

### Linguistic Background An outline of English Syntax:

**Words:** basic unit of linguistic structure appears to be the word.

**Morphology** - concerns the **construction of words** from more basic **components** corresponding roughly to meaning units.

There are **two basic** ways that **new words** are formed.

1) **inflectional** forms

2) **derivational** forms

1)**inflectional** forms: Inflectional forms use a **root** form of a word and typically add a **suffix** so that the **word appears** in the appropriate form given the **sentence**.

Verbs are the best examples of this in English

**Inflectional forms** - a suffix added to root form of a word

■Eg. verb (each verb has a basic form and changed depending on situations and conditions

2)**derivational** forms: Derivational morphology involves the derivation of new words from other forms. The **new words** may be in completely **different categories** from their **subparts**.

For **example**, the **noun** *friend* is made into the **adjective** *friendly* by adding the suffix - *ly*. A more **complex derivation** would allow you to derive the **noun** *friendliness* from the adjective form.

○**Derivational forms** - derivation of new words from other forms

■Friend -> Friendly -> friendliness

○**Nouns** - identifies basic type of objects, concept or place

○**Adjective** - qualifies nouns, eg. green book

■May be used as noun itself - the green is lighter than other

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■as modifiers - book worm

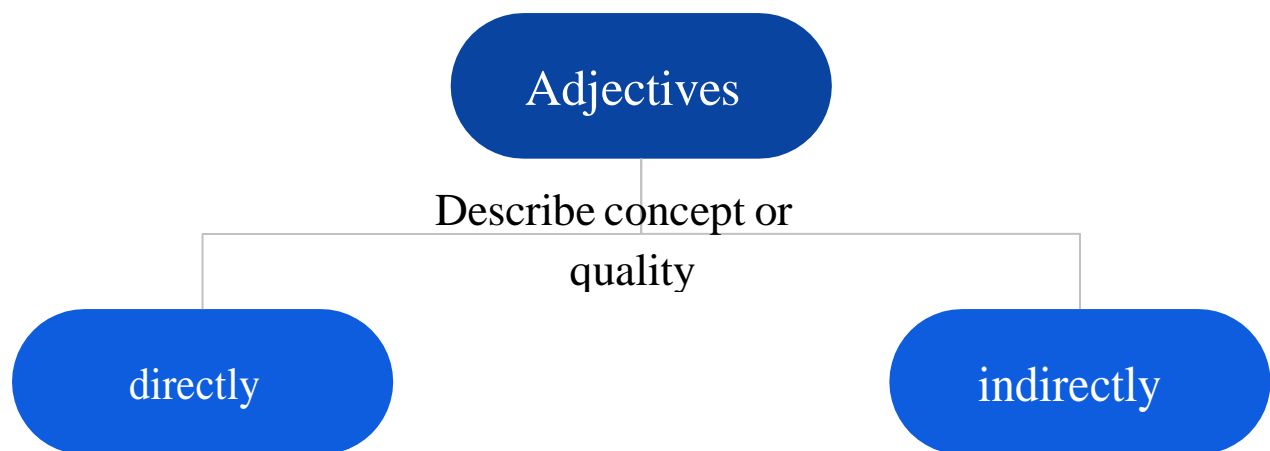
○Green is ambiguous between noun and adjective.

○Two types of modifiers

■Adjective modifier

■Noun modifiers

○The hot are on the table - refers hot plates when considering plates.



we can identify **four main** classes of words in English that contribute to the meaning of sentences.

These **classes** are **nouns, adjectives, verbs, and adverbs**.

Sentences are built out of phrases centered on these four word classes. Of course, there are many other **classes of words** that are necessary to **form sentences**, such as **articles, pronouns, prepositions, particles, quantifiers, conjunctions**, and so on.

○4 main classes of words - nouns, adjectives, verb, adverb

○Sentences are made phrases centered on these classes of words

○**Open class words** - new words of these class of words are regularly introduced in the languages

■Eg. verb, noun, adjectives, adverbs

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○ **Closed class words** - new words are rarely introduced.

■ Eg. articles, pronouns, prepositions, particles etc.

○ A word from any of the four open classes used to form basis of a phrase.

○ This word is called the head of the phrase and indicates the type of thing, activity or quality.

A word in any of the four open classes may be used to form the basis of a phrase. This word is called the head of the phrase and indicates the type of thing, activity, or quality that the phrase describes. For **example**, with noun phrases, the head word indicates the general classes of objects being described. The phrases

the dog

the mangy dog.

the mangy dog at the pound.

are all noun phrases that describe an object in the class of dogs.

The first describes a member from the class of all dogs.

The second an object from the class of mangy dogs.

The third an object from the class of mangy dogs that are at the pound.

The word dog is the head of each of these phrases.

Similarly, the adjective phrases

hungry

very hungry

hungry as a horse

all describe the quality of hunger. In each case the word *hungry* is the head.

● **Complement of the head** - Phrase or set of phrases needed to complete the meaning of such a head.

● **‘Put the dog in the house’** - put is the head ‘the dog in the house’ is the complement.

<b>Noun Phrases</b> The <b>president</b> <i>of the company</i> His <b>desire</b> <i>to succeed</i> Several <b>challenges</b> <i>from the opposing team</i>	<b>Verb Phrases</b> <b>looked</b> <i>up the chimney</i> <b>believed</b> <i>that the world was flat</i> <b>ate</b> <i>the pizza</i>
<b>Adjective Phrases</b> <b>easy</b> <i>to assemble</i> <b>happy</b> <i>that he'd won the prize</i> <b>angry</b> <i>as a hippo</i>	<b>Adverbial Phrases</b> <b>rapidly</b> <i>like a bat</i> <b>intermittently</b> <i>throughout the day</i> <b>inside</b> <i>the house</i>

**Figure 2.1** Examples of heads and complements

## 2.2 The Elements of Simple Noun Phrases

- NP (Noun Phrases) - used to refer to things, events, concepts, qualities and so on
- Simplest NP consists of pronouns - he, she, they, it, you, me, I...
- Pronouns can refer to
  - **Physical objects** - 'It hid under the rug'
  - **Events in the sentence** - 'Once I opened the door, I regretted it for months'
  - **Qualities in the sentence** - 'He was so angry, but he didn't show it'
- Another basic form of NP consists of name or proper noun
- **Eg.** John, Rochester
- **May also contain multiple words in nouns** - New York Times, Stratford-on-Avon etc.

Excluding pronouns and proper names, the head of a noun phrase is usually a common noun. Nouns divide into **two** main classes:

**count nouns** — nouns that describe specific **objects or sets of objects**.

**mass nouns** — nouns that describe **composites or substances**.

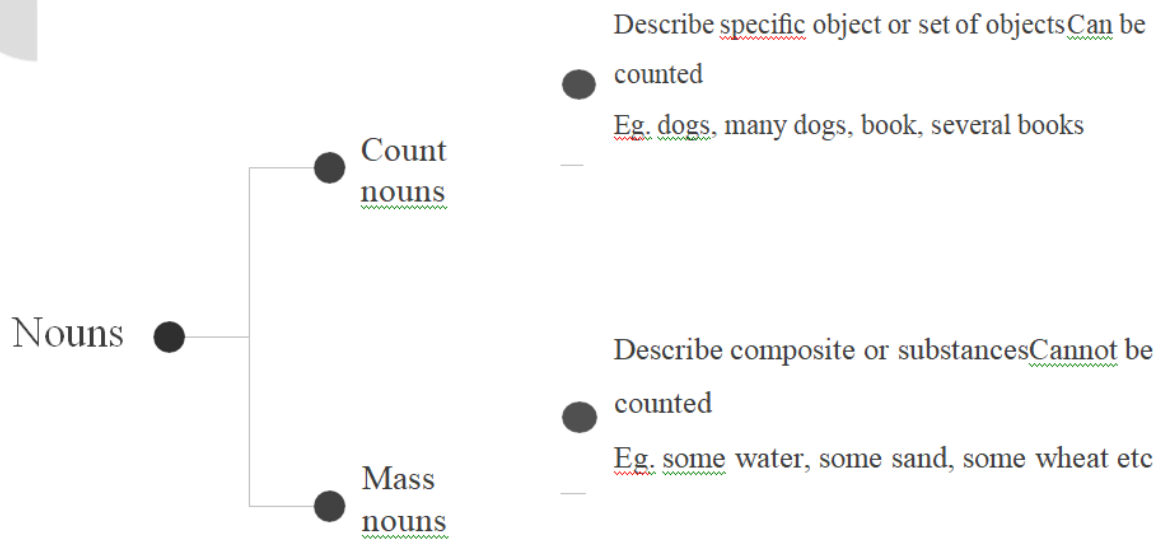
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**Count nouns** acquired their name because they can be counted. There may be one *dog* or many *dogs*, one *book* or several *books*, one *crowd* or several *crowds*.

If a single count noun is used to describe a whole class of objects, it must be in its **plural form**. Thus you can say *Dogs are friendly* but not *\*Dog is friendly*.

**Mass nouns** cannot be counted. There may be *some water*, *some wheat*, or *some sand*. If you try to count with a mass noun, you change the meaning



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- In addition to head, NP may contain

## Specifiers

Indicates how many such objects are described as well as how the objects are described

Constructed out of

Ordinals  
(first, second)

Cardinals  
(one, two)

Determiners

**articles**—the words *the*, *a*, and *an*.

**demonstratives**—words such as *this*, *that*, *these*, and *those*.

**possessives**—noun phrases followed by the suffix 's, such as *John's* and *the fat man's*, as well as possessive pronouns, such as *her*, *my*, and *whose*.

**wh-determiners**—words used in questions, such as *which* and *what*.

**quantifying determiners**—words such as *some*, *every*, *most*, *no*, *any*, *both*, and *half*.

## Qualifiers

Further describe the general class of objects that head identifies

Number	First Person	Second Person	Third Person
			he (masculine)
singular	I	you	she (feminine)
			it (neuter)
plural	we	you	they

Figure 2.2 Pronoun system (as subject)

Number	First Person	Second Person	Third Person
singular	my	your	his, her, its
plural	our	your	their

Figure 2.3 Pronoun system (possessives)

A **simple noun phrase** may have at most **one determiner, one ordinal, and one cardinal**. It is possible to have all **three**, as in *the first three contestants*.

An exception to this rule exists with a few quantifying determiners such as *many, few, several*, and *little*.

These words can be preceded by an article, yielding noun phrases such as *the few songs we knew*.

The **qualifiers** in a noun phrase occur after the specifiers (if any) and before the head. They consist of **adjectives and nouns** being used as modifiers. The following are more **precise definitions**:

**adjectives** - words that **attribute qualities** to objects yet do not refer to the qualities themselves (for **example**, *angry* is an **adjective** that attributes the quality of anger to something).

**noun modifiers** - **mass or count nouns** used to **modify another noun**, as in *the cook book* or *the ceiling paint can*.

- Simple NP may have at most one determiner, one ordinal and one cardinal
- Possible to have all three - 'the first three contestants'
- Qualifiers in a NP occur after specifiers and before the head
- Two forms of nouns - singular and plural
- Pronouns take forms based on person and gender

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- These distinctions reflect a systematic analysis explicitly in some languages and implicitly in some other languages.
- In French, nouns are classified by their gender.
- In English, many of these distinctions are not explicitly marked except in a few cases.

Number	First Person	Second Person	Third Person
singular	me	you	him her it
plural	us	you	them

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**Figure 2.4** Pronoun system (as object)  
Verb phrases and simple sentences:

- The way in which a sentence is used is called Mood.

### Mood

declarative (or assertion)  
yes/no question  
wh-question  
imperative (or command)

### Example

The cat is sleeping.  
Is the cat sleeping?  
What is sleeping? or Which cat is sleeping?  
Shoot the cat!

### Basic moods of sentences

Verbs can be divided into several different classes: the auxiliary verbs, such as *be*, *do*, and *have*; the modal verbs, such as *will*, *can*, and *could*; and the main verbs, such as *eat*, *ran*, and *believe*. The auxiliary and modal verbs usually take a verb phrase as a complement, which produces a sequence of verbs, each the head of its own verb phrase. These sequences are used to form sentences with different tenses.



Form	Examples	Example Uses
base	hit, cry, go, be	<i>Hit</i> the ball! I want to <i>go</i> .
simple present	hit, cries, go, am	The dog <i>cries</i> every day. I <i>am</i> thirsty.
simple past	hit, cried, went, was	I <i>was</i> thirsty. I <i>went</i> to the store.
present participle	hitting, crying, going, being	I'm <i>going</i> to the store. <i>Being</i> the last in line aggravates me.
past participle	hit, cried, gone, been	I've <i>been</i> there before. The cake was <i>gone</i> .

**Figure 2.6** The five verb forms

The tense system identifies when the proposition described in the sentence is said to be true. The tense system is complex; only the basic forms are outlined in Figure 2.7. In addition, verbs may be in the progressive tense. Corresponding to the tenses listed in Figure 2.7 are the progressive tenses shown in Figure 2.8.

## 2.3 Verb Phrases and Simple Sentences:

While an NP is used to refer to things, a sentence (S) is used to assert, query, or command. You may assert that some sentence is true, ask whether a sentence is true, or command someone to do something described in the sentence. The way a sentence is used is called its mood. Figure 2.5 shows four basic sentence moods.

A simple declarative sentence consists of an NP, the subject, followed by a verb phrase (VP), the predicate.

A **simple VP** may consist of some **adverbial modifiers** followed by the head verb and its complements.

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Every verb must appear in one of the five possible forms shown in Figure 2.6.

<b>Tense</b>	<b>The Verb Sequence</b>	<b>Example</b>
simple present	simple present	He walks to the store.
simple past	simple past	He walked to the store.
simple future	<i>will</i> + infinitive	He will walk to the store.
present perfect	<i>have</i> in present + past participle	He has walked to the store.
future perfect	<i>will</i> + <i>have</i> in infinitive + past participle	I will have walked to the store.
past perfect (or pluperfect)	<i>have</i> in past + past participle	I had walked to the store.

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**Figure 2.7** The basic tenses

<b>Tense</b>	<b>Structure</b>	<b>Example</b>
present progressive	<i>be</i> in present + present participle	He is walking.
past progressive	<i>be</i> in past + present participle	He was walking.
future progressive	<i>will</i> + <i>be</i> in infinitive + present participle	He will be walking.
present perfect progressive	<i>have</i> in present + <i>be</i> in past participle + present participle	He has been walking.
future perfect progressive	<i>will</i> + <i>have</i> in present + <i>be</i> as past participle + present participle	He will have been walking.
past perfect progressive	<i>have</i> in past + <i>be</i> in past participle + present participle	He had been walking.

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**Figure 2.8** The progressive tenses

**Verbs** can be divided into **several different classes**: the **auxiliary verbs**, such as *be, do, and have*; the **modal verbs**, such as *will, can, and could*; and the **main verbs**, such as *eat, ran, and believe*. The auxiliary and modal verbs usually take a verb phrase as a complement, which produces a sequence of verbs, each the head of its own verb phrase. These sequences are used to form sentences with different tenses.

	<b>First</b>	<b>Second</b>	<b>Third</b>
<b>Singular</b>	<i>I am</i> <i>I walk</i>	<i>you are</i> <i>you walk</i>	<i>he is</i> <i>she walks</i>
<b>Plural</b>	<i>we are</i> <i>we walk</i>	<i>you are</i> <i>you walk</i>	<i>they are</i> <i>they walk</i>

**Figure 2.9** Person/number forms of verbs

- **Main verb** - last verb in a verb sequence drawn from open class words.
- **Intransitive verb** - stand alone with no complement.
- **Eg.** laugh, run (Jack laughed).
- **Transitive verb** - requires noun phrase to follow the verb.
- **Eg.** find (Jack found a key).

## Active Sentence

Jack saw the ball.  
I will find the clue.  
Jack hit me.

## Related Passive Sentence

The ball was seen by Jack.  
The clue will be found by me.  
I was hit by Jack.

- **Some verb forms** - verb + additional word called particle.
- Particle overlap with class of prepositions.
- **Eg.** up, out, in, over.
- Different verbs can be constructed by combining verb with particle.
- **Eg.** look up, look out, look over etc.
- **Clausal complements** - verbs allow clauses as complements
- **Eg.** Sam knows that Jack ate the pizza

- **Prepositional phrase complements** - verbs require complements that involve specific prepositional phrase

- **Eg.** Jack gave the book to the library (verb 'gave' with NP and PP with 'to')

- 'give' uses PP with 'to', 'decide' - 'about', 'blame' - 'on'

### **Adjectives Phrases:**

- Adjectives make many of the same complement forms with verbs

- Jack was pleased with the prize

- Adjective 'pleased' takes the complement form PP(with)

- 'angry' - 'at', 'that' (Jack was angry that he was left behind)

### **Adverbial Phrases:**

- Adverbs may occur in several different positions in sentences

- Then, Jack will open the drawer (initial position)

- Jack will then open the drawer (in the verb sequence)

- Jack opened the drawer then (last position)

- Because of wide range of forms, ADVPs are consider by function rather than syntactic form.

## **Transitivity and Passives:**

The **last verb** in a **verb sequence** is called the **main verb**, and is drawn from the open class of verbs. Depending on the verb, a wide variety of complement structures are allowed. For **example**, certain verbs may stand alone with no complement. These are called intransitive verbs and include examples such as *laugh* (for example, *Jack laughed*) and *run* (for example, *He will have been running*).

Another **common complement** form requires a **noun phrase** to follow the verb. These are called **transitive verbs** and include verbs such as *find* (for **example**, *Jack found a key*).

Notice that *find* cannot be intransitive (for example, \**Jack found* is not a reasonable sentence), whereas *laugh* cannot be transitive (for example, \**Jack laughed a key* is not a reasonable sentence).

A **verb** like *run*, on the **other hand**, can be **transitive or intransitive**, but the meaning of the verb is different in each case (for example. *Jack ran* vs. *Jack ran the machine*).

**Transitive verbs** allow another form of **verb group** called the **passive form**, which is constructed using a *be* auxiliary followed by the **past participle**. In the **passive form** the noun phrase that would usually be in the **object position** is used in the subject position, as can be seen by the examples in Figure 2.10.

Active Sentence	Related Passive Sentence
Jack saw the ball.	The ball was seen by Jack.
I will find the clue.	The clue will be found by me.
Jack hit me.	I was hit by Jack.

## Particles:

**Particles** generally **overlap** with the class of **prepositions** considered in the next section. Some **examples** are *up*, *out*, *over*, and *in*. With **verbs** such as *look*, *take*, or *put*, you can construct many different verbs by combining the verb with a particle (for example, *look up*, *look out*, *look over*, and so on).

## Clausal Complements:

Many verbs allow clauses as **complements**.

**Clauses** share most of the same **properties of sentences** and may have a **subject, indicate tense**, and occur in passivized forms.

One **common clause** form consists of a **sentence form** preceded by the complementizer *that*, as in *that Jack ate the pizza*. This clause will be **identified** by the expression **S[that]**, indicating a special **subclass of S** structures. This clause may **appear** as the complement of **the verb know**, as in *Sam knows that Jack ate the pizza*. The passive is possible, as in *Sam knows that the pizza was eaten by Jack*.

**Another clause** type involves the **infinitive form** of the verb.

The **VP[inf]** clause is simply a **VP starting** in the infinitive form, as in the complement of the verb *wish* in *Jack wishes to eat the pizza*. An infinitive sentence **S[inf]** form is also possible where the subject is indicated by a *for* phrase, as in *Jack wishes for Sam to eat the pizza*.

## Prepositional Phrase Complements:

Many **verbs** require complements that involve a **specific prepositional phrase (PP)**. The verb *give* takes a complement consisting of an **NP and a PP** with the preposition *to*, as in *Jack gave the book to the library*. No other preposition can be used. Consider *\*Jack gave the book from the library*. (OK only if *from the library* modifies book.) In contrast, a verb like *put* can take any PP that describes a location, as in

*Jack put the book in the box.*

*Jack put the book inside the box.*

*Jack put the book by the door.*

To account for this, we allow complement specifications that indicate prepositional phrases with particular prepositions. Thus the verb *give* would have a complement of the form **NP+PP[to]**. Similarly the verb *decide* would have a complement form **NP+PP[about]**, and the verb *blame* would have a complement form **NP+PP[on]**, as in *Jack blamed the accident on the police*.

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Verb	Complement Structure	Example
laugh	Empty (intransitive)	Jack laughed.
find	NP (transitive)	Jack found a key.
give	NP+NP (bitransitive)	Jack gave Sue the paper.
give	NP+PP[to]	Jack gave the book to the library.
reside	Location phrase	Jack resides in Rochester

Verb	Complement Structure	Example
put	NP+Location phrase	Jack put the book inside.
speak	PP[with]+PP[about]	Jack spoke with Sue about the book.
try	VP[to]	Jack tried to apologize.
tell	NP+VP[to]	Jack told the man to go.
wish	S[to]	Jack wished for the man to go.
keep	VP[ing]	Jack keeps hoping for the best.
catch	NP+VP[ing]	Jack caught Sam looking in his desk.
watch	NP+VP[base]	Jack watched Sam eat the pizza.
regret	S[that]	Jack regretted that he'd eaten the whole thing.
tell	NP+S[that]	Jack told Sue that he was sorry.



Verb	Complement Structure	Example
seem	ADJP	Jack seems unhappy in his new job.
think	NP+ADJP	Jack thinks Sue is happy in her job.
know	S[WH]	Jack knows where the money is.

Figure 2.11 Some common verb complement structures in English

## 2.4 Noun Phrases Revisited:

Section 2.2 introduced simple noun phrases. This section considers more complex forms in which NPs contain sentences or verb phrases as subcomponents

All the examples in Section 2.2 had heads that took the null complement. Many nouns, however, may take complements. Many of these fall into the class of complements that require a specific prepositional phrase. For **example**, the noun *love* has a complement form **PP[of]**, as in *their love of France*, the noun *reliance* has the complement form **PP[on]**, as in *his reliance on handouts*, and the noun *familiarity* has the complement form **PP[with]**, as in *a familiarity with computers*.

Relative clauses involve sentence forms used as modifiers in noun phrases. These clauses are often introduced by relative pronouns such as *who*, *which*, *that*, and so on, as in

*The man who gave Bill the money...*

*The rug that George gave to Ernest...*

*The man whom George gave the money to ...*

In each of these relative clauses, the embedded sentence is the same structure as a regular sentence except that one noun phrase is missing. If this missing



NP is filled in with the NP that the sentence modifies, the result is a complete, sentence that captures the same meaning as what was conveyed by the relative clause.

The missing NPs respectively. Deleting the relative pronoun and filling in the missing NP in each produces the following:

*The man gave Bill the money.*

*George gave the rug to Ernest.*

*George gave the money to the man.*

As was true earlier, relative clauses can be modified in the same ways as regular sentences. In particular, passive forms of the preceding sentences would be as follows:

*Bill was given the money by the man.*

*The rug was given to Ernest by George.*

*The money was given to the man by George.*

Correspondingly, these sentences could have relative clauses in the passive form as follows:

*The man Bill was given the money by...*

*The rug that was given to Ernest by George...*

*The man whom the money was given to by George..*