

1 A Framework for Studying Second Language Syntax

1.1 Introduction

An important part of learning a second language is learning how words fit together to form phrases, and how phrases fit together to form sentences. The combinatorial properties of words and phrases are known as the **syntax** of a language. Two main research topics are usually identified by those interested in understanding how people acquire the syntax of second languages. The first is to explain how knowledge of syntax develops over time: why are some properties acquired earlier than others, and why do some remain difficult even for advanced second language speakers? This is often referred to as the **developmental problem**. The assumption made here is that syntactic development is best viewed as the consequence of second language learners building subconscious mental grammars, in which representations for some syntactic properties are established before others. Changes in the mental grammar underlie observable changes in the performance of second language speakers over time.

The second research topic is to explain what makes it possible for second language speakers to build mental grammars in the first place. What mechanisms or devices does the human brain make available for such a task? As we shall see, the second language syntactic knowledge that speakers develop appears to go beyond properties they have evidence for in the limited samples of speech or writing they encounter. The problem then is to explain how speakers come to know more than is present in the input, a problem often referred to as the **logical problem** of second language acquisition.¹

Fortunately for second language researchers, there is already in existence a sophisticated and successful approach to understanding the mechanisms which underlie the human ability to build mental grammars. This stems from the work of Chomsky (1981, 1986a, 1995) on the nature of the mental grammars of mature native speakers. At the heart of the approach is the assumption that the

grammars of human languages are all essentially built on the same pattern; that is, there is a **Universal Grammar** which underlies the particular grammars of specific languages. At the same time Universal Grammar allows possibilities for variation between languages in the way that its constructs are realized, but of a limited and specifiable kind. In the 1980s and early 1990s the approach was known as the ‘principles and parameters’ approach, with principles the universally invariant properties of grammar construction, and parameters the specifications of possible variation. More recently, Chomsky’s work has focused on reducing the form that principles and parameters take to the minimal specifications required to allow grammar-building to occur, and the approach has come to be known as a ‘minimalist program for linguistic theory’ (Chomsky 1995). The goals of the work are nevertheless the same: to characterize the mechanisms made available by the brain for building mental grammars for specific languages. Because a good number of recent studies of second language syntax have been conducted within the framework of the principles and parameters approach to Universal Grammar, that is the perspective that will be adopted in this book.

The aim of the book is to present evidence from the syntactic performance of second language learners to support the view that learners build subconscious mental grammars progressively (the developmental problem), and that they deploy the mechanisms of an underlying Universal Grammar to do so (the logical problem). However, the initial assumption is that the reader has little knowledge either of the principles-and-parameters approach or of current work on second language syntax. Evidence and arguments will be presented in stages, and I will define key notions and assumptions as we proceed. In this chapter we consider what syntax consists of, what a grammar is, and what is involved in studying how second language learners construct the syntactic component of their mental grammars.

1.2 What is syntax?

Section 1.2 describes some of the syntactic properties involved in distinguishing grammatical and ungrammatical sentences.

The syntax of a language is the set of properties which determine the construction of sentences in that language. If a sentence is constructed according to those properties it is well formed or **grammatical**. If a sentence is constructed in violation of those properties it is ill-formed or **ungrammatical**. The examples of (1) are grammatical sentences of English, those of (2) ungrammatical sentences of English (it is a convention in linguistics to mark ungrammatical sentences by an asterisk):

- 1a George speaks Finnish
 b I wish that Margaret would agree to stop criticizing John
 c Tom often visits Paris
 d Peter gave his sister his stamp collection
- 2a *George speak Finnish
 b *I wish that Margaret would to agree stop to criticize John
 c *Tom visits often Paris
 d *Peter donated his sister his stamp collection

On the basis of comparing (1) and (2) we can establish, informally, a number of the syntactic properties that grammatical sentences in English must obey:

(1a)–(2a): the first verb in a clause must **agree** with the subject of that clause. The verb must have the ending *-s* in the present tense if the subject is 3rd person singular, like *George*, and the ending *-ϕ* for other persons; *George speak-s*, but *I/you/we/they speak-ϕ*.

(1b)–(2b): some verbs **select** infinitive complements with *to* (*agree: agree to stop*), others select bare verb complements (*would: would agree*), yet others select gerundive complements (marked by *-ing*) (*stop: stop criticizing*).

(1c)–(2c): English word order requires that direct objects be **adjacent** to the verbs which govern them (*visits Paris*), and not separated from those verbs (**visits often Paris*).

(1d)–(2d): some verbs allow prepositional phrases to **move** next to the verb, creating ‘double object’ constructions. *Give* is one of them: *gave his stamp collection to his sister* → *gave his sister his stamp collection*. Other verbs, even those quite close in meaning, do not allow movement of a prepositional phrase. *Donate* is such a verb: *donated his stamp collection to his sister* → **donated his sister his stamp collection*.

The study of syntax involves uncovering those properties of language which are involved in the construction of grammatical sentences in particular languages. Properties like **agreement** (must all verbs agree with their subjects? do any verbs agree with their objects? do any other categories agree?), **selection** (what kinds of complements do verbs select? do other categories have selectional properties?), **adjacency** (what kinds of categories must be adjacent? do adjacency requirements differ in the world’s languages?), and **movement** (what kinds of category can move? where do they move from and where do they move to?). Other properties will be encountered as we proceed.

1.3 What is a grammar?

Section 1.3 defines the terms ‘grammar’, ‘generative grammar’ and ‘mental grammar’.

A **grammar**, in the sense that the term will be used here, is a set of instructions for generating all the grammatical sentences of a particular language. These instructions specify how sentences are pronounced, what their syntax is, and what meaning is to be given to them. The instructions must be sufficiently general to assign the correct specifications to every sentence a speaker has ever heard or read, or may ever hear or read (including novel sentences), yet sufficiently restrictive to exclude all ungrammatical sentences. The reason for this is that native speakers of a particular language know intuitively which strings of words are grammatical and which are ungrammatical in their language. If a grammar is to be a model of human linguistic ability, it must be able to distinguish grammatical from ungrammatical sentences. To take an example, speakers of the variety known as ‘standard British English’ know that sentences like *My hair needs washing* are grammatical, but would exclude sentences like **My hair needs washed*. By contrast, speakers of one variety of Scots English would allow sentences like *My hair needs washed* and exclude sentences like **My hair needs washing*. The grammars of these varieties must be able to make distinctions like this.

A grammar which is able to generate all and only the grammatical sentences of a language is known as a **generative grammar**. A person who knows a particular language in a subconscious and automatic way, as native speakers do, has internalized a generative grammar for that language; we refer to this as a **mental grammar**. In this book we will concentrate on the syntactic part of mental grammars. Language learners, and in our case second language learners, must construct a mental grammar for the language that they are learning. Part of this task is establishing the correct specifications for properties like agreement, selection, adjacency and movement for the language in question.

1.4 Evidence that the mechanisms which underlie grammar-building are innate

Section 1.4 explains why it is unlikely that language acquisition is determined solely by the sentences one hears (or reads), and why many linguists believe that the principles and parameters of Universal Grammar are biologically determined.

One might wonder if the construction of a mental grammar is not just a question of learning by heart the grammatical sentences one is exposed to, and then creating new sentences by a kind of analogy: substituting different words for those in

sentences one has already encountered. Ungrammatical sentences would simply be those one has not encountered. It seems, however, that this ‘input-determined’ view is an unlikely account of language acquisition for several reasons. One is that native speakers know more about the syntactic properties of their language than is available in the sentences they are exposed to. Input is said to **under-determine** the mental grammar. For example, native speakers of English know that the subjects of embedded (subordinate) clauses can be turned into grammatical *wh*-phrases as in (3):

- 3a She later discovered **who** had written the note
 b **Who** did she later discover had written the note?

They also know that objects in embedded clauses can be turned into grammatical *wh*-phrases, as in (4):

- 4a She later discovered **what** her friend had written
 b **What** did she later discover her friend had written?

Finally, they know that when both the subject and the object are *wh*-phrases, (5a–b) are ungrammatical, and only (5c) is possible:

- 5a *What did she later discover who had written?
 b *Who did she later discover what had written?
 c Who did she later discover had written what?

In acquiring English they will have come across sentences like (3) and (4). Such sentences will tell them that *wh*-phrases can appear at the beginning of main clauses and embedded clauses. But how do they come to know that when two *wh*-phrases are present only a sentence of the type in (5c) is possible? It seems that this is a case where speakers of English know more about the syntactic structure of English than they have evidence for in the sentences they hear when they are acquiring the language; syntactic knowledge is underdetermined by the input.

Another example is provided by the pair of sentences (1d)–(2d) which were used to illustrate the distinction between grammatical and ungrammatical sentences in section 1.2. There is nothing obvious about the sentences in which *give* and *donate* appear that would tell a language learner that verbs like *give* allow double objects, while verbs like *donate* do not. There is no tag attached to *give* saying ‘allows double objects’ and another attached to *donate* saying ‘does not allow double objects’. Learners will come across sentences like *He gave his stamp collection to Oxfam*, *He gave Oxfam his stamp collection*, and they will come across sentences like *He donated his stamp collection to Oxfam*. They will not come across ungrammatical sentences like **He donated Oxfam his stamp collection*.

But when they are learning verbs like *give* and *donate* what is to stop them from assuming that *donate*, which is very close in meaning to *give*, behaves in all respects like *give*?

The factors which a learner has to establish would seem to be these.² Firstly, verbs which belong to the ‘double object’ class must be (a) monosyllabic, like *give*, *send*, *serve*; or (b) if they are polysyllabic, they must either have stress on the first vowel, e.g. *’offer*, *’promise*, or on the second vowel, if the first vowel is [ə]: *a’ward*, *a’llow*. Secondly, for verbs to be members of the ‘double object’ class they must have as part of their meaning that one of the objects becomes the ‘possessor’ of the other as a result of the action. For example, in *They awarded James the prize*, ‘James’ becomes the possessor of ‘the prize’. These restrictions rule out double object constructions in cases like the following: **She explained me the problem* (versus *She explained the problem to me*): *explain* is polysyllabic, the stress falls on the second syllable and not the first (*ex’plain*), but the first vowel is not [ə]; **Mary drove Bristol her mother* (versus *Mary drove her mother to Bristol*): *drive* is monosyllabic, but the verb does not imply that *Bristol* becomes the possessor of *her mother*.

Underdetermination by the input of the grammatical knowledge that native speakers develop is one piece of evidence which has led many linguists to believe that the mechanisms which underlie grammar-building – the principles and parameters of Universal Grammar – are biologically determined. Human beings have them as part of their genetic endowment. A range of further evidence is provided by first language acquisition. First language acquisition has a number of well-known characteristics which are consistent with the view that the mechanisms which underlie grammar-building are innate (see, e.g., Goodluck 1991; Atkinson 1992; Crain and Lillo-Martin 1999):

- All infants with normal abilities have equal potential for acquiring a native language. That is, take any infant, put that infant in any speech community, and given normal exposure the child will acquire the language of the community as a native language. Such *uniformity* of success is quite surprising given the vagaries in the quality of input children around the world are likely to get, and is compatible with the view that they have stable innate mechanisms for grammar-building.
- Acquisition is *rapid*. Children typically acquire all the major structures of their language by the age of three to three-and-a-half, and by the age of five their understanding of complex and subtle structural distinctions is effectively adult-like. (Obviously at this age their topics of conversation are limited by experience.) Such rapidity would be surprising if children had to build mental grammars on the basis of input alone. It is less surprising if the mechanisms which underlie grammar-building are innate.

- Acquisition is *effortless*. Children do not have to engage in any special learning to acquire language; interaction with native speakers and exposure to samples of language is enough to ensure acquisition. If the mechanisms which underlie grammar-building are genetically determined, the acquisition of syntax should be no more effortful than learning to walk.
- *Correction* (and other kinds of information about ungrammatical sentences in a language) *does not seem to play a significant role* in the development of syntactic knowledge (Brown and Hanlon 1970; Morgan and Travis 1989). Again, if the mechanisms which underlie grammar-building are genetically determined, corrective feedback would largely be irrelevant to acquisition, just as advice about how to walk is irrelevant to the development of walking.

1.5 Investigating the nature of mental grammars independently of other types of knowledge

Section 1.5 explains why the view is taken in this book that properties of the mental grammar can be investigated independently of other mental knowledge. It is argued that syntax is not necessarily designed for making communication easier, and it is shown that mental grammars can be impaired while other mental processes remain intact, and vice versa.

The view taken here will be that the properties of mental grammars can be investigated independently of other kinds of knowledge which might be involved in the full use of a language (e.g., the knowledge involved in drawing inferences, indicating one's intentions, determining the appropriateness of certain kinds of language to context, and a range of other things). There are two reasons for making this assumption. The first is that there is evidence that mental grammars are distinct from other kinds of mental knowledge. Syntactic structure, for example, is not apparently directly reducible to other properties of human psychology. One might imagine that syntax evolved in order to make the task of communicating meanings easier. But this is far from evident. Presumably, when a speaker wants to convey a meaning to a hearer, the important thing is that he or she should do so effectively (so that the hearer understands the intended meaning), concisely (so that the hearer's attention is not lost) and with the minimum of effort (without using more words than are necessary to convey the intention).

Many syntactic properties seem to be quite independent of notions like 'effectiveness', 'concision' and 'economy of effort'. For example, consider adverb placement as illustrated in (6). English requires fairly strict adjacency between verbs and their objects, so that an adverb like *rarely* cannot come between them. To explain this restriction one might initially suggest some principle connected with

communication which says that ‘the verb–object unit is an important one for conveying the meaning of a sentence effectively, so do not split it with extraneous information’. But if we then look at French, it is normal in French for adverbs like *rarement* (the equivalent of *rarely*) to split verb–object units in that language. Indeed there are systematic differences in the placement of adverbs in English and French, as we can see in (6):

- 6a George speaks Finnish rarely
- b Georges parle le finnois rarement
- c *George speaks rarely Finnish
- d Georges parle rarement le finnois
- e George rarely speaks Finnish
- f *Georges rarement parle le finnois

Both English and French allow manner adverbs like *rarely/rarement* to appear in clause-final position. But whereas English allows them to appear clause-internally only between the subject and the verb, French allows them to appear clause-internally only between the verb and its complement. Properties like this have to be acquired by the learner of English or French in order to produce grammatical sentences in the language in question, but it is not clear that such properties have anything to do with ‘making communication easier’, or ‘reducing the effort involved in producing sentences’, or any such notion.

Similarly, syntactic structure is not directly parasitic on other types of thinking. This becomes clear when the effects of damage to the brain are considered. Some kinds of disorder affecting brain development can result in a person having severely impaired non-linguistic thinking, without apparently affecting their ability to acquire knowledge of complex syntactic structure. For example, Cromer (1991) describes a number of cases of people with spina bifida (a disorder of the spine which increases pressure in the fluid of the brain) who are severely retarded in terms of non-verbal thinking, but who have become ‘hyperverbal’, suffering from what has been described as ‘chatterbox syndrome’ (excessive talkativeness). The syntax of the utterances of such people is complex and typically well formed, as the following extract from a conversation between Cromer and the child D.H. illustrates (Cromer 1991: 133):

- D.H.: Like I fell . . . I’m a guide you see and we went to . . . like go to this river to do canoeing and I fell in the river once.
- Cromer: Ah.
- D.H.: That wasn’t funny; that was frightening. I said I’d never go . . . I said I’d never go canoeing again, and I still go canoeing now. And that’s three years later that was. But my Dad’s got a canoe and we go canoeing. I threw my Dad in once. Me and my brother threw him in together.

Curtiss (1988) describes several cases of people with severely impaired non-linguistic abilities who appear to have perfectly normal knowledge of syntax. The case of Rick illustrates how good knowledge of syntax can be associated with impaired knowledge of meaning. Rick is a 15-year-old boy institutionalized in a hospital for the mentally retarded in the United States. Here are two brief extracts from a conversation with a researcher:

- Rick: She looks like she has blonde hair.
 Res: What colour is blonde?
 Rick: Black.
 Res: Who gets up first in the morning?
 Rick: Me.
 Res: And then what?
 Rick: Cindy gets up third.
 Res: Third? Is there someone else getting up?
 Rick: No.

Conversely, there are people with normally functioning general non-verbal intelligence who have problems with syntax. Curtiss describes the case of Chelsea, who is hearing-impaired. Chelsea was not diagnosed as such, however, until she was in her thirties and appears to have missed out altogether on learning a language during her first 30 years of life. Acquiring English late has made it very difficult for her to develop syntactic knowledge. Curtiss reports that while Chelsea's knowledge of English vocabulary progressed steadily and substantially, the syntax of her utterances is deviant. Here are some typical examples:

- 7a Orange Bill car in
 b The woman is bus the going
 c Daddy are be were to the work

Curtiss (1988: 372) concludes that Chelsea's expressive language 'appears, at its best, to be limited to the production of combinations of semantically relevant substantives'; that is, the syntax of her utterances is severely impaired.

The fact that knowledge of the syntactic properties of language can remain intact while other aspects of our mental activity are impaired, and that non-linguistic mental abilities can be normal while our knowledge of syntax is impaired, suggests a **dissociation** between the two kinds of ability. This in turn supports an approach to studying the properties of mental grammars in their own right, as independent objects of enquiry.

The second reason we adopt such an approach is a practical one. Linguistic behaviour in real use is complex precisely because it involves the interaction of knowledge of various kinds. It is simpler, in practice, to restrict attention to these

sources of knowledge independently, with the expectation that at some future point, once the properties of each are better understood, connections between them can be established.

1.6 Studying second language syntax

In section 1.6 we make a start on investigating how L2 learners construct mental grammars by first discussing an empirical observation: English speakers learning French appear to have more difficulty in acquiring the correct location for French object pronouns than French speakers do in acquiring the location of English object pronouns. Next the notions ‘principle’ and ‘parameter’ are illustrated in relation to the structure of phrases in human languages. Finally, it is proposed that a principles-and-parameters account of phrase structure can help to explain the L2 developmental facts.

If the mechanisms which underlie grammar-building in first language acquisition are innate, and give rise to observable similarities in the way that all children acquire their first languages, a reasonable research strategy for investigating second language acquisition is to assume that the same innate mechanisms underlie second language grammar-building. By applying hypotheses about the principles and parameters of Universal Grammar to observable patterns of second language development, we can potentially confirm or disconfirm their involvement. There are two phases in such an application: we need to collect observations about second language syntactic development, and we need to analyse the syntactic properties they instantiate, asking whether principles and parameters might plausibly be involved. To illustrate the logic of this approach we will consider, in a preliminary way, an empirical observation about the acquisition of the placement of unstressed object pronouns in L2 French and L2 English, and how an account of the facts might be given in terms of unconscious grammar building. Bear in mind, though, that this is only a first sketch; the concepts and descriptive devices used will be refined as we proceed.

1.6.1 The acquisition of unstressed object pronouns in L2 French and English

English and French differ in the placement of unstressed direct and indirect object pronouns. In English they follow the verb, and typically appear in the positions that corresponding non-pronominal noun phrases would appear in. In French they typically appear in front of the (tense-marked) verb. The contrast is illustrated in (8)–(9):

- 8a She invited *the Thompsons*
 b She invited *them*
 c They will speak *to the interpreter*
 d They will speak *to him*

- 9a Elle a invité *les Thompson*
 b Elle *les* a invités
 c Ils parleront *à l'interprète*
 d Ils *lui* parleront

Native speakers of English learning French as an L2 usually take time, and go through stages in acquiring this preverbal placement of unstressed object pronouns (known as **clitic pronouns**, because they attach or ‘cliticize’ onto the verb). For example, a study by Selinker et al. (1975) of 20 English-speaking Canadian children around 7 years of age, after 2 years of exposure to French in an ‘immersion programme’ (where the normal school curriculum is taught through the medium of French), reported examples of postverbal object pronouns in their spontaneous speech like:

- 10a *Le chien a mangé *les*
 The dog has eaten them
 (versus the grammatical: Le chien *les* a mangés)
 b *Il veut *les* encore
 He wants them again
 (versus the grammatical: Il *les* veut encore)
 c *Je vais manger *des* pour souper
 I am going to eat them for supper
 (versus the grammatical: Je vais *en* manger pour le souper)

Although it is unclear how many such cases there were in the corpus, and whether there were preverbal object clitics as well, other studies have also found postverbal pronouns in the early L2 French of English speakers. White (1996) examined a corpus of longitudinal production data collected by Lightbown (1977) from two English-speaking children (aged five when data-collection began) learning French with native French-speaking peers first at a nursery school and then in a kindergarten in Montreal. She found that for several months before they started to use clitic pronouns they only produced non-pronominal objects and the postverbal non-clitic pronoun *ça*, ‘that’.

In a second phase of development, once learners begin to use preverbal object clitic pronouns, it appears that they do not do so consistently. Sometimes they produce utterances with preverbal object clitic pronouns, and sometimes they omit them altogether, as in:

- 11a *Le chien a mangé ϕ
- b *Il veut ϕ encore
- c *Je vais manger ϕ pour souper

For example, the sample for month 9 in the corpus studied by White shows one of the subjects (Greg) producing 88 non-pronominal objects and 17 preverbal object clitic pronouns, but omitting the object in 15 cases where a native speaker would almost certainly have used a clitic pronoun. Adiv (1984), in another study of English-speaking Canadian children in a French immersion programme, but this time after three years of exposure, found that while 13% of the errors produced by her subjects on unstressed object pronouns were of the type illustrated in (10), the remaining 87% were of the type illustrated in (11). So there is a pattern of development where postverbal pronouns are present in early stages, but once preverbal object clitic pronouns begin to emerge in production they compete with omitted objects.

This pattern of development in acquiring the placement of unstressed object pronouns in L2 French has been found in L2 learners from other first language backgrounds, who begin learning French at different ages. For example, although the studies of Selinker et al. (1975), Adiv (1984) and White (1996) concerned English-speaking child learners of French, studies by Véronique (1986) and Schlyter (1986) have found similar developmental patterns in L2 French with adolescent and adult speakers of Arabic, Berber and Swedish.

In contrast to learners of French as an L2 taking time to acquire the preverbal location of object pronouns, Zobl (1980: 52) suggests that native speakers of French learning English as an L2 (and Spanish speakers learning L2 English too, according to Zobl) take almost no time at all to realize that English has postverbal object pronouns. One does not typically find errors like those in (12) in the L2 English of French and Spanish speakers, even in the earliest stages of acquisition:

- 12a *She them invited
- b *They to him will speak

There is, then, what might be called a ‘cross-linguistic difference’ between English speakers learning French, who go through stages in acquiring the placement of preverbal object clitic pronouns, and French (and Spanish) speakers learning English, who appear to acquire postverbal object pronouns almost immediately. This is surprising, because a priori we might have expected that the task facing speakers of one language acquiring the other as an L2 would be the same going in both directions. It provides a good illustration of the fact that one cannot explain development in an L2 simply on the basis of a difference in surface properties of the two languages involved.

Is it possible to offer some account of the empirical facts in terms of learners building subconscious mental grammars under the guidance of principles and parameters of Universal Grammar? As a prerequisite to addressing this question, in the next section a principle and two parameters of Universal Grammar involved in determining how phrase structure is represented are discussed. In section 1.6.3 we will return to the L2 facts.

1.6.2 A principle and two parameters of Universal Grammar relating to phrase structure

A view which underlies much modern work in syntax is that there is a fundamental ‘sameness’ about the structure of human languages, and that superficial differences between them result from a limited amount of variation permitted within this sameness. Sameness in the work of Chomsky (1981, 1986a, 1995), and other linguists who have adopted the principles and parameters approach, is the effect of principles of linguistic organization which are invariant across human languages. Principles define the structural architecture of human language. Variation between particular languages or varieties of language is accounted for by a small number of parameters of variation allowed within the overall design defined by the principles.

The idea can be illustrated in relation to the structure of phrases. Phrases appear to have the same basic structure in all languages. They consist of **head categories** like **nouns**, **verbs**, **adjectives** and **prepositions**. Head categories are the core of phrases, and may be modified, optionally, by **complements** and **specifiers**. Some examples of head–complement structures are given in (13) (N = noun, V = verb, A = adjective, P = preposition):

	Head	Complement
13a	stories (N) heard (V) difficult (A) in (P)	[about his past] [stories] [to understand] [the kitchen]

Specifier–head structures are illustrated in (14):

	Specifier	Head
14a	[Joe’s]	stories
b	[seldom]	heard
c	[quite]	difficult
d	[probably]	in

And specifier–head–complement structures are illustrated in (15):

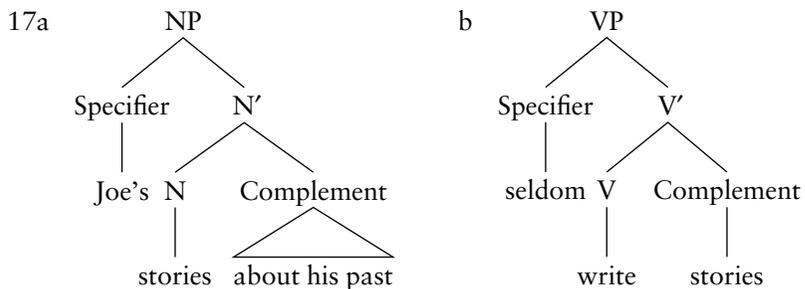
	Specifier	Head	Complement
15a	[Joe's]	stories	[about his past]
b	[seldom]	heard	[stories]
c	[quite]	difficult	[to understand]
d	[probably]	in	[the kitchen]

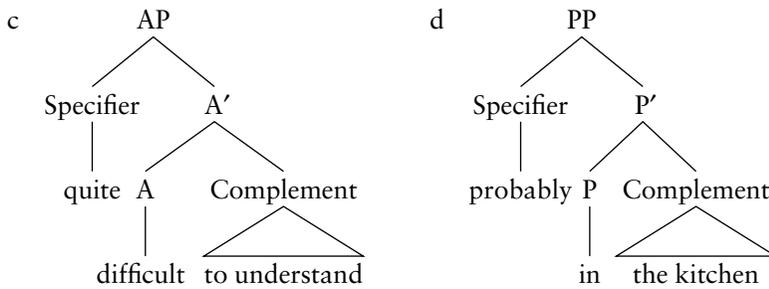
Phrases like *stories*, or *stories about his past*, or *Joe's stories about his past* are called **noun phrases** (NPs); phrases like *heard*, or *heard stories*, or *seldom heard stories* are called **verb phrases** (VPs); phrases like *difficult*, or *difficult to understand*, or *quite difficult to understand* are called **adjective phrases** (APs); and phrases like *in*, or *in the kitchen*, or *probably in the kitchen* are called **prepositional phrases** (PPs). It is easy to see how such phrases combine to form sentences:

- 16a We [_{VP} heard [_{NP} stories about his past]]
 b It is [_{AP} quite difficult to understand [_{NP} Joe's stories]]
 c [_{NP} Joe's stories] are [_{AP} quite difficult to understand]
 d They are [_{PP} probably in [_{NP} the kitchen]]

(We will need to look more closely at which categories can function as specifiers and heads in later chapters, but the basic insight will remain the same.)

A strong hypothesis would be that the structure of every phrase in every human language is of this type only. First, it consists of a head X (a variable standing for any of the categories N, V, A, P). The head X **projects** to a phrase consisting of the head and its complement. This is represented by adding a bar to the name of the head: X' = X-bar. So N' (N-bar) is the phrase consisting of the N and its complement; V' (V-bar) is the phrase consisting of V and its complement, etc. A bar-level category then projects to a **maximal projection** or **XP** (= phrase of type X) which consists of a bar-level phrase and its specifier. So NP (noun phrase) is the phrase consisting of N' and its specifier; VP (verb phrase) is the phrase consisting of V' and its specifier, etc. These structures are illustrated in (17):





The **X'-theory** of phrase structure, as it is known, is a hypothesis about a principle of Universal Grammar: phrases in all languages are projected from head categories, and (optionally) consist of two higher levels of structure: X' and XP. If the principle can be maintained, it suggests that phrase structure in human languages is of a restricted type.

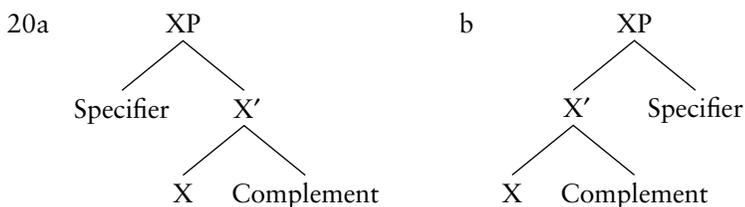
Notice, though, that in all the cases of (17) the complements **follow** the head category, and the specifiers **precede** the head category. It is the normal pattern in English for complements to follow heads, and for specifiers to precede heads. By contrast, in Japanese, Turkish and Burmese both specifiers and complements precede heads so that in these languages phrases are typically of the form:

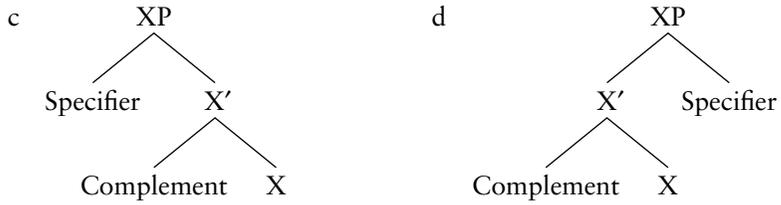
- 18a Joe's his past about stories
- b seldom stories heard
- c quite to understand difficult
- d probably the kitchen in

In Malagasy, Gilbertese and Fijian both complements and specifiers follow heads (J. Hawkins 1980: 201), which produces phrases typically of the form:

- 19a stories about his past Joe's
- b heard stories seldom
- c difficult to understand quite
- d in the kitchen probably

In principle, any of the following orderings could be found in human languages:





In order to account for these possibilities, associated with the principle that phrase structure projects from head categories there are two parameters of variation:

- specifiers may precede or follow X' categories
- complements may precede or follow X categories

Different languages opt for different **values** or **settings** of these parameters. In English, specifiers typically precede, and complements follow. In Japanese both specifiers and complements typically precede. In Malagasy, both specifiers and complements typically follow, and so on.

1.6.3 Applying the principles and parameters framework to explaining the L2 observations

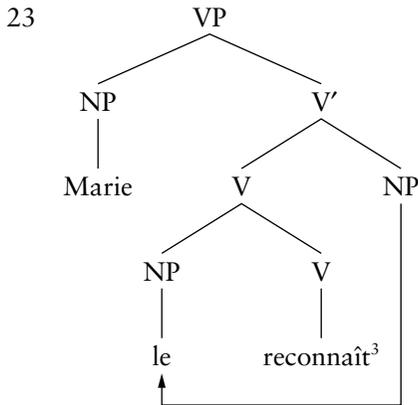
While X'-theory and the parameters determining linear order define the general form that phrases take in a language, some languages also have idiosyncratic ordering in specific cases. In French, for example, the general form of phrases is for specifiers to precede, and complements to follow heads, as the examples in (21) illustrate:

- 21a [plusieurs] histoires [sur son passé]
 'several stories about his past'
- b [souvent] entendre [des histoires]
 'often hear stories'
- c [assez] difficile [à comprendre]
 'quite difficult to understand'
- d [probablement] dans [la cuisine]
 'probably in the kitchen'

Unstressed object pronouns, though, which are complements to verbs and should follow them, appear to the left of the verbal head, as we have seen:

- 22a Marie [_{VP} [le] reconnaît] 'Marie recognizes it'
- b Georges [_{VP} [lui] parle] 'George is speaking to him'

One way of accounting for these exceptional cases is not to treat them as true exceptions, but to suggest that unstressed object pronouns originate in a postverbal position. To generate sentences like (22) French has a special syntactic operation which moves the object pronoun into a preverbal location, as illustrated in (23):



In French, then, there are two properties language learners have to acquire: the parameter values determining that complements follow heads, and that specifiers precede X' phrases, and the operation which moves unstressed object pronouns into a preverbal position.

Now suppose that the operation moving object pronouns into a preverbal position is more difficult to acquire than the values of the ordering parameters. There is some evidence to suggest that child learners of French as an L1 take longer to acquire preverbal object clitics than postverbal non-pronominal complements, which would be consistent with such a claim (Hamann et al. 1996). If a movement operation is more difficult generally for language learners than setting the ordering parameters, this would provide an explanation for why French speakers learning L2 English appear to get postverbal unstressed object pronouns right from early stages of learning, even though their L1 has a different position for them. Postverbal unstressed object pronouns in English are in the same structural position as complements in general; their placement would follow from setting the parameter for postverbal complements. By contrast, speakers of English (and other languages) learning L2 French might initially expect object pronouns to occur in the general position for complements in French: like English, after the head. But this is the wrong location for French unstressed object pronouns, which undergo movement. To establish the nature and extent of the movement operation learners will require evidence from the samples of French they are exposed to, and this takes time.

By applying a principles-and-parameters perspective to analysing L2 performance data, we are in a position to suggest that a particular kind of development

is the effect of grammar-building. Obviously the hypothesis is vague and speculative. The definitions of ‘syntactic movement’ and ‘phrase structure’ need to be sharpened, and there is a need for further testing, for example by looking at learner behaviour on other types of idiosyncratic phrase structure in other languages, and by looking at how speakers of languages with preverbal clitics (like Spanish and Italian) fare in learning French. But nevertheless it is beginning to move us in the right direction: not only towards collecting empirical observations about second language syntactic development, but also towards trying to explain them as the effect of learners building subconscious mental grammars.

1.7 Acquiring or learning syntax? Second language acquisition in naturalistic and classroom environments

Section 1.7 draws a distinction between ‘input’ and ‘learner development’. It is suggested that learner development is logically independent from input. This opens the way for arguing that type of input has little effect on the course of learner development. However, two qualifications are made: enhanced input can affect the speed of acquisition, and it can affect performance on academic tasks like grammar tests and translation.

It is often assumed that learning second languages in the classroom is different from learning second languages as a result of being exposed to them in naturalistic environments. Some claim that classroom learning is ‘better’ (see, e.g., Hammerly 1991), others that naturalistic learning is ‘better’ (see, e.g., Krashen and Terrell 1983). Since we shall be referring to studies of L2 learners both in and out of classrooms, it is important for us to know whether there are differences, and if there are, what kinds of differences there might be.

Firstly, we must be clear about what is being considered when it is said that classroom learning is ‘different’ from naturalistic learning. A distinction must be drawn between the kind of samples of second language data presented to the learner, or the **input**, and the way that L2 learners respond to that input, or **learner development**. While it may be the case that input is different between classroom and naturalistic environments, it is not necessarily the case that learner development is different in the two settings. Secondly, of course, the notion of ‘classroom learning’ is not itself a homogeneous one. Some classrooms may be very formal, in the sense that emphasis is placed on the conscious learning of grammatical properties of the L2 via instruction, with reinforcing drills, exercises, translations, and so on. Others may be more communicative, where emphasis is placed on using the L2 naturalistically to communicate speaker intentions, rather than on considering the properties of the language itself. While classroom input to second language learners can be quite different from naturalistic input, and

while the kinds of classroom input available can also vary from one classroom to another, the general trend found in studies investigating the effects of input differences is that they have very little impact on the **course** of learner development (with two qualifications which are made below). We shall illustrate by describing two representative studies.

Consider the acquisition of German word order, a phenomenon which has been extensively studied. In main clauses in German, the tense-marked verb, whether it be a 'content' verb or an auxiliary verb, must appear in second position in the clause (known as **verb second**, or **V2**), and any participle, infinitive or verbal particle must appear in sentence-final position. For example:

- 24a Johann **kaufte** ein Buch
Johann bought a book
- b Heute **kaufte** Johann ein Buch
Today bought Johann a book
- c Ein Buch **kaufte** Johann heute
A book bought Johann today
- d Johann **hat** ein Buch **gekauft**
Johann has a book bought
- e Johann **muss** ein Buch **kaufen**
Johann must a book buy
- f Johann **nahm** ein Buch **auf**
Johann picked a book up

In subordinate clauses, all parts of the verb must appear in clause-final position:

- 25a Er glaubt, dass Johann ein Buch **kaufte**
He thinks that Johann a book bought
- b Er glaubt, dass Johann ein Buch **gekauft hat**
He thinks that Johann a book bought has
- c Er glaubt, dass Johann ein Buch **kaufen muss**
He thinks that Johann a book buy must

It has been found that the properties involved in these word-order patterns are acquired in the following stages by second language learners whose native languages are Italian, Spanish, Portuguese and English:

Stage I: word order like English, where the parts of the verb are kept together in the middle of a sentence (*Johann hat gekauft ein Buch*)

Stage II: learners separate tense-marked auxiliaries from participles, infinitives and particles in main clauses (examples (24d-f))

Stage III: learners place the tense-marked verb in second position in main clauses (V2) (examples (24b–c))

Stage IV: learners place all parts of the verb at the end of subordinate clauses

Clahsen and Muysken (1986) studied the development of German word order in a group of adult Spanish, Italian and Portuguese speakers, among others, all immigrant workers to Germany, or their children, and all acquiring German predominantly by naturalistic exposure. They found the pattern of development by stages illustrated above. Pienemann (1989) studied a group of ten Italian-speaking elementary school children learning German as a second language both in the classroom and through naturalistic exposure. He found the same pattern of staged development illustrated above. Ellis (1989) studied 39 English-speaking adult students (mean age 20.95 years) who enrolled on an *ab initio* German course in the UK. The kind of instruction they received involved both the teaching of grammar and the communicative use of German. The word order properties of German were introduced to the students in the order: verb second > verb separation > verb final in subordinate clauses. Despite this order of teaching, Ellis found that on a picture description task administered at the end of the first and second terms of teaching, the accuracy order displayed by the subjects was the same as the pattern found in the Clahsen and Muysken and Pienemann studies. The course of learner development in these cases is parallel, although the types of input the learners received was different, going from predominantly naturalistic to predominantly tutored.

As a second example, consider a study by T. Pica (1985) in which she tested the accuracy of a group of 18 L1 Spanish-speaking adults (18–50 years old, learning L2 English) on a number of grammatical items in English:

26a	progressive <i>-ing</i> :	is eat- <i>ing</i>
b	plural <i>-s</i> :	apple- <i>s</i>
c	forms of copula <i>be</i> :	<i>am</i> happy, <i>are</i> happy, <i>is</i> happy
d	forms of auxiliary <i>be</i> :	<i>am</i> eating, <i>are</i> eating, <i>is</i> eating
e	article:	<i>the/an</i> apple
f	irregular past:	buy – <i>bought</i>
g	regular past:	talk- <i>ed</i>
h	3rd person singular <i>-s</i> :	she sing- <i>s</i>
i	possessive <i>'s</i> :	Paul's beret

Subjects were selected for the study on the basis of whether they were learning L2 English (a) only in the classroom; (b) naturalistically; (c) in a mixed setting where they were both learning English in the classroom and being exposed to it naturalistically outside the classroom. There were six subjects in each group, and data were collected via an individual interview with each subject. Pica found that

when accuracy scores on the phenomena in (26) were averaged for each group of subjects, and then ranked in descending order of accuracy, the rankings were highly similar across the three groups, corresponding broadly to the order in (26), where (26a) is the most accurately used grammatical item, and (26i) the least accurately used grammatical item.⁴

From studies like those of the development of German word order and accuracy on English grammatical items, it can be seen that differences in the type of input that learners receive in the classroom and in naturalistic settings does not appear to have any great influence on the course taken by their developing L2 syntactic knowledge. This has led some L2 researchers to assume that ‘in principle there ought to be no difference in the learning mechanisms that one assumes for foreign language learning [i.e. classroom exposure] and second language acquisition [i.e. naturalistic exposure] . . .’ (White et al. 1992: 351–35). At the same time, this statement needs to be qualified in at least two ways.

Firstly, a number of studies have suggested that learners exposed to formal instruction about the syntactic properties of an L2 develop unconscious knowledge of those properties more quickly than learners exposed to samples of the L2 in naturalistic settings. Although the *route* of development is unaltered by instruction, the *rate* of development may be speeded up (Ellis 1985). Long (1983), in a review of 11 studies comparing naturalistic, classroom or mixed exposure to L2s, notes that 6 of them found faster development in learners who had received instruction than in learners who had not. Ellis (1990: 133), reviewing Long’s review and incorporating a number of subsequent studies, concludes that ‘it seems reasonable to assume that formal instruction is of value in promoting rapid and higher levels of acquisition’, without such instruction altering the course of development.

The second qualification that should be made is that similarity in the course of L2 syntactic development between classroom and naturalistic learners is reflected typically only in situations of language use in which the two groups are directly comparable: usually spontaneous comprehension or production during meaningful communicative interaction with other speakers. Where language use is more ‘classroom-like’, perhaps involving skills which have to be specially learned, for example in grammar tests, in gap-filling tests and in translation tests, the performance of classroom learners may be quite different from that of naturalistic learners, and may vary even across individual classroom learners. To take an example, Larsen-Freeman (1975) tested 24 adult learners of L2 English on their accuracy on grammatical items like those illustrated in (26), across five tests: picture description, sentence repetition, listening comprehension, reading plus gap-filling, and writing plus gap-filling. Although on the first three tasks the ranked accuracy order of her subjects is very like the order found by T. Pica (1985), on the last two tasks there are different rank orders, for example where 3rd person singular -s is considerably more accurate. In reading and writing tasks classroom learners are apparently able to deploy acquired skills which enable

them to increase accuracy in a way which is not intrinsic to their unconscious L2 mental grammars.

1.8 Second language syntactic development is similar in child and adult learners

Section 1.8 describes several studies which suggest that the course of syntactic development is essentially the same in child and adult second language learners, but that there may be differences in the rate of acquisition and in the eventual level of success.

Another issue that we need to be clear about is the effect that starting to acquire a second language in childhood and starting to acquire a second language in later life has on syntactic development. From the available evidence it seems again that the **course** of syntactic development is essentially the same, no matter what age one begins acquiring a second language. For example, take some of the studies we have already considered. In the acquisition of German word order, the stages of development were the same in learners who started in adulthood (the studies of Clahsen and Muysken 1986; and Ellis 1989) and in childhood (Pienemann 1989). In the case of the acquisition of unstressed object clitic pronouns in L2 French, similar stages of development have been found in learners seven to eight years old (Selinker et al. 1975), adolescents (Adiv 1984), and adults (Véronique 1986; Schlyter 1986). In studies of the acquisition of grammatical items like those illustrated in (26), similar patterns of accuracy have been found in children (Dulay and Burt 1973, 1974) and adults (T. Pica 1985 – see chapter 2).

On the other hand, there appear to be two areas where young child learners of second languages are importantly different from adolescent and adult learners. Firstly, in initial stages of acquisition they appear to develop more slowly than adolescents and adults (Snow and Hoefnagel-Höhle 1978). Secondly, in the long run child L2 learners are normally ultimately more successful than older L2 learners; their mental grammars do not ‘fossilize’ (stop short of becoming native-like) in the way that older L2 learners’ mental grammars tend to (Patkowski 1980; Johnson and Newport 1989; Long 1993). These factors are, however, independent of the course of development.

1.9 The nature of the data available to second language researchers

Section 1.9 briefly describes typical elicitation techniques used by second language researchers to obtain data from L2 learners.

Many linguists distinguish between **mental knowledge** of a language and the **real-time use** of that knowledge to understand and produce utterances. All sorts of factors can cause disruption of the understanding or production of utterances which are quite independent of knowledge of a language. For example, one may fail to understand an utterance because it is not heard properly (if there is a lot of background noise, say). Similarly, in producing an utterance a speaker may be distracted by the phone ringing, or by a random thought, with this leading to faulty output. Clearly such temporary interference is not related to the underlying knowledge that a speaker may have about a language, and this has led to a distinction being drawn by some between **competence** and **performance** (Chomsky 1965). Competence is the 'all-time' steady-state knowledge which is the speaker's mental grammar. Performance is the 'real-time' use of that grammar in the comprehension or production of utterances.

Given such a distinction, any observations that are made about how L2 learners construct L2 mental grammars are necessarily made through the evidence provided by their performance. Their mental grammars cannot be inspected directly. Researchers must infer properties of L2 mental grammars from what they observe learners doing in performance. In undertaking this task, researchers have used a range of techniques to tap learners' production of the L2, comprehension of the L2, judgements about L2 sentences, and even the speed at which they parse (i.e. decode sentences) in the L2.

The simplest type of production-based elicitation technique is the observation of unguided spontaneous production. The utterances of an L2 speaker or group of speakers are recorded as they use the L2 in everyday tasks. In guided production the L2 speaker is asked to perform a specific task; for example, is interviewed, or asked to describe a picture, or to retell a story. The aim might be to collect a general sample of language, or it might be to collect samples bearing on specific phenomena (say, accuracy in the use of articles, or the use of the past tense forms of verbs). Other types of guided elicitation task that have been used require speakers to manipulate sentences (e.g. combine two sentences into one, or change one type of sentence into another), or imitate sentences presented to them, or again translate sentences from the L1 into the L2, or the L2 into the L1.

The problem with production data is that they allow the L2 speaker considerable freedom to avoid using grammatical knowledge which the researcher may be particularly interested in. For this reason many researchers have used what some have called **metalinguistic tasks**. These require speakers to judge the grammaticality of sentences presented to them. Such tasks can take different forms. Sentences can be presented visually (i.e. in written form) or aurally (see Murphy (1997) for an assessment of the value of each). They may consist of a list of randomized sentences, some of which are grammatical, others ungrammatical, with speakers asked to record whether they feel them to be grammatical or ungrammatical (often on a scale of grammaticality). Or they may consist of pairs

or triples of sentences, with subjects being asked to indicate a preference (which is the most grammatical of these sentences?). The advantages usually cited in support of metalinguistic tasks are that they provide information about learner knowledge in a controlled way (the speaker cannot avoid grammatical properties as he or she can in production); and they eliminate much potential performance interference, because the subject does not have to produce the sentences, merely assess them. The disadvantages of grammaticality judgement tasks are that they are artificial, because they do not engage the speaker in the real use of language; the speaker may wander in attention and respond haphazardly; there may be a response bias (with speakers tending to respond 'yes' everywhere, or 'no' everywhere); and the speaker may be responding to properties of the sentence that the experimenter is not aware of.

In comprehension, typical tasks that have been used are the selection, from an array of pictures, of one that is appropriate to an aurally presented stimulus, or the manipulation of objects to 'act out' an aurally presented stimulus. As for parsing, it is only recently that L2 researchers have begun to use techniques for tapping this aspect of performance, and typically they take the form of comparing learners' reaction times in matching or responding to different types of sentences with the reaction times of native speakers (Eubank 1993; Clahsen and Hong 1995; Duffield and White 1999). For general discussion of methodological issues in collecting L2 data see Larsen-Freeman and Long (1991: chapter 2), White (1989: 57–60), Birdsong (1989), and Sorace (1996).

1.10 Summary of chapter 1

The main points made in chapter 1 are the following:

- A grammar of a language, in the sense we are using the term, is a set of instructions for generating all the grammatical sentences of that language, and excluding all the ungrammatical sentences. A person who knows a language has internalized a mental grammar for that language. The development of syntactic knowledge in second language acquisition is assumed to be the effect of learners building mental grammars (sections 1.1–1.3).
- The construction of a mental grammar involves knowledge which is not available in the input language learners receive, and this has led many linguists to assume that humans have a biologically determined Universal Grammar whose principles and parameters are directly involved in building mental grammars. Mental grammars appear to be independent of other kinds of mental knowledge (sections 1.4–1.5).
- A reasonable research strategy in studying second language syntax is to assume that Universal Grammar underlies grammar-building, just as it underlies

grammar-building in first language acquisition. To test this hypothesis we need to collect empirical observations about second language syntactic development, and analyse those observations in terms of the mechanisms made available by UG. An empirical observation concerning the acquisition of object pronouns in L2 French and L2 English was discussed, and an initial account in terms of principles-and-parameters-determined grammar building was proposed (section 1.6).

- The issues which arise in explaining L2 syntactic development are the same for all types of L2 learning, whether in the classroom or in naturalistic settings, whether learners are young or old (sections 1.7–1.9).

1.11 Exercises

There are two kinds of exercise at the end of each chapter. Those which ask the reader to use ideas discussed in the text to answer specific questions; and those of a more open-ended nature whose aim is to develop critical thinking about the investigation of second language syntax. The latter may question claims made in the text, or ask the reader to extend ideas discussed in the text, or analyse empirical data for which more than one account may be possible.

Exercise 1: Distinguishing 'ungrammaticality' from 'oddity' (sections 1.2, 1.5)

In studying the syntax of a language one needs to distinguish sentences which are **ungrammatical** because they are not generated by the grammar of that language from sentences which are **odd** for some independent reason: they don't make sense, or they do not correspond to what we know as reality. Decide which of the sentences below are ungrammatical by placing a * in front of them, and which are odd by marking them with !

Example: *Where John is going?
!That spinster's husband is a real bore.

1. Colorless green ideas sleep furiously (from Chomsky 1957).
2. Furiously sleep ideas green colorless.
3. My toothbrush is pregnant again.
4. Like not you my idea?
5. The car raced past the police station stalled.
6. Her snebod wiffled prumely on the orkle.
7. When we meet her brother will be back home.
8. The car driven past the police station stalled.

Exercise 2: Determining the distribution of English manner adverbs (sections 1.2, 1.3, 1.5)

The aim of this exercise is to get you thinking about the kind of syntactic properties involved in determining English word order. Study the examples and, assuming the judgements of grammaticality indicated, describe the properties involved in determining the distribution of the manner adverbs (in bold). (You may find it helpful to distinguish the ‘content’ verbs *speaks*, *ruin* from the auxiliary verb *have* and the modal verb *must*).

1. She **rarely** speaks Finnish these days.
2. ***Rarely** she speaks Finnish these days.
3. *She speaks **rarely** Finnish these days.
4. She speaks Finnish **rarely** these days.
5. *She speaks Finnish these days **rarely**.
6. She has **completely** ruined the carpet.
7. *She **completely** has ruined the carpet.
8. She must **completely** have ruined the carpet.
9. She must have **completely** ruined the carpet.
10. *She must have ruined **completely** the carpet.

Exercise 3: The underdetermination of grammatical knowledge (section 1.4)

In section 1.4 it was argued that the properties of mental grammars are not determined solely by the sentences we are exposed to when we are learning a language. Below are some utterances produced by a child learner of English as a first language called Nina (taken from a database of the utterances of first language learners known as CHILDES – MacWhinney and Snow 1985). How might these data indicate that even children’s early syntactic knowledge is not solely determined by the input they hear? (The figures in brackets refer to the age of the child in years and months, e.g. (2,10) = 2 years, 10 months.)

my close it (1,11)	= ‘I’ll close it’
I seed you (2,1)	= ‘I saw you’
my ate outside (2,1)	= ‘I ate outside’
no my play my puppet,	= ‘I’m not playing with my puppet,
play my toys (2,0)	I’m playing with my toys’
no Leila have a turn (2,1)	= ‘Leila can’t have a turn’
does it doesn’t move? (2,10)	= ‘Doesn’t it move?’
is this is a dog? (2,10)	= ‘Is this a dog?’

Exercise 4: Describing syntactic differences between non-native and native utterances (section 1.6)

In this exercise the aim is to get you thinking about how the syntax of second language learners' utterances might differ from the syntax of the target language. The sentences below were produced by native speakers of French (taken from Sheen 1980). In each sentence there is at least one property which would be different if the same sentence were produced by a native speaker of English. Can you determine what these properties are?

1. She chose a career and not the married life.
2. She fall in love.
3. He knew well French.
4. She is afraid of anything.
5. I had to speak during four years English.
6. It's not as worse as it was before.
7. Being four years in England learned me a lot.
8. I didn't go [there] because it wasn't existing at that time.

Exercise 5: Determining possible L1 influence on L2 syntactic knowledge (section 1.6)

(Material used in this exercise is reprinted with the permission of Cambridge University Press)

The following are typical examples of the L2 English produced by native speakers of Spanish, Greek, Japanese, Arabic and Swahili during the course of development (taken from Swan and Smith 1987). Firstly, try to determine the particular syntactic property of English that each group is having difficulty with. Secondly, on the assumption that these cases reflect the influence of syntactic properties in the learners' L1s, can you suggest what form the property might take in the L1? For example, if a native speaker of French says *I like the classical music*, they are having difficulty with the distribution of articles in English. Where an expression is used generically (to describe a general category of things like 'classical music', 'wine', 'whales', etc.), English typically uses no article. One might guess that French, by contrast, requires an overt article with generic expressions – which is in fact correct: *la musique classique, le vin, les baleines*.

Spanish

1. Maria cans cook.
2. They will can do it next week.
3. Do you can swim?

Greek

1. She is busy to write a book.
2. I must stop to smoke. It's bad for my health.
3. Before to reach home, she ate all the sweets.

Arabic

1. This is the book which I bought it yesterday.
2. The hotel, which I stayed in it last year, was very good.

Japanese

1. We used to live in the big house in suburb of Fukuoka. A house was built of the wood.
2. Oh, that's a shrine; people say some prayers there.
3. I usually spend Sunday by a river; the people who work in office need to relax in some countryside.

Swahili

1. I go to town yesterday.
2. I did go to town yesterday.
3. Did they went to town?

Exercise 6: Collecting data from a judgement task (section 1.9)

This exercise gives you the chance to be an experimental subject in a grammaticality judgement task, and then to think about the kind of syntactic knowledge the task was aiming to elicit from L2 learners of English. Below is a fragment of a grammaticality judgement task (adapted from R. Hawkins, 1987). First do the test, then try to discover the syntactic property the investigator was interested in. (Two of the sentences are random 'distractors'; i.e. irrelevant to the main focus of the test.)

In the following task we are interested in your intuitions about whether certain English sentences are grammatical or not. Read each sentence and grade it on a scale from 1 to 5. 1 means 'is completely ungrammatical'. 5 means 'is completely grammatical'. If you feel that a sentence is completely ungrammatical, put a circle around 1, for example:

Dog the bone the ate. ① 2 3 4 5

If you feel that a sentence is completely grammatical, put a circle around 5, for example:

The dog ate the bone. 1 2 3 4 ⑤

If you are unsure, circle 3. If you feel that a sentence is almost, but not quite, ungrammatical circle 2, and if you feel that a sentence is almost, but not quite, grammatical circle 4. Where you circle 1, 2, 3 or 4, draw a line under the part of the sentence which is making it 'feel' ungrammatical. Do not think too hard about this. Your 'feel' for a sentence is more important than anything you may know consciously about what is and what isn't grammatical in English.

1 = ungrammatical 5 = grammatical

- | | |
|---|-----------|
| 1. Mary was opened a door. | 1 2 3 4 5 |
| 2. Karen was annoyed yesterday. | 1 2 3 4 5 |
| 3. The accident was reported to the police officer. | 1 2 3 4 5 |
| 4. John was sent a letter. | 1 2 3 4 5 |
| 5. Billy was bought a lorry. | 1 2 3 4 5 |
| 6. A door was opened for Mary. | 1 2 3 4 5 |
| 7. Muriel was walked home. | 1 2 3 4 5 |
| 8. The police officer was reported the accident. | 1 2 3 4 5 |
| 9. A lorry was bought for Billy. | 1 2 3 4 5 |
| 10. A letter was sent to John. | 1 2 3 4 5 |

Exercise 7: Making predictions about likely results in experimental studies (sections 1.6, 1.9)

In undertaking research into second language syntax, it is often necessary to make initial predictions about what kinds of behaviour are likely to be found. This exercise asks you to make predictions about the likely behaviour of French speakers learning English as an L2. The French verb *avoir* corresponds to the English verb *have*, and the French verb *être* corresponds to the English verb *be*. However, they have different distributions in each language. Some examples of differences and similarities in distribution are illustrated below.

English

She is 16 years old (be).

We are hungry (be).

I am afraid (be).

He has gone out (have).

They have left (have).

You have fallen (have).

French equivalent

Elle a 16 ans (avoir).

Nous avons faim (avoir).

J'ai peur (avoir).

Il est sorti (être).

Ils sont partis (être).

Vous êtes tombés (être).

She is tall (be).	Elle est grande (être).
They are teachers (be).	Elles sont professeurs (être).
I have resigned (have).	J'ai démissionné (avoir).
He has disappeared (have).	Il a disparu (avoir).

On the assumption that French speakers learning English as a second language will at one stage of development transfer the distributional properties of French *avoir* and *être* onto English *have* and *be*, indicate what L1 French learners of L2 English are likely to say for the native speaker sentences listed below. (In some cases the L2 learner sentences will be identical, in others they will be different):

1. They are thirsty.
2. I am homesick.
3. She has arrived.
4. We have fallen.
5. She is short.
6. They are doctors.
7. We are surprised.
8. They have fired him.
9. Has he gone away?
10. You are afraid.

What sorts of syntactic property might be involved in determining the different distributions of *have/avoir*, *be/être* between the two languages?

Exercise 8: One possible effect of learning an L2 in a tutored environment (section 1.7)

(Material used in this exercise is reprinted with the permission of Patsy Lightbown and Oxford University Press)

In the light of the discussion of the role of input on second language syntactic development in section 1.7, what do you think the implications are of the following case reported by Lightbown (1986)?

A frequently observed example of staged development in the acquisition of the use of 'content' verbs in L2 English is that learners initially begin with uninflected forms, later add the progressive form *-ing* as the first inflection, later still add the inflection for 3rd person singular: *-s*. For example:

Stage I

- She read book.
He open window.

Stage II

She reading book.

He opening window.

Stage III

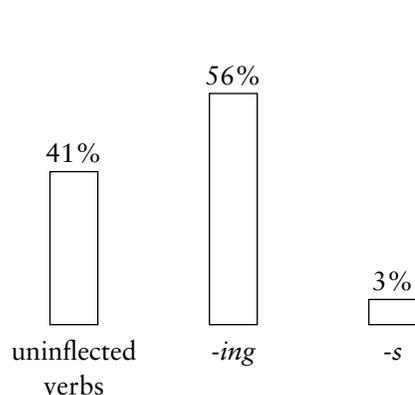
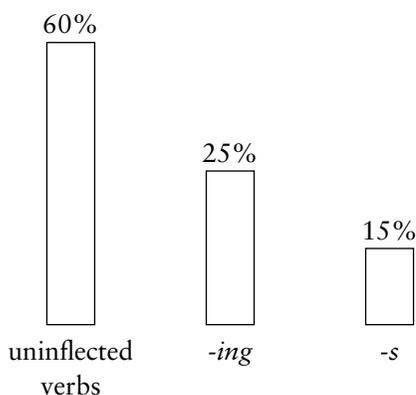
She (is) reading (the) book.

She reads (the) book.

He (is) opening (the) window.

He opens (the) window.

A study by Lightbown (1986: 267) of L1 Canadian French-speaking adolescent classroom learners of L2 English (who had little or no exposure to English outside the classroom) found, surprisingly, a pattern of development which seemed to conflict with this general trend. When her subjects were in grade 6 (aged about 12 years), and had had one or two years of instruction in English, she found that on a picture description task the proportion of verbs they used inflected with *-ing* was greater than either the proportion of verbs without any inflection, or verbs with the inflection *-s*. But a year later, on the same task, the proportion of uninflected verbs used was greater than the proportion of verbs inflected with *-ing*, which was itself greater than the proportion of verbs inflected with *-s*. That is, these learners were apparently acquiring verb-forms in the reverse order to the pattern normally observed.

Grade 6**Grade 7**

In examining the input that learners were exposed to, Lightbown found that in grade 5 and early in grade 6 *-ing* had been introduced, taught, ‘practised, drilled, practised some more – not in contrast to anything else, just eleven straight units of lessons on the progressive [*-ing*]’ (1986: 267).

1.12 Further reading

There are various readily available general introductory textbooks on syntax which deal with the principles and parameters approach. Four useful sources are the following:

- Cook, V. and Newson, M. 1996: *Chomsky's Universal Grammar*. Oxford: Blackwell.
- Culicover, P. 1997: *Principles and Parameters: An Introduction to Syntactic Theory*. Oxford: Oxford University Press.
- Haegeman, L. 1994: *Introduction to Government and Binding Theory* (2nd edn). Oxford: Blackwell.
- Roberts, I. 1997: *Comparative Syntax*. London: Arnold.

For general introductions to research on second language acquisition, the following are recommended:

- Ellis, R. 1994: *The Study of Second Language Acquisition*. Oxford: Oxford University Press.
- Gass, S. and Selinker, L. 1994: *Second Language Acquisition: An Introductory Course*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Larsen-Freeman, D. and Long, M. 1991: *An Introduction to Second Language Acquisition Research*. London: Longman.
- Mitchell, R. and Myles, F. 1998: *Second Language Learning Theories*. London: Arnold.
- Ritchie, W. and Bhatia, T. (eds) 1996: *Handbook of Second Language Acquisition*. San Diego: Academic Press.
- Sharwood Smith, M. 1994: *Second Language Learning: Theoretical Foundations*. London: Longman.
- Towell, R. and Hawkins, R. 1994: *Approaches to Second Language Acquisition*. Clevedon: Multilingual Matters.

The following is an introduction to various approaches to second language syntax, including a chapter on the kind of generative approach adopted here:

- Braidi, S. 1999: *The Acquisition of Second Language Syntax*. London: Arnold.

Two excellent texts dealing specifically with issues and theories in the study of L2 syntax from a generative perspective are as follows:

White, L. 1989: *Universal Grammar and Second Language Acquisition*. Amsterdam: John Benjamins.

White, L. forthcoming: *Universal Grammar in the Second Language: From Initial to Steady State*. Cambridge: Cambridge University Press.

The first deals with work up to the end of the 1980s, and the second with current theoretical and research issues.

Notes

- 1 The idea that there is both a developmental and logical problem requiring explanation in second language syntax goes back at least to Felix (1984), Schwartz (1986). See White (1989) and Gregg (1996) for discussion of this topic.
- 2 The various properties listed here have been uncovered over the years by a number of researchers: Green (1974), Oehrle (1976), Mazurkewich and White (1984), Pinker (1989).
- 3 Again, we will need to revise the structural description given to sentences like these in the light of evidence to be encountered in subsequent chapters. The structures assigned here are for preliminary illustrative purposes.
- 4 T. Pica (1985) is one of a large collection of studies of the acquisition of grammatical items like those in (26) which were undertaken in the 1970s and early 1980s. These are discussed in more detail in chapter 2.