

- (30) Nyuna na-tinu-nya na lau (Kambera)
 she 3SG.SU-weave-3SG.OBJ the sarong
 ‘She weaves the sarong.’

Here, the verb has markers representing both the subject and the object: the subject marker is the prefix *na-* and the object marker is the suffix *-nya*. Note that the verb here, *natinunya*, could actually form a perfectly good full sentence by itself; literally, it means ‘she weaves it’; both the independent subject pronoun *nyuna* ‘she’ and the object *na lau* ‘the sarong’ could therefore be omitted quite happily. Far from being an unusual situation cross-linguistically, this is commonplace – albeit not in European languages. We say of such a verb that it has PRONOMINAL AFFIXES – morphological markers that can replace independent pronouns. Many more examples will occur throughout this text.

2.3 Nouns

2.3.1 Semantic roles for noun phrases

Noun phrases (NPs) most typically function as the arguments of verbs. NP arguments can be classified both in terms of the semantic role that they fulfil and in terms of their syntactic function in a sentence (Section 2.3.2). First, we look at SEMANTIC ROLES, also known as thematic (or theta) roles. It is the verb that determines what semantic roles its arguments must take. Let’s look at some examples:

- (31) Lee handed the letter to Kim.
 AGENT THEME RECIPIENT
- (32) Kim detests sprouts.
 EXPERIENCER STIMULUS
- (33) Spiders frighten Lill
 STIMULUS EXPERIENCER
- (34) The flowers wilted.
 PATIENT
- (35) The ball broke the window.
 INSTRUMENT PATIENT

As you can see from these examples, there is no correlation between the number of arguments that a verb takes and the semantic role that these arguments fulfil. An AGENT is an animate being deliberately performing an action. Subjects are very often agents, but certainly not always: none of the subjects in (32) to (35) is an agent. Verbs like *love*, *fear* and *detest* have an EXPERIENCER subject – the

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

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: 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*.

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

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 earlier, 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, however, 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* while the two different types of non-finite complement clause 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: Chapter 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, while 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 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 NP; 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*.

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 in (17a). The 'tree' in (17b) shows the same information as a diagram.

(17) a. [_{DP} this [_{NP} **box of dates**]]

