5

What is cognitive semantics?

Cognitive semantics began in the 1970s as a reaction against the **objectivist world-view** assumed by the Anglo–American tradition in philosophy and the related approach, **truth-conditional semantics**, developed within formal linguistics. Eve Sweetser, a leading cognitive linguist, describes the truth-conditional approach in the following terms: 'By viewing meaning as the relationship between words and the world, truth-conditional semantics eliminates cognitive organization from the linguistic system' (Sweetser 1990: 4). In contrast to this view, cognitive semantics sees linguistic meaning as a manifestation of **conceptual structure**: the nature and organisation of mental representation in all its richness and diversity, and this is what makes it a distinctive approach to linguistic meaning. Leonard Talmy, one of the original pioneers of cognitive linguistics in the 1970s, describes cognitive semantics as follows: '[R]esearch on cognitive semantics is research on conceptual content and its organization in language' (Talmy 2000: 4). In this chapter, we will try to give a broad sense of the nature of cognitive semantics as an approach to conceptual structure and linguistic meaning. Cognitive semantics, like the larger enterprise of cognitive linguistics of which it is a part, is not a single unified framework. Those researchers who identify themselves as cognitive semanticists typically have a diverse set of foci and interests. However, there are a number of principles that collectively characterise a **cognitive semantics approach**. In section 5.1 we will identify these guiding principles as we see them. In section 5.2 we will explore some of the major lines of investigation pursued under the 'banner' of cognitive semantics. As we will see, although cognitive semantics began life as a reaction against formal theories of meaning deriving from twentieth-century analytic philosophy and objectivism, the guiding principles adopted within cognitive semantics open up a range of phenomena for

direct investigation that transcend the initial point of departure for research in cognitive semantics. In other words, these approaches now go significantly beyond refuting the tradition of truth-conditional semantics. In section 5.3, we will look in more detail at the methodology adopted by cognitive semanticists in investigating these phenomena, and in section 5.4 we will make some explicit comparisons between cognitive approaches and formal approaches to linguistic meaning, setting the scene for some of the more detailed discussions that follow in Part II of the book.

5.1 Guiding principles

In this section we consider four central assumptions of cognitive semantics. These are listed below:

1. Conceptual structure is embodied (the 'embodied cognition thesis').
2. Semantic structure is conceptual structure.
3. Meaning representation is encyclopaedic.
4. Meaning construction is conceptualisation.

These principles can be viewed as outcomes of the two key commitments described in Chapter 2: the 'Generalisation Commitment' and the 'Cognitive Commitment'. The embodied cognition thesis is also one of these assumptions. Let's look at each of these in turn.

5.1.1 Conceptual structure is embodied

A fundamental concern for cognitive semanticists is the nature of the relationship between conceptual structure and the external world of sensory experience. In other words, cognitive semanticists set out to explore the nature of human interaction with and awareness of the external world, and to build a theory of conceptual structure that is consonant with the ways in which we experience the world. One idea that has emerged in an attempt to explain the nature of conceptual organisation on the basis of interaction with the physical world is the **embodied cognition thesis**, which we introduced in Chapter 2. As we saw, this thesis holds that the nature of conceptual organisation arises from bodily experience, so part of what makes conceptual structure meaningful is the bodily experience with which it is associated.

Let's illustrate this idea with an example. Imagine a man in a locked room. A room has the structural properties associated with a **bounded landmark**: it has enclosed sides, an interior, a boundary and an exterior. As a consequence of these properties, the bounded landmark has the additional functional property of **containment**: the man is unable to leave the room. Although this seems

rather obvious, observe that this instance of containment is partly a consequence of the properties of the bounded landmark and partly a consequence of the properties of the human body. Humans cannot pass through minute crevices like gas can, or crawl through the gaps under doors like ants can. In other words, containment is a meaningful consequence of a particular type of physical relationship that we have experienced in interaction with the external world.

The concept associated with containment is an instance of what cognitive linguists call an **image schema**. In the cognitive model, the image-schematic concept represents one of the ways in which bodily experience gives rise to meaningful concepts. While the concept CONTAINER is grounded in the directly embodied experience of interacting with bounded landmarks, image-schematic conceptual structure can also give rise to more abstract kinds of meaning. For example, consider the following examples from Lakoff and Johnson (1980: 32):

(1) a. He's *in* love.
     b. We're *out of* trouble now.
     c. He's *coming out of* the coma.
     d. I'm *slowly getting into* shape.
     e. He *entered* a state of euphoria.
     f. He *fell into* a depression.

Lakoff (1987) and Johnson (1987) both argue that examples like the ones in (1) are licensed by the **metaphorical projection** of the CONTAINER image schema onto the abstract conceptual domain of STATES, to which concepts like LOVE, TROUBLE and HEALTH belong. This results in the conceptual metaphor STATES ARE CONTAINERS. The idea behind metaphorical projection is that meaningful structure from bodily experience gives rise to concrete concepts like the CONTAINER image schema, which in turn serves to structure more abstract conceptual domains like STATES. In this way, conceptual structure is embodied. We will look in detail at image schemas in Chapter 6.

5.1.2 Semantic structure is conceptual structure

This principle asserts that language refers to concepts in the mind of the speaker rather than to objects in the external world. In other words, **semantic structure** (the meanings conventionally associated with words and other linguistic units) can be equated with concepts. As we saw in Chapter 3, these conventional meanings associated with words are **linguistic concepts** or **lexical concepts**: the conventional form that conceptual structure requires in order to be encoded in language.

However, the claim that semantic structure can be equated with conceptual structure does not mean that the two are identical. Instead, cognitive semanticists claim that the meanings associated with words, for example, form only a subset of possible concepts. After all, we have many more thoughts, ideas and feelings than we can conventionally encode in language. For example, we have a concept for the place on our faces below our nose and above our mouth where moustaches go. We must have a concept for this part of the face in order to understand that the hair that grows there is called a *moustache*. However, as Langacker (1987) points out, there is no English word that conventionally encodes this concept (at least not in the non-specialist vocabulary of everyday language). It follows that the set of lexical concepts is only a subset of the entire set of concepts in the mind of the speaker.

For a theory of language, this principle is of greater significance than we might think. Recall that semantic structure relates not just to words but to all **linguistic units**. A linguistic unit might be a word like *cat*, a **bound morpheme** such as *-er*, as in *driver* or *teacher*, or indeed a larger conventional pattern, like the structure of an active sentence (2) or a passive sentence (3):

(2) William Shakespeare wrote *Romeo and Juliet*.   [active]

(3) *Romeo and Juliet* was written by William Shakespeare.   [passive]

Because active and passive constructions are conventionally associated with a functional distinction, namely the point of view we are adopting with respect to the subject of the sentence, cognitive linguists claim that the active and passive structures are themselves meaningful: in active sentences we are focusing on the active participant in an event by placing this unit at the front of the construction. In passive sentences, we are focusing on the participant that undergoes the action. The conventional meanings associated with these grammatical constructions are admittedly schematic, but they are nevertheless meaningful. According to the view adopted in cognitive semantics, the same holds for smaller grammatical units as well, including words like *the* and tense morphemes like *–ed* in *wondered*. This is an idea that we discuss in more detail in Part III of the book.

For present purposes, the idea that grammatical categories or constructions are essentially conceptual in nature entails that closed-class elements as well as open-class elements fall within the purview of semantic analysis. Indeed, Talmy (2000) explicitly focuses upon **closed-class semantics**. One of the properties that makes cognitive semantics different from other approaches to language, then, is that it seeks to provide a unified account of lexical and grammatical organisation rather than viewing these as distinct subsystems.

There are two important caveats that follow from the principle that semantic structure represents a subpart of conceptual structure. Firstly, it is important to point out that cognitive semanticists are not claiming that language relates to concepts internal to the mind of the speaker and nothing else. This would lead to an extreme form of **subjectivism**, in which concepts are divorced from the world that they relate to (see Sinha 1999). Indeed, we have concepts in the first place either because they are useful ways of understanding the external world, or because they are inevitable ways of understanding the world, given our cognitive architecture and our physiology. Cognitive semantics therefore steers a path between the opposing extremes of subjectivism and the objectivism encapsulated in traditional truth-conditional semantics (section 5.4) by claiming that concepts relate to lived experience.

Let's look at an example. Consider the concept BACHELOR. This is a much-discussed example in the semantics literature. This concept, which is traditionally defined as an 'unmarried adult male', is not isolated from ordinary experience because we cannot in fact apply it to all unmarried adult males. We understand that some adult males are ineligible for marriage due either to vocation or to sexual preference (at least while marriage is restricted to occurring between members of the opposite sex). It is for this reason that we would find it odd to apply the term *bachelor* to either the Pope or a homosexual male, even though they both, strictly speaking, meet the 'definition' of BACHELOR.

The second caveat concerns the notion of semantic structure. We have assumed so far that the meanings associated with words can be defined: for example, BACHELOR means 'unmarried adult male'. However, we have already begun to see that word meanings, which we are calling lexical concepts, cannot straightforwardly be defined. Indeed, strict definitions like 'unmarried adult male' fail to adequately capture the range and diversity of meaning associated with any given lexical concept. For this reason, cognitive semanticists reject the definitional or dictionary view of word meaning in favour of an encyclopaedic view. We will elaborate this idea in more detail below (section 5.1.3).

5.1.3 Meaning representation is encyclopaedic

The third central principle of cognitive semantics holds that semantic structure is **encyclopaedic** in nature. This means that words do not represent neatly packaged bundles of meaning (the **dictionary** view), but serve as 'points of access' to vast repositories of knowledge relating to a particular concept or conceptual domain (e.g. Langacker 1987). We illustrated this idea above in relation to the concept BACHELOR. Indeed, not only do we know that certain kinds of unmarried adult males would not normally be described as bachelors, we also have cultural knowledge regarding the behaviour associated with

stereotypical bachelors. It is 'encyclopaedic' knowledge of this kind that allows us to interpret this otherwise contradictory sentence:

(4) 'Watch out Jane, your husband's a right bachelor!'

On the face of it, identifying Jane's husband (a married man) as a bachelor would appear to be contradictory. However, given our cultural stereotype of bachelors, which represents them as sexual predators, we understand the utterance in (4) as a warning issued to Jane concerning her husband's fidelity. As this example illustrates, the meanings associated with words often draw upon complex and sophisticated bodies of knowledge. We will look in detail at the encyclopaedic view of meaning in Chapter 7.

Of course, to claim that words are 'points of access' to encyclopaedic meaning is not to deny that words have conventional meanings associated with them. The fact that example (5) means something different from example (6) is a consequence of the conventional range of meanings associated with *safe* and *happy*.

(5) John is safe.

(6) John is happy.

However, cognitive semanticists argue that the conventional meaning associated with a particular word is just a 'prompt' for the process of **meaning construction**: the 'selection' of an appropriate interpretation against the context of the utterance. For example, the word *safe* has a range of meanings, and the meaning that we select emerges as a consequence of the context in which the word occurs. To illustrate this point, consider the examples in (7) against the context of a child playing on the beach.

(7) a. The child is safe.
    b. The beach is safe.
    c. The shovel is safe.

In this context, the interpretation of (7a) is that the child will not come to any harm. However, (7b) does not mean that the beach will not come to harm. Instead, it means that the beach is an environment in which the risk of the child coming to harm is minimised. Similarly, (7c) does not mean that the shovel will not come to harm, but that it will not cause harm to the child. These examples illustrate that there is no single fixed property that *safe* assigns to the words *child*, *beach* and *shovel*. In order to understand what the speaker means, we draw upon our encyclopaedic knowledge relating to children, beaches and shovels,

and our knowledge relating to what it means to be safe. We then 'construct' a meaning by 'selecting' a meaning that is appropriate in the context of the utterance.

Just to give a few examples, the sentence in (7b) could be interpreted in any of the following ways, given an appropriate context. Some of these meanings can be paraphrased as 'safe from harm', and others as 'unlikely to cause harm': (1) this beach has avoided the impact of a recent oil spill; (2) this beach is not going to be dug up by property developers; (3) due to its location in a temperate climate, you will not suffer from sunburn on this beach; (4) this beach, which is prone to crowding, is free of pickpockets; (5) there are no jellyfish in the sea; (6) the miniature model beach with accompanying model luxury hotels, designed by an architect, which was inadvertently dropped before an important meeting, has not been damaged.

5.1.4 Meaning construction is conceptualisation

In this section, we explore the process of meaning construction in more detail. The fourth principle associated with cognitive semantics is that language itself does not encode meaning. Instead, as we have seen, words (and other linguistic units) are only 'prompts' for the construction of meaning. According to this view, meaning is constructed at the conceptual level: meaning construction is equated with **conceptualisation**, a dynamic process whereby linguistic units serve as prompts for an array of conceptual operations and the recruitment of background knowledge. It follows from this view that meaning is a process rather than a discrete 'thing' that can be 'packaged' by language. Meaning construction draws upon encyclopaedic knowledge, as we saw above, and involves **inferencing strategies** that relate to different aspects of conceptual structure, organisation and packaging (Sweetser 1999). The dynamic quality of meaning construction has been most extensively modelled by Gilles Fauconnier (e.g. 1994, 1997), who emphasises the role of **mappings**: local connections between distinct **mental spaces**, conceptual 'packets' of information, which are built up during the 'on-line' process of meaning construction.

Let's look at an example that illustrates the conceptual nature of meaning construction. Consider the following example from Taylor (2002: 530):

(8) In France, Bill Clinton wouldn't have been harmed by his relationship with Monica Lewinsky.

Sentences of this kind are called **counterfactuals**, because they describe a scenario that is counter to fact. This sentence prompts us to imagine a scenario in which Bill Clinton, the former US President, is actually the President of France, and that the scandal that surrounded him and the former Whitehouse

intern, Monica Lewinsky, took place not in the United States but in France. In the context of this scenario, it is suggested that Bill Clinton would not have been politically harmed by his extramarital affair with Lewinsky. According to Gilles Fauconnier and Mark Turner (e.g. 2002), we actually have to engage in conceptual feats of breathtaking complexity in order to access this kind of meaning. These conceptual feats are performed on a second-by-second basis in the ongoing construction of meaning in discourse, and without conscious awareness.

According to this view, which is called **Conceptual Blending Theory**, the sentence in (8) prompts us to set up one mental space, a 'reality space', in which Clinton is the US President, Lewinsky is his intern, they have an affair, they are found out and scandal ensues. We also set up a second 'reality space', which contains the President of France together with knowledge about French culture which deems it permissible for French presidents to have extra-marital relations, and 'public' and 'private' families. In a third **blended space**, Clinton is the President of France, he has an affair with Lewinsky, they are found out, but there is no scandal. Because of the conceptual mappings that relate the first two spaces to the third blended space, we come to understand something additional about the original 'input' or reality spaces. We learn that the cultural and moral sensitivities regarding extramarital affairs between politicians and members of their staff are radically different in the United States and France. This meaning is constructed on the basis of complex mapping operations between distinct reality-based scenarios, which combine to create a new counterfactual scenario. The blended space, then, gives rise to a new meaning, albeit counterfactual, which is not available from encyclopaedic knowledge. This new meaning rests upon Clinton as French President escaping scandal despite his affair with Lewinsky. We will look in detail at mental spaces and the idea of conceptual blending in Chapters 11–12. Table 5.1 summarises the four key assumptions of cognitive semantics that we have discussed in this section.

5.2 Phenomena investigated within cognitive semantics

Having established the guiding principles that underpin cognitive semantics, we turn in this section to a brief overview of some of the phenomena investigated within this approach. This provides some elaboration on issues addressed in the previous section, and gives a flavour of the nature and scope of cognitive semantics.

5.2.1 The bodily basis of meaning

Given the thesis of embodied cognition that we discussed earlier (section 5.1.2), a key area of investigation within cognitive semantics concerns the

Table 5.1 The guiding principles of cognitive semantics

Conceptual structure is embodied	The nature of conceptual organisation arises from bodily experience
Semantic structure is conceptual structure	Semantic structure (the meanings conventionally associated with words and other linguistic units) is equated with concepts
Meaning representation is encyclopaedic	Words (and other linguistic units) are treated as 'points of access' to vast repositories of knowledge relating to a particular concept
Meaning construction is conceptualisation	Meaning construction is equated with conceptualisation, a dynamic process whereby linguistic units serve as prompts for an array of conceptual operations and the recruitment of background knowledge

bodily basis of meaning (see Chapter 6). Given the assumption that conceptual structure is meaningful by virtue of being tied to directly meaningful pre-conceptual (bodily) experience, much research within the cognitive semantics tradition has been directed at investigating conceptual metaphors. According to this approach, conceptual metaphors give rise to systems of conventional conceptual mappings, held in long-term memory, which may be motivated by image-schematic structure. If image schemas arise from bodily experience, then we may be able to explain conceptual metaphor on the basis that it maps rich and detailed structure from concrete domains of experience onto more abstract concepts and conceptual domains. We have seen several examples of this phenomenon already. Consider again example (9), which was first presented in Chapter 1.

(9) The number of shares has gone up.

According to Lakoff and Johnson, examples like this are motivated by a highly productive conceptual metaphor that is also evident in (10).

(10) a. John got the highest score on the test.
b. Mortgage rates have fallen.
c. Inflation is on the way up.

This metaphor appears to relate the domains of QUANTITY and VERTICAL ELE-VATION. In other words, we understand greater quantity in terms of increased height, and decreased quantity in terms of lesser height. Conceptual metaphor

scholars like Lakoff and Johnson argue that this conventional pattern of conceptual mapping is directly grounded in ubiquitous everyday experience. For example, when we pour a liquid into a glass, there is a simultaneous increase in the height and quantity of the fluid. This is a typical example of the correlation between height and quantity. Similarly, if we put items onto a pile, an increase in height correlates with an increase in quantity. This **experiential correlation** between height and quantity, which we experience from an early age, has been claimed to motivate the conceptual metaphor MORE IS UP, also known as QUANTITY IS VERTICAL ELEVATION (see Chapter 9).

5.2.2 Conceptual structure

As we have seen, an important line of investigation within cognitive semantics focuses on how language encodes (and reflects) conceptual structure. This line of investigation concerns the conceptual structuring mechanisms apparent in linguistic structure. One way of uncovering conceptual structure in language is by investigating the distinct functions associated with open–class and closed–class semantic systems. Talmy (2000) argues that these two systems encode our **Cognitive Representation** (CR) in language. The closed-class semantic system (the system of meaning associated with grammatical constructions, bound morphemes and grammatical words like *and* and *the*) provides scene-structuring representation. The open-class semantic system (the system of meaning associated with content words and morphemes) provides the substantive content relating to a particular scene. In Chapter 1, we illustrated the distinction between the open–class and closed-class subsystems with the following example:

(11) **The** hunter track**ed the** tiger**s**

The elements marked in bold, as well as the **declarative** word order (as opposed to the **interrogative** *Did the hunter track the tigers?* for example) form part of the system of closed-class semantics. They provide the 'concept structuring' elements of the meaning described in this scene, and provide information about when the event occurred, how many participants were involved, whether the participants are familiar to the speaker and hearer in the current discourse, whether the speaker asserts the information (rather than, say, asking a question about it) and so on. We can think of these closed-class elements as providing a kind of frame or scaffolding, which forms the foundations of the meaning in this sentence. The open-class semantic system relates to words like *hunter*, *track* and *tiger*, which impose rich contentful meaning upon this frame: who the participants are and the nature of event described in the scene. We look at these ideas in more detail in Chapter 6.

5.2.3 Encyclopaedic semantics

Research into the encyclopaedic nature of meaning has mainly focused on the way semantic structure is organised relative to conceptual knowledge structures. One proposal concerning the organisation of word meaning is based on the notion of a **frame** against which word-meanings are understood. This idea has been developed in linguistics by Charles Fillmore (1975, 1977, 1982, 1985a). Frames are detailed knowledge structures or schemas emerging from everyday experiences. According to this perspective, knowledge of word meaning is, in part, knowledge of the individual frames with which a word is associated. A theory of **frame semantics** therefore reveals the rich network of meaning that makes up our knowledge of words (see Chapter 7).

By way of illustration, consider the verbs *rob* and *steal*. On first inspection it might appear that these verbs both relate to a THEFT frame, which includes the following roles: (1) THIEF; (2) TARGET (the person or a place that is robbed); and (3) GOODS (to be) stolen. However, there is an important difference between the two verbs: while *rob* profiles THIEF and TARGET, *steal* profiles THIEF and GOODS. The examples in (12) are from Goldberg (1995: 45).

(12) a. [Jesse] robbed [the rich] (of their money). <**THIEF TARGET** GOODS>

    b. [Jesse] stole [money] (from the rich). <**THIEF** TARGET **GOODS**>

In other words, while both verbs can occur in sentences with all three participants, each verb has different requirements concerning which two participants it needs. This is illustrated by following examples (although it's worth observing that (13a) is acceptable in some British English dialects):

(13) a. *Jesse robbed the money.

    b. *Jesse stole the rich.

As these examples illustrate, our knowledge of word meaning involves complex networks of knowledge.

A related approach is the theory of **domains**, developed by Langacker (e.g. 1987). In his theory of domains (also discussed in Chapter 7), Langacker argues that knowledge representation can be described in terms of **profile-base organisation**. A linguistic unit's **profile** is the part of its semantic structure upon which that word focuses attention: this part is explicitly mentioned. The aspect of semantic structure that is not in focus, but is necessary in order to understand the profile, is called the **base**. For instance, the lexical item *hunter*

profiles a particular participant in an activity in which an animal is pursued with a view to it being killed. The meaning of *hunter* is only understood in the context of this activity. The hunting process is therefore the base against which the participant *hunter* is profiled.

5.2.4 Mappings

Another prominent theme in cognitive semantics is the idea of conceptual **mappings**. Fauconnier (1997) has identified three kinds of mapping operations: (1) projection mappings; (2) pragmatic function mappings; and (3) schema mappings.

A **projection mapping** projects structure from one domain (**source**) onto another (**target**). We mentioned this kind of mapping earlier in relation to conceptual metaphor. Another example is the metaphor TIME IS THE MOTION OF OBJECTS, where TIME is conceptualised in terms of MOTION (recall the discussion of the 'moving time' model in Chapter 3). Consider the examples in (14).

(14) a. Summer has just zoomed by.
     b. The end of term is approaching.
     c. The time for a decision has come.

In these sentences, temporally framed concepts corresponding to the expressions *summer, the end of term* and *the time for a decision* are structured in terms of MOTION. Of course, temporal concepts cannot undergo literal motion because they are not physical entities. However, these conventional metaphoric mappings allow us to understand abstract concepts like TIME in terms of MOTION. We explore conceptual metaphor in detail in Chapter 9.

Pragmatic function mappings are established between two entities by virtue of a shared frame of experience. For example, **metonymy,** which depends upon an association between two entities so that one entity can stand for the other, is an instance of a pragmatic function mapping. Consider example (15).

(15) The ham sandwich has wandering hands.

Imagine the sentence in (15) uttered by one waitress to another in a restaurant. In this context, the salient association between a particular customer and the food he orders establishes a pragmatic function mapping. We also look in detail at metonymy in Chapter 9.

Schema mappings relate to the projection of a schema (another term for frame) onto particular utterances. As intimated in section 5.2.1, a frame is

a relatively detailed knowledge structure derived from everyday patterns of interaction. For instance, we have an abstract frame for PURCHASING GOODS, which represents an abstraction over specific instances of purchasing goods, such as buying a stamp in a post office, buying groceries in a supermarket, ordering a book through an on-line retailer, and so on. Each instance of PUR-CHASING GOODS involves a purchaser, a vendor, merchandise, money (or credit card) and so on. Consider example (16):

(16) The Ministry of Defence purchased twenty new helicopters from Westland.

We make sense of this sentence by mapping its various components onto the roles in the PURCHASING GOODS frame. This frame enables us to understand the role assumed by each of the participants in this example: that the Ministry of Defence is the PURCHASER, the contractor Westland is the VENDOR and the helicopters are the MERCHANDISE. We look in more detail at schema mappings in Chapters 11 and 12, where we address two theories that rely upon this idea: Mental Spaces Theory and Conceptual Blending Theory.

5.2.5 Categorisation

Another phenomenon that has received considerable attention within cognitive semantics is categorisation: our ability to identify entities as members of groups. Of course, the words we use to refer to entities rest upon categorisation: there are good reasons why we call a cat '*cat*' and not, say, '*fish*'. One of the reasons behind the interest in this area stems from the 'Cognitive Commitment': the position adopted by cognitive linguists that language is a function of generalised cognition (Chapter 2). The ability to categorise is central to human cognition; given the 'Cognitive Commitment', we expect this ability to be reflected in linguistic organisation. The other reason behind the interest in this area relates to a question that has challenged philosophers (and, more recently, linguists) since ancient times: can word meaning be defined?

In the 1970s, pioneering research by cognitive psychologist Eleanor Rosch and her colleagues presented a serious challenge to the classical view of categorisation that had dominated Western thought since the time of Aristotle. According to this classical model, category membership is defined according to a set of necessary and sufficient conditions, which entails that category membership is an 'all-or-nothing' affair. For example, as we observed in Chapter 2, the artefacts depicted in Figure 5.1 can, depending on the situation and the way the artefact is being used, be identified as members of the category CUP. However, these are not all 'equal' members of that category.
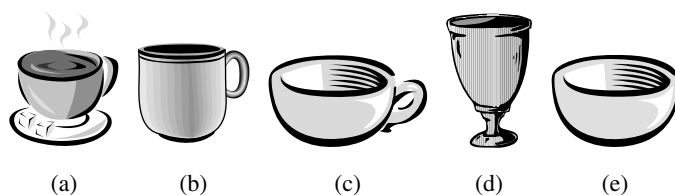
Figure 5.1 Some members of the category CUP

The findings of Eleanor Rosch and her team revealed that categorisation is not an all or nothing affair, but that many categorisation judgements seemed to exhibit **prototype** or **typicality effects**. For example, when we categorise birds, certain types of bird (like robins or sparrows) are judged as 'better' examples of the category than others (like penguins).

In his famous book *Women, Fire and Dangerous Things*, George Lakoff (1987) explored some of the consequences of the observations made by Rosch and her colleagues for a theory of conceptual structure as manifested in language. An important idea that emerged from Lakoff's study is the theory of **idealised cognitive models (ICMs)**, which are highly abstract frames. These can account for certain kinds of typicality effects in categorisation.

For example, let's consider once more the concept BACHELOR. This is understood with respect to a relatively schematic ICM MARRIAGE. The MARRIAGE ICM includes the knowledge that bachelors are unmarried adult males. As we have observed, the category BACHELOR exhibits typicality effects. In other words, some members of the category BACHELOR (like eligible young men) are 'better' or more typical examples than others (like the Pope). The knowledge associated with the MARRIAGE ICM stipulates that bachelors can marry. However, our knowledge relating to CATHOLICISM stipulates that the Pope cannot marry. It is because of this mismatch between the MARRIAGE ICM (with respect to which BACHELOR is understood) and the CATHOLICISM ICM (with respect to which the Pope is understood) that this particular typicality effect arises.

5.2.6 Word meaning and polysemy

Another area in which Lakoff's work on ICMs has been highly influential is lexical semantics. As we have begun to see (recall example (7)), **lexical items** (words) typically have more than one meaning associated with them. When the meanings are related, this is called **polysemy**. Polysemy appears to be the norm rather than the exception in language. Lakoff proposed that lexical units like words should be treated as conceptual categories, organised with respect to an ICM or prototype. According to this point of view, polysemy arises because words are linked to a network of lexical concepts rather than to a single

such concept. However, there is usually a central or 'typical' meaning that relates the others. In this respect, word meanings are a bit like the category BIRD. We look in more detail at word meaning in Chapter 10.

5.3 Methodology

In this section, we briefly comment on issues relating to methodology in cognitive semantics. First of all, it is important to explain how cognitive semantics is different from cognitive approaches to grammar, which we explore in Part III of the book. Cognitive semantics is primarily concerned with investigating conceptual structure and processes of conceptualisation, as we have seen. This means that cognitive semanticists are not primarily concerned with studying linguistic meaning for its own sake, but rather for what it can reveal about the nature of the human conceptual system. Their focus on language is motivated by the assumption that linguistic organisation will reflect, at least partially, the nature and organisation of the conceptual system; this does not mean that language directly mirrors the conceptual system, as we were careful to point out earlier in this chapter. For cognitive semanticists, then, language is a tool for investigating conceptual organisation.

In contrast, cognitive approaches to grammar are primarily concerned with studying the language system itself, and with describing that system, and our knowledge of that system, on the basis of the properties of the conceptual system. It follows that cognitive semantics and cognitive approaches to grammar are 'two sides of the same coin': cognitive semanticists rely on language to help them understand how the conceptual system works, while cognitive grammarians rely on what is known about the conceptual system to help them understand how language works.

In employing language for the purposes of investigating patterns of conceptual organisation, cognitive semanticists rely upon the methodology of seeking **converging evidence**, an idea that we introduced in Chapter 2. This means that when patterns in language suggest corresponding patterns in conceptual structure, cognitive semanticists look for related evidence of these patterns in other areas of investigation. For example, linguistic patterns suggest conceptual patterns relating to time, where PAST is 'behind' and FUTURE is 'in front'. Evidence from gesture studies provides independent support for the existence of this conceptual pattern: while English speakers gesture behind themselves while talking about the past, they gesture in front of themselves when talking about the future. Converging evidence from two distinct forms of communication (language and gesture) suggests that a common conceptual pattern underlies those two different forms. This explains why cognitive semanticists rely upon evidence from other disciplines, particularly cognitive psychology and neuroscience, in building a theory of the human conceptual system.

5.4 Some comparisons with formal approaches to semantics

In this section, we sketch out some of the differences between cognitive seman-
tics and formal approaches to meaning. These different points are developed at
relevant points throughout Part II of the book, and in Chapter 13 cognitive
semantics is compared with two influential formal theories of meaning: Formal
Semantics and Relevance Theory. To begin with, formal approaches to meaning
such as truth-conditional semantics, which aim to be broadly compatible with
the generative model, assume a dictionary model of linguistic meaning, rather
than an encyclopaedic model. According to this view, linguistic meaning is sep-
arate from 'world knowledge', and can be modelled according to precise and for-
mally stated definitions. Often, formal models of meaning rely on semantic
decomposition along the lines we outlined in Chapter 3. One consequence of the
strict separation of linguistic knowledge from world knowledge is the separation
of semantics from pragmatics. While semantic meaning relates to the meaning
'packaged' inside words, regardless of their context of use, pragmatic meaning
relates to how speakers make use of contextual information to retrieve speaker
meaning by constructing inferences and so on. Of course, both semantic and
pragmatic meaning interact to give rise to the interpretation of an utterance, but
the formal model holds that only semantic meaning, being 'purely linguistic',
belongs in the lexicon. As we will discover, cognitive semantics rejects this sharp
division between semantics and pragmatics. Furthermore, in assuming a proto-
type model of word meaning, cognitive semantics also rejects the idea that word
meaning can be modelled by strict definitions based on semantic decomposition.

A related issue concerns the assumption of compositionality that is assumed
within formal models Not only is word meaning composed from semantic prim-
itives, but sentence meaning is composed from word meaning, together with the
structure imposed on those words by the grammar. While this view might work
well enough for some sentences, it fails to account for 'non-compositional'
expressions: those expressions whose meaning cannot be predicted from the
meanings of the parts. These include idioms and metaphors (recall our discus-
sion of the idiomatic expression *kick the bucket* in Chapter 1). This view implies
that non-compositional expressions are the exception rather than the norm. As
we will see, cognitive linguists also reject this view, adopting a constructional
rather than compositional view of sentence meaning. Furthermore, cognitive
semanticists argue that figurative language is in fact central to our way of think-
ing as well as to the way language works.

The final difference that we mention here relates to the model of truth-
conditional semantics that is adopted by most formal models of linguistic
meaning. This approach assumes an objectivist position, which means that it
assumes an objective external reality against which descriptions in language
can be judged true or false. In this way, it builds a model of semantic meaning

that can be made explicit by means of a logical metalanguage. For example, the sentences *Lily devoured the cake* and *The cake was devoured by Lily* stand in a sentence meaning relation of paraphrase. The truth-conditional model characterises this meaning relation by describing the two sentences, or rather the propositions they express, as both holding true of the same state of affairs in the world. The appeal of this model is that it allows for precise statements that can be modelled by logic (a point to which we return in Chapter 13). One of the main disadvantages is that it can only account for propositions (roughly, descriptions of states of affairs). Of course, many utterances do not express propositions, such as questions, commands, greetings and so on, so that the truth-conditional model can only account for the meaning of a subset of sentence or utterance types. This view stands in direct opposition to the experientialist view adopted within cognitive semantics, which describes meaning in terms of human construal of reality.

Of course, there are many different formal models of linguistic meaning, and we cannot do justice to them all here. For purposes of comparison in this book, we refer to the 'standard' truth-conditional approach that is set out in most textbooks of semantics, while drawing the reader's attention to the fact that more recent formal approaches, notably the Conceptual Semantics model developed by Ray Jackendoff (1983, 1990, 1992, 1997), are consonant with the cognitive view in a number of important ways. For example, like cognitive semanticists, Jackendoff assumes a non-objective representational rather than denotational view of meaning: a mentalist model, which treats meaning as a relationship between language and world that is mediated by the human mind. Jackendoff also rejects the truth-conditional approach. However, as we saw in Chapter 3, Jackendoff adopts the semantic decomposition approach, and aims to build a model that is compatible with generative assumptions, including the nativist hypothesis and the modularity hypothesis.

5.5 Summary

In this chapter we have presented the four fundamental principles that characterise the approach to linguistic meaning known as cognitive semantics. In contrast to **objectivist semantics**, cognitive semantics adopts the position that language refers not to an objective reality, but to concepts: the conventional meanings associated with words and other linguistic units are seen as relating to thoughts and ideas. Hence, the first main assumption of cognitive semantics concerns the nature of the relationship between conceptual structure and human interaction with, and awareness of, the external world of sensory experience. Cognitive semanticists posit the **embodied cognition thesis**: the idea that the nature of conceptual organisation arises from bodily experience. In other words, conceptual structure is meaningful in part because of the bodily

experiences with which it is associated. The second assumption is that **semantic structure is conceptual structure.** The third assumption associated with cognitive semantics holds that **meaning representation is encyclopaedic**: words (and other linguistic units) are 'points of access' to vast repositories of knowledge concerning a particular lexical concept. The fourth assumption holds that language itself does not encode meaning. Instead, words (and other linguistic units) serve as 'prompts' for the construction of meaning. This gives rise to the thesis that **meaning construction is conceptualisation**, a dynamic process whereby linguistic units serve as prompts for an array of conceptual operations and the recruitment of background knowledge.

Further reading

Introductory texts

- **Croft and Cruse (2004)**
- **Lee (2001)**
- **Saeed (2002)**
- **Ungerer and Schmid (1996)**

These are all textbooks that provide good coverage of cognitive semantics. The Lee book is the most accessible. The Croft and Cruse book is the most advanced. The Saeed book is an excellent general introduction to the study of linguistic meaning, addressing both formal and non-formal perspectives, and includes one chapter focusing on cognitive semantics as well as a chapter on Jackendoff's conceptual semantics framework.

Foundational texts

The following are among the foundational book-length texts in cognitive semantics, providing an insight into issues explored, phenomena investigated and the kinds of methodologies employed. We will look in detail at all these theories in subsequent chapters.

- **Fauconnier (1994)**. Mental Spaces Theory.
- **Fauconnier and Turner (2002)**. Conceptual Blending Theory.
- **Johnson (1987)**. Image schemas.
- **Lakoff (1987)**. Addresses categorisation and provides a theory of mental models. Also addresses the philosophical basis of cognitive semantics.
- **Lakoff and Johnson (1980)**. The earliest sketch of Conceptual Metaphor Theory.

- **Lakoff and Johnson (1999)**. An updated and detailed treatment of Conceptual Metaphor Theory.
- **Langacker (1987)**. Part II presents an overview of the nature of semantic structure necessary in order to support grammatical representation in language.
- **Sweetser (1990)**. Addresses the metaphorical basis of meaning extension.
- **Talmy (2000)**. A compendium of Talmy's now classic papers detailing his work on the schematic systems that underpin linguistic organisation.

Theoretical and philosophical overviews

- **Johnson (1992)**
- **Lakoff (1987**: chapter 17)
- **Sinha (1999)**
- **Turner (1992)**

These are all article-length contributions by leading figures in cognitive semantics. They address both theoretical and philosophical issues relating to cognitive semantics.

Exercises

5.1 Defining cognitive semantics

'Cognitive semantics is an approach not a theory.' Discuss this statement. What does it mean? Do you agree?

5.2 Experience and conceptual structure

In example (1) in the main text, abstract states are conceptualised in terms of containers, which is shown by the use of the preposition 'in'. Now consider the following examples:

(a) The guard is on duty.
(b) The blouse is on sale.
(c) We're on red alert.

Can you think of a reason why states like these might be lexicalised using *on* rather than *in*? What does this reveal about the relationship between experience and conceptual structure?

5.3 Meaning construction and conceptualisation

Consider the following exchange at a dinner party, and answer the questions that follow.

> *Guest:* Where shall I sit?
> *Host:* Can you sit in the apple juice seat?

(i) If you were the guest what would you make of this? Make a list of all the possible interpretations of 'apple juice seat'.
(ii) What is the most likely meaning, from those you've listed, given the context of a dinner party?
(iii) Now imagine that the guest is teetotal and the rest of the guests are drinking wine with their dinner. What does this tell you about the meaning of 'apple juice seat'?
(iv) Finally, what does this example illustrate in light of our discussion of the role of language in meaning construction (section 5.1.4)?

5.4 Word meaning

Consider the following examples.

(a) That parked BMW over there is a fast car.
(b) They were travelling in the fast lane on the motorway.
(c) That car is travelling fast.
(d) He can think through a problem fast.
(e) Christmas went by fast this year.

Each of these uses of *fast* means something slightly different. Identify the meaning of *fast* in each sentence. What do these different readings reveal about the nature of word meaning?

5.5 Mappings

Consider the following exchange which takes place in a library:

> *Librarian:* Yes?
> *Elderly man:* I can't reach Shakespeare on the top shelf.

What does the sentence uttered by the elderly man mean? In light of the discussion of the three types of mapping proposed by Fauconnier (section 5.2.4), identify the type of mapping that accounts for the meaning of this sentence.