Heads and their dependents

Section 4.1 looks at head words and their dependents within a phrase. Section 4.2 looks at the positioning of heads within their phrase, examining a major typological division into head-initial and head-final languages. Section 4.3 examines the properties of head-marking and dependent-marking languages, another important typological distinction between languages.

4.1 HEADS AND THEIR DEPENDENTS

This section examines the concept of 'head of a phrase', and then moves on to discuss what types of phrases are selected by each class of head as obligatory COMPLEMENTS, and what types of phrases accompany each head as optional modifiers.

4.1.1 What is a head?

In any phrase, we distinguish between the word that is the overall HEAD of the phrase, and other words which are DEPENDENTS to that head. The heads of the phrases in (1) – in bold – are bracketed, and their word class indicated with a subscript: 'N' for noun, 'V' for verb, 'A' for adjective and 'P' for preposition. All the other words or phrases are dependents to those heads:

(1) a. very bright [$_N$ **sunflowers**]
     b. [$_V$ **overflowed**] quite quickly
     c. very [$_A$ **bright**]
     d. quite [$_{Adv}$ **quickly**]
     e. [$_P$ **inside**] the house

The head is the most important word in the phrase, first because it bears the crucial semantic information: it determines the meaning of the entire phrase. So the phrase *very bright sunflowers* is 'about' sunflowers; *overflowed quite quickly* is about something overflowing; and so on. To take other examples, *a brass statue* means *a kind of* statue, not a kind of brass, so the head is *statue*; *vegetable stew* is *a kind of* stew, not a kind of vegetable, so the head is *stew*. The word class of the head therefore determines the word class of the entire phrase. Since *very bright sunflowers* in (1a) is headed by a noun, it is a noun phrase (NP); *overflowed quite quickly* in (1b) is

headed by a verb, so is a verb phrase (VP); *very bright* in (1c) is an adjective phrase (AP); *quite quickly* in (1d) is an adverb phrase (AdvP); and in (1e), *inside the house* is a preposition phrase (PP) headed by the preposition *inside*.

Second, in all the examples in (1) the head is the only word that has the same DISTRIBUTION as the entire phrase. Wherever the whole phrase can occur, it's possible to substitute just the head. For instance, we could say either *Kim liked very bright sunflowers*, or just *Kim liked sunflowers*; we could say *Go inside the house* or just *Go inside*. We can say *The sunflowers were bright* but not **The sunflowers were very* – therefore, *bright* rather than *very* must be the head of the AP.

It follows that the head can't normally be omitted (setting aside contexts where a head has just been mentioned, and is then omitted, as in *Are you angry?* answered by *Very!*). So the third property of heads is that they are the one obligatory item in the phrase.

There are many contexts, however, in which the dependents to a head can't be omitted either. For instance, in the Verb Phrase *released the hostages*, there's an obligatory dependent noun phrase, *the hostages*: we can't just say **The soldiers released*. And the preposition phrase *beside the wood* has an obligatory NP too, *the wood*; we don't get **She lives beside*. The reason these dependents can't be omitted is that the heads in each phrase require them to be there: we say that the heads select certain dependents as their COMPLEMENT. Two familiar instances are illustrated in this paragraph: a transitive verb like *release* or *enjoy* requires an object NP, and so does a transitive preposition like *beside* or *into*. The fourth property of heads, then, is that they may select an obligatory dependent, a phrase of a particular class (such as NP) and with specific semantic properties: we can say *She lives beside the wood*, but not **She lives beside the speculation*.

In order to have a 'phrase' of some kind, we minimally require the presence of a head; the phrase may additionally contain some (optional or obligatory) dependents. A verb phrase, for instance, must contain a verb and often contains other words too. Knowing this, we can capture certain GENERALIZATIONS (= the simplest and most accurate statement of the facts) about the structure of sentences. For example:

- The subject of a clause is a phrase of one word or more which is headed by a noun (so it's an NP).

- The PREDICATE of a clause (see Section 2.2.1 and Section 3.1.1) is normally a VP; this phrase may contain just a head verb such as *overflowed*, giving us sentences like *The bath overflowed*, or else the VP can contain dependents, as it does in the sentence *The bath overflowed quite quickly*.

4.1.2   The influence of heads on their dependents

Heads play a crucial role in determining certain properties of their dependents. This section examines three kinds of DEPENDENCIES involving a relationship between a head and its dependent(s).

First, in all languages, heads select dependents of a particular WORD CLASS: only dependents of a certain category can occur with each kind of head. For example, in English, a head noun can be modified by an adjective such as *bright* as in (1a), but a noun can't be modified by an adverb such as *brightly*: **very brightly sunflowers*. And a head verb is modified by an adverb rather than an adjective, so we get *spoke sincerely*, but not **spoke sincere*.

Another example comes from the Austronesian language Kambera: (2) shows that an adverb *lalu* 'too' can modify a verb, (2a), but not a noun, (2b).

(2)   a.   Lalu   mbana-na   na   lodu.   (Kambera)
            too   hot-3SG   the   sun
            'The sun is too hot.'
      b.   *lalu   uma
            too   house

Before moving on, look carefully at (2a) and work out how the Kambera example differs from English in the way it expresses the concept 'hot'.
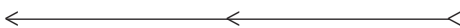
The English translation of (2a) uses an adjective, *hot*, but the Kambera has a *verb* meaning 'to be hot', and it's this that *lalu*, 'too', modifies. We can tell that *mbana* is a verb here by the fact that it takes a third person singular subject agreement marker, agreeing with *na lodu*, 'the sun'.

A second way in which heads may determine properties of their dependents is by requiring the dependents to AGREE with various grammatical features of the head (see Chapter 2 for discussion of the grammatical categories associated with different heads). One example is GENDER in NPs. Not all languages have grammatical gender, but in those that do, gender is an inherent property of nouns. The dependents to a head noun often display gender agreement with that head. Example (3) illustrates from French:

(3)   a.   un   livre   vert   b.   une   pomme   verte   (French)
            a.MASC   book(M)   green.MASC   a.FEM   apple(F)   green.FEM
            'a green book'   'a green apple'

It might seem slightly odd here to say that the nouns have a specific gender, because we can't actually see that from examining the head nouns themselves here. We actually only get to see the gender from the agreement. In (3a), the head noun *livre*, 'book', is masculine, and so requires the masculine determiner *un*; the adjective occurs in its citation form (= the one speakers typically cite if asked to give the word) when it is masculine: *vert*. The noun *pomme* 'apple' in (3b) is feminine, and requires the feminine form of the determiner, *une*, and the distinctive feminine

form of the adjective, *verte*. So the determiner and the adjective agree in gender with the head noun. Children learning French must also largely learn the gender of nouns from the agreement they trigger, since few nouns announce their gender by their own form.

Third, in many languages certain heads require their noun phrase dependents to occur in a particular grammatical CASE (see Section 6.3 for more details). Case is a property of NPs which indicates their grammatical function in a phrase or a clause (Section 2.3.3.4): in languages that have case, NPs are marked in different ways depending on what function they fulfil. Specifically, the NP dependents of verbs and prepositions are often required to occur in a special form (see Section 2.3.2 for discussion of English pronouns): the verb or preposition is said to GOVERN the case of its dependent. For instance, a transitive verb has two arguments, therefore two dependent NPs: the subject and the object. These two NPs fulfil a different function from each other, and in many languages, the subject and the object also differ in form from each other: they are marked with different cases. So in the Japanese example in (4), the subject and object are marked in distinct ways, showing their different functions: the case markers are affixes on the nouns in Japanese. The NP which is the subject of the verb is in the NOMINATIVE case, and the object NP is in the ACCUSATIVE case. Nominative can generally be considered 'the case that subjects have' and accusative, 'the case that objects have'.

(4)   Kodomo-**ga**   hon-**o**   yon-da.   (Japanese)
          child-NOM   book-ACC   read-PAST
          'The child read the book.'

In this section we have seen various kinds of DEPENDENCY: a relationship contracted between elements in a phrase or a sentence. These dependencies are (a) the selection of a specific type of argument by a head; (b) agreement: the copying of features from a head to its dependents; and (c) government by a head.

4.1.3   Summary: The properties of heads

To summarize, the main points made about heads so far in this section are:

- The head bears the central semantic information in the phrase.

- The word class of the head determines the word class of the entire phrase.

- Heads are normally obligatory, while other material in a phrase may be optional.

- Heads select dependent phrases of a particular word class; these phrases are sometimes obligatory, and are known as COMPLEMENTS.

- Heads often require their dependents to agree with some or all of the grammatical features of the head, such as gender or number.

● Heads may require their dependent NPs to occur in a particular grammatical case. This is one form of a relationship traditionally known as GOVERNMENT: a head is said to govern the case of its dependent.

4.1.4   More about dependents: Adjuncts and complements

The dependents are all the remaining words in a phrase other than the head. Traditionally, dependents are classified into two main types: ADJUNCTS and COMPLEMENTS. We've met these terms before in Chapter 3, so if you need to revise the relevant sections, this would be a good point. Adjuncts are always optional, whereas complements are frequently obligatory. The difference between them is that a complement is a phrase which is *selected* by the head, and therefore has an especially close relationship with the head; adjuncts, on the other hand, provide optional, extra information, and don't have a particularly close relationship with the head. Let's first consider some adjuncts. In (5), the heads are again bracketed, and the phrases which are the adjuncts are now in bold:

(5)   a.   **very bright** [$_N$ sunflowers]
       b.   [$_V$ overflowed] **quite quickly**
       c.   [$_V$ talks] **loudly**
       d.   [$_V$ sings] **in the bath**

As adjuncts, these phrases in (5) are optional. The adjuncts provide additional information about such things as appearance, location or the manner in which something was done. Adjective phrases such as *very bright* and adverb phrases such as *quite quickly* or *loudly* are typical adjuncts. Preposition phrases (such as *in the bath*) are often adjuncts too. Evidence that the PP *in the bath* in (5d) is an adjunct comes from the fact that it can be replaced by any number of different PPs, using virtually any head preposition: *before breakfast*, *at the bus-stop*, *on the way to work*, *in the waiting room* and so on. The verb *sing*, then, can have as an optional modifier any PP that makes sense: it doesn't place any syntactic or semantic restrictions on what that PP looks like. Such a PP is a typical adjunct: its form is not constrained by the head verb. Note that *overflow*, *sing* and *talk* in (5) are all intransitive verbs – the presence of an adjunct doesn't affect the transitivity of a verb.

Example (6) shows some heads and their complements, again in bold:

(6)   a.   [$_V$ admires] **famous linguists**
       b.   [$_V$ wondered] **whether to leave**
       c.   [$_V$ resorted] **to the instruction manual**
       d.   [$_A$ fond] **of chips**
   e.   [$_P$ inside] **the house**

Recall that a verb or a preposition which is TRANSITIVE requires an object NP as its complement. *Admire* in (6a) is transitive: the direct object NP is the complement of a transitive verb. Some verbs are always transitive, such as *release* in *The soldiers*

released the hostages: such verbs must have an NP as their complement. Other verbs may be either transitive or intransitive: so *sing*, for instance, can also be transitive, as in *Kim sings folk songs*. The preposition *inside* in (6e) is transitive: it has a complement NP. Like verbs, some prepositions are always transitive (*beside*, *into*) whilst others are sometimes transitive and sometimes not.

The head verbs in (6b) and (6c) aren't transitive, because they don't have objects, but they do nonetheless have complements: the clause selected by *wonder* is its complement, as is the PP selected by *resort*. Compare the PP that is an adjunct in (5d) with the complement PP *to the instruction manual* in (6c). The preposition in the adjunct PP could be almost any preposition (*in*, *on*, *over*, *above*, *beside* etc.), but in the complement PP we can only use *to*: you have to *resort **to*** something, and can't *resort about something or *resort at something, for instance. In fact, the verb *resort* selects a complement PP which must be headed by the preposition *to*. Similarly, the adjective *fond* selects as its complement a PP headed by *of*. When a verb or adjective specifically selects the exact head preposition within a dependent PP in this way, it indicates that the dependent PP is the complement to that verb or adjective.

Complements therefore have a much more important relationship with the head that they modify than adjuncts do. In English, and frequently in other languages, a complement typically occurs closer to the head than any adjuncts. Illustrating with dependents to a head verb, we get *We met the new students yesterday* but not **We met yesterday the new students*, where *the new students* is the complement (the verb's direct object) and *yesterday* is the adjunct. We can often use this preferred ordering of dependent phrases as a test for their status as complement or adjunct.

This section ends with two exercises which examine further the distinctions between complements and adjuncts.
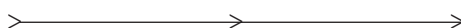
An intransitive verb such as *disappear* doesn't have any complement. We don't get sentences like **The magician disappeared the white rabbit*, since the verb can't have an object NP. So why is (7) perfectly grammatical, even though *disappear* is followed by a noun phrase?

(7)   The magician disappeared the following day.
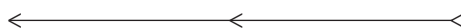
The fact that *disappear* is intransitive doesn't mean that *no* other phrase can follow it; we clearly accept, for example, *The magician disappeared in a puff of smoke*. The PP *in a puff of smoke* is an ADJUNCT. So the answer to the exercise is that *the following day* is also an adjunct. Despite being an NP, it isn't the object of the verb; in fact, it's not a complement at all. A good test for direct object status is the PASSIVE construction (see Section 7.1): a transitive verb such as *admire* in *All our friends admired Mel* can be passivized to give *Mel was admired by all our friends*. For this construction to work, the verb must have an object. We don't get **The following day was disappeared*

by the magician precisely because *disappear* is not transitive and *the following day* isn't its object.

> **Linguistic convention**: The asterisk *outside* the parentheses *(…) means that the example is ungrammatical *without* the parenthetical phrase, but grammatical if we *include* it.

This exercise requires you to figure out why the adverbs can be omitted in (8) but not in (9). By convention, we indicate that a word or phrase is optional by putting it in parentheses.

(8)   I wrote the report (carefully).
        Kim practises (carefully).
        They walked (carefully) on the ice.

(9)   You should treat sensitive people *(carefully).
        You have to tread *(carefully).
        You need to handle Ming vases *(carefully).
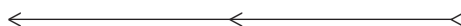
The answer is that in (8), the adverbs are adjuncts, whereas in (9) we have three verbs that take adverbs as COMPLEMENTS. *Treat* in (9) has two complements: the direct object NP *sensitive people* and the adverb; *handle* has the same two classes of complement, object NP plus adverb. And *tread* has just the adverb as its complement. Note that a very small set of verbs take adverbs as complements.

These exercises show that knowing the word class of a phrase does not tell us whether it's a complement or an adjunct. So, although NPs are often complements, an NP can be an adjunct within the VP, as in (7); and although AdvPs are typically adjuncts, they can in fact be complements to verbs, as (9) shows.

4.1.5   More about verb classes: Verbs and their complements

Verbs are the heads which select the most varied types of complement, and linguists classify verbs mainly according to what complements they select. This section is a reminder of the major sub-classes of verbs, and it also introduces some new sub-classes. The complements are contained within the verb phrase which the verb heads. In this section I show the whole VP in square brackets, and the complements to each verb in bold.

- INTRANSITIVE verbs such as *gurgle*, *elapse*, *capitulate* and *expire* take no complement at all. They may, however, have an adjunct within the VP, as in *Lee* [*capitulated within three minutes / gracefully*].

- TRANSITIVE verbs take an NP complement (the direct object): examples are *assassinate*, *rewrite*, *imitate*, *release* and *cultivate*.

- Often, a verb can be ambitransitive; either transitive or intransitive: *Lee* [*left **Kim***] or *Lee* [*left*].

- A number of verbs have the particular kind of transitive/intransitive alternation shown in *The sun* [*melted **the ice***] versus *The ice* [*melted*]. Note that the ice is the OBJECT of the transitive verb but the SUBJECT of the intransitive verb. Other verbs of this class are *burn*, *sink* and *grow*, as in *The forest fire burned **the trees** / The trees burned*; *The torpedo sank **the ship** / The ship sank*.

- DITRANSITIVE verbs have two complements, either an NP and a PP, or two NPs. The complements are separated by # in (10):

  (10)   Kim [$_{VP}$ gave **the chips # to Lee**]/[$_{VP}$ gave **Lee # the chips**].

  Give is one of a number of verbs in English that have both a direct object NP (*the chips*) and what is sometimes termed an INDIRECT OBJECT (*to Lee*): in English the indirect object really has no special properties, but is just a PP usually headed by *to* or *for*. As (10) shows, though, there's also an alternative construction with two NP complements. Other verbs that behave like *give* are *send*, *show*, *write* and *buy*. Often, such verbs have an alternative classification as transitive verbs, so we get both *I wrote **a letter** # **to Kim*** and *I wrote **a letter***.

- Some verbs also take an NP and a PP complement, but don't have an alternation with an NP – NP complement of the kind shown in (10):

  (11)   Kim [$_{VP}$ put **the potatoes # into the pan**].
  Kim [$_{VP}$ exchanged **her car # for a new bike**].
  *Kim put the pan the potatoes.
  *Kim exchanged a new bike her car.

- PREPOSITIONAL verbs take a PP complement, shown in bold in (12):

  (12)   a.   This cake [$_{VP}$ consists **of fruit and nuts**].
               b.   I [$_{VP}$ applied **for a new job**].

  As noted above, the PP complement is headed by a specific preposition, the choice of which is determined by the verb: with a dependent PP, this is the main test for complement status. So you can only *apply **for*** a job, and not **over* or **against* a job. Some more prepositional verbs are seen in *resort to NP*, *rely on NP*,

glance at NP, *look after NP* and *long for NP*. Adjunct PPs, on the other hand, generally aren't headed by any specific preposition, and crucially, they are optional.

- Some verbs select both a direct object NP and a clausal complement, as in (13). The clausal complement to *persuade* can be either FINITE, *that they should leave early* or INFINITIVAL, *to leave early*.

(13)   Kim [$_{VP}$ persuaded **his friends # that they should leave early / to leave early**].

Verbs like *convince*, *allow*, *encourage*, *force* and *permit* are also in this category, although some of these only select infinitival complement clauses.

- Often, a verb can appear in more than one sub-class. For example, *remember* may take no complement at all: it can be intransitive, as in *I can't remember*. But it can also be a transitive verb, as in (14a), or it can take one of three different kinds of clausal complement, either finite, as in (14b), or non-finite, as in (14c) and (14d). As usual, all the complements (in bold) are contained within the VP headed by *remember*:

(14)   a.   Chris couldn't [$_{VP}$ remember **that long shopping list**].
        b.   Chris [$_{VP}$ remembered **that they'd left it on the shelf**].
        c.   Chris [$_{VP}$ usually remembers **to pick up the list**].
        d.   Chris [$_{VP}$ remembered **leaving it on the shelf**].

The finite complement clause in (14b) has an overt subject *they* whilst the two different types of non-finite complement clauses in (14c) and (d) have only an 'understood' subject, referring to *Chris*. Because there is no overt subject in these cases, some linguists regard such complements as less than clause-sized phrases, rather than a full clause. Here, I will assume they are clauses.

The non-finite complement in (14c) is an INFINITIVAL clause, containing the infinitive form of the verb *pick up*. In (14d), English has the non-finite *-ing* form of the verb in *leaving it on the shelf*. This is a clause type which Huddleston and Pullum (2002; see ch. 14) refer to as a GERUND-PARTICIPIAL clause: they argue that, contrary to what is normally proposed in traditional grammar, English has no distinction between a 'gerund' category and a 'present participle' category.

This section does not give a comprehensive list of verb classes, but it illustrates some of the most common sub-classes of verb found not just in English, but cross-linguistically.

4.1.6 Other heads and their complements

Heads other than verbs can also select different complement types. Prepositions, adjectives, adverbs, nouns and complementizers are discussed in this section. Again, their complements are shown in bold type.

- Prepositions have notable variety in their COMPLEMENT STRUCTURE, although less than verbs. We have already seen that some prepositions are always transitive, whilst others may be intransitive too. There are also prepositions that are only intransitive, such as *nearby*, as in *She lives just nearby*; we don't get **She lives nearby the bank*. We can tell that *nearby* is truly a preposition by the fact that it co-occurs with the modifiers *just* and *right* (see Section 2.6): *She lives right/just nearby*. A number of prepositions take clausal complements, as *before* does in *Kim left before **the bus arrived***, where *the bus arrived* is an entire clause. And prepositions sometimes take PP complements, as *from* does in *He emerged* [PP *from **under the blankets***].

- Adjectives occasionally take an obligatory complement, but this is rare. For instance, *fond* and *devoid* both take an obligatory PP complement headed by the preposition *of*, as in *fond **of fruit*** and *devoid **of meaning***; hence the ungrammaticality of **This speech is totally devoid*. A much larger number of adjectives take an optional PP complement, again headed by a specific preposition; some examples are *bad/good **at spelling***, *sorry **for your friend*** and *free **from any doubts***. Some adjectives (such as *sorry, happy, angry, glad, delighted*) take an optional CLAUSAL complement, as in *Kim felt* [AP *sorry **that their friends weren't around***]. And adverbs sometimes have an optional complement too: [AdvP *unfortunately **for me***], [AdvP *independently **from her parents***].

We've seen so far, then, that verbs and prepositions often have an obligatory complement, and adjectives very occasionally do.

- The last major word class is that of nouns. Some complements to N are shown in bold in (15):

  (15) a.   J. S. Blogg is [NP a manufacturer **of tyres**].
       b.   [NP Lee's belief **in extraterrestrials**] is misguided.
       c.   [NP Her assertion **that Martians would land soon**] astounded me.
       d.   They repeated [NP their demand **for the library to stay open later**].
       e.   [NP Our decision **to leave**] came as no surprise.

Nouns often take optional complements, but not obligatory complements. One exception is the noun *denizen*: you have to be a denizen *of* somewhere, such as *denizens of the local bar*. Complements to N may be PPs, as in (15a), *of tyres*, or *of the local bar*, and (15b), *in extraterrestrials*. The specific preposition within these PP complements is *selected* by the head noun, and this shows that these truly are complements. Some nouns take optional clausal complements, as in

(15c) and (15d). (15c) has a finite complement clause – *that Martians would land soon*, and (15d) and (15e) both have infinitival complement clauses – *for the library to stay open later* and *to leave.*

- The final word class in this section is that of COMPLEMENTIZER, a small, closed word class. A complementizer (abbreviated as C) is a function word such as *that*, *for*, *whether* which introduces a clause, as we saw in Chapter 3. The clause it introduces is the complement to the head C, and the whole phrase (complementizer plus clause) can be termed CP, a complementizer phrase:

(16) a.   Mel said [_{CP} that **she was leaving**].
     b.   [_{CP} For **Kim to go too**] would be surprising.
     c.   I don't know [_{CP} whether **you should go** / whether **to go**].

As the examples in (16) show, some complementizers – such as *that*, (16a) – select a finite clause as their complement. Others – such as the prepositional complementizer *for* in (16b) – select a non-finite clause. And some can take either a finite or a non-finite complement clause, such as *whether* in (16c).

4.1.7   Summary: The main properties of complements vs. adjuncts

Here I give a brief summary of a vast topic, in order to help you to keep straight the major distinctions between the two kinds of dependent phrases.

(i)   Optional vs. obligatory phrases?
- Adjuncts are always optional phrases. They have a fairly loose relationship with the head that they modify.

- Complements are often obligatory phrases, particularly the complements to verbs and prepositions. They have a close relationship with the head that they modify, and are selected by that head. Complements to adjectives are generally not obligatory, however (*I'm cross **with Lee**, I'm tired **of working***). Complements to nouns are essentially optional (*our hopes **for reconciliation**, the decision **to leave early***).

(ii) Limited vs. unlimited number of dependent phrases?
- A given head may be modified by a potentially unlimited number of adjuncts.

- A given head selects a strictly limited number of complements. Most heads have just one complement (e.g. a transitive verb or transitive preposition each select one object), though two or three complements are also fairly common: (*She put* [***the book***] [***on the shelf***]).

(iii) Properties of PP dependents
- PPs that are adjuncts are typified by having a wide range of head prepositions (*Lee danced in the ballroom / on the carpet / under the chandelier / for an hour* etc.).

- PPs that are complements are typified by having a specific head preposition in each of their usages (*We glanced **at the clock***, *She sticks **to her diet***, *They came **across a small hut***).

(iv) Word class of complements and adjuncts
- We can't tell whether a phrase is a complement or an adjunct from its word class. For instance, an NP is most often a complement (to a head verb or preposition), but NPs can also be adjuncts (*He left **last week***). An adverb is most typically an adjunct (*Kim sings **loudly***) but can be an obligatory complement, as in *Kim treats Lee **badly***).

4.1.8   Is the noun phrase really a determiner phrase?

In Section 2.3.4, I introduced the closed class of words called DETERMINERS (words like *the*, *a*, *some*, *this*, *these*) which, I proposed, pair up with nouns to form a noun phrase. In this chapter we have followed the traditional view that the noun is the head of the phrase; under this view, the determiner is one of its dependents. Some linguists consider the determiner to be a particular type of dependent known as a SPECIFIER; we could consider this a kind of adjunct that has a fixed position within the phrase (in English, preceding the head noun). On this view, the other closed class words that pair up with adjectives, adverbs and prepositions respectively (see Chapter 2) are also specifiers: this covers words like *very* in the AP *very happy* and the AdvP *very happily*, and words like *right* and *just* in the PPs *right inside* and *just underneath*. More use will be made of the term 'specifier' in Section 5.3.4.

However, a different view holds that in fact, the determiner is the head of the 'noun phrase', so that this phrase should really be considered a determiner phrase (DP). Under this view, the phrase has a head D, with an NP as its complement, as shown in (17): the head is *this* and its complement NP is in bold.

(17)   [DP this [NP **box of dates**]]

Although the determiner *this* is clearly not the semantic head – the most important element in the phrase in terms of meaning – determiners do fulfil a number of the other criteria for head status outlined in Section 4.1.1. For instance, (Section 2.3.4) many determiners can have the same distribution as the entire 'noun phrase', as in *I'll take this/that/these/those/either/some*. Here, the DP consisting just of a determiner fulfils the need for the verb to have a direct object. The same is not true of the complement NP *box of dates* in (17): **I'll take box of dates*, which cannot occur as the direct object. This suggests that, indeed, the determiner *this* is the syntactic head. It's also the one obligatory part of the phrase in (17), which is more evidence for its head status. Furthermore, most determiners specifically select either a singular or a plural NP – *this box of dates* but *these boxes of dates*. So we can say that the head D requires its NP complement to agree with certain properties of the head. It seems, then, that various D elements may indeed select an NP as their complement.

The issue of whether D or N heads the 'noun phrase' is not explored further here, and I will continue to refer to a phrase like *this box of dates* as a 'noun phrase' without taking a stance on the DP hypothesis. Note, though, that the idea of a function word, D, heading a DP has parallels to the less controversial proposal that a function word, C (complementizer), heads a clause, which we then term CP.

4.1.9   Phrases within phrases

The dependents of a head are themselves grouped into phrases, and each smaller phrase has its own head which in turn has dependents. For instance, in the phrase *very bright sunflowers* in (1a), *very bright* is a dependent – an ADJUNCT to the head *sunflowers*. But in (1c) we see that *bright* is the HEAD of its own phrase, the AP *very bright*. We can indicate this thus: [[*very* [*bright*]] *sunflowers*].

Linguists often indicate the way a phrase occurs within a larger phrase by enclosing the phrases within square brackets, or by drawing a tree diagram, as we see in Chapter 5. Consider the verb phrase [$_{VP}$ *sings in the bath*], which has the verb *sings* as its overall head. Within the VP there is an adjunct PP *in the bath*, headed by *in*. The brackets indicate the beginning and end of each phrase: [$_{VP}$ *sings* [$_{PP}$ *in the bath*]]. Within the PP there's a dependent NP, *the bath*, which we can also bracket: [$_{VP}$ *sings* [$_{PP}$ *in* [$_{NP}$ *the bath*]]]. In this way we get phrases nested within phrases which in turn are nested within phrases. As noted in Chapter 1, this nesting is termed 'hierarchical structure', and is a property common to all languages. Each phrase has its own head and its own dependents. So although the PP *in the bath* is a dependent to the head of the whole VP, *sings*, this PP also has its own head and dependents. Within its own phrase a word can't simultaneously be both a head and a dependent. For instance, the preposition *in* is a DEPENDENT of the verb *sings* within the VP, but within its own phrase – within the PP *in the bath* – *in* is the HEAD.

Checklist for Section 4.1

Before reading further, you'll need to make sure that you understand what a COMPLEMENT is, and also that you're happy with the distinction between complement and ADJUNCT.

4.2   WHERE DOES THE HEAD OCCUR IN A PHRASE? HEAD-INITIAL AND HEAD-FINAL LANGUAGES

In this section I introduce a two-way system of classifying languages which looks at the position of the head in relation to its complements. There is a strong tendency, cross-linguistically, for the head to occur in a fixed position in relation to its complements, and for this order to be the same across all phrases within a language. In HEAD-INITIAL languages the head *precedes* its complements, and in HEAD-FINAL languages the head *follows* its complements. The heads of each phrase are in bold type in this section.

4.2.1 Head-initial languages

English is a head-initial language. Example (18) shows that complements to V, P, A and N all follow the head (which is shown in bold):

(18)   a.   [_{VP} **likes** chips]
       b.   [_{PP} **into** the water]
       c.   [_{AP} **fond** of chips]
       d.   [_{NP} **admiration** for Kim]

In (18), both the head verb *likes* and the head preposition *into* precede their complement NPs, whilst both the head adjective *fond* and the head noun *admiration* precede their complement PPs.

The Celtic languages are all good examples of the head-initial type; I illustrate here with Welsh. As in English, the head P precedes its NP complement:

(19)   [_{PP} **dros**   y   ffordd]   (Welsh)
           over   the   road

And the verb is also initial within the VP: in (20), *yfed* 'drink' precedes its complement, namely the direct object NP *paned o de* 'a cup of tea':

(20)   Ddaru   Ceri   [_{VP} **yfed**   paned   o   de].
         PAST   Ceri   drink.INFIN   cupful   of   tea
         'Ceri drank a cup of tea.'

(21)   [_{VP}   yfed   [_{NP}   **paned**   o   de]]
             drink.INFIN   cupful   of   tea
         '(to) drink a cup of tea'

And in (21) we see that within the VP, there is an object NP which has the head noun preceding its PP complement. The object is *paned o de*, and the head noun *paned* 'cupful' is initial in that NP. You should also be able to see from (21) that the PP *o de* 'of tea' is again head-initial, with the preposition *o* preceding its NP complement.

My final examples of a head-initial language are from an Austronesian language, Tinrin. Example (22) shows that a head verb (in bold) precedes its complement clause within VP, and (23) shows that the head noun (in bold) precedes its complement PP:

(22)   u   [_{VP} **tramwâ**   mwâ   ke   maija   wake]   (Tinrin)
         I   know   that   you   much   work
         'I know that you work hard.'

(23) [_{NP} **kò**   rugi   beebòrrò   nrâ   mwîê]
news   about   drowning   POSSESSIVE   woman
'the news of the woman's drowning'

4.2.2 Head-final languages

Examples of clearly HEAD-FINAL languages are Japanese, Turkish and Lezgian (a language spoken in Daghestan and Azerbaijan). Examples (24) through (27) illustrate from Japanese, with the head word again in bold in each phrase ('dative' is a special case that's often used for recipients, as here):

(24) Taroo-ga   [_{VP} Hanako-ni   hana-o   **ageta**].   (Japanese)
Taro-NOM   Hanako-DATIVE   flower-ACC   gave
'Taro gave Hanako flowers.'

(25) Taroo-ga   [_{VP} tana-ni   hon-o   **oita**].
Taro-NOM   shelf-at   book-ACC   put
'Taro put a book on the shelf.'

(26) [_{PP}   tomodati-**to**]
friend-with
'with a friend'

(27) [_{NP} sono   tesuto   e   no   **zisin**]
that   test   to   GENITIVE   confidence
'confidence in that test'

Examples (24) and (25) show that in Japanese verb phrases, the verb is final: in each example the verb has two complements, and these both precede the verb. Example (26) shows that Japanese has a head P *to* 'with' which follows its complement *tomodati* 'friend'. So Japanese is POSTPOSITIONAL, not prepositional: see Section 2.6.2. Example (27) shows that the head noun *zisin* 'confidence' follows its complement *sono tesuto e no* 'in that test' (the genitive item *no* is a case marker, showing the relationship between the head noun *zisin* 'confidence' and its complement).

   And from Turkish, I illustrate with an adjective phrase: the complement to the adjective (shown in bold) precedes that adjective, as expected in a head-final language. Note the very slightly different use of dative case here, too:

(28) koca-sın-a   **sadık**   (Turkish)
husband-3SG-DATIVE   loyal
'loyal to her husband'

4.2.3 An exercise on head-initial and head-final constructions

This section asks you to work out the position of the head in a number of examples.
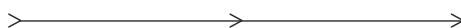
The examples in (29) through (32) comprise some head-initial and some head-final constructions. Using the glosses, first figure out what type of construction and what category of phrase each example illustrates (VP, PP etc.). Decide which word is the head in each phrase. Finally, determine whether each example illustrates a head-initial or a head-final construction.

(29) Ɂawlād   Ɂaxū-k   (Chadian Arabic)
     children brother-2.M.SG
     'your brother's children'

(30) nu-yaka-u   abi   (Bare)
     1SG-parent-F   with
     'with my mother'

In the sentences in (31) and (32), concentrate just on the phrases in brackets:

(31) Girki-v   [mindu omakta-va purta-va   buu-re-n].   (Evenki)
     friend-my me   new-ACC   knife-ACC give-PAST-3SG
     'My friend gave me a new knife.'

(32) Da   so   wan   sani   á   [bun   fu   sama   nyan]. (Ndyuka)
     and   thus   a   thing NEG   good   for   person   eat
     'Such a thing isn't good for people to eat.'

Examples (29) and (32) are head-initial, and (30) and (31) are head-final.

- In (29), from Chadian Arabic, we have a possessive NP with a head noun *Ɂawlād* 'children'; this is a head-initial construction, in keeping with the strongly head-initial character of Arabic. Although the head isn't initial in the English translation, note that an alternative would be *(the) children of your brother*, in which the head *children* precedes its complement *of your brother*.

- The Bare example in (30) is a PP, in this language a postposition phrase: its head is the postposition *abi* 'with', which is preceded by its complement NP. So this is a head-final construction.

- Evenki is a Tungusic language spoken in Siberia. The construction in brackets in (31) is a VP with the verb *buuren* 'gave' in final position, preceded by its two

complements, *mindu* 'me' and *omaktava purtava* 'a new knife', so this is again a head-final construction.

- Ndyuka is a creole language of eastern Suriname. The example in (32) shows an AP (in brackets), *bun fu sama nyan*, with the head adjective *bun* 'good' preceding its complement, which is a whole clause *fu sama nyan* 'for people to eat'. Since the head precedes this complement, this is therefore a head-initial construction.

4.3   HEAD-MARKING AND DEPENDENT-MARKING LANGUAGES

Section 4.2 examined one major cross-linguistic typology, known as head-placement. In this section we look at another important typological distinction: that between HEAD-MARKING and DEPENDENT-MARKING languages. Section 4.3.1 defines the terms and illustrates the constructions under discussion. Remaining sections give examples from languages of each type, construction by construction, ending by examining the wider picture of typological distinctions between languages.

4.3.1   Definitions and illustrations: Syntactic relationships between heads and dependents

Table 4.1 illustrates four different syntactic relationships – dependencies – between a head and its dependent(s). For ease of exposition, Table 4.1 shows each head before its dependents, but this shouldn't be taken to imply that only head-initial languages are under discussion; this is not at all the case, as we'll see.

Table 4.1

Syntactic relationships between a head and dependent

	Head	Dependent
i.	postposition/preposition	object NP
ii.	verb	arguments of the verb (e.g. subject, object)
iii.	(possessed) noun	possessor NP
iv.	noun	adjective

First, I show these four construction types in English; the relevant heads are given in bold:

i. **in** [$_{NP}$ the shower]   (**P** + NP)
ii. Kim **loves** Lee   (Su + **V** + Obj)
iii. Kim's **house**   (possessor NP + **N**)
iv. red **book**   (attributive adjective + **N**)

In this section we'll see that languages often mark either the head word or its dependent(s) in some way to signal the syntactic relationship between them. In

such languages, either the head or the dependent(s) (or sometimes both) will occur in some special form, perhaps taking an affix, or exhibiting some other change in word form. Let's start with a preliminary illustration. In the noun phrase *Kim's house*, the HEAD is the noun *house* (because *Kim's house* IS A house) and the DEPENDENT is the possessor NP *Kim*. In English, the dependent occurs in a special form here: it has the possessive -*'s* affix. The possessed head noun, *house*, however, has no special morphology: it is in its basic form. The -*'s* affix shows the possessor NP *Kim* to be a dependent (of a particular kind) to the head *house*. Since it's the dependent that receives the -*'s* marking, rather than the head, then *Kim's house* is an example of DEPENDENT-MARKING. In a HEAD-MARKING language, on the other hand, the head noun 'house' would occur in some special form. We'll see an example in the discussion of possessive NPs in Section 4.3.4.

The fact that the syntactic relationship between a head and dependent may be marked either on the head or the dependent gives us a broad TYPOLOGICAL distinction (= a division into language types) between HEAD-MARKING and DEPENDENT-MARKING languages. Here's what we expect to find. Typical head-marking languages are those with extensive agreement or CROSS-REFERENCING. This means that heads such as verbs and nouns are marked to agree with grammatical properties of their arguments – properties such as number, person and gender. A reminder of such a language, Kambera, can be found in Section 2.2.2.4. For instance, we would expect a head-marking language to have markers on the verb indicating both the subject and the object.

Typical dependent-marking languages, on the other hand, have well-developed case systems: this means that the dependents are marked to show their grammatical relation, say to a head verb or preposition. For instance, subjects and objects themselves appear in a special form which shows that they fulfil these particular grammatical functions. We've already seen an example of this from Japanese in (4) above. Subjects bear a specific case (nominative), whilst objects take a different case, known as accusative. English displays a small amount of dependent-marking here too, although it's restricted to the set of first and third person pronouns, which have case distinctions such as *I/me* and *she/her* (see Section 2.3.2). English full NPs don't differ in case depending on grammatical function, so we get both *My sister saw the girl* and *The girl saw my sister*.

I turn next to examples of the four constructions in Table 4.1 from languages of both types. Dependent-marking languages are more familiar to most readers of this book than are head-marking languages, and so are illustrated first in each section below.

4.3.2   Head adposition and its NP object

Recall from Chapter 2 that ADPOSITION is a cover term for preposition and postposition. In this section we will see examples of both head-initial and head-final PPs.

English, of course, generally has no marking at all on either head or dependent in this construction: *in the shower*. If the dependent NP is pronominal, though, once

again we see the remnants of an older case system on the pronouns: *for him*, *for me*. This is dependent-marking.

4.3.2.1 *Dependent-marking in the PP*

First we focus on DEPENDENT-MARKING on the object of prepositions within the PP in German. The basic form of the NP meaning 'my friend' is *mein Freund*. If this NP is used as the object of a preposition, then it's a dependent to the head preposition. German prepositions mark their dependent NPs by requiring them to appear in some particular CASE. Example (33) illustrates with two different head prepositions, each requiring a different case:

(33) a. für mein-en Freund   b.   mit mein-em   Freund   (German)
          for my-ACC   friend   with my-DATIVE friend
          'for my friend'   'with my friend'

German *für* 'for' selects an NP in the ACCUSATIVE case, and *mit* 'with' selects an NP in the DATIVE case: these case requirements are simply a lexical (unpredictable) property of the two prepositions. Although the noun *Freund* itself doesn't change from its basic form in either (33a) or (33b), the different cases of the two dependent NPs do show up in the different forms of their determiners: *mein-en* in (33a) but *mein-em* in (33b). The prepositions are traditionally said to GOVERN the case of their dependent NPs. Put another way, the syntactic relationship between the head preposition and its dependent object NP is signalled by giving the NP a special form. Note that there are no implications here for the meaning of the two NPs; their distinct cases are purely a formal requirement of the two different head prepositions.

   In (34) we see another PP with dependent-marking, from Chechen. This construction happens to be head-final: the head P is a postposition and so follows the dependent NP. Again, though, the object of the P, namely *beera-na* 'the child', is CASE-MARKED, and this time the case is shown directly on the noun itself: it's in the dative form:

(34) beera-**na**   t'e   (Chechen)
       child-DATIVE   on
       'on the child'

In both (33) and (34), each head adposition appears in its basic UNMARKED form; it's not marked with any information about the dependent at all. So there's no head-marking. The dependent NPs, on the other hand, appear in some specific case which shows that they bear the relationship of object to a (particular) head P. As noted above, case-marking is a classic form of dependent-marking.

4.3.2.2 *Head-marking in the PP*

In a PP which is HEAD-MARKING, the head P itself has a special form, whilst its dependent object receives no marking. You should be familiar by now with the fact that in many languages, verbs inflect to agree with their NP arguments. In a similar way, in some languages prepositions also inflect, changing in form to agree with their prepositional object in terms of grammatical features such as person, number, gender etc.; see Section 2.6.3. So the preposition itself takes person, number and sometimes gender markers. Example (35) illustrates:

> **(35)** **ruu**-majk   jar   aachi   (Tzutujil)
>   3SG-because.of   the   man
>   'by the man/because of the man'

The preposition here is *majk*, and it has a third person singular prefix *ruu-*, agreeing with the dependent NP *jar aachi* 'the man' in person and number. So the syntactic relationship between head P and dependent NP is still signalled, but this time on the head.

A second example of head-marking within PP comes from Welsh. Most prepositions in Welsh inflect to agree with their pronominal objects. The basic form of the preposition meaning 'on' is *ar*, and three members of its INFLECTIONAL PARADIGM (see Section 1.2.2.3) are shown in (36):

> **(36)** arna   i   arno   fo   arni   hi   (Welsh)
>   on.1SG   me   on.3.M.SG him   on.3.F.SG her
>   'on me'   'on him'   'on her'

The dependent pronouns in (36) retain their usual, unmarked form (they have no case marking) whilst the head preposition *ar* inflects to agree with the pronoun: *arna*, *arno*, *arni*. In the third person singular, the inflection is for person, number and gender. Inflected prepositions are found throughout the Celtic family (of which Welsh is a member) and in a number of other unrelated families, including Semitic (e.g. Arabic, Hebrew).

4.3.3   The clause: A head verb and the arguments of the verb

As noted above, English has dependent-marking in the clause only for a subset of pronouns, and not for full NPs at all. English has a tiny amount of head-marking in the clause, as we'll find later. See if you can figure out what this is before our discussion gets there.

4.3.3.1 *Dependent-marking in the clause*

The main verb in a clause has NP arguments which are its dependents. If we take a simple example of a transitive verb from the DEPENDENT-MARKING language Japanese,

we see that the two dependents – subject and object – are each marked with a specific case (by affixes, shown in bold):

(37) Taroo-**ga**   tegami-**o**   kaita.   (Japanese)
Taroo-NOM   letter-ACC   write.PAST
'Taroo wrote a letter.'

The head here, the verb *kaita* 'wrote', simply appears in its past tense form, and bears no information about its dependents. Specifically, it has no person or number inflections – no affixes to show who's doing the writing or what is being written. So there's no head-marking. But the dependent NPs are case-marked to show their relationship to the head verb: as we saw earlier, the subject of a verb in Japanese bears nominative case, and the object bears accusative case. Again we see that case indicates a dependent-marking construction.

German subjects and objects are also dependent-marked with different cases, again nominative for the subject of a verb and accusative for the object:

(38) Der   Hund   sah   den   Vogel.   (German)
the.NOM   dog   saw   the.ACC   bird
'The dog saw the bird.'

(39) Den   Vogel   sah   der   Hund.
the.ACC   bird   saw   the.NOM   dog
'The dog saw *the bird*.'

>————————————>————————————>

From an English-speaking perspective, the examples in (38) and (39) might seem quite striking. In what way? What is the major difference here between English and German, apart from the fact that full NPs in German receive case marking?

<————————————<————————————<

The point here is that despite the different word orders in (38) and (39), both these examples in German mean the same thing, in terms of who is seeing whom. Example (39) has more focus on 'the bird', as the translation indicates. It's case-marking in German, rather than word order, as in English, that shows which NP is the subject (the nominative NP *der Hund* 'the dog') and which is the object (the accusative NP *den Vogel* 'the bird'). The grammatical function of each NP doesn't change, whichever position it has in the clause, and it's the case marking that enables German speakers to understand who is seeing whom in such examples. So languages with a lot of case marking of this kind often have quite flexible word order in a clause; we'll see more about this in Chapter 6.

4.3.3.2 *Head-marking in the clause*

Next we look at how the relationship between a head verb and its subject and object is marked in a HEAD-MARKING language. In Kambera, the head verb always has bound pronominals: affixes which show the person, number and grammatical relation (subject, object etc.) of its dependents. Note that in (40), there are no free pronouns for 'I' and 'him'. Instead, these meanings are 'understood' from the markers on the head verb: prefix *ku-* (first person singular subject) and suffix *-ya* (third person singular object):

> **(40)** Hi   **ku**-palu-**ya**   (Kambera)
> so   1SG.SU-hit-3SG.OBJ
> 'So I hit him.'

The PRONOMINAL AFFIXES are shown in bold. Bound pronominals are a classic indication of a head-marking construction: the head itself bears inflections giving information about its dependents, but there are no independent 'free' pronouns present. Most languages of this kind only use free pronouns (i.e. separate pronouns like *I* and *him*) for emphasis, or when the sentence would otherwise be ambiguous. This is the situation in Kambera: the language does have free pronouns, but in most sentences they aren't needed. But how does the person you're talking to know who the 'him' refers to? Just as in English, in natural discourse, the full noun phrase – for instance, the boy's name – might be mentioned once at the start of the discourse, or else it may be obvious from the context. Full NPs don't need to be explicitly present in most sentences.

Technically, then, there is no grammatical 'agreement' in examples like (40) – the pronominal affixes alone represent the arguments of the verb, and there is no independent subject or object that the verb could 'agree' with here. For this reason, some linguists reserve the term 'agreement' for constructions or languages in which a verb or other head really does agree with another element in the clause, and instead use the term CROSS-REFERENCING for languages like Kambera where pronominal affixes represent the arguments on their own.

Even when the NP dependents of the verb *are* present in the sentence, the head verb is still marked to cross-reference (or agree with) them, as in (41):

> **(41)** [I   Ama]$_S$ **na**$_S$-kei-**ya**$_O$ [na   rí   muru]$_O$.   (Kambera)
> the   father   3SG.SU-buy-3SG.OBJ   the   vegetable   green
> 'Father buys the green vegetables.'
> (*Literally*, '*Father he-buys-it the green vegetable*')

In (41) I've indicated both the subject itself, *I Ama* 'father', and also the subject marker on the verb with a subscript $_S$ (for 'subject'), and I've shown both the object NP *na rí muru* 'the green vegetable' and the object marker on the verb with a subscript $_O$ (for 'object').

Please make sure you're happy with this kind of head-marking before going further, because it will be vital for understanding later chapters.

4.3.4   Head noun and dependent possessor NP

I turn next to the syntactic relationship between a possessed head noun and the possessor NP which is a dependent to that head. We've already seen one example of dependent-marking in this construction in English – recall the discussion of *Kim's house*. The special pronominal forms *my*, *your*, *his*, *her*, *our*, *their* which replace possessive *-'s* (we don't say **them's house*) are also examples of dependent-marking.

4.3.4.1   *Dependent-marking in the possessive construction*

Our next example comes from a Papuan language called Mangga Buang (POSS is the 'possessive' marker):

> **(42)** a.   sa-te   voow   b.   yi-te   bayêên   (Mangga Buang)
>   1SG-POSS   dog   3SG-POSS   village/house
>   'my dog'   'his/her village (*or* house)'

Note that in these examples, there is a possessive marker separate from the person/number marker, whereas English uses special possessive determiners here, *my*, *your*, *his*, *her* etc., which encapsulate both person/number *and* possession in a single form.

4.3.4.2   *Head-marking in the possessive construction*

Now consider the construction in (43), from the HEAD-MARKING language Saliba, an Austronesian language from the island of Saliba, Papua New Guinea:

> **(43)**   sine   natu-**na**   (Saliba)
>   woman   child-3SG
>   'the woman's child'

The word order of the (dependent) possessor and the possessed (head) N in (43) is just as in English, but the possessor *sine* 'woman' has no marking, whilst the head *natuna* 'child' bears a third person singular suffix *-na* which marks agreement with the possessor, *sine*, 'woman': literally, (43) means 'woman child-her'.

4.3.4.3   *Double marking in the possessive construction*

It is, in fact, rather common for a language to mark *both* the head and the dependent in the possessive construction: such double marking (i.e. both head- and dependent-marking within a single construction) is illustrated in (44) from a Quechuan language called Ayacucho:

(44) a.   runa-pa   wasi-n   (Ayacucho)
            man-GENITIVE   house-3.POSSESSIVE
            'a person's house'
       b.   qam-pa   wasi-ki
            you-GENITIVE   house-2.POSSESSIVE
            'your house'

GENITIVE is a case marker – like *-'s* in *Kim's house* – which shows possession; in other words, it shows the relationship between the possessor and the thing possessed (the head N meaning 'house'). Like all case marking, this is an instance of dependent-marking. The head, though, is also marked in this construction to agree with the possessor: it indicates the PERSON of the possessor, so third person for *runa* 'man/person', the possessor in (44a), and second person for *qam* 'you' in (44b).

4.3.5   Head noun and dependent AP

I turn finally to a head noun and a dependent adjective that modifies it. There are no examples from English, since neither noun nor adjective are marked in any way.

4.3.5.1   *Dependent-marking in the noun + modifying adjective construction*

Dependent-marking means here that the attributive adjective agrees with properties of the head noun, such as gender and number. This occurs in many European languages; (45) illustrates from Spanish:

(45) a.   el   niño   pequeño   b.   la   niña   pequeña   (Spanish)
            the.M   boy   small.M   the.F   girl   small.F
            'the small boy'   'the small girl'

The head noun *niño* 'boy' is masculine, and the dependent adjective appears in its masculine form (*pequeño*) to agree with this; the noun *niña* 'girl' is feminine, and the adjective is therefore in its feminine form, *pequeña*. The French example in (3) also illustrated dependent-marking on a modifying adjective within the noun phrase. Note also that the determiners in (45) reflect the different genders of the two head nouns.

4.3.5.2   *Head-marking in the noun + modifying adjective construction*

Turning to the HEAD-MARKING construction, examples of the head noun itself being marked when it has an attributive adjective are not very common cross-linguistically, but they are characteristic of Iranian languages, such as Persian. Example (46) is from a Kurdish language of Iran, Hawrami. The word for 'horse' is *æsp*, but here this head is marked with a suffix showing that it has a dependent adjective, whilst the adjective receives no marking:

(46) æsp-i   zıl   (Hawrami)
          horse-SUFFIX big
          'big horse'

4.3.6   An exercise on head-marking and dependent-marking

This short section asks you to work out for yourself which constructions are head-marking, and which dependent-marking.

>――――――――――――→―――――――――――――――→
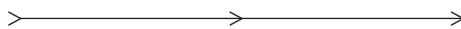
In each example in (47) through (50) you need to (i) decide what kind of construction we're dealing with, and which word is the head; then (ii) examine the glosses to determine whether it's the head or its dependent(s) that bears the markers showing the syntactic relationship between the two. This tells you whether the construction is head-marking or dependent-marking.

Hint: Note that a head-marking language often has constructions consisting of just the head with appropriate person and number markers occurring as pronominal affixes (or bound pronouns). In such constructions, there may be no separate noun phrase dependents. Look back at the discussion of the Kambera example in (40).

(47) anū-tSī   pustaka   (Marathi)
          Anu-POSSESSIVE.3PL   book.3PL
          'Anu's books'

(48) sagasaga   e-na   (Saliba)
          mouth.of.the.river   at-3SG
          'at the mouth of the river'

(49) a. Wisi   seuan-in   bi-mu-ban.   (Southern Tiwa)
              two   man-PL   1SG.SU-see-PAST
              'I saw two men.'
          b. Bey-mu-ban.
              2SG.SU/1SG.OBJ-see-PAST
              'You saw me.'

(The notation 2SG.SU/1SG.OBJ in (49b) indicates a marker which is a fusion of two separate pieces of grammatical information; here, a second person singular subject and a first person singular object.)

(50) a. raǰul   tawīl   (Chadian Arabic)
              man   tall.MASC
              'a tall man'

b.   mara   tawīla
       woman tall.FEM
       'a tall woman'

←——————————←——————————←
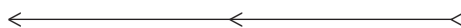
Two examples illustrate dependent-marking: (47) and (50). The other two, (48) and (49), are examples of head-marking constructions.

- In the Marathi possessor NP construction in (47), only the dependent (possessor) *Anu* is marked to show the relationship between possessor and possessed: it bears the possessive suffix (like English *-'s*) and it also agrees with the possessed head N, which is plural. The head noun, *pustaka* 'books', is simply marked as plural. So this example is dependent-marking.

- Example (48) is a postposition phrase from Saliba: the head P is at the end of the phrase. It's head-marking because the head P has the third person singular suffix *-na*, agreeing with the dependent NP *sagasaga* 'mouth of the river', which is the object of the postposition. This NP doesn't have any special markings to show it's a dependent. So (48) is parallel to the Tzutujil in (35) and the Welsh in (36), although both of those examples illustrate head-initial PPs, whereas in Saliba we have a head-final PP.

- The Southern Tiwa examples in (49) are full clauses, and are also head-marking: information about the verb's arguments are marked on the head verb as bound pronominals. The verb in (49a) is marked with a first person singular subject prefix *bi-*, but there is no independent subject pronoun for 'I'. The pronominal prefix *bey-* on the verb in (49b) fuses together two pieces of grammatical information: the subject is second person singular (standing for 'you') and the object is first person singular (standing for 'me'). Again, there is no separate subject or object pronoun in this example.

- The Chadian Arabic examples in (50) are dependent-marking. The adjective meaning 'tall' is a dependent of the head noun in each example, and agrees with that noun in gender.

4.3.7   Some typological distinctions between languages

Many languages fall fairly neatly into either the head-marking class or the dependent-marking class. Good examples of HEAD-MARKING languages are Abkhaz (a Northwest Caucasian language) and the native American language Navajo. In fact the indigenous language families of the Americas, and in particular North America, are nearly all head-marking: these families include Mayan (e.g. Jacaltec, Tzotzil), Athabaskan (e.g. Navajo), Iroquoian (e.g. Mohawk, Cherokee), Algonquian (e.g. Cree, Blackfoot), Siouan (e.g. Crow, Lakhota) and Salish (e.g. Squamish).

On the other hand, many languages from the Indo-European family (to which English belongs) are heavily DEPENDENT-MARKING, including German, Greek, Armenian and the Slavonic languages (e.g. Russian, Polish, Czech, Bulgarian etc.). But dependent-marking languages also predominate amongst the native Australian languages known as Pama-Nyungan (e.g. Dyirbal, Yidiny); the Northeast Caucasian languages (e.g. Chechen); and the Dravidian languages of southern India (e.g. Malayalam).

Another typological possibility is for the relationship between a head and its dependent not to be formally marked at all: this is known as ZERO-MARKING. Zero-marking – also known as neutral marking – typically occurs in languages which have very little morphology (= variation in the forms of words), such as Chinese, Vietnamese, and indeed English. In Chinese, for example, pronouns (and full noun phrases) have the same form whether they are subjects or objects:

(51) a. **Wo**   changchang   jian   **ta.**   (Chinese)
          I   often   see   he
          'I often saw him.'
      b. **Ta**   changchang   jian   **wo.**
          he   often   see   I
          'He often saw me.'

Example (51) shows that *wo* translates as either 'I' or 'me', and *ta* as either 'he' or 'him' (in fact, *ta* translates both 'he/him' and 'she/her'). So the dependent noun phrases aren't marked in any way in these Chinese examples. In other words, there is no CASE MARKING in Chinese: the dependents of a verb are not marked to show their relationship to that verb. And neither is there any head-marking, since the verb doesn't undergo agreement with either the object or the subject. Note that in such a language, the word order is crucial (as in English) to show who's doing what to whom. We can conclude that although many languages do have head-marking or dependent-marking, some languages have neither.

English has very little formal marking on either heads or dependents. Full NPs within a clause have no case marking. In PPs, such as *in the shower*, neither the head P *in* nor its dependent NP *the shower* is marked to show their syntactic relationship. The same is true of NPs with a modifying adjective, such as *red book*; English lacks the kind of dependent-marking seen in French, (3), Spanish, (45), and Chadian Arabic, (50), where attributive adjectives agree with the grammatical properties of the noun they modify. Nor do English nouns change in form when they have a dependent adjective, so there's no head-marking either. Largely, then, English is neutral marking.

However, English does have a small amount both of dependent-marking and head-marking. Taking DEPENDENT-MARKING first, we saw earlier that in possessive noun phrases like *Kim's house*, it's the dependent, *Kim*, which is marked (with the possessive -*'s*) rather than the head, *house*. We also saw that a subset of English pronouns display the vestiges of a CASE system, meaning a system whereby dependent NPs are marked to show their grammatical relationship to a head verb or

preposition. Pronouns – but not full noun phrases such as *Kim* or *the cat* – have a different form according to whether they're a subject or an object:

(52)   Kim saw the cat. / The cat saw Kim.
She saw **him**. / **He** saw **her**.
*Her saw he. / *Him saw she.

So when the dependents of the verb are pronouns (first person or third person only), we find dependent-marking within the clause. And finally, a certain amount of dependent-marking occurs in the agreement within a noun phrase, as in *this book* versus *these books*: the determiner and the noun agree in number, though which is the dependent and which the head depends on whether or not we accept the DP hypothesis discussed in Section 4.1.8.

English could never be thought of as a HEAD-MARKING language. There is almost no head-marking on the verb: for example, the verb *see* is *saw* throughout the past tense, whatever its subject (or, indeed, object). However, limited head-marking does occur on English verbs in the form of SUBJECT/VERB AGREEMENT. The verb *be* displays some person and number distinctions, such as *I am* but *she is* and *we are*: this is head-marking because the verb changes in form to agree with its dependent subject pronouns. And in the present tense of regular verbs we find, for instance, *I like Kim* but *She like**s** Kim*, where the verb is head-marked (with an *-s* suffix) to agree with a third person singular subject. Note that of course, the *-s* suffix also indicates present tense, a property which has nothing to do with either head- or dependent-marking.

Languages which display a mixture of head- and dependent-marking properties are not at all unusual. One particularly common situation is that a language which is otherwise dependent-marking will have person and number affixes on the head verb marking agreement, particularly with the subject. This agreement is a head-marking pattern. German is a typical example, but many European languages (including non-Indo-European languages such as Basque) exhibit the same pattern:

(53)   a.   Ich   **sehe**   den   Vogel.   (German)
I.NOM   see.PRES.1SG   the.ACC   bird
'I see the bird.'
b.   Wir   **sehen**   den   Vogel.
we.NOM   see.PRES.1PL   the.ACC   bird
'We see the bird.'

For the most part, German is a typical dependent-marking language: dependent pronouns and full NPs are all case-marked, the subjects as NOMINATIVE and the objects as ACCUSATIVE. But (53) shows that German also has subject/verb agreement, which is head-marking, and this is much more extensive than in English. So in (53a) we have *sehe*, the first person singular form of the verb, when the subject is *ich* 'I', and in (53b) *sehen*, the first person plural form, when the subject is *wir* 'we'.

In fact, head-marking on verbs in the form of verbal agreement (particularly agreement with subjects) is highly prevalent cross-linguistically – even in languages which are otherwise systematically dependent-marking. We can regard this kind of head-marking as a property which is typical of both head- *and* dependent-marking languages, rather than seeing it just as belonging to the head-marking class of languages.

4.3.8   Summary

We have seen in this section that languages divide into various classes in terms of the head-marking versus dependent-marking typology. Some languages rarely mark the syntactic relationships between head and dependent at all; these are languages with very little morphology, such as Chinese, which can be considered a zero-marking language. Amongst languages that do mark the relationships, there are two major possibilities: the head may be marked or else the dependent may be marked. Some languages exhibit both head- and dependent-marking constructions. Finally, I noted that the occurrence of verbal agreement, a head-marking pattern, is particularly common, even in languages which are generally dependent-marking.

Checklist for Sections 4.2 and 4.3

If you're happy with the concepts discussed in these two sections, you're ready to read further. If you're not, I recommend revising before moving on.

- Do you understand what we can call the HEAD-DIRECTIONALITY PARAMETER introduced in Section 4.2, which discusses whether a head precedes or follows its complements?

- Does the typological distinction introduced in Section 4.3 between head-marking and dependent-marking languages make sense to you? Can you explain the four syntactic constructions used to illustrate this typology (outlined in Table 4.1)?

FURTHER READING

Information on the position of the head within a phrase (head-initial or head-final) can be obtained from Chapter 2 of Song (2001). One approach to heads and their dependents can be seen in Hudson (1984, 1990, 2007); in a different theoretical framework, see Radford (1988). Radford also provides extensive discussion of complements and adjuncts (though from a largely English perspective); see especially Chapters 1 through 5 (I recommend reading my Chapter 5 first). The question of whether or not the determiner heads the noun phrase has generated much interest over the years: two central papers are Zwicky (1985) and Hudson (1987). The seminal reading for Section 4.3 on head-marking and

dependent-marking languages is Nichols (1986), though I don't recommend tackling this until you've finished this book.

EXERCISES

1. The examples in (1) through (5) all contain at least one noun phrase.

   Task: (i) Pick out all the NPs, and put them in square brackets. Make sure that you get the whole of each NP inside your brackets; i.e., the head noun and all its dependents. In some cases, an NP may have another NP embedded within it. Make sure you bracket these too. (ii) List all the subject NPs, all the direct object NPs, and all the NP predicates.

   (1)   My idiot of a neighbour wastes stacks of water on his garden.

   (2)   This is a planet that could engulf all the surrounding matter.

   (3)   They encountered a bigger problem over the fees rise than they initially anticipated.

   (4)   This is too long a story for me to tell you right now.

   (5)   The only day currently available for your interview is March 12.

2. In Section 4.2 we saw that in many languages, heads have the same fixed position relative to their complements across all phrases. For instance, in many languages, a VP, PP and CP would all be consistently either head-initial or head-final: Welsh is a good example of the former, and Japanese the latter. However, not all languages display consistent ordering, either within phrases of the same category (for instance, within VPs) or across phrases of different categories (for instance, VPs might have a different order to PPs).

   Task: Study the three data sets in (1) to (3) and work out what the examples in each set show about head placement in the language illustrated. You will need to figure out for yourself the relevant phrase in each example: in most cases, it's only a phrase within the clause that is relevant to this exercise, rather than the whole clause. State what phrase type the salient phrase is in each example (e.g. VP, PP, AP, CP etc.) and say what it shows relative to the other data in the set.

   (1)   **Dutch**
       a.   Kleiner   dan   mij   zijn   niet   veel   mensen.
              smaller   than   me   are   not   many   people
              'Not many people are smaller than me.'
       b.   Ik   heb   de   toekomst   gezien.
              I   have   the   future   seen
              'I have seen the future.'

(2)   Nupe (Baker 2001; Baker and Kandybowicz 2003)

    a.   Mi   kpaye   gànán   Musa   lá   èbi.
          I   think   that   Musa   took   knife
          'I think that Musa took the knife.'

    b.   Èbi   Musa   lá   o.
          knife   Musa   took   COMPLEMENTIZER
          'It's a knife that Musa took.'

    c.   Musa   è   lá   èbi.
          Musa   PRES   take   knife
          'Musa is taking the knife.'

    d.   Musa   á   dukun   si.
          Musa   PERF   pot   buy
          'Musa has bought a pot.'

    e.   Musa   á   etsu   ya   èwò.
          Musa   PERF   chief   give   garment
          'Musa has given the chief a shirt.'

    f.   Musa   má   etsu   èwò   ya.
          Musa   MODAL.AUX   chief   garment   give
          'Musa knows how to give the chief a garment.'

(3)   German

    a.   Wir   fahren   den   Fluss   entlang.
          we   travel.PRES.1PL   the   river   along
          'We're driving along the river.'

    b.   Wir   fahren   mit   der   Bahn.
          we   travel.PRES.1PL   with   the   train
          'We're going by train.'

    c.   Er   ist   auf   seine   Arbeit   stolz.
          he   is   on   his   work   proud
          'He is proud of his work.'

    d.   Er   ist   stolz   auf   seine   Arbeit.
          he   is   proud   on   his   work
          'He is proud of his work.'

3. This exercise illustrates the possessive construction in a range of different languages.

    Task: (i) Decide whether each example in (1) to (7) is HEAD-MARKING or DEPENDENT-MARKING, or displays both kinds of marking, or else is ZERO-MARKING (displaying no morphological indication of the relationship between the head and dependent), and give concise evidence for your conclusions. (ii) Work out why (4a) and (4b) might differ from each other.

Hint:

The Bantu language Makhuwa shown in (6) has extensive gender marking, with each noun belonging to a specific noun class; see Section 2.3.3.2 for a reminder. The noun class of each noun is shown in the gloss with a number on the noun itself; technically, Mawhuwa has up to 18 noun classes, though not all of these are distinct from each other in the modern language. If it helps, you can consider the two genders shown in (6) as parallel to the use of masculine and feminine gender in, say, French or Italian.

(1) beje   halgan-in   (Evenki)
     man   leg-3SG.POSS
     'the man's leg'

(2) jek Petritesko   čavo   (Romani)
     a   Peter.GENITIVE   son
     'a son of Peter's'

(3) dee-n   aaxča   (Chechen)
     father-GENITIVE   money
     'father's money'

(4) a.   xiri-con   Xijam   (Wari')
          house-3M.SG   (male name)
          'Xijam's house'
     b.   pije'-nequem   Hatem
          child- POSS.3F.SG   (female name)
          'Hatem's child'

(5) a.   le   rakles-k-i   dej   (Romani)
          the.M   boy-GEN-F   mother
          'the boy's mother'
     b.   le   rakles-k-e   phrala
          the.M   boy-GEN-PL   brothers
          'the boy's brothers'

(6) a.   ntsíná   n-áka   (Makhuwa)
          5.name   5-POSS.1SG
          'my name'
     b.   ehópá   ts-áka
          10.fish   10-POSS.1SG
          'my fish'

(7) az   ember   ház-a   (Hungarian)
     the   man   house-3SG
     'the man's house'

The data in this exercise are from the following sources, example by example: Nedjalkov 1997; Matras 2002; Nichols 1986; Everett and Kern 1997; Matras 2002; van der Wal 2009; Nichols 1986.

4. The data in this exercise are from a Chadic language called Hdi, spoken in Cameroon, and are taken (slightly adapted) from Frajzyngier (2002). Examine all the data in (1) through (10).

Task: (i) Work out the function of the morpheme *tá*, which I have left unglossed in these examples. Where exactly does it occur? (ii) Hdi and English display some interesting differences as regards the valency of verbs. What exactly are these differences, and which data items display them?

(1)   ngatsa-f-ngats-i   tá   lfid-a   lgut
           have-up-have-1SG   TÁ   new-GEN   cloth
           'I have new clothes.'

(2)   tsgha-da-f   xaxən   tá   sani
           put.up-away-up   they   TÁ   one
           'They sent up one (bag).'

(3)   ghwaghwa-ghwaghwa kri
           bark-bark   dog
           'A dog barked.'

(4)   si   midu-u
           PAST   inside-1DUAL
           'The two of us were inside.'

(5)   skwa-skw-i   tá   plis   nda   ma   na   hla
           buy-buy-1SG   TÁ   horse   and   female   DEM   cow
           'I bought a horse and a cow.'

(6)   nda   ngh-i   tá   pta
           STATIVE   see-1SG   TÁ   mat
           'I saw the mat.'

(7)   ta   skalu-lu   tá   skalu   girvidik
           IMPF   dance-SU   TÁ   dance(N)   night
           'They danced all night.'

(8)   nda   ngh-i   tà   pta
           STATIVE   see-1SG   on   mat
           'I saw (it) on the mat.'

(9) vra-k-vr-i   dzagha   ka   mbaz-i   tá   mbaza
return-in-return-1SG   home   then   wash-1SG   TÁ   wash(N)
'I returned home and washed.'

(10) ta   xanay   tsa   mndu   ya   tá   xani   dagala
IMPF   sleep(V)   the   man   DEM   TÁ   sleep(N)   large
'That man sleeps a lot.'

5. Before tackling this exercise, you should revise Section 3.3.3. In (1) through (4) you see some serial verbs in Yimas, a Papuan language of New Guinea. The data are all from Foley (1991), with some small adaptations.

   Hints:
   - The serial construction itself is a single grammatical word that comprises a number of distinct morphemes; in other words, no part of it can be split off and stand as an independent word. Each of the examples (1) to (3) is a single clause which contains only *one* grammatical word, which includes pronominal affixes and markers for tense and other categories. Make sure you understand this before moving on. In (4) there are also two independent words (for 'water' and 'canoe'), as well as the serial verb part. Again, this is a single clause.

   - There are some elements in the glosses that need a few words of explanation. The gloss 'A' is for the 'agent' (here, the subject) of a transitive verb. We will see more about this term in Chapter 6. For instance, in (1) to (3) there is a verbal prefix *n-*, glossed as 3SG.A, meaning a third person singular agent; this gives us the subject 'he' in the translations. And in (4), there is a prefix *ka-*, glossed as 1SG.A, meaning a first person singular agent; this gives us the subject 'I' in the translations. Both of these markers are, of course, pronominal affixes. The gloss CONT (for continuous) gives an ongoing event, just like *walking* and *sitting* do in the English translations.

   - Verb serialization can be formed in two different ways in Yimas, giving rise to two different interpretations. The two serial verbs in Yimas can be simply juxtaposed, i.e. placed next to each other, as is the case in (1), (2) and (3). This implies that the two events are simultaneous, or are very close (in time and space). Alternatively, the serial verbs can be connected by a morphological marker, most commonly *-mpi*, marked SEQ for 'sequential'; this construction is used for events that occur one after the other, so are sequential, but where one event did not cause the other. An example is (4). The serial verb construction always forms a single clause, despite having two verbs.

   Tasks: (i) First, examine the serial verb constructions in (1) to (4) and decide which typical properties of verb serialization can be detected in these examples. Be as specific as possible in your answer.

(1)   impa-n-yakal-kulanaŋ-kanta-k
3DUAL.OBJ-3SG.A-CONT-walk-follow-TENSE
'He was walking following those two.'

(2)   pu-n-yakal-caŋ-tantaw-malak-ntut
3PL.OBJ-3SG.A-CONT-with-sit-talk-REMOTE.PAST
'He was sitting down conversing with them.'

(3)   ura-n-irm-wampaki-pra-k
fire.OBJ-3SG.A-stand-throw-toward-TENSE
'He stood throwing fire toward (them).'

(4)   arm-n   kay   i-ka-ak-mpi-wul
water-in   canoe   SG.OBJ-1SG.A-push-SEQ-put.down
'I pushed the canoe down into the water.'

(ii) The serial verb examples in (5) and (6) are variants of (4), but both are ungrammatical; these are not possible constructions. Why not? Which principle of verb serialization do these violate? **NB** There is a certain freedom of word order in Yimas, meaning that independent words such as *kay*, 'canoe', can be found in various positions in the clause. But *in itself*, this is not at all relevant to your answer.

(5)   *kay   i-ka-ak-mpi   arm-n   wul
canoe   SG.OBJ-1SG.A-push-SEQ   water-in   put.down
('I pushed the canoe down into the water.')

(6)   *i-ka-ak-mpi   kay   wul   arm-n
SG.OBJ-1SG.A-push-SEQ   canoe   put.down   water-in
('I pushed the canoe down into the water.')

The examples in (7) to (9), however, are *not* instances of verb serialization, but instead are examples of a 'dependent verb' construction. While the serial construction is a single clause, as noted in the *Hints*, the dependent verb construction comprises two *separate* clauses, as the English translations reflect. Instead of having a meaning that refers to a single complex event, pushing the canoe into the water, the dependent verb construction 'expresses two separate events, one followed in time by another' (Foley 1991: 326).

(7)   kay   ak-mpi   i-ka-wul   arm-n
canoe   push-SEQ   SG.OBJ-1SG.A-put.down   water-in
'I pushed the canoe and put it into the water.'

(iii) The examples in (8) and (9) are variants of (7), again showing freedom of word order; both are fully grammatical. How, *specifically*, do these three examples differ from the serial verb constructions in (5) and (6)?

(8)   kay   ak-mpi   arm-n   i-ka-wul
      canoe   push-SEQ   water-in   SG.OBJ-1SG.A-put.down
      'I pushed the canoe and put it into the water.'

(9)   ak-mpi   kay   i-ka-wul   arm-n
      push-SEQ   canoe   SG.OBJ-1SG.A-put.down   water-in
      'I pushed the canoe and put it into the water.'

(iv) In (10) we have another variant of the dependent verb construction. How does this differ from the three examples given so far? How does the fact that the dependent verb construction comprises two separate clauses predict this behaviour?

(10)   kay   i-ka-ak-mpi   arm-n   i-ka-wul
       canoe   SG.OBJ-1SG.A-push-SEQ   water-in   SG.OBJ-1SG.A-put.down
       'I pushed the canoe and put it into the water.'

6. This exercise examines a construction known as 'quantifier float' in a variety of Irish English known as West Ulster English (data and discussion taken from McCloskey 2000). Standard English allows both of the constructions in (1), where (a) is said to have a floating quantifier (*all* or *both*), meaning that it's floating free of the phrase (*they*) that it modifies directly in (b):

(1)   a.   <u>They</u> have <u>all/both</u> gone to bed.
     b.   <u>They all/both</u> have gone to bed.

Many varieties of English also allow questions of the kind in (2). (If you're not a speaker of such a variety, note that *what all*, *who all* etc. require that you answer with a list, and moreover, a full list; if you met Tom, Jack and Nicky in Derry, answering just *Tom* would not be what was required.)

(2)   a.   <u>What all</u> did you get for Christmas?
     b.   <u>Who all</u> did you meet when you were in Derry?
     c.   <u>Where all</u> did they go for their holidays?

What distinguishes West Ulster English is that it also allows questions of the kind in (3), which have quantifier float. The quantifier is said to be 'stranded' (left behind; not attached to the *wh*-word) in these examples:

(3)   a.   <u>What</u> did you get <u>all</u> for Christmas?
     b.   <u>Who</u> did you meet <u>all</u> when you were in Derry?
     c.   <u>Where</u> did they go <u>all</u> for their holidays?

Below are some further examples from the same dialect.

Task: (i) From (3), (4) and (5), formulate an initial hypothesis about where exactly (in syntactic terms) the floating quantifier is 'stranded' in this dialect;

note that (5b) and (5c) are ungrammatical, and this must be accounted for in your hypothesis too.

(4) a.   <u>What</u> did you give <u>all</u> to the kids?
  b.   <u>What</u> did you put <u>all</u> in the drawer?
  c.   <u>Who</u> did you meet <u>all</u> up the town?

(5) a.   <u>What</u> did she buy <u>all</u> in Derry at the weekend?
  b.   *<u>What</u> did she buy in Derry at the weekend <u>all</u>?
  c.   *<u>What</u> did she buy in Derry <u>all</u> at the weekend?

(ii) Next, consider the data in (6): are these examples consistent with your hypothesis? If so, well done; if not, please formulate a new hypothesis that correctly predicts the grammaticality of (6).

(6) a.   Tell me <u>what</u> you got <u>all</u> for Christmas.
  b.   Tell me <u>what</u> you've been reading <u>all</u>.
  c.   I don't remember <u>what</u> I said <u>all</u>.

(iii) Next, consider the data in (7), which are ungrammatical; do these affect your hypothesis? If the answer is not at all, well done. If these data are not consistent with your hypothesis, can you formulate a new hypothesis that *is* consistent with all the data seen so far?

(7) a.   *<u>Who</u> did you talk <u>all</u> to?
  b.   *<u>What</u> were you laughing <u>all</u> at?

(iv) Though the data in (7) are completely impossible, those in (8) are, according to McCloskey, only 'slightly degraded'; in other words, a linguistic analysis would have to account for them as possible data. In what way would these require your hypothesis to be amended?

(8) a.   ?<u>Who</u> did you talk to <u>all</u> (at the party)?
  b.   ?<u>Who</u> was he laughing at <u>all</u>?