for identifying subjects rest in part upon the notion of agreement. The term 'agreement' (known as **concord** in traditional grammar) describes the morphological marking of a grammatical unit to signal a particular grammatical relationship with another unit. Agreement involves grammatical features like person, number and gender and may interact with case. We will illustrate these grammatical features here with the personal pronouns, since they are the only nominal category in English to show a reasonably full range of distinct morphological forms. **Person** is the grammatical feature that distinguishes speaker (first person), hearer (second person) and third party (third person). Compare *I*, *you* and *she*. This feature participates in subject–verb agreement in English, but only in the present tense and only in the singular third person form. Consider the examples in (34).

- (34) a. I love George.
  - b. You love George.
  - c. She loves George.
  - d. We love George.
  - e. They love George.

As these examples illustrate, it is only when the subject is a third person singular noun phrase (e.g. *he*, *she* or *Lily*) that the verb form changes. Person is a **deictic** category. As we saw in Chapter 7, deictic categories rely upon **context**  in order to be fully interpreted. The aspects of context that are particularly relevant to deixis are space and time, and the speaker's location in space and time is central to how the deictic system works. For example, the use of open-class deictic expressions like the verbs *bring* and *take* or *come* and *go* are interpreted relative to the positions of speaker and hearer. *Bring* and *come* encode motion towards the speaker or hearer, while *take* and *go* encode motion away from the speaker or hearer's position at the moment of speaking. The adverbs *here* and *there* encode proximity to or distance from the speaker respectively, and the adverbs *now* and *then* are interpreted relative to the moment of speaking. The grammatical feature **person** is a deictic category because the meaning of personal pronouns shifts continually during conversational exchange, and you have to know who is speaking to know who these expressions refer to. Recall example (35), which we first saw in Chapter 7 (Levinson 1983: 55). Imagine you are on a desert island and you find this message in a bottle washed up on the beach.

(35) Meet me here a week from now with a stick about this big.

This example illustrates the dependence of deictic expressions on contextual information. Without knowing the person who wrote the message, where the note was written or the time at which it was written, you cannot fully interpret *me*, *here*, *a week from now*, or *a stick about this big*. The other major grammatical category that is deictic in nature is tense, which is interpreted relative to the moment of speaking.

Returning to agreement, number is the grammatical feature that distinguishes singular from plural. Compare I and we, which are both first person pronouns. Some languages have a more complex system; for example, Arabic distinguishes singular, dual and plural (three or more). Gender is the grammatical feature that distinguishes noun classes (commonly, 'masculine' and 'feminine'). Grammatical gender does not necessarily correlate with the biological sex of the referent. Strictly speaking, English does not have grammatical gender because common nouns are not subdivided into gender categories. Despite this, the pronouns he/him/his and she/her/hers are described as 'masculine' or 'feminine'. The fact that English lacks a system of grammatical gender explains why there is no gender agreement in English between nouns and other elements in the noun phrase. Compare the English and French phrases in examples (36) and (37). While the determiner and the adjective remain the same for boy and girl in English, these categories show distinct gender forms in French, a language with grammatical gender. In other words, the determiner and the adjective, which are dependents of the noun, agree with the noun in French.

- (36) a. the little boy
  - b. the little girl

Person/number	Nominative	Accusative	
1s	Ι	me	
2s	you	you	
3s	he/she/it	him/her/it	
1pl	we	us	
2pl	you	you	
3pl	they	them	

Table 14.4	English	personal	pronouns
------------	---------	----------	----------

(37)	a.	la	petite	fille/table	
		the.F	little.F	girl.F/table.F	
		'the little girl/table'			
	b.	le	petit	garçon/chien	
		the.M	little.M	boy.M/dog.M	
		'the lit	tle bov/d	og'	

Finally, **case** is the grammatical feature that 'flags' the grammatical function of a word or phrase within a sentence (among other grammatical properties). For present purposes, we limit the discussion of case to subject case (**nom-inative**) and object case (**accusative**). Consider examples (38) and (39).

- (38) a. Lily kissed George.
  - b. The rocket scientist kissed the estate agent.
  - c. She kissed him.
- (39) a. George kissed Lily.
  - b. The estate agent kissed the rocket scientist.
  - c. He kissed her.

As these examples show, proper nouns and common nouns in English do not inflect for case: whether these occur as subject or object, their morphological form remains unchanged. In contrast, (most of) the English personal pronouns do show distinct case forms. The feminine singular form is *she* in subject position (nominative) and *her* in object position (accusative). The masculine singular form is *he* in subject position (nominative) and *him* in object position (accusative). Table 14.4 illustrates how these grammatical features interact within the English personal pronoun system.

## 14.4 Characteristics of the cognitive approach to grammar

In this section, we introduce some of the characteristics that identify cognitive theories of grammar. The ultimate objective of a cognitive theory of grammar is

to model speaker knowledge of language in ways that are consistent with the two key commitments underlying the cognitive linguistics enterprise (Chapter 2). Recall that these are (1) the 'Generalisation Commitment': a commitment to the characterisation of general principles that account for all aspects of human language; and (2) the 'Cognitive Commitment': a commitment to establishing general principles for language that are consonant with what is known about the mind and brain from other disciplines. The cognitive model of grammar therefore represents an attempt to model speaker knowledge in ways that are compatible with these two commitments. From this perspective, language emerges from general cognitive mechanisms and processes. The ideas in this section have been most explicitly developed by Langacker and by Talmy, but we set them out here as representative assumptions that guide cognitive approaches to grammar in general.

## 14.4.1 Grammatical knowledge: a structured inventory of symbolic units

As we noted earlier, a central claim in some cognitive approaches to grammar is that knowledge of language (the mental grammar) is represented in the mind of the speaker as an inventory of symbolic units (Langacker 1987: 73). It is only once an expression has been used sufficiently frequently and has become entrenched (acquiring the status of a habit or a cognitive routine) that it becomes a unit. From this perspective, a unit is a symbolic entity that is not built compositionally by the language system but is stored and accessed as a whole. Furthermore, the symbolic units represented in the speaker's grammar are conventional. The conventionality of a linguistic unit relates to the idea that linguistic expressions become part of the grammar of a language by virtue of being shared among members of a speech community. Thus conventionality is a matter of degree: an expression like *cat* is more conventional (shared by more members of the English-speaking community) than an expression like infarct, which is shared only by a subset of English speakers with specialist knowledge relating to the domain of medicine (this expression refers to a portion of tissue that has died due to sudden loss of blood supply). The role of entrenchment and conventionality in this model of grammar emerge from the usage-based thesis.

Symbolic units can be **simplex** or **complex** in terms of their symbolic structure. For example, a simplex symbolic unit like a morpheme may have a complex semantic or phonological structure, but is simplex in terms of symbolic structure if it does not contain smaller symbolic units as subparts. The word *cat* and the plural marker *-s* are examples of simplex symbolic units. Complex units vary according to the level of complexity, from words (for example, *cats*) and phrases (for example, *Lily's black cat*) to whole sentences (for example, *George kicked the cat*).

The contents of this inventory are not stored in a random way. The inventory is **structured**, and this structure lies in the relationships that hold between the units. For example, some units form subparts of other units which in turn form subparts of other units (for example, morphemes make up words and words make up phrases which in turn make up sentences). This set of interlinking and overlapping relationships is conceived as a **network**. There are three kinds of relation that hold between members of the network: (1) **symbolisation** (the symbolic links between semantic pole and phonological pole that we described earlier); (2) **categorisation** (for example, the link between the expressions *rose* and *flower*, given that ROSE is a member of the category FLOWER; and (3) **integration** (the relation between parts of a complex symbolic structure like *flower-s*).

As a constraint on the model – in other words, a statement that places limits on how the model operates – Langacker (1987: 53–4) posits the **content requirement**. This requirement holds that the only units permissible within the grammar of a language ('grammar' in the sense of 'model') are (1) phonological, semantic and symbolic units; (2) the relations that hold between them (described above); and (3) **schemas** that represent these units. This requirement excludes abstract rules from the model. Instead, knowledge of linguistic patterns is conceived in terms of schemas. We return to this idea below (section 14.4.3).

#### 14.4.2 Features of the closed-class subsystem

As we have seen, Talmy (2000) posits the bifurcation of linguistic knowledge into the open-class subsystem and the closed-class subsystem, also known as the grammatical subsystem. Closed-class elements may be overt or implicit. Overt elements can be bound (for example, inflectional morphemes) or free (for example, English determiners or prepositions). Implicit elements have no phonetic realisation but represent speaker knowledge of grammatical categories like noun and verb, subcategories (for example, count noun and mass noun) and grammatical functions (also known as 'grammatical relations') like subject and object. According to Talmy, the closed-class subsystem is semantically restricted and has a structuring function, while the open-class system is semantically unrestricted and has the function of providing conceptual content. To illustrate the restricted nature of the closed-class system, Talmy observes that while many languages have nominal inflections that indicate NUMBER, no language has nominal inflections that indicate COLOUR. For example, many languages have a grammatical affix like plural -s in English, but no language has a grammatical affix designating, say, REDNESS. Furthermore, the grammatical system reflects a restricted range of concepts within the relevant domain. For example, the grammatical NUMBER system can reflect concepts like SINGULAR, PLURAL or PAUCAL (meaning 'a few') but not concepts like MILLIONS or TWENTY-SEVEN.

Talmy accounts for such restrictions by means of the observation that grammatical categories display topological rather than Euclidean properties. This means that the meaning encoded by closed-class elements remains constant despite contextual differences relating to size, shape and so on. For example, the demonstrative determiner *that* in the expressions *that flower in your hair* and *that country* encodes DISTANCE FROM THE SPEAKER regardless of the expanse of that distance. Equally, the modal *will* in the sentences *I will fall!* and *The human race will become extinct* encodes FUTURE TIME regardless of the 'distance' of that future time. As these examples illustrate, the function of the closed-class system is to provide a 'pared-down' or highly abstract conceptual structure. This structure provides a 'scaffold' or a 'skeleton' over which elements from the open-class system are laid in order to provide rich and specific conceptual content. Consider example (40) which is similar to one we explored in Chapter 1.

(40) These cowboys are ruining my flowerbeds.

In this example, the closed-class elements are in bold type and the open-class elements are in ordinary type. If we remove the content words, we end up with something like *these somethings are somethinging my somethings*. Although the meaning provided by the closed-class elements is rather **schematic**, it does provide the information that 'more than one entity close to the speaker is presently in the process of doing something to more than one entity belonging to the speaker'. This is actually quite a lot of information. If we exchange the content words for different ones, we can end up with a description of an entirely different situation but the schematic meaning provided by the closed-class elements remains the same:

(41) These angels are painting my fingernails.

As this example illustrates, the grammatical elements encode far less **specific** information than the content elements, and function to organise or structure the scene encoded by the utterance. This kind of information remains constant regardless of the content words.

As Talmy points out, however, there is not always a clear-cut distinction between open- and closed-class elements with respect to the kinds of concepts they encode. For example, while closed-class elements (auxiliary verbs like *will* or inflectional morphemes like *-ed*) encode past or future time in relation to the verb system, open-class elements (like the adjective *imminent*) encode these concepts in relation to the noun system. This point is illustrated by example (42).

- (42) a. He will depart.
  - b. his imminent departure

Talmy observes that while no inventory of concepts expressible by open-class forms can ever be specified (because there is no limit to human experience, knowledge and understanding), there is a restricted inventory of concepts expressible by closed-class forms. Each individual language has access to this inventory, but it does not follow that any given language will exploit all the available possibilities. Talmy (2000: 38) does not identify a single principle that accounts for the concepts that belong within the closed-class set but admits the 'strong possibility' that it may be partly innate.

## 14.4.3 Schemas and instances

A defining property of the cognitive model is that the characterisation of linguistic units as symbolic units is not restricted to the content system but also applies to the grammatical system. In other words, grammatical units are also seen as form-meaning pairings. As we have seen, while the meaning associated with open-class units is specific (rich in conceptual content), the meaning associated with closed-class units is schematic. From this perspective, there is no need to posit a sharp boundary in the grammar between open-class and closedclass units. Instead, specificity versus schematicity of meaning can be viewed as the poles of a continuum, according to which both open-class and closed-class expressions are meaningful, each making a distinct and necessary contribution to the cognitive representation prompted by the utterance. According to Langacker, the inventory of symbolic units is organised by schema-instance relations. A schema is a symbolic unit that emerges from a process of abstraction over more specific symbolic units called instances. In other words, schemas form in the mental grammar when patterns of similarity are abstracted from utterances, giving rise to a more schematic representation or symbolic unit. The relationship between a schema and the instances from which it emerges is the schema-instance relation. This relationship is hierarchical in nature.

Consider common nouns like *cats*, *dogs*, *books*, *flowers* and so on. Each of these expressions is a highly entrenched symbolic unit. For example, the symbolic unit *cats* might be represented by the formula in (43):

(43) [[[CAT]/[kæt]]-[[PL]/[s]]]

The representations in SMALL CAPITALS indicate the semantic poles and those in the International Phonetic Alphabet (IPA) font represent the phonological poles. The slash indicates the symbolic link between semantic and phonological poles, and the hyphen indicates the linking of symbolic units to form a complex



Figure 14.8 Schema-instance relations

structure. Given that there are many cases of regular plural nouns in the linguistic inventory, this regular pattern is captured by a schematic symbolic unit which contains only schematic information about the construction. This schema for plural nouns is represented in (44).

(44) [[[THING]/[...]]-[[PL]/[s]]]

In this schematic representation, the semantic pole THING indicates a noun but its corresponding phonological unit is left blank to indicate that this construction represents nouns in general. Each fully specified unit corresponding to this schema (for example, the expressions *cats*, *dogs*, *books*, *flowers*) represents an instance of the schema. The hierarchical relationship between a schema and its instances is captured in Figure 14.8.

It is important to point out here that the schema-instance relation is not restricted to symbolic units. For Langacker, the schema is any superordinate (more general) element in a taxonomy and the instance is any subordinate (more specific) element. In other words, the schema-instance relation represents a type of categorisation relation. In terms of phonological units, for example, the phoneme is the schema and its allophones are instances. In terms of semantic units, the concept FLOWER is schematic in relation to the instances ROSE, LILY and GERBERA. An instance is said to **elaborate** its schema, which means that it provides more specific meaning. For example, MAMMAL is more specific than ANIMAL, and in turn MONKEY is more specific than MAMMAL.

#### 14.4.4 Sanctioning and grammaticality

Of course, any model of grammar must account for how speakers know what counts as a **well-formed** or **grammatical** utterance in his or her language. In the cognitive approach, well-formedness is accounted for on the basis of conventionality. Recall that the grammar is conceptualised not as an abstract system of rules, but as an inventory of symbolic units. Moreover, these symbolic units are derived from language use. The cognitive model captures generalisations and defines well-formedness on the basis of a categorisation process. For example, if the structure of an utterance produced by a speaker can be categorised as an instance of an existing schema, it is well-formed. Langacker uses the term **sanction** to refer to this categorisation process. For example, **coding** is the process whereby a speaker searches for a linguistic expression in order to express a concept. If the form the speaker arrives at matches forms existing in his or her inventory, this represents a case of sanction and thus well-formedness. The ability of language users to create novel forms according to the patterns of their language is accounted for by extrapolation from an existing pattern in the inventory, and this is when structure-building comes into the picture. Langacker (1987: 72) provides the example of a child describing a pie as *apricoty*. Although this is a novel form in the sense that it is not conventionalised, it clearly corresponds to a productive pattern in the inventory: many adjectives contain the derivational suffix -y (e.g. *fruity*, *funny*, *stinky*). Because well-formedness is conceived in terms of conventionality and conventionality is a matter of degree, it follows that well-formedness is also a matter of degree.

For example, Langacker demonstrates that acceptability of passive constructions depends on a number of factors, which give rise to **graded grammaticality judgements**. Consider the following examples of passive constructions. A question mark before the sentence indicates that the sentence is not perfectly well-formed but is acceptable. Two question marks indicate somewhat less acceptability. This convention is used in a system with asterisks which, as we have seen, indicate complete ungrammaticality.

- (45) a. This view was enjoyed by Lily and George.
  - b. ?A view was enjoyed by Lily and George
  - c. ??Views were enjoyed by Lily and George

The examples in (45) become progressively less acceptable as the subject of the sentence moves from being definite or **individuated** to becoming less definite or individuated. In (46), the examples become progressively less acceptable the less the verb relates to a prototypical physical action.

- (46) a. George was tickled by Lily.
  - b. ?George was wanted by Lily
  - c. ??George was resembled by his brother

This brief overview suffices to map out the general architecture of the cognitive model. We return to explore each of these issues in more detail in subsequent chapters.

## 14.5 Summary

In this chapter we have set out the characteristics of a **cognitive approach to grammar**. A cognitive approach adopts two fundamental assumptions:

the symbolic thesis and the usage-based thesis. The resulting model assumes that a speaker's knowledge of language or mental grammar emerges from his or her experience of situated usage events. We identified two main types of cognitive model: inventory-based approaches and the 'Grammatical Subsystem Approach' developed by Talmy. The inventory-based approaches include Cognitive Grammar and constructional approaches, and are concerned with accounting for the entire inventory of symbolic units. In addition to these two types of model, we mentioned a number of cognitive approaches to grammaticalisation which are informed in various ways by cognitive linguistic theory. We also introduced some essential grammatical terms that we rely upon throughout Part III of the book. Finally, we set out some of the defining characteristics of a cognitive approach to grammar. We saw that a cognitive model represents knowledge of language in the mind of the speaker as a structured inventory of conventional symbolic units. Within this structured inventory, there is a qualitative distinction between open-class and closed-class symbolic units, a distinction that has also been expressed in terms of a distinction between lexical and grammatical subsystems. The inventory is structured by schema-instance relations in which more schematic symbolic units or schemas are abstracted from experience of more specific symbolic units or instances. The cognitive model we sketch here is not a specific theory, but is based on points of similarity across a number of cognitive approaches, each of which we explore in more detail in subsequent chapters.

## **Further reading**

#### Introductory texts

- Croft and Cruse (2004). This textbook has useful chapters on construction grammars and the usage-based model.
- Lee (2001). This textbook provides a very basic introduction to cognitive linguistics. Some chapters relate to grammatical issues including constructions, nouns and verbs, and it also has a chapter on language change.
- Taylor (2002). This detailed and highly accessible textbook provides a comprehensive overview of Langacker's theory of Cognitive Grammar.

## Foundational texts

The following are among the foundational book-length texts and articles that set out a cognitive approach to grammar. For purposes of accessibility, we have grouped this list by theory.