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TOPICS IN ENGLISH MORPHOSYNTAX: LECTURES WITH EXERCISES

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KATALOGIZACE V KNIZE - NÁRODNÍ KNIHOVNA ČR

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Introduction

This two-semester course in morphology and syntax (or, morphosyntax) is aimed at our student population here at Tomas Bata University in Zlín, primarily Czech or Slovak native speakers who study English philology, have no prior background in linguistics, and are not (necessarily) planning to continue studying or working in the field. Therefore, the curriculum is designed with two goals in mind. First, we want to convey accurate information and important concepts about human language and linguistic science that you are not likely to receive elsewhere. Second, we want to give you a practical application for these scientific ideas to specific morphosyntactic issues that compare or contrast with Czech and Slovak, and which are known to cause difficulty for non-native learners of English.

Of course, not every single aspect of English morphology and syntax can be covered in a 28-week introductory course, so the decisions about what to present and how were made according to the twin goals established above. The material is connected into a structured argument that builds up students' knowledge of these curated topics, rather than a mere 'list of assertions' to be memorized. The provided exercises, which are similar in form to examination questions, are designed for students to apply the concepts they are learning to the analysis of language data. Further readings are given to supplement and expand on the course's coverage of morphosyntax in English and beyond.

Moreover, we are taking a scientific approach to language here, which has two immediate implications. First, we will be interested in describing the human capacity for language, a part of the natural world ('descriptivism'), and not prescribing how people should use their language based on the proclamations of self-styled authorities ('prescriptivism'). Second, as in any developing scientific field, inquiry is ongoing and there is disagreement among linguists on matters of theory and terminology. Therefore, students should not expect to find perfect uniformity between different sources in their outside reading. Instead, students should pay close attention to the reasons given for claims, and not only in linguistics, because one of the most important purposes of a university education is learning how to critically evaluate arguments and evidence.

This coursebook, the first of two, is organized as follows. Chapter 1 introduces fundamental and indispensable notions of linguistics. Chapters 2–5 deal with morphology proper, while Chapter 6 sets the stage for syntax. Chapters 7–12 present issues in the morphosyntax of English nouns, verbs, adjectives, adverbs, and prepositions, and Chapter 13 is a review.

Each chapter starts with the theoretical introduction of the topic which is to be covered in the lectures. Key terminology is underlined so that students can refer back to these concepts when revising. At the end of the theory section, there is a list of sources that students can refer to when they want to expand their knowledge. Each chapter also contains exercises which are suited for seminar work. Students can practice key concepts and terminology, and the exercises also aim to facilitate critical thinking, and address interesting concepts related to the discusses topics.

The examples in this coursebook were mainly produced by native speakers. Some examples have been taken from corpora (BNC or COCA) and other sources of natural texts (e.g., online newspapers). As part of ongoing research, some examples were also generated by LLMs

including ChatGPT and Copilot. All examples were carefully curated and then revised multiple times by the authors; both are trained linguists and Jeffrey Keith Parrott is a native speaker of US English. Students in this course should use LLMs responsibly and only for purposes defined by their instructors.

At the end of each chapter, there is a study sheet. This section lists the key terminology and concepts in the form of bullet points, and it is meant to be a checklist for students while preparing for the exam. Since it presents the contents of each chapter in a concisely structured format, the study sheet can facilitate learning for students with special education needs, especially those that struggle with the presentation of information in a text. The final chapter is a review, which can serve as a mock exam, where students can test their comprehension of the selected topics.

We thank Shanti Ulfsbjorninn and Ludmila Veselovská for reviewing this coursebook, as well as our colleagues at TBU for their support and feedback on the project. The authors acknowledge responsibility for any remaining errors, though we hope they are few.

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1. Some fundamentals of language science

This is a course in linguistics; although that term is sometimes used in different ways, what we mean by it here is the scientific study of human language. Perhaps, then, a better term would be language sciences. Our study of language is scientific for two reasons. The first is the nature of our inquiry, which seeks to understand the biological bases of language in the human brain and how language is used for communicative and social purposes in human populations. The second is our method of inquiry, which is empirically (or, observationally) based.

1.1 What isn't language?

Therefore, let's attempt to correct some of these commonly held but erroneous beliefs by beginning with what language is not, then proceeding to what language is, and finally how we study language scientifically.

1.1.1 Language isn't literacy

First of all, it is critical for students of linguistics to accept that language is not identical to literacy (that is, reading and writing). Indeed, this fact is apparent upon a moment's reflection: all children acquire their native languages effortlessly and without instruction, starting in the womb, achieving fluency by the time they're about 3–4 years old. On the contrary, children must be taught to read and write in school, typically starting at about age 5–6. Although contemporary Czechia, Slovakia, Europe, and North America, among others states and societies, have literacy rates above 95%, this is not the case for all times and places. Historically, the vast majority of humans who have lived were illiterate (lacking the ability to read and write), and even today as much as 15% of the world's adult population are illiterate (UNESCO). The uncontroversial existence of illiterate people, who nonetheless still acquire and use language, is strong common-sense evidence that literacy is not the same as language.

1.1.2 Language isn't a metaphor

Second, you must have heard expressions like 'body language' or 'the language of love'. Interestingly, both of these refer to situations where language is not actually used at all—the term 'language' in such expressions is being used as a metaphor for something else, typically communication. In linguistics, however, and in this course, we do not use the term 'language' (or any other linguistic terms) as a metaphor for anything else, especially not as a metaphor for communication (see immediately below).

Thus, we will use the term 'language' exclusively in its literal, technical sense, referring to 'human language', or the universal, unique human capacity to acquire, use, and understand language, whose specific properties we will clarify and investigate.

1.1.3 Language isn't communication

As you may have noticed, language related metaphors are usually used to mean (ironically, non-linguistic) communication (for example, 'body language' means communicating with posture or gesture, not words). Such expressions are appealing because they follow the commonplace assumption that language and communication are identical. However, this notion too is plainly false. Of course, language can be and is used to communicate, but it has many other functions as well—indeed, for most people the majority of language usage is internal. Thus, we may say that language and communication are double dissociated.

1.2 What's human about language?

Having dispensed with those misunderstandings, we can better appreciate the fascinating scientific question of human language, a biological trait that is both universal and unique to our species *Homo sapiens*.

1.2.1 Language is universal to humans

Genetically, all humans are essentially identical. This evidently includes cognitive capacities like language. Indeed, all humans, regardless of culture (disease or damage notwithstanding), acquire language in uniform stages beginning in utero and concluding in adolescence. These same stages are documented not only across spoken languages but in the acquisition of signed languages. Moreover, there are no group differences in language capacity. A baby born in Seoul to Korean parents who grows up in Zlín will acquire the same Czech language as a baby born in Zlín to Czech parents, and vice versa.

1.2.2 Language is unique to humans

While non-human organisms (hereafter referred to as 'animals' for simplicity) do indeed communicate in rich and sophisticated ways, communication is not identical to language as we've just seen. No animal communication systems have ever been discovered to have the characteristic properties of human language (for more on such properties, see below and this entire course). Although many people are aware of attempts to train apes in sign language, they are crucially unable to learn grammar (that is, morphosyntax).

1.2.3 Language is part of the human body

We don't usually think about this way, but of course it's true that language is part of your body. Language is located in the human brain—where else would it be? Already in the late 19th century, specific brain regions were discovered to be involved in particular aspects of language (i.e., Broca's and Wernicke's areas). During the 20th and 21st centuries, we have learned even more about language in the brain through the investigation of linguistic disorders due to brain injuries (i.e., aphasia) and genetics (e.g., specific language impairment [SLI]), and by using technology such as functional magnetic resonance imaging (fMRI) to see brain activity in real time.

1.3 What is human language then?

Language is a kind of cognition that is internal to the brains of individual humans. Humans use their capacity for language in numerous ways, including communication, but also socialization, planning, structuring of thought, and transmission of culture. What we call "languages", like English, Czech, or Slovak, are an abstraction over an aggregate of individuals, that is, a population whose internal languages are alike to varying degrees.

Under this scientific conception, we can formulate a research question: what are the properties of human language that distinguish it from animal communication systems? Most people are confident in a 'common-sense' answer to this question: language consists of basic units called 'words' that are arranged, like a string of beads, into linear sequences called 'sentences'. In this course, we will show that this pre-scientific view of language is incorrect. First, words are not the basic units or 'atoms' of language: rather, words are made of smaller constituents called morphemes. For now, we can think of them as 'parts of words' but we will refine our understanding of morphemes as we investigate them more carefully. Second, despite appearances, language is not like a string of beads, but rather like a mobile:

morphemes are not arranged in a linear order but rather hierarchically. Depending on their contents, these hierarchical morpheme structures compose words, phrases, and clauses.

1.4 Looking at language scientifically

Now that we have a conceptually grounded scientific research question about human language, we can address issues of method. Again, we have to debunk some widely believed yet incorrect notions before we can continue.

1.4.1 Prescriptivism vs descriptivism

If you're like most people, you have gone your entire life up until now hearing from parents, teachers, journalists, authors, and every other authority that there is a 'right' or 'wrong', 'correct' or 'incorrect', 'good' or 'bad' way to speak your native language. This way of thinking about language is called prescriptivism, from the verb *to prescribe*, which means something like 'to recommend with authority'.

Because it is so ubiquitous, prescriptivism may seem entirely natural to you, but we are here to break the news: the self-appointed language authorities are false and prescriptive ideology is incompatible with the language sciences. Linguists, like any other scientists, aim to describe (and explain) the natural world, not dictate how it should or shouldn't be. In linguistics, we refer to this approach as descriptivism.

1.4.2 What about "the dictionary"?

Speaking of prescriptivism, many people cite "the dictionary" as an authority on words, to which we might respond: "which dictionary?" In reality, of course, there are numerous traditionally published and now web-based dictionaries of English (not to mention other languages), from the *Oxford English Dictionary* to *Webster's Dictionary*, from Dictionary.com to UrbanDictionary.com, each with their own editors and lexicographers, each with their own procedures for adding or removing words from their lists. Crucially, dictionaries are descriptive—at least any dictionary worth using!

In linguistic science, we do not regard dictionaries as authoritative but as possibly useful resources on word attestation, usage, and history.[1] Instead, we are concerned with something like a mental dictionary in the minds (i.e., brains) of individuals, commonly called the lexicon. Unlike dictionaries, the lexicon isn't filled with words, but rather their parts (in the next chapter, we will introduce their technical name, morphemes).

1.4.3 Linguistic Methodology

As in any other branch of science, in order to explain the object of inquiry (in our case human language), we need to observe it and form hypotheses. Then we need to verify or falsify our predictions, meaning that we have to demonstrate whether our hypotheses were confirmed or disconfirmed.

In many fields, scientists need to perform an experiment, which is an observation under highly controlled conditions. In chemistry, for example, this may involve manipulating particular substances to observe if the results (dis)confirm a hypothesis about their properties. In linguistics, especially syntax, we perform a specific kind of experiment called a grammaticality judgement in order to test hypotheses about linguistic rules or structures that

[1] Please do not cite any dictionary in your academic writing, unless and only if you are writing about a relevant topic such as etymology.

predict which words, phrases, or sentences will be possible for native speakers. If they have the intuition that an expression of their language is acceptable—that is, possible in at least some context—then we say that it is grammatical. If native speakers judge a linguistic expression to be unacceptable—impossible under any circumstances—then we call it ungrammatical.

To give an example, we may form the hypothesis that there is a rule of English morphosyntax such that the quantifier *many* combines only with countable plural nouns, such as *cats* or *houses,* and not with uncountable nouns, such as *water* or *furniture*. Now we can proceed to argumentation.

(1) *There are [many cats] roaming around the neighborhood.*

The example sentence in (1) shows that, indeed, *many* is compatible with countable nouns. But it doesn't demonstrate that *many* cannot be combined with uncountable nouns. In order to confirm that the hypothetical rule holds, we need find out what happens if it is violated. In practice, this means that the linguist (or student of linguistics) will need to intentionally produce expressions which are expected to be unacceptable to native speakers, that is, they are hypothesized to be ungrammatical. We mark such ungrammatical expressions with an asterisk ('*'), as in (2).

(2) ***The athlete needed [many water] to rehydrate his body.***

Our example sentence (2) is indeed ungrammatical due to the combination of *many* and the noun *water*, which is uncountable in English, as in many languages. This result confirms our hypothetical rule that *many* can be combined only with countable plural nouns, because this quantifier is ungrammatical with uncountable nouns (we discuss countability further in the chapters on nouns and noun phrases).

Besides marking a sentence as ungrammatical with an asterisk, linguists also use the percentage symbol ('%') to indicate that while a sentence may be ungrammatical to one native speaker, it is grammatical for another speaker, or even that both sentences can be used some of the time by the same speaker. That is, the percentage sign signals that we are dealing with a case of inter- ('between') or intra- ('within') individual variation (which is studied in depth by the subfield of sociolinguistics; for an introduction, see Meyerhoff 2019). Examples of variation can be seen in (3a), illustrating variable agreement and "positive *anymore*" from varieties of English, and (3b), illustrating an adjectival suffix observed in some Czech dialects (Karlík and Veselovská 2017).

(3) a. % *There**'s so many cars** in the streets **anymore**.*

b. % *k matčin**o** sestře*

Remember that, for the rest of our course in English morphology and syntax, we'll use terms like 'rule' and 'ungrammatical' strictly in their technical sense, that is descriptively. We must leave prescriptivism behind in order to move forward with linguistic science!

1.5 Morphosyntax among the language sciences

Because the human capacity for language, and the use of language in human populations, is so enormously complex, the language sciences are divided into sometimes overlapping fields of inquiry. These include phonetics and phonology, which investigate linguistic sound

systems, semantics and pragmatics, which investigate linguistic meaning, and syntax, which investigates the structure of sentences (or more precisely, phrases and clauses).

As we will see, morphology is the study of word structure, and this field turns out to fall within the intersecting and contested territory of both syntax and phonology (we will not consider lexical semantics in this course). Therefore it is useful to further divide morphology into the subfields of morphophonology, which focuses on the relationship between a word's structure and its pronunciation, and morphosyntax, which focuses on the relationship between a word's structure and its context in a syntactic phrase or clause.

Our course can only cover a small part of this, obviously, but for two semesters we will take you on a tour of what we think are the most important, and basic, concepts and phenomena in English morphology, morphosyntax, and syntax for Czech, Slovak, and other non-native learners. The next chapter starts this journey by introducing morphemes, the pieces of meaning that make up words.

FURTHER READING:

Aarts 2001, 171–174

Brinton and Brinton 2010, 1–15

Carstairs-McCarthy 2002, 4–15

Haegeman and Gueron 1999, 14–20

Koeneman and Zeijlstra 2017, 2–6

Exercise 1.1 Language vs writing

What do you know about the development of orthography ('writing') in human history? When and where was orthographic technology invented? What was it used for and how did it spread? Historically, who had access to literacy and who did not? Read and discuss Chapter 12 of Diamond (1999, 215–238). Are you surprised?

Exercise 1.2 Language as a metaphor

Think of several other expressions in English with language related metaphors. What about metaphors in Czech, Slovak, or other languages you know? What do your examples really mean, in non-metaphorical terms? Do you find such metaphors useful? Why or why not?

Exercise 1.3 Language vs communication I

Give examples of a) communication without language, and b) language without communication and discuss the implications for the common idea that language and communication are identical.

Exercise 1.4 Language vs communication II

Discuss animal communication systems that you know about. How are they similar or different to human language?

Exercise 1.5 Written vs spoken language

Study the provided examples, and state whether grammatical rules reflect writing or spoken language. Support your conclusion with additional examples.

(a) ***a/*an*** *young person*

(b) ****a/an*** *hour ago*

(c) ***a/*an*** *university*

Exercise 1.6 Garden path sentences

Read the English and Czech sentences below.

(a) *The horse raced past the barn fell.*

(b) *Ostražitý policista prohledal obchodnici před prodejnou dodávku a odjel na služebnu.* (Cehákova and Chromý 2023)

Were you 'led down the garden path' upon your first reading? How long did it take you to find your way back? Give an analysis of each sentence, explaining how their structure first appears to be and what it actually is. How do garden path sentences illuminate morphosyntax?

Exercise 1.7 Prescriptivism vs descriptivism

Try looking up *ain't* in several different dictionaries, both online and on paper. What are the similarities and differences in their entries? Try looking up a more recently coined word like *cheugy* or *yeet*. How would you evaluate the relative usefulness of the various dictionaries?

Exercise 1.8 Prescriptivism vs descriptivism

Could you give some examples of prescriptivism and descriptivism from your mother tongue? Are there some grammatical structures that are taught to be incorrect, but are still commonly used in speech? Give as many examples as you can think of, considering phonology, morphosyntax, as well as the lexicon.

Exercise 1.9 Grammaticality tests and argumentation I

Suppose you are to form a rule about the word order of articles (later we will call them determiners), such as *the* or *a*, and adjectives that pre-modify nouns, such as *happy* or *new*. Form a hypothesis. Then confirm your hypothesis by using both grammatical and ungrammatical examples.

Exercise 1.10 Grammaticality tests and argumentation II

Study the following grammatical and ungrammatical examples. Can you form a (working) hypothesis based on these examples? Would you be able to form the hypothesis if you had grammatical examples only? What is the added value of ungrammatical examples?

(a) ***the*** *new car*

(b) ***the*** *high-tech car*

(c) ***the*** *new high-tech car*

(d) ***a*** *new car*

(e) ***a*** *high-tech car*

(f) ***a*** *new high-tech car*

(g) ***his*** *new car*

(h) ***his*** *high-tech car*

(i) ***his*** *new high-tech car*

(j) **** the a*** *new high-tech car*

(k) **** a his*** *new high-tech car*

(l) **** his a*** *new high-tech car*

(m) **** his the*** *new high-tech car*

(n) **** the his*** *new high-tech car*

Study sheet for Chapter 1

Language sciences:

- language ≠ literacy
- language ≠ communication

- language is **universal** (every human being can acquire language)
- language is **unique to humans**
- language consists of **morphemes,** morphemes are ordered **hierarchically**
- **prescriptivism** (how authorities demand native speakers talk) ≠ **descriptivism** (the way native speakers actually talk)

Linguistic methodology:

- hypothesis → **grammatical/ungrammatical** '*' sentences, phrases, or words
- '**%'** means acceptability for **some** native speakers

2. What's in a word?

People are so sure that words exist that they attach great significance to counting them: how many words are there for this or that concept, or how many words a language or group or individual has, and so on. But how do you count words exactly?

Once we start thinking about this question seriously, things quickly become less obvious. For example, let's suppose we agree that *cat* is a word; what about *cats*? Is that a distinct word for counting purposes? What about *catty*? *cattiness?* Is *cat nap* one word or two? What if it is spelled *catnap*? Are the noun *(the) catnap* and the verb *(to) catnap* one word or two? What about *catnapped*, is that a distinct word?

Staying with feline examples, let's turn from lexical to grammatical words (see below). Consider *cat's*: is that one word? Is it counted separately from *cat* or *cats*? What about *the cat's new toy* versus *the cat's loudly purring*? Is that two different *cat's* or the same word? Or *is not*, is that two words? What about *isn't*? For that matter, what about *ain't*? Does it count as word at all?

2.1 Word parts: morphemes

You might have already noticed that in the discussion about counting words, some of the examples given were words with multiple 'parts', like *cats* or *catnap* (4a-b). Or maybe you wondered about the word *morphology* itself, which is also made up of multiple parts (4c).

(4) a. *cat-s*
b. *cat-nap*
c. *morp-ology*

These word parts are called morphemes and you probably know what some, but not all, of them mean (also, as we'll see in Chapter 4, some morphemes' meanings may not be as straightforward as they seem). When a word is made of a single morpheme, like *cat*, we call it monomorphemic; when there is more than one morpheme in a word, we call it complex or multimorphemic.

2.2 Classification of morphemes

Of course, not all word parts are the same. The remainder of this chapter provides a basic classification of morphemes along three dimensions: independence, relative order, and meaning. Keep in mind that these dimensions are intersecting, not exclusive, and moreover that the seemingly simple morphological picture sketched here will become more complicated after we introduce allomorphy in Chapter 4.

2.2.1 Classification by independence

Our first dimension of morpheme classification is independence, which is relatively straightforward: morphemes can be free or bound.

As the terminology suggests, a free morpheme can 'stand alone'—it may be pronounced or used by itself, without necessarily being attached to any other morpheme. In other words, a free morpheme is not required to be part of a complex word. Free morphemes can be of any lexical or grammatical category (or 'part of speech', for more on these concepts, see below):

(5) a. ***cat***, ***cat****s* (Noun, a lexical morpheme)
b. ***hunt***, ***hunt****ed* (Verb, a lexical morpheme)

c. ***of*** (Preposition, a grammatical morpheme)
d. ***the*** (Determiner, a grammatical morpheme)
e. ***they*** (Pronoun, a grammatical morpheme)

On the other hand, a bound morpheme cannot be pronounced or used by itself, for example (6a) for plural *-s*, or (6b) for past tense *-ed*.

(6) a. * *The -s are cute.*
b. * *They -ed yesterday.*

Be aware! Most lexical morpheme can be used independently, for example *cat* or *hunt,* but there are also lexical morphemes that are not free, i.e., they only occur as part of a complex word. Such bound lexical morphemes are sometimes referred to as 'bound roots' or 'cranberry morphemes'. The latter term provides an example of itself! The morpheme *cran-* clearly has a lexical meaning, differentiating a particular type of fruit, but unlike the lexical morphemes *straw* or *blue* in *strawberry* or *blueberry, *cran* cannot stand alone (see also *cran-apple*).

(7) a. *brethren* 'spiritual brothers' (**brethr*, cf. *brothers ~ brother*)
b. *reckless* 'without caution' (**reck*, cf. *careless ~ care*)

Additional examples of bound lexical morphemes are given in (7). Indeed, once you start to become conscious of them, you will see that bound lexical morphemes are rather common, not only in English, but in Czech, Slovak, and every other language.

2.2.2 Classification by relative order

Bound grammatical morphemes, both inflectional and derivational (see below), are called affixes, and these can be further classified according to their linear order relative to the root, stem, or base morpheme in a complex word. While we will not distinguish the terms root and stem, treating them here as descriptive synonyms, we do find it useful to retain the term base (following Bauer, Lieber, and Plag 2013, 19).[2]

Thus, a root is the typically-lexical foundation of a complex word, to which any affixes may attach; the term base is necessary in order to describe a situation where an affix attaches to an already complex word (for examples, see below).

2.2.2.1 Suffixes

You are probably already familiar with these next two positional classifications of affixes. The first are suffixes, which follow a root/base. Examples of English suffixes include the plural *-s* and past-tense *-ed* (inflectional) and the noun-forming *-ness* and verb-forming *-ify* (derivational). The reason that we specify affixes' liner ordering relative to the root/base, rather than to the word, is that simply that affixes can attach to other affixes. This can be

[2] The terms root, stem, and base are used with various meanings in the traditional and theoretical linguistic literature. For instance, some scholars have defined a stem as a lexical root plus any derivational affixes, to which only inflectional morphemes may attach (e.g., Bauer 1983, 20–21); however, more contemporary analyses have defined roots in model-theoretic terms and dispensed altogether with the terms stem and base (e.g., Harley 2014).

readily observed with derivation—that is, it's possible to attach multiple derivational suffixes in a complex word (8a-c), and these can even be topped off by an inflectional suffix (8d):

(8) a. *class* Root *class* (N)
b. *classify* Root *class* + suffix *-ify* = base *classify* (N→V)
c. *classification* Base *classify* + suffix *-cation* = base *classification* (N→V→N)
d. *classifications* Base *classification* + suffix *-s* = *classifications* (N→V→N=N)

In (8), *class* is a free lexical root, and each derivational suffix (8b-c) forms a potential base for further affixation (however, no further morphemes may be attached to the inflectional suffix, 8d). Obviously, the derivational morphemes *-ify* and *-cation* should remain classified as suffixes even when they are no longer at the end of a word after subsequent affixes have been attached (as in 8c-d). This is the most straightforward reason why we insist on discarding the traditional term 'ending'.

2.2.2.2 Prefixes

Our second positional classification is prefix, which is, naturally enough, an affix that precedes the root/base (it even contains an example of itself, i.e., *pre-* 'before'). In English, though not in every other language, all prefixes are derivational and none of them change category; consider, for example, such derivationally prefixed complex words as *disadvantage* (N→N)*, unhappy* (Adj→Adj)*,* and *misunderstand* (V→V).

2.2.2.3 Infixes and circumfixes

Finally, English, and European languages in general, do not have many, if any, clear cases of infixes (an affix positioned inside of a root/base) or circumfixes (a complex affix consisting of both a prefix and a suffix 'around' a root/base).[3]

2.2.3 Classification by meaning

Last, but certainly not least, we will classify morphemes according to their meaning, in the linguistic sense (that is, we are excluding the kinds of meanings that arise from conversational or social contexts and are studied by the subfields of pragmatics and sociolinguistics, respectively).

2.2.3.1 Lexical vs. grammatical

Considering the examples presented at the beginning of the chapter, you may have felt that there is a difference in meaning between morphemes like *cat* or *nap* and those like *-s* or *the*. It seems easy to understand the meaning of lexical morphemes like *cat* but what about *the*? As you have probably realized, grammatical morphemes have a meaning that is harder to pin down (unless you study formal semantics or syntax).

Lexical morphemes are more intuitive to most people, and they are best exemplified by the familiar so-called 'major' categories (aka 'parts of speech', see Chapter 3): nouns (Ns) like *cat* (see Chapters 4, 7–8), verbs (Vs) like *nap* (see Chapter 5, 10–11), adjectives (Adj) like *cute*, and adverbs (Adv) like *often* (see Chapter 12).[4] Lexical morphemes have what one could call auto-semantic meaning—in other words, they mean whatever people think they

[3] To see examples of infixes and circumfixes in other languages, consult Katamba and Stonham (2018), inter alia.

[4] The lexical vs. grammatical status of prepositions (Ps) is less clear; some Ps, e.g., *toward*, are arguably lexical while others, e.g., *of*, appear to be grammatical.

mean. Of course, some lexical meanings may or may not be widely accepted, may be utilized technically for precision, or may even be disputed.

As suggested by the term auto-semantic, the meaning of lexical morphemes seems to be independent, as opposed to grammatical morphemes, whose meaning is evidently dependent on morphosyntax, in the sense that they are relational with another morpheme or syntactic phrase. Consider plural *-s*. Most people would say that its meaning is clear: plural means 'more than one'. But more than one of what? Of course, the meaning of plural *-s* is more like 'more than one of some N'. That is, it just isn't possible to describe the meaning of a grammatical morpheme without referring to its relation to another part of the system. The definite article *the* is the same: its meaning necessarily relates to a noun phrase (NP) (see Chapter 7).

2.2.3.2 Derivational vs. inflectional

Our final meaning-based classification divides affixes into derivation or inflection.

Derivational affixes create 'new words' with lexical meanings that could be described in a dictionary entry. They sometimes change the category, for example:

(9) a. *cat* (N)
b. *catty* (N→Adj)
c. *cattiness* (N→Adj →N)

However, it is important to remember that this is not a definitional property of derivational affixes, because some of them do not change categories:

(10) a. *fan* (N) c. *sane* (Adj) e. *use* (V)
b. *fandom* (N→N) d. *insane* (Adj→Adj) f. *misuse* (V→V)

We will distinguish between derivational affixes and derivation of complex words by compounding, which involves two or more lexical morphemes:[5]

(11) a. *catnap* ([N+V]→V)
b. *greenhouse* ([Adj+N]→N)

Because of our emphasis on morphosyntax in this text, we won't spend any more time on derivational morphology.

Inflectional affixes are unequivocally grammatical or relational as described above. Inflection never changes category because inflectional affixes are specific to a category. For example, the plural and past tense affixes *-s* and *-ed* only attach to Ns and Vs respectively.

(12) a. *cat* (N) c. *catnap* (V)
b. *cats* (N=N) d. *catnapped* (V=V)

[5] Speaking of compounding, there is not a clear consensus on the grammatical vs. lexical status of derivational affixes. Category-changing derivational affixes such as *-y* (Adj) or *-ness* (N) are arguably grammatical since they seem to have no auto-semantic meaning, but that cannot really be said about derivational affixes like *-dom* ('sovereign domain') or *mis-* ('wrongly'). The morphemes *morph-* ('form') and *-ology* ('the study of') unquestionably have lexical meaning although they may or may not occur only in complex words (i.e., bound vs. free). It might be necessary to analyze words like *morphology* as compounding rather than derivational affixation.

In Chapters 4 and 5, we will take a closer look at nominal (i.e., attached to a noun) and verbal (i.e., attached to a verb) inflection.

FURTHER READING:

Aarts 2001, 171–174

Bauer, Lieber, and Plag 2013, 7–20, 28

Brinton and Brinton 2010, 1–15

Carstairs-McCarthy 2002, 16–21

Haegeman and Gueron 1999, 14–20

Koeneman and Zeijlstra 2017, 2–6

Exercise 2.1 The concept of a word I

Is it possible to count the number of sentences in a language? Why or why not? Does discussing this question make you reconsider the idea of counting words?

Exercise 2.2 The concept of a word II

There is a prescriptivist meme that says "*Ain't* ain't a word". What could it actually mean to say that a word does or does not 'exist'? Try to be concrete and specific about your claims. Again, compare with sentences: could they 'not exist'?

Exercise 2.3 Word vs morpheme

Analyze the following Korean sentences. Discuss the importance of the concept of 'a morpheme', as opposed to 'a word'. Then, divide the sentences into morphemes, and analyze their meaning. Use linguistic terminology.

(a) 교수가 학생을 만났습니까?
gyosuga *hagsaengeul* *mannassseubnikka*
"Did the professor meet the student?" (Formal)

(b) 학생이 교수를 만났습니다.
hagsaengi *gyosuleul* *mannassseubnida*
"The student met the professor." (Formal)

(c) 교수가 책을 읽었습니까?
gyosuga *chaegeul* *ilgeossseubnikka*
"Did the professor read the book?" (Formal)

(d) 학생이 책을 읽겠습니다.
hagsaengi *chaegeul* *ilggessseubnida*
"The student would read the book." (Formal)

(e) 교수가 학생에게 편지를 보내겠습니까?
gyosuga *hagsaenege* *pyeonjileul* *bonaegessseubnikka*
"Would the professor send a letter to the student?" (Formal)

(f) 학생이 교수에게 편지를 보냈습니다.
hagsaengi *gyosuege* *pyeonjileul* *bonaessseubnida*
"The student sent a letter to the professor." (Formal)

Exercise 2.4 Classification of morphemes

Explain the following terms, using your own examples (different from those given in the text).

(a) lexical

(b) grammatical

(c) derivational

(d) inflectional

(e) free

(f) bound

(g) prefix

(h) root

(i) base

(j) suffix

Exercise 2.5 Language typology

Languages differ in which grammatical morphemes they express as bound or free morphemes. Compare English with Czech, Slovak, or another language that you know, giving examples of specific grammatical morphemes that would be classified differently or the same way on the dimension of independence (i.e., bound or free).

Exercise 2.6 Types of morphemes I

Analyze the following words into morphemes, classifying them along the dimensions of independence, order, and meaning.

(a) *decisions*

(b) *verify*

(c) *inflate*

(d) *he jumps*

(e) *overpopulation*

(f) *is working*

(g) *that twilight*

(h) *illegality*

Exercise 2.7 Types of morphemes II

The complex word *unlockable* is ambiguous: it can mean 'not possible to lock' or 'possible to unlock'. Explain these two different meanings with reference to the derivational prefix, keeping in mind the categories of the involved morphemes.

Exercise 2.8 Types of morphemes III

Decide if the highlighted morphemes are derivational or inflectional. Provide arguments.

(a) *She is a talented danc-**er** who performs on stage.*

(b) *The weather is getting cold-**er** as winter approaches.*

(c) *My friend's car is in the shop.*

(d) *He sing-**s** beautifully.*

(e) *There are several cat-**s** in the neighborhood.*

(f) *She had eat-**en** dinner before the movie started.*

(g) *The weather is starting to bright-**en** up after the rain.*

(h) *The wheelchair ramp was installed to **en**-able easy access to the building.*

(i) *We were eat-**ing** dinner when the power went out.*

(j) *Their play-**ing** in the park was joyful.*

Exercise 2.9 Bound lexical morphemes

How many bound lexical morphemes can you think of in English? What about in Czech, Slovak, or another language that you know?

Exercise 2.10 Infixes

English does have a phenomenon commonly called 'expletive infixation', where a swearword can appear in certain positions inside certain roots/stems/bases (e.g., *abso-fucking-lutely* but not **absolute-fucking-ly* or **ora-fucking-nge*). Experiment with English expletive infixation using different positions and words, then try to formulate rules describing where expletive infixation can or cannot occur.

Study sheet for Chapter 2

Classification of morphemes by independence:

· **free**	*cat, of, the*	can stand alone
· **bound**	*un-, -er*	cannot stand alone

Classification of morphemes by order:

· **prefix**	before a root/base	***un****happy*
· **root**	a lexical morpheme	***pure***
· **base**	a root plus affixes	***purify***
· **suffix**	after a root/base	*kind****ness***

Classification of morphemes by meaning:

· **lexical**	*cat, run, happy*	
· **grammatical**	*the, -s, of*	
· **derivational**	*un-, -ness*	sometimes changes category (Adj becomes N); yields new lexical/dictionary entry
· **inflectional**	*-s, -ed*	never changes category (N remains N); expresses a grammatical relation

3. Syntactic categories

Every morpheme or complex word in English (or in any other language) belongs to a category (also known as part of speech or word class), such as noun, verb, determiner, or tense. Morphemes belonging to the same category share common grammatical properties. This means that, for instance, all nouns exhibit the same behavior in terms of their syntax; for example, nouns combine with determiners like *the*. Additionally, nouns as a category can also share morphology. For example, nouns can occur with plural suffixes, such as *cats*.

3.1 A syntactic definition of categories

The category of a morpheme is evidenced by its potential interaction with other morphemes, in other words, its distribution. Consequently, we can state that categories are determined syntactically. For instance, adjectives can be combined with adverbs such as *very* or *really* (13a-b), while attempting to combine these adverbs with nouns results in ungrammaticality (14c-d).

(13)	a. *very* ***happy***	*b. really* ***handsome***	(Adv+**Adj**)
	c. **very* ***dog***	d. **really* ***intelligence***	(*Adv+**N**)

(14)	a. *the* ***bottle***	*b. his* ***pencil***	(Det+**N**)
	c. **the* ***sing***	d. **his* ***hospitalize***	(*Det+**V**)

In a similar vein, nouns may co-occur with determiners (14a-b), but this combination is not possible for verbs (14c-d).

3.2 Substitution tests

Morphemes of the same category have the same syntactic features; as a result, they can substitute for each other in a grammatical sentence, and it will remain grammatical. This is called a substitution test and it can be used to identify the category of any morpheme or complex word (or any phrase, as we will see in following chapers).

(15)	a. *How* ***deep*** *is that lake?*	(**Adj**)
	b. **How* ***depth*** *is that lake?*	(***N**)
	c. *Its* ***depth*** *is unknown.*	(**N**)
	b. **Its* ***deep*** *is unknown.*	(***Adj**)

As (15) shows, *deep* is an adjective while *depth* is a noun; thus any adjective or noun can substitute in the respective grammatical sentences, such as *electric* and *electricity* (16):

(16)	a. *How* ***electric*** *is that lake?*	(**Adj**)
	b. **How* ***electricity*** *is that lake?*	(***N**)
	c. *Its* ***electricity*** *is unknown.*	(**N**)
	b. **Its* ***electric*** *is unknown.*	(***Adj**)

Notice that semantics is not relevant for syntactic grammaticality. One can certainly imagine a universe where lakes are electric, but sentences like (16b,d) would still be ungrammatical in that universe because of their syntax, not their meaning.

(17) a. *How **squanch** is that lake?* (**Adj**)
b. *Its **squanch** is unknown.* (**N**)

Thus even nonsense words like in (17)—words which are phonologically possible but not widely known or used in a language community—are interpreted as whatever syntactic category they can be substituted for (see [23] below for another example of this).

3.3 The inadequacy of morphological criteria

Words within the same category may also exhibit shared morphological properties, although this can be obscured by 'irregular' patterns of allomorphy and suppletion (see the following chapters). Derivational morphology can serve as an indicator of category. For example, the presence of certain derivational morphemes, such as *-ment,* indicates that the derived complex word is a noun; similarly, the derivational suffix *-ize* forms verbs from nouns:

(18) a. *engage**ment*** V→**N**
b. *digit**ize*** N→**V**

Morphemes of the same category demonstrate consistent grammatical subcategories. This means that particular categories share the same set of inflectional morphemes. For example, most nouns display a morphological distinction between singular and plural, while most verbs show a distinction for past or present tense. Thus, most nouns are compatible with the inflectional morpheme plural *-s*, and some nouns can combine with the plural allomorph *-en*, but prepositions can have neither plural suffix; similarly, all lexical verbs can be combined with the inflectional suffix *-s* for present tense (in agreement with 3rd-person singular subjects) and most verbs combine with the suffix *-ed* for past tense, but no adjectives take either tense suffix.

(19) a. *two cow**s*** *b. three ox**en*** (N+**Plural**)
c. **two under**s*** d. *three over**en*** (*P+**Plural**)

(20) a. *he jump**s*** *b. he jump**ed*** (V+**Present tense**)
c. **he tall**s*** d. **he tall**ed*** (*Adj+**Past tense**)

However, morphology alone does not guarantee that a specific morpheme belongs to any particular category. There are two main reasons for this. First, some words do not contain any derivational or inflectional affixes at all, such as the adjective *happy*. Second, some morphemes are homophonous, or in other words, have different meanings but the same form. We have already seen an example of this just above with the plural or present tense inflectional suffix *-s* (and indeed *-en* and *-ed* have homophones as well); for another example, consider the suffix *-er*, which can be derivational, forming a noun from a verb (21a), or inflectional (21b), forming the comparative of an adjective (21b).

(21) a. *the teach**er*** (V→**N**)
b. *noticeably small**er*** (Adj+**Comparative**)

Because homophonous suffixes can denote distinct inflectional subcategories, and some morphemes can belong to more than one category, the category of even some inflected complex words can be ambiguous in isolation (22a), requiring syntax to reveal whether we are looking at a verb inflected for (3sg) present tense (22b) or a noun inflected for plural (22c).

(22) a. *stop**s*** (N+**Plural** or V+**Present tense**)
b. *she stop**s*** (V+**Present tense**)
b. *two stop**s*** (N+**Plural**)

Therefore, morphology alone cannot be consistently relied upon as a criterion for the identification of category. In fact, it is the syntactic distribution or context that determines whether a morpheme or complex word is a noun, a verb, a determiner, a modal or any other category.

3.4 The unreliability of semantic criteria

The meaning of a word plays no role in assigning its category. First, the general definitions, as traditional grammar presents them, never apply to all category members. For example, while many verbs express actions (e.g., *to jump, to study*), many other verbs are not action-oriented (e.g., *to seem, to own, to like*). Second, different categories can express very similar meanings (e.g., *courage, mouth* [N] vs. *brave, oral* [Adj]). Finally, category is independent of the word's meaning. The sentence in (23) contains the famous nonsense word *wug*:

(23) *The wug sang a beautiful melody in the morning.*

Just as we saw in example (17) above, although *wug* does not have any commonly used meaning, its category can be confidently analyzed as a noun in this sentence. It is the syntactic distribution that allows us to conclude that *wug* is a noun, since it combines with the determiner *the.*

3.5 Categories in English

The syntactic categories can be divided into lexical (or open-class) and grammatical (or closed-class). The open-class categories encompass unlimited members, as they can easily accommodate new morphemes or complex words, such as *to google, selfie, COVID,* and *instagrammable.* On the other hand, closed-class categories have a restricted number of members, and new additions are rare.

Lexical/open-class categories

- Nouns *tree, freedom, TikToker*
- Verbs *to eat, to love, to swipe*
- Adjectives *blue, religious, instagrammable*
- Adverbs *often, quickly, remotely*

Grammatical/closed-class categories

- Complementizers *that, if, whether*
- Modals *must, should, can, could*
- Auxiliaries *be, have, do*
- Determiners *the, a, these, his*
- Prepositions *up, in, down, on*
- Pronouns *she, her, us, they*

Please note that this list of categories may not be identical to the lists presented for Czech, Slovak, or other languages. This disparity arises from the fact that certain categories can be present in one language, but absent in another one. In Korean, for example, adjectives do not constitute a distinct syntactic category. Instead, it expresses the meanings of Czech or English adjectives using verbs.

Furthermore, lists of categories can exhibit some variation depending on the linguistic school or approach. For example, traditional grammar tends not to list auxiliaries and modals as separate categories for English. For more discussion about modals and auxiliaries, please refer to Chapter 11.

FURTHER READING:

Brinton and Brinton 2010, 132–142

Denham and Lobeck 2010, 144–147

Koeneman and Zeijstra 2017, 8–17

Newson et al. 2006, 4–10

Veselovská 2019, 69–83

Exercise 3.1 Semantic definitions of categories

Traditional grammar defines word categories semantically; see (a-c), adapted from the Merriam-Webster online dictionary. Are such definitions problematic? Consider categorizing the words in (d) with respect to these definitions.

(a) A noun refers to a thing, people, animal, a place, a quality, an idea, or an action.
(b) A verb expresses an act, occurrence, or mode of being.
(c) An adjective denotes a quality of the thing named, to indicate its quantity or extent.
(d) *loyalty, movement, to bicycle, joyfulness, magnitude, to shine, to chicken out, existence, race*

Exercise 3.2 Categories and derivational morphology

Provide arguments discussing whether morphology is a sufficient indicator of a category. Consider the examples below.

(a) *to wors-**en**, to threat-**en,** to moist-**en*** (*-en* is always V?)

(b) *farm-**er**, report-**er**, teach-**er*** (*-er* is always N?)

(c) *constant-**ly,** slow-**ly,** immediate-**ly*** (*-ly* is always Adv?)

Exercise 3.3 Categories and inflectional morphology

Give the plural form of the following nouns. Then discuss inflectional morphology and its relevance for identifying the category of a word.

(a) *cat*

(b) *mouse*

(c) *furniture*

(d) *fish*

(e) *analysis*

Exercise 3.4 Categories and phonology

Some words are homonymous, existing in more than one category. The pronunciation of these counterparts is often identical, such as *love* (N) /ʌv/ vs. *to love* (V) /ʌv/. There are some pairs, however, whose pronunciation depends on the word's category. Please provide the pronunciation of the words below.

(a) *project* (N) ……. vs *to project* (V) …….

(b) *use* (N) ……. vs *to use* (V) …….

(c) *import* (N) ……. vs *to import* (V) …….

(d) *house* (N) ……. vs *to house* (V) …….

(e) *contract* (N) ……. vs *to contract* (V) …….

(f) *close* (A) ……. vs *to close* (V) …….

(g) *progress* (N) ……. vs *to progress* (V) …….

Exercise 3.5 Substitution tests

Using a substitution test, analyze the category of the bolded words below (examples adapted from The Guardian).

(a) *Nearly 60,000 people have died of COVID in the **past** five weeks.*

(b) *He's trying to cook meals with produce long **past** the expiry date.*

(c) *Scarborough museum confronts the legacy of a colonial **past.***

(d) *Each of them contained objects arranged to evoke rooms from her **past.***

Exercise 3.6 Syntactic categories

Use the following words as different categories.

(a) *work* ……

……

……

(b) *out* ……

……

……

(c) *rain* ……

……

……

(d) *climb* ……

……

……

(e) *round* ……

……

……

Exercise 3.7 Syntactic categories

Analyze the category of the bolded words in Lewis Carroll's (1871) poem "Jabberwocky" (a). Consider their morphological as well as syntactic properties. What role does semantics play in this analysis? You can also analyze two translations into Czech (b) and Slovak (c).

(a) English (by Lewis Carroll, 1871)

"Jabberwocky"

'Twas ***brillig****, and the* ***slithy toves***
Did ***gyre*** *and* ***gimble*** *in the* ***wabe****:*
All mimsy were the ***borogoves****,*
And the ***mome raths outgrabe****.*

(b) Czech (translation by Jaroslav Císař, 1947)

"Žvahlav" *Bylo **smažno**, lepě **svihlí tlové***
*se **batoumali** v **dálnici**,*
*chrudošní byli **borolové***
*na **mamné krsy** žárnící.*

(c) Slovak (translation by Juraj and Viera Vojtkovci, 1981)

"Taradúr" ***Pražne** je; hľa, **slizopružké jazvrtky***
*zotradierne kolodujú po **zátraví**.*
*Vechťogáje clivia na tie **vývrtky**,*
***prasotnačky** výstia, zlubčia - čo to spraví...*

Study sheet for Chapter 3

- **category (part of speech) is syntactic (= distribution in phrases or clauses/sentences)**

  → substitution test: *this extreme depth / this extreme electricity / this extreme squanch*

- morphology and semantics are unreliable for determining category

- **lexical or open categories** (nouns, verbs, adjectives, and adverbs): new additions possible

- **grammatical or closed categories** (determiners, pronouns, modals, auxiliaries, prepositions, complementizers): new additions rare

4. Nominal inflection and allomorphy

Inflectional affixes are the grammatical morphemes par excellence. Inflection expresses structural relationships between morphemes or between morphemes and syntactic phrases (see Chapter 6). Inflection never changes the syntactic category (aka, 'part of speech', see the previous chapter) like derivation can; indeed, inflection is specified for particular categories; for example, verbs inflect for tense. This chapter focuses on nominal inflection, also known as declension —that is, suffixes on nouns. The following Chapter 5 deals with inflectional morphology on verbs, or conjugation.

4.1 Allomorphy

The inflection of English nouns is where we will have our first look at allomorphy (*allo-* comes from Greek and means 'different'), which is a universal morphological phenomenon where the phonological form of one morpheme varies in the linguistic context of another morpheme. In other words, we will be forced to change our way of thinking about morphemes: instead of a "form with meaning", a morpheme is more accurately understood as an abstract syntactic unit that can have can have different phonological realizations depending on the morphemes it's combined with. These contextually dependent alternating forms of abstract morphemes are called allomorphs.

This chapter presents a simple but typical illustration of allomorphy with the plural suffix in English. Consider the various pronunciations of this morpheme depending on which nouns it is attached to:

(24)	a. *cats*	= [s]	d. *fish*	= [*Ø*]
	b. *dogs*	= [z]	e. *analyses*	= [iːz]
	c. *foxes*	= [əz]	f. *oxen*	= [ən]

In this example, we can see that the abstract grammatical feature [plural] can be realized with different allomorphs, namely [s], [əz], [z], [Ø], [iːz], [ən], and several more.[6] The different forms of a morpheme can never appear in the same linguistic context as each other—to use the technical term, allomorphs are in complementary distribution. This means that plural of *fox* is *foxes* not **foxen*, and vice versa, with *oxen* not **oxes*.

4.2 Inflection of nouns: number

Unlike highly inflected languages such as Czech, Slovak, and others, inflectional morphology on English nouns is limited to number, a grammatical sub-category of the lexical category noun, in the terminology of Koeneman and Zeijlstra (2017).[7] As in most (but not all) Indo-European languages, number in English has two values, singular or plural.

[6] In some cases, allomorphy involves a complete difference of pronunciation on the lexical stem. This is called suppletion, and the most well-known examples in English are from the category of verb (*go ~ went, *goed*) and adjective (*good ~ better/best, *gooder/goodest*). A possible example from the category noun might be *person ~ people*, but certainly *persons* is also possible in certain contexts, i.e., *missing persons.*

[7] The English possessive -*'s* is not an inflectional case affix on nouns but a phrasal clitic on determiner phrases; see Chapter 9. Furthermore, the moribund English suffix *-ess* (as in *actor* vs. *%actress*) is derivational, not inflectional, for multiple reasons, including its unproductivity in contemporary English (e.g., *doctor ~ *doctress*, etc.).

4.2.1 Singular (-Ø)

The singular form of English nouns is unmarked, that is, the suffix is not pronounced (i.e., it is null or zero, see below). Singular nouns can occur with specific determiners such as the numeral *one* (25a), the indefinite article *a* (25c), and the proximate *this* (25e) and non-proximate demonstratives *that* (25g):

(25) a. *one cat* c. *a cat* e. *this cat* g. *that cat*
b. **one cats* d. *a *cats* f. **this cats* *h. *that cats*

(26) a. *The cat is cute.*
b. **The cat are cute.*

Notice that the plural suffix does not occur in these syntactic contexts (25b, 25d, 25f, 25h). English verbs and auxiliaries moreover agree with the number feature of their subjects (26); syntactic agreement will be discussed in Chapter 5.

4.2.2 Plural (-*s*)

Just as we saw with singular above, when a noun has the plural suffix, it occurs with specific plural determiners such as the numerals *two* (27a), as well the plural proximate *these* (27c) and non-proximate demonstratives *those* (27e):

(27) a. *two cats* c. *these cats* e. *those cats*
b. **two cat* d. **these cat* f. **those cat*

(28) a. *The cats are cute*.
b. %*The cats is cute.*[8]

As above, verbs agree with the number on subjects (28).

4.2.3 Plural (phonologically conditioned allomorphy [s]/[z]/[əz])

The examples given above are with the noun *cat*, where the plural number suffix is indeed the voiceless alveolar fricative [s] (29a). But what about those other beloved domestic animals—what is the plural of *dog*? As you can confirm yourself,[9] the suffix is the voiced alveolar fricative [z] (29b). While we're at it, let's add another canine data point with the noun *fox*—what is its plural suffix? We find that it not only consists of the voiced alveolar fricative but also the mid-central lax vowel called schwa [əz] (29c). Of course, they all mean the same thing (namely [Plural]):

(29) a. *cat*-[s]/*[z]/*[əz]
b. *dog*-[z]/*[s]/*[əz]
c. *fox*-[əz]/*[z]/*[s]

You can see the problem for the idea that the English plural suffix is -*s*. It may be spelled with an S (or ES), and with nouns like *cat* it is actually pronounced [s], but the pronunciations of the plural suffix are different with nouns like *dog* ([z]) or *fox* ([əz]). You should also observe that these three allomorphs of the plural morpheme ([s]/[z]/[əz]) are in complementary distribution—where one form occurs, the other does not, and vice versa.

[8] There is documented sociolinguistic variation involving singular verb agreement forms with plural subjects (some patterns are reviewed in Nevins and Parrott, 2010).
[9] Gently rest your fingertips on your Adam's apple to distinguish voiced and voiceless consonants.

As you may know, in this case the final phoneme of the noun root determines which allomorph occurs; in technical terminology, we say that this kind of allomorphy is phonologically conditioned. We can see that at least three allomorphs are needed for the English plural, and they must include information about the morpheme's phonological context (30):

(30) a. [plural] ⇔ [əz] / [+sibilant] __
b. [plural] ⇔ [s] / [–voice] __
c. [plural] ⇔ [z] / *elsewhere*

Perhaps one might object that these three pronunciations of the plural morpheme, while different, are clearly close phonological relatives, and that moreover there are well-known processes that relate the three forms to their phonologically conditioning contexts.

Thus, the objection goes, we could maintain the classical concept of a morpheme ('form with meaning') so that English plural suffix ([plural]) is indeed *-s* ([z]) and the alternating forms ([s]/[z]/[əz]) are simply sorted out by the phonology. However, as any adult language learner knows (likely including every reader of this text and definitely including both authors), reality is not so neat—we must all grapple with so-called irregularity.

4.2.4 Plural (morphologically conditioned allomorphy)

Remember that nouns ending in sibilant consonants, like *fox* ([fɒks]), have the plural suffix form [əz] ([fɒksəz]). However, the noun *ox* ('a domesticated cow') does not occur with the expected (i.e., 'regular') plural morpheme (31b,d,f; 32b) but instead with the suppletive (phonologically unrelated) suffix [ən] (31a,c,e; 32a):

(31) a. *two oxen* c. *these oxen* e. *those oxen*
b. %*two oxes*[10] d. *%these oxes* f. *%those oxes*

(32) a. *The oxen are cute.*
b. %*The oxes are cute.*

Notice that the plural suffix [ən] cannot be predicted from the phonological context, only by the identity of specific nouns. We describe this kind of allomorphy as morphologically conditioned because it is the morphological context (e.g., a specific root morpheme such as *ox*) that determines the allomorph rather than the phonological context.

In some cases, morphologically conditioned allomorphs don't have any pronunciation at all, as shown in (33–34). Linguists call such unpronounced morphemes null or zero (Ø).

(33) a. *one sheep* c. *two sheep* e. *these sheep* g. *those sheep*
b. *a sheep* d. %*two sheeps*[11] f. *%these sheeps* *h. %those sheeps*

(34) a. *The sheep are cute.*
b. %*The sheeps are cute.*

With some nouns, the zero plural suffix is accompanied by a vowel change in the root (this is sometimes called mutation):

[10] The default plural suffix could be used during language acquisition or for purposes of wordplay.
[11] Again, the default plural suffix could be used during acquisition or for wordplay.

(35) a. *one mouse* c. *two mice* e. *these mice* g. *those mice*
b. *a mouse* d. %two mouses[12] f. *%these mouses* *h. %those mouses*

(36) a. *The mice are cute.*
b. %*The mouses are cute.*

4.2.5 Countability

Zero plurals must not be confused with uncountable nouns in English. Countability is a syntactic property of nouns, such that not only do uncountable nouns lack a plural suffix (37d), but are incompatible with any plural context in syntax (37c,f,h; 38b); moreover, even though uncountable nouns are syntactically singular (37e,g; 38a), they are nonetheless incompatible with *one* and the indefinite article (37a-b):

(37) a. **one information* b. **an information* c. **two information*
d. *two *informations* e. *this information* f. **these information(s)*
g. *that information* h. **those information(s)*

(38) a. *The information is accurate.*
b. **The information(s) are accurate.*

Beware! Uncountable nouns are not the same across languages. For example, *informace* is countable in Czech, although its English cognate *information* is uncountable. The noun *research* is a similar 'false friend', and there are others, but the good news is that most nouns are countable.

4.3 Plural allomorphy with Greek or Latin borrowings

Finally, many examples of morphological conditioned allomorphy can be observed with words that were 'borrowed' into English from Greek or Latin for use as technical or scientific terms. Some of these morphemes retain their original plural morphemes:

(39) a. *hypothesis* [… ɪs] ~ *hypotheses* [… iːz] **hypothesises* [… ɪsəz]
b. *phenomenon* ~ *phenomena* **phenomenons* […z]

Such Greek or Latin examples are a very good illustration of morphologically conditioned allomorphy, since they not only demonstrate that an 'irregular' plural will be pronounced only with specific roots, but that speakers will often 'regularize' the plural form of such borrowings:

(40) a. *bacterium % bacteria* ~ *bacteria* **bacteriums* […z]
b. *virus* ~ *viruses* **viri*

Very few English speakers, other than perhaps microbiologists, use the singular noun *bacterium*; instead, for the vast majority, the etymologically (i.e., historically in Latin) plural form *bacteria* is both the singular or plural form. In other words, English speakers treat *bacteria* like other nouns such as *sheep* with a zero plural suffix.

[12] Once again, and you might observe a pattern here, the default plural suffix could be used in acquisition or for wordplay; moreover, in this case, a *mouse* used to point the cursor on a computer could have the plural *mouses* for some speakers, while a *mouse* meaning small rodent has the zero-plus-mutation plural *mice*.

Of course, there is no semantic reason whatsoever why the nouns *bacterium % bacteria* have non-productive, morphologically conditioned plural suffixes, whereas the noun *virus* has the regular, phonologically conditioned plural suffix.[13] These and other examples clearly show that morphological conditioned allomorphy is semantically and phonologically unpredictable, and that speakers relate unproductive affixes with specific, listed roots.

Now we should have a good idea why allomorphy is a challenge to the classical conception of a morpheme (or the common perception of a word) as a piece of form with meaning. The allomorphy of English plural, or allomorphy in any other language, shows that in fact pieces of grammatical meaning (like [plural]) are associated with phonological forms (technically, exponence) according to their morphological ([ən], Ø, etc.) or phonological ([s]/[z]/[əz]) context.

FURTHER READING:

Bauer, Lieber, and Plag 2013

Brinton and Brinton 2010

Carstairs-McCarthy 2002

[13] In Latin, *virus* meant something like 'poisonous slime' and it was uncountable, meaning there was no accompanying plural suffix to borrow into English along with the noun *virus* 'non-bacterial infectious pathogen'. It would seem that the plural form **viri* should be possible based on an analogy from another Latin borrowing *fungus* ~ %*fungi*. Nonetheless, even with *fungus*, many, or maybe most, English speakers use the phonologically conditioned allomorph of the default plural suffix, %*funguses* [əz], and **viri* is certainly ungrammatical. For English speakers—microbiologists or not—the plural of *virus* is the default plural suffix, *viruses* [əz].

Exercise 4.1 Phonemes vs allophones and morphemes vs. allomorphs

The key terms morpheme vs. allomorph were coined based on their counterparts in phonology. Review the analogous phonological phenomenon of allophony. What is the difference between phonemes and allophones? Give examples from English and compare them with Czech, Slovak, or other languages you know.

Exercise 4.2 Allomorphy vs spelling

Why aren't these allomorphs spelled differently if they are pronounced differently? That is, why isn't the plural of *dog* spelled with a Z, and so on?

Exercise 4.3 Plural allomorphy I

How many plural allomorphs are there in English? Discuss phonologically conditioned allomorphs as well morphologically conditioned allomorphs.

(a) phonologically conditioned allomorphs and their environments

(b) morphologically conditioned allomorphs and their roots

Exercise 4.4 Plural allomorphy II

Following Exercise 4.3, please give the plurals of the following Ns. Then state which plural is an example of morphologically conditioned allomorphy, and which is an example of phonologically conditioned allomorphy.

(a) *sheep*

(b) *bachelor's thesis*

(c) *bacterium*

(d) *bonus*

(e) *card*

(f) *child*

(g) *deal*

(h) *diagnosis*

(i) *mouse*

(j) *loss*

(k) *fish*

(l) *goose*

(m) *innovation*

(n) *analysis*

(o) *louse*

(p) *price*

(q) *profit*

(r) *trend*

(s) *virus*

Exercise 4.5 Countability

Countability is a feature of English nouns that influences their morphosyntactic behavior. Compare the nouns *luggage* and *suitcase.* Demonstrate, using both grammatical and ungrammatical examples, how countability impacts the selection of numerals and determiners *a* and *the*, as well as subject-verb agreement.

Exercise 4.6 Countability

Which verbal agreement forms are possible in English?

(a) *The data indicates/indicate a shift in consumer behavior towards online shopping.*
(b) *Measles was/were a prevalent childhood illness before widespread vaccination.*
(c) *News of the company's merger was/were met with speculation in the business community.*
(d) *The contents of the report was/were presented during that meeting.*
(e) *Several hypotheses was/were tested in the market research study.*
(f) *Goods produced by the factory meets/meet strict quality standards.*
(g) *Sheep grazes/graze peacefully in the meadow, enjoying the lush green grass.*
(h) *Mathematics has/have been a topic of human inquiry for centuries.*
(i) *Belongings left unattended in public places is/are at risk of theft or loss.*

Exercise 4.7 Countability vs. zero plural morphemes

Some nouns have a zero plural suffix, such as *deer, salmon*, or *sheep.* These nouns are countable and behave in the same manner as plural nouns. They are different from uncountable nouns, such as *underwear, money*, or *furniture*, which are never plural. Use both grammatical and ungrammatical sentences to illustrate the difference between the two groups.

Exercise 4.8 Translation

Translate the following sentences into English.

(a) *Znalosti tržních trendů je zásadní pro udržení konkurenceschopnosti.*

(b) *Tržby se v uplynulém čtvrtletí neustále zvyšovaly.*

(c) *Důkazy naznačují silnou korelaci.*

(d) *Na každoročním setkání se sešli všichni členové bratrstva.*

(e) *Po podlaze stodoly se prohánělymyši.*

(f) *Jeleni se ladně pohybovali lesem.*

(g) *Tyto analýzy odhalily vzorec, který byl dříve přehlížen.*

(h) *Zápis z předchozího zasedání je nutné schválit.*

(i) *Peníze jsou základním zdrojem.*

Study sheet for Chapter 4

Nominal inflection and allomorphy

- **the sub-category of Number**
  - singular (-Ø)
  - plural (allomorphy)

    - phonologically conditioned allomorphy
    - complementary distribution (one or the other)
    - determined by an adjacent phoneme
    - phonologically **predictable**

    -'regular' plurals
    -s/-z/-əz (*cats, dogs, foxes …*)

    - morphologically conditioned allomorphy
    - complementary distribution (one or the other)
    - determined by a specific adjacent morpheme, typically a root
    - phonologically and semantically **unpredictable**

    - 'irregular' plurals
    - *-en* (*oxen, children, brethren)*
    - *-Ø* (*sheep, deer …*)
    - mutation (*mice, men, teeth …*)
    - foreign plural allomorphy (*analyses, stimuli …*)

  - countability
  - a grammatical feature of nouns that restricts their morphosyntactic distribution
  - no plural suffixes
  - singular agreement with demonstratives and verbs
  - no *one* or indefinite article *a(n)*
  - *information, research, furniture …*

5. Verbal inflection and allomorphy

Chapter 4 focused on the inflectional morphology of nouns, and this chapter discusses inflectional morphology related to verbs. At this point, we should introduce the linguistic term paradigm. Paradigm is a set of all grammatical forms of a particular word, i.e., all possible combinations of inflectional morphemes and a particular root. Referring to the previous chapter, for the noun *cat* the paradigm would be *cat* and *cats,* since nouns only inflect for number. With verbs, however, the paradigms will be somewhat richer, since English lexical verbs (and auxiliaries *be, have,* and *do*) are inflected for the grammatical subcategories of person, number, and tense. The subcategories of aspect, voice are expressed syntactically or periphrastically in English (i.e., with both free morphemes and affixes that are related syntactically). However, in other languages the verbal subcategories can be expressed with dedicated verbal affixes. Finally, the subcategory of mood can expressed both morphologically and syntactically, and it will be discussed in Section 5.5.

The paradigm of lexical verbs in English contains the following five forms: the infinitive (e.g., *[to] work*), the 3rd person singular present tense (*[she/he/it] works, breaks*), the past tense (*worked, broke*), the present participle or gerund (*working, breaking*), and the past participle (*worked, broken*).

Notice that for regular verbs like *work*, there is syncretism (i.e., identity of form despite differing inflectional features) between the infinitive form and agreement with 1st, 2nd, and plural subjects (*[I/you/we/they] work*), as well as between the past tense (*worked [yesterday]*) and the past participle (*[have/be] worked*].

Moreover, as you are certainly aware by now, there is both phonologically and morphologically conditioned allomorphy to observe in English verbs, primarily with past tense and past participle—in fact there is even more of it than we saw with nouns and number in the previous chapter. For one example among many, the irregular verb *break* has a zero past tense suffix and vowel mutation (*broke*), and the past participle takes this as a base for the suffix *-en* (*[have/be] broken*). Only very few verbs have stem allomorphy with 3rd singular present tense (e.g., *say [sai] ~ says [sɛz]*), and none have it with *-ing* (*working, breaking, saying*).

In this chapter, we will discuss each verbal subcategory in more detail.

5.1 Person and number

English verbs and auxiliaries reflect the person and number features of their subjects. This relationship between subjects and verbs in inflectional morphology is called agreement. As shown below for the present tense of *be* (41a) and *work* (41b), there is a person syncretism in plural and a number syncretism in 2nd person:

(41) a.

1SG	*I* ***am***	1PL	*we* ***are***
2SG	*you* ***are***	2PL	*you* ***are***
3SG	*he/she/it* ***is***	3PL	*they* ***are***

b.

1SG	*I work*	1PL	*we work*
2SG	*you work*	2PL	*you work*
3SG	*he/she/it work****s***	3PL	*they work*

(41a) shows that the verb *be* in present tense has a distinct form with all persons in singular; in plural, there is a single form *are* in all persons. Lexical verbs only have an agreement suffix with 3rd person singular present (41b); all other persons and numbers (i.e., 1st, 2nd, plural) are expressed with a null morpheme.

5.2 Tense

Time is a physical and philosophical concept, but most people experience it in their daily lives as a kind of continuum starting in the 'past' and progressing to the 'future'. Tense, on the other hand, is something like a simplified grammatical reflection of time. More specifically, tense denotes a relation between the event time and the moment of speech. If the event time overlaps with the moment of speech, the speaker can opt for the present tense (42a). If the speaker is expressing that a state or event happened prior to the moment of speech, the past tense can be selected (42b):[14]

(42) a. *John work**s** as a postal carrier.*
b. *John work**ed** at the post office yesterday.*

As noted above, while the 3rd singular present-tense suffix *-s* itself does not engage in morphologically conditioned allomorphy, the past tense can be expressed by a range of phonologically or morphologically conditioned allomorphs. With some irregular verbs, we can observe examples of partial or even total suppletion of the root. For a list of such English verbs, please refer to Quirk (1985, 114–120); you can get more practice with past-tense verb allomorphy in Exercise 5.3 below.

As for 'future tense', English does not in fact have any dedicated inflectional verbal affixes that specifically denote future time.

(43) a. *John **will** [work at the post office next year].*
b. *John **is going** [to work at the post office next year].*

Instead, events in the future are expressed periphrastically, either with the modal *will* and a bare infinitive verb phrase (VP) (see Chapter 11 for more on modals), or with the complex (i.e., multi-clausal) syntactic phrase *be going to VP*.

5.3 Aspect

Another verbal subcategory is aspect. While tense can be thought of as an answer to the question of 'when', aspect is related to how the speaker views the state or event as being distributed. If the speaker wants to emphasize that the situation had duration, or was ongoing at a certain point, the progressive aspect can be used (this is also known as the continuous aspect); for denoting events that happened before another event (i.e., anteriority), or to express completeness, the perfective aspect can be used:

(44) *John **is** work**ing** at the post office right now.* [+PROG] = *be* … V-present participle

[14] Since tense is not identical to time but rather a kind of grammatical simplification of time, there is not an absolute correspondence between tense and 'real' time. A well-known example is the so-called historical present, where present tense occurs in past-time contexts: ***On July 20, 1969**, Neil Armstrong **takes** 'one small step for man, one giant leap for mankind'.*

(45) *John **has** work**ed** as a postal carrier for years*. [+PERF] = *have* … V-past participle

Both aspects are formed periphrastically in English, being syntactically composed of the free auxiliaries *be* (44) or *have* (45) and a lexical verb with either a present or past participial inflectional suffix, respectively.[15] As mentioned, there is allomorphy with the past participial suffix, which is further explored in Exercise 5.4.

5.3.1 Combinations of tense and aspect

Both tense and aspect can (but don't have to) co-occur within the same clause. When that happens, the meaning is compositional. For example, progressive aspect conveys that an event is ongoing, while present tense relates the ongoing event to the moment of speaking:

(46) *John **is** work**ing** right now.* [+PROG] = *be*-[+PRES] … V-present participle

Thus, we have the possibility of combining tense and aspect, such that predicates can contain at most one tense and up to two aspects:

(47) *John* ***had*** ***been*** *work**ing***.

have-[+PAST] *be*-past participle V-present participle

In (47), *been* consists of the auxiliary *be,* part of progressive aspect together with the present participial suffix *-ing* on the lexical verb *work*, and the past participle suffix *–en*, part of perfective aspect together with the auxiliary *have*, itself in past tense. As a result, this verbal structure contains the syntactic features [+PAST], [+PERF], and [+PROG], as expressed by the relevant free or bound morphemes.

It should be emphasized, however, that the two verbal subcategories of tense and aspect are strictly distinct and independent of each other. Aspect is related to duration, anteriority, or completeness—it does not carry any temporal meaning:

(48) **He **has** work**ed** at the post office in 2020.*

As the example illustrates, perfective aspect alone does not mean past time, and it cannot be combined with past adverbials.

5.4 Voice

Voice, namely active vs. passive, is a verbal subcategory that changes the grammatical functions in a clause but does not affect semantic roles (grammatical functions and semantic roles will be discussed in Chapter 6, and clauses are more thoroughly presented in the next volume of this coursebook—for now, think of them like sentences). More precisely, the passive voice targets the verbal object (which immediately follows the verb in English) and promotes it to the subject position (again, these and other grammatical functions will be

[15] The traditional terms 'present' and 'past' participle are rather misleading. The present participle does not refer to present time, for example when progressive aspect is used in past tense (e.g., *John **was** work**ing** yesterday*), or when it is a gerund (*John enjoys work**ing***) or participial adjective (*Work**ing** people deserve fair wages*). Similarly, the past participle does not express past time, for instance when perfect aspect is used with future time (*By tomorrow, I **will have** finish**ed** the presentation*), or when is part of the periphrastic passive voice (*The presentation **is** finish**ed** by our team*), or when it is a participial adjective (*The finish**ed** presentations are in this file*).

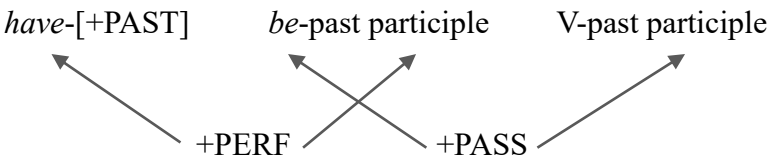
discussed in Chapter 6).[16] An example of the active is given in (49a), while a passive can be seen in (49b).

(49) a. *John delivered the mail.*
b. *The mail **was** deliver**ed** by John.* [+PASS] = *be* … V-past participle

Active voice is syntactically and morphologically unmarked—it is the most basic version of a clause (49a). The passive voice is expressed periphrastically in English, syntactically composed of the auxiliary *be* and a lexical verb with the past participle suffix (49b).

The passive can freely combine with tense and aspect (recall subsection 5.3.1 above). Free and bound grammatical morphemes in the English verb complex come in the following order: tense, perfective aspect, progressive aspect, and lastly voice. This means that if a clause is passive, a past participle suffix will land on the lexical verb:

(50) *The mail **had*** ***been*** *deliver**ed**.*



In this example, the auxiliary *have* (in past tense) expresses perfective aspect together with the past participle suffix on the auxiliary *be,* which expresses passive voice together with the past participle suffix on the lexical verb *deliver*.

5.5 Mood

Mood is a grammatical category that reflects the communicative intention of a speaker. Pragmatic meanings, such as statements, orders, or wishes (i.e., what a speaker wants to say) can be expressed morphosyntactically.

5.5.1 Realis mood: indicative

Indicative expresses a statement and is the only realis mood. This means that clauses in the indicative mood refer to events or states that the speaker believes (or wants others to believe) are real or factual. Indicative mood, like active voice, is syntactically and morphologically unmarked, and indicative can be freely combined with the other verbal subcategories of tense, aspect, and voice. All of the example sentences so far in this chapter have been in the indicative mood.[17]

5.5.2 Irrealis moods: imperative

In contrast with the indicative, there are two irrealis moods, namely imperative (i.e., orders) and subjunctive (i.e., hypotheticals). Events and states expressed by these moods are not real—in other words, they are counterfactual.

[16] Of course, the syntactic process of passivization involves the entire clause. As a result, a much more detailed discussion of passives is included in the next volume of this coursebook on syntax.

[17] In some languages, linguists can identify an interrogative mood (i.e., questions). In Korean, for example, there is a dedicated verbal suffix *-kka* that indicates a question; in Chinese, for another example, there is an interrogative morpheme *ma.* However, in English, questions are not expressed with any verbal affixes, i.e., there is no morpheme that would be attached to a verb to signal that a clause is interrogative. Questions in English are expressed syntactically by inversion of the highest modal or auxiliary (aka the 'operator') and the subject phrase. For this reason, our coursebook does not use the term 'interrogative mood' in reference to English.

The imperative mood has no verbal suffix, so imperative verbs have the same form as infinitives; negative imperatives are composed with the auxiliary *do*.

(51) a. ***Call*** *me as soon as possible.*
b. ***Don't forget*** *to turn off the lights.*

Notice that imperatives are one of the few syntactic contexts in English where a subject is not pronounced.

5.5.3 Irrealis moods: subjunctive

Finally, while the subjunctive mood is not expressed by any dedicated affixes in English, the subjunctive nonetheless has morphological paradigms distinct from the indicative.

In the so-called present subjunctive[18] mood, which appears in subordinate clauses selected by specific verbs like *request* or *demand* (and their nominalizations), English verbs and auxiliaries appear in the same form as infinitives, showing no agreement for person or number (52a,c). This is unlike indicative mood, where present tense verbs require an agreement suffix with 3rd person singular subjects (52b,d):

(52) a. *The post office requested that John* ***deliver*** (**deliver**s***) *large packages.*
b. *John deliver**s*** (****deliver***) *large packages.*
c. *His supervisor demanded that John* ***be*** (****is***) *more efficient.*
d. *John* ***is*** (****be***) *more efficient.*

In the so-called past subjunctive mood, which appears in subordinate clauses with the conditional complementizer *if* (53a,c), as well as with specific verbs denoting a speaker's counterfactual desire (53b, d), English verbs and auxiliaries occur in the same form as their past tense:

(53) a. *If John deliver**ed*** (****deliver**, *deliver**s***) *large packages, he would need a bigger truck.*
b. *John wishes that he work**ed*** (****work**, *work**s***) *at the fire department.*
c. *If John* ***had*** (****have**, *has***) *worked more efficiently, he would be finished by now.*
d. *John wishes that he* ***did*** (****do**, *does***) *not work at the post office.*

With the auxiliary (or copula) *be*, the situation with past subjunctive is slightly more complex in English. Like lexical verbs and the other auxiliaries, past subjunctive *be* can appear in the past tense form, with agreement for number and 2nd person (54).

(54) a. *It would be better if I/she/he/it* ***was*** (****be**, *am**,*is***) *more efficient.*
b. *It would be better if you/we/they* ***were*** (****be**, *are***) *more efficient.*

However, the plural or 2nd person form *were* can be used as a past subjunctive *be*, even with 1st and 3rd person singular subjects (55a). Note that the past subjunctive *were* is only

[18] Once again, the traditional terms 'present' and 'past' subjunctive are misleading, since subjunctive mood is irrealis by definition and neither past nor present subjunctives denote event times (see Footnote 15 above).

detectable when the subject is 1st or 3rd person singular; the singular form *was* does not occur with 2nd person or plural subjects in subjunctive (54b, 55b).

(55) a. %*It would be better if I/she/he/it* ***were*** (***be**, **am**, **is***) *more efficient.*
b. **It would be better if you/we/they* ***was*** (***be**, **are***) *more efficient.*

The past subjunctive *were* seems to be declining in frequency of use, with many speakers opting for the form *was* with 1st or 3rd person singular subjects (as in 54a). One clear indication that variation exists in this paradigm is the fact that some prescriptivists still demand the use of past subjunctive *were*!

5.6 Finite vs. non-finite verb forms

One of the key concepts in verbal morphology is finiteness—that is, verbs and auxiliaries can be finite vs. non-finite, which means tensed vs. non-tensed, respectively. English modals are always finite because they are always tensed—in fact, modals have no infinitive form in English! Modals, auxiliaries, and lexical verbs form predicates (or verb phrases; predicates are discussed in Chapters 6 and 11). Finite auxiliaries and lexical verbs agree with their subjects in present tense (56a), while only the auxiliary or copula verb *be* agrees with subjects in past tense (56b);[19] although modals are always finite, they do not show any subject agreement morphology in English (56c):

(56)	a. *He work**s** at the post office.*	[+PRES]	(finite)
	b. *They **were** delivering packages.*	[+PAST]	(finite)
	c. *You can work at the post office.*	[+PRES]	(finite)

Non-finite auxiliaries and lexical verbs, on the other hand, are not tensed and never show subject agreement. Indeed, in many—but not all[20]—syntactic contexts, non-finite verbs do not occur with a pronounced subject, but rather as part of a verbal complex consisting of optional auxiliaries and a mandatory lexical verb. There are four types of non-finite verb forms in English. First of all, as clearly indicated in the name, infinitives are not finite—more precisely, English has *to* infinitives, formed periphrastically with the free morpheme *to* (which is not a preposition!), and bare infinitives, which lack *to* (57a-b). Besides the infinitives, there are two participial suffixes that attach to an auxiliary or lexical verb, namely the so-called present participle (*-ing*, which involves no allomorphy) and the so-called past participle (which involves both phonologically and morphologically conditioned allomorphy) (57c-d).

(57)	a. *He wants **to deliver** large packages.*	*to* infinitive
	b. *He will **work** at the post office.*	bare infinitive

[19] Evidently, present tense verbs are still finite even if there is no agreement morphology with subjects other than 3sg (e.g., *You/we/they work at the post office*.). Moreover, it must be noted that verbs do not agree with the English expletive subject *there*, but rather with the associate determiner phrase (e.g., *There **were** several workers at the post office*.).

[20] For example, some verbs can select a non-finite clause with a subject in an oblique case (i), non-finite subordinate clauses can have an oblique case subject (ii), and non-finite *-ing* gerunds can have an oblique case (iii) or possessive subject (iv):
(i) *They expect [him to deliver large packages]*.
(ii) *[For him to deliver large packages] would not surprise them.*
(iii) *They saw [him delivering large packages]*.
(iv) *[His delivering large packages] did not surprise them.*

c. *He is work**ing** right now*. V-present participle
d. *He has work**ed** there for ten years.* V-past participle

Remember that all the verb forms exemplified in (57) are non-finite, i.e., none of these forms express any tense morphology. Do not be fooled by the regular past participial suffix *-ed*, which is fully homophonous with the (phonologically conditioned allomorphs) of the regular past tense suffix *-ed*. If you're in doubt about whether an English verb form is past tense or past participial, try substituting a verb with a morphologically conditioned past participle allomorph such as *take* or *steal*:

(58) a. *He **took** the packages there yesterday.* [+PAST]
b. *He has **taken** the packages there many times*. [+PARTICIPLE] (present, perfect)
c. *Burglars **stole** the packages last night.* [+PAST]
d. *Packages are often **stolen** from there.* [+PARTICIPLE] (present, passive)

Notice that English irregular past participle allomorphs include the suffix *-en* on the infinitive stem (58b), the suffix *-en* on the past tense stem with vowel mutation (58d), and even zero (e.g., *to hurt, to put*). In varieties of English worldwide, there is widespread inter- and intra-speaker variation in morphologically conditioned past tense vs. past participle allomorphy.

FURTHER READING:

Quirk et al. 1985, 114–120

Denham and Lobeck 2010, 166–170

Brinton and Brinton 2010, 124–132

Exercise 5.1 Paradigm

Explain the term 'paradigm'. Then provide paradigms of English words belonging to various categories (nouns, pronouns, verbs, modals, adjectives, prepositions). Compare these with paradigms from your native language.

Exercise 5.2 Future in English

As argued above, English does not have inflectional future tense. Still, it possesses various grammaticalized structures that denote events and states that the speaker relates to future time. List some of these with examples.

Exercise 5.3 Past tense allomorphy

The chapter above mentions *-ed* as past tense morpheme, which is the default. List all past tense allomorphs, including both morphologically and phonologically conditioned allomorphy. Refer to the notation in Chapter 4.

Exercise 5.4 Past participle allomorphy

The chapter above mentions the suffixes of a past participle verb form. List all the past participial allomorphs, including both morphologically and phonologically conditioned allomorphy. Refer to the notation in Chapter 4.

Exercise 5.5 Tense vs. aspect vs voice

Tense, aspect, and voice are subcategories that are independent from each other. Provide the complex forms of the verb *steal* in clauses that contain the following subcategories. In each case, circle all of morphemes involved.

(a) [-TENSE] [+ASPECT] [-PASSIVE] ……..

(b) [+TENSE] [-ASPECT] [-PASSIVE] ……..

(c) [+TENSE] [-ASPECT] [+PASSIVE] ……..

(d) [-TENSE] [-ASPECT] [+PASSIVE] ……..

Exercise 5.6 Pragmatics vs. grammar

The intention of a speaker is a pragmatic concept, but there is no 1:1 correspondence between pragmatics and morphosyntax. Demonstrate that 'an order' can, but does not necessarily have to, be expressed by [+IMPERATIVE].

Exercise 5.7 Verbal inflectional morphology I

Analyze the following complex verb forms. Circle all the inflectional morphemes and link them to their categories.

(a) *The company **has been being managed** by a team of professionals.*

(b) *His credit card information **was being used** to make unauthorized purchases.*

Exercise 5.8 Verbal inflectional morphology II

Analyze the inflectional morphology in the following verbal complexes. Relate the morphemes to categories of mood, tense, aspect, and voice (sentences adapted from Corpus of Contemporary American English and British National Corpus).

(a) *The cat **had been waiting** for her on the bench all that time.*

(b) *Those included demands that the group **withdraw** from occupied territory.*

(c) *Fewer and fewer games **are being held** each weekend.*

(d) *If only Ted **were** with us.*

(e) *Tanya **had come** to DC from Pennsylvania.*

(f) *The judge had ordered that she **stay** within a thousand miles.*

(g) *The school **was being used** as an evacuation shelter for people affected by flooding.*

(h) ***Be prepared** to break the window.*

(i) *I wish **she were** here for this special moment.*

(j) *In recent years there **has been** interest in laser technology.*

Exercise 5.9 Verbal inflectional morphology III

Use the verb *analyze*, and write its complex morphological forms according to the given pattern. In all cases, use the subject *she*.

(a) [+PRES] [-PERF] [-PROG] [+PASS] ……..

(b) [+PAST] [-PERF] [-PROG] [+PASS] ……..

(c) [+PAST] [-PERF] [-PROG] [-PASS] ……..

(d) [+PRES] [+PERF] [+PROG] [+PASS] ……..

(e) [+PAST] [+PERF] [+PROG] [+PASS] ……..

(f) [+PAST] [-PERF] [+PROG] [+PASS] ……..

(g) [+PRES] [-PERF] [+PROG] [+PASS] ……..

(h) [+PRES] [-PERF] [-PROG] [-PASS] ……..

(i) [+PRES] [-PERF] [+PROG] [-PASS] ……..

(j) [+PAST] [-PERF] [+PROG] [-PASS] ……..

Exercise 5.10 Finite vs. non-finite verb forms

Decide if the bolded auxiliaries and lexical verbs are finite or non-finite. If a verb form is non-finite, please analyze its type (*to* infinitive, bare infinitive, V-present participle, V-past participle).

(a) *Fewer and fewer games **are being held** each weekend.*

(b) *The cat **had been waiting** for her on the bench all that time.*

(c) ***Having stolen** the diamond necklace, the thief **made** a hasty escape.*

(d) *The artifact **was believed** to **have been lost** for centuries.*

(e) *I **have been writing** this essay for hours.*

(f) *I **want** to **study** syntax.*

Study sheet for Chapter 5

paradigm = set of all inflectional forms of a particular morpheme

(*cat ~ cats, work ~ works ~ working ~ worked*)

Verbal subcategories

- **Person and Number = agreement**

· **Tense**	present tense	*-s*
	past tense	*-ed (allomorphy)*
· **Aspect**	progressive aspect	*be* … V-present participle
	perfective aspect	*have* … V-past participle
· **Voice**	active voice	morphosyntactically unmarked, basic
	passive voice	*be* … V-past participle
· **Mood**	indicative (realis)	morphosyntactically unmarked, basic
	imperative	syntactically marked, verb in infinitive form
	present subjunctive	*We demand that he visit.*
	past subjunctive	*I wish he were here.*

Verbal (non-)finiteness

· **finite =** tensed:	English modals always finite finite auxiliaries and lexical verbs agree with their subject
· **non-finite =** not tensed:	*to* infinitives and bare infinitives present participles and past participles

6. Three big concepts of syntax: Phrase structure, grammatical functions, and semantic roles

This chapter serves as a bridge between morphology and syntax. In the preceding chapters, we focused on morphemes and explored grammar at the level of individual morphemes and complex words. In this chapter, our scope expands. We will introduce key terminology related to units larger than a morpheme or word. First, we will learn that morphemes do not exist in isolation within a sentence. Instead, they are related to each other and form groups known as phrases (also referred to as XPs). Second, we will learn that these phrases have specific grammatical functions in sentences, such as subjects and objects, among others. Finally, we will learn about the meaning of these phrases in sentences; we will explore their semantic roles.

6.1 Phrase structure

Have a look at example (59). This sentence contains 18 morphemes or 13 words. However, the words are not related linearly. Rather than existing independently next to one another, they form hierarchies. For example, there is no relation between *coat* and *sliced* or *steak* and *very.*

(59) *A chef wearing a pristine white* *[*coat sliced*] *the juicy* *[*steak very*] *carefully.*

Instead, our intuition would group together [*the juicy steak*] or [*very carefully*]. Furthermore, if we want to perform any syntactic operation, we have to move these clusters of words together as one unit. For instance, when passivizing the sentence, it becomes apparent that it is not individual words that move within a sentence, but rather these clusters of words.

(60) a. [***The juicy steak***] *was sliced by* [*a chef wearing a pristine white coat*].
b. * ***Steak*** *was sliced* ***the juicy*** *by* [*a chef wearing a pristine white coat*].

We can observe that [*the juicy steak*], [*very carefully*] and [*a chef wearing a pristine white coat*] form inseparable units. If we do not move *the juicy* together with *steak,* the sentence will be ungrammatical, as illustrated in (60b). Words cannot move in sentences on their own; they exist in syntactic groups, or constituents. Using linguistic terminology, these syntactic constituents are called phrases.[21] We can conclude that there is an intermediate level between morphemes and clauses (or sentences), the level of phrases: morphemes > **phrases** > clauses.

To visually demarcate phrases in a text, linguists use square brackets, as in [*the juicy steak*].

6.1.1 Constituency tests

In order to find out which words form phrases, there are several constituency tests to help us. One of them is to perform a syntactic operation that changes the "word order" (more accurately, the constituent order), such as passivization, as seen above in (60), or topicalization or "fronting", as in (61a) below. We can also use a substitution test, replacing a constituent with an interrogative (or, *wh-*) pronoun, as shown in (61b).

(61) a. ***Very carefully****, a chef wearing a pristine white coat sliced the juicy steak.*
b. ***Who*** *sliced the juicy steak very carefully?* (***A chef wearing a pristine white coat***)

[21] Students must beware of the false friend *fráze* in Czech, or similar cognates in other languages. The term *phrase* is used technically here, only referring to syntactic constituents, and does not mean 'idiom' or 'proverb' or anything else referring to semantics or pragmatics.

As shown below, moving only the adverb *carefully*, without the pre-modifying adverb *very*, results in an ungrammatical sentence. In the same way, the *wh-* pronoun *who* substitutes not only for the noun *chef*, but also the determiner *a*, as well as the post-modifier *wearing a pristine white coat*; substituting only for the noun and not the rest results in ungrammaticality:

(62) a. ***Carefully**, a chef wearing a pristine white coat sliced the juicy steak **very**.*
b. ***A** who **wearing a pristine white coat** sliced the juicy steak very carefully?* (***chef***)

Therefore, we can conclude that what looks like strings of words in fact are syntactic units, forming constituents, what we will call phrases.

6.1.2 Phrasal category and structure

Now we know that sentences (more accurately, clauses) consist of syntactic constituents or phrases. Phrases have the same syntactic category as their head, and we will focus on several of these phrasal categories in English: determiner phrases (DPs),[22] noun phrases (NPs), adjective phrases (AdjPs), adverb phrases (AdvPs), prepositional phrases (PPs), verb phrases (VPs), and clauses (Cl.). Evidently, most of these phrases are simply labeled by their specific head category, whereas the clause (Cl.) is a more complex syntactic constituent that will be discussed in more detail in the next volume of the coursebook on syntax.

As for the structure of phrases, the key morpheme (or complex word) inside a phrase is called the head. If a phrase contains the head only, such as names like *Jan* or personal pronouns like *they*, we call it a bare phrase:

(63) a. [*students*] bare NP
b. [*faint*] bare VP
c. [*happy*] bare AdjP

Just as often, however, the head is not the only word inside of a phrase. If the head has complements, adjuncts, or is pre-modified or post-modified, we can call it a complex phrase:

(64) a. [*human resources **department***] complex NPs
b. [*market **analysis** for the upcoming quarter*]
(65) a. [*highly **profitable***] complex AdjPs
b. [*extremely **happy** to be here*]
(66) a. [*very **quickly***] complex AdvPs
b. [*almost **never***]
(67) a. [***utilize** various digital platforms*] complex VPs
b. [*quickly **target** multiple demographics*]
(68) a. [***with** the supplier*] complex PPs
b. [*just **before** the deadline*]

[22] Some (especially traditional) sources do not use the term 'determiner phrase (DP)', instead labeling all nominal phrases as noun phrases (NPs). In the next chapter of this coursebook, we introduce DPs and their morphosyntactic relationship with NPs. For a more advanced introductory discussion, see Koeneman and Zeijlstra (2017, 100–105).

Of course, clauses are complex by definition (i.e., there are no 'bare clauses'):[23]

(69) a. [*that they will fail the exam*]
b. [*if she studies the article*]

When referring to phrases abstractly, the linguists use the abbreviation XP, where X is a variable that stands for the head category of a phrase, such as X = **d**eterminer (**D**P), and so on. We will study in more detail the structure of specific phrases in Chapters 7 (DPs and NPs), 10 (VPs), and 12 (AdjPs, AdvPs, and PPs).

6.2 Grammatical functions

The previous section introduced constituent analysis from a formal perspective, that is, the category and phrase structure of XPs. We have learned that phrasal constituents can be of various categories (such as DPs, AdjPs, or VPs) based on the category of their head. In addition, each constituent can be analyzed in terms of the grammatical function (also known as sentence function) that it carries out in a clause. Without getting too deeply "into the weeds" of theory, we can say that grammatical functions correspond to the syntactic position of clausal constituents in clauses and their syntactic relationship with other constituents. The grammatical functions listed below will be discussed in more detail in the next coursebook on syntax.

Subject (Subj)	Relates to a predicate; precedes the predicate, inverts in questions, etc.	***Companies** must constantly innovate.* *Must **companies** constantly innovate?*
Direct object (DO)	Relates to a verb; follows the verb; used with transitive verbs[24]	*The company implemented **a new marketing strategy.***
Indirect object (IO)	Relates to a verb; follows the verb but precedes the DO; used with ditransitive verbs[25]	*The CEO awarded **the employees** bonuses.*
Object of P	Relates to a preposition	*without **my friend*** *about **studying linguistics***
Adverbial[26] (Adjunct)	Relates to a verb, VP, or clause[27]	*The sales team **often** achieved their targets.* *The meeting was held **in a luxurious hotel.*** ***Hopefully**, they will have a good year.*
Attribute	Relates to an NP	*an **extremely clever** strategy*

[23] There are, however, small clauses (like *Mad Magazine*'s "What, **me worry**?"), as well as bare infinitives.
[24] That is, transitive verbs have a DO; see Chapter 10 and the forthcoming syntax coursebook for more on transitivity.
[25] As the prefix indicates, ditransitive verbs have two objects; again, see below and the next coursebook.
[26] Students beware: an adverbial is not the same as an adverb! Put simply, 'adverbial' is a grammatical function while 'adverb' is a category. Another way of thinking about it is that every adverb is an adverbial, but not every adverbial is an adverb.
[27] In fact, adjuncts can also be found in NP, AdjP, and AdvP.

		*a manager **from the main office***
Predicate AdjP or DP (Subject complement)[28]	Relates to a subject via a copula verb; follows the copula verb[29]	*The CEO was **overly stressed**.* (AdjP) *This will be **a great opportunity**.* (DP)

We emphasize that it is not possible to apply some diagnostics for grammatical functions which may be familiar from traditional grammars of Czech, Slovak, or other Slavic languages. Substituting for *wh-* pronouns like *kdo~koho* is inapplicable for identifying grammatical functions in English due to the absence of case morphology with English nouns (see Chapter 9).

Furthermore, students must avoid confusing the concept of grammatical function with semantic roles, the topic of the next section. A commonly heard example of such confusion is that "a subject is the doer of the verbal action". As we will see immediately below, that is in fact the semantic description of an Agent—a subject is not a meaning!

6.3 Semantic roles

Besides its phrasal category and grammatical function, each constituent can be analyzed in terms of the meaning it has within a clause, specifically the meaning that a constituent has in relation to the verb—in other words, its semantic role.[30]

(70) a. ***Our dog** bit a baby raccoon*.
b. *The baby raccoon bit **our dog***.

In (70a), we can see that the phrase *Our dog* was the doer of the verbal action of biting and *a baby raccoon* was the victim of the biting. On the other hand, in (70b), the phrase *The baby raccoon* is the biter, and *our dog* is the one affected by this action denoted by the verb. We will refer to such meanings as semantic roles (synonymous terms for this concept are thematic, theta, or θ roles). The distribution of semantic roles in a sentence is not random, but selected by the lexical verb in a clause (as well as by a noun in NP or a preposition in PP). In this coursebook, we will refer to the following semantic roles; the list is not exhaustive, and may be somewhat different in various sources.

AGENT	A sentient performer of a deliberate action	***Our dog** bit a baby raccoon.* *It was designed by **a famous architect**.*
EXPERIENCER	An entity who has an internal, psychological experience	***John** hates pizza.* *The class really pleased **our students**.*
FORCE	Like an agent, but inanimate	***Strong winds** knocked down power lines.* *Many houses were destroyed by **wildfires**.*

[28] These must not be confused with secondary predication, which some sources also refer to as subject or object complements because in addition to the lexical verb, these AdjPs form a second predicate for the subject (e.g., ***The professor** arrived **tired***) or the object (e.g., *She painted **the wall green***.).

[29] Copula verbs are introduced in Chapter 10, but essentially this means non-auxiliary *be*, as well as a few other verbs that behave similarly.

[30] To be clear, we are not talking here about lexical semantics, which is concerned with the meanings of lexical morphemes, similar to the definitions listed in dictionaries (e.g., the noun *dog* means 'a domestic canine'). Just like their name suggests, semantic **roles** are about the relationship between constituents and their verbs in a clause.

PATIENT	An entity both affected and changed by the action	*The baby raccoon bit **our dog.*** ***The meal** was cooked by their chef.*
THEME	An entity that undergoes the action, but is not changed by it	***The papers** scattered across the table.* *I sent my mom **a present**.*
RECIPIENT	An entity that receives something	***She** received a package.* *I sent **my mom** a present.*
POSSESSOR	An entity who possesses something	***Mary** owns a nice house.* ***Mary** has three dogs.*
INSTRUMENT	A tool that the action is performed with	*She wrote the note **with a ballpoint pen.***
LOCATION	A place	*The professor comes **from Oregon.***
TIME	A time	*She swims **every Monday.***
MANNER	How the action takes place	*The magician did the trick **flawlessly.***

In Chapter 10 below, and in our coursebook's next volume on syntax, we will further discuss how verbs select the semantic roles of their clausal constituents, in other words, verbal valency (or selection).

FURTHER READING:

Constituents, phrases

Brinton and Brinton 2010, 187–215
Denham and Lobeck 2010, 211–214, 221–230

Semantic roles

Denham and Lobeck 2010, 329–330
Brinton and Brinton 2010, 297–303
Koeneman and Zeijlstra 2017, 55–61

Grammatical functions

Huddleston and Pullum 2005, 67–76

Exercise 6.1 Constituents

Please determine whether the groups of words listed below form a constituent or not in sentence (1). Please provide supporting arguments using constituency tests.

(1) ***Although the company faced significant challenges during the economic downturn, it managed to diversify its product portfolio.***

(a) *although the*

(b) *faced significant*

(c) *significant challenges*

(d) *to diversify its product portfolio*

(e) *its product*

(f) *during the*

Exercise 6.2 XPs

Please identify the category of the phrases in brackets. In other words, determine the category and identify the head, then state whether the phrase is complex or bare.

(a) ***[Our customer-centric approach]*** *has resulted in higher customer satisfaction.*

(b) *The court finds the defendant* ***[guilty]****.*

(c) *The merger is expected to* ***[streamline operations]****.*

(d) ***[The business expansion into international markets]*** *required extensive market research.*

(e) *The plaintiff alleges* ***[that the defendant breached the contract]****.*

(f) *Our digital marketing campaign generated* ***[a really significant return]*** *on investment.*

(g) ***[If the company meets its quarterly targets]****, employees will receive a bonus.*

(h) ***[We]*** *will present strategic goals for the upcoming year.*

(i) *The new product launch was accompanied* ***[by an aggressive marketing campaign]****.*

Exercise 6.3 Semantic roles I

Please analyze the semantic roles of the constituents in bold.

(a) *I baked **a cake** for my friend's birthday party.*

(b) *New Orleans was devastated **by hurricane Katrina** in 2005.*

(c) *The doctor prescribed antibiotics to treat the **patient's** infection.*

(d) *The cake was baked **by my sister**.*

(e) ***I** teach English grammar.*

(f) ***The beach** was crowded with tourists.*

(g) *The chef cut the vegetables **with a sharp knife.***

(h) *He ran **quickly** to catch the train.*

(i) *I mailed **my friend** a postcard from my vacation.*

(j) ***Yesterday,** I went to the store to buy groceries.*

(k) *She loves **books.***

(l) ***Our teachers** think that education is the key to a better future.*

Exercise 6.4 Semantic roles II

Discuss the difference in semantic roles of the following subjects:

(a) ***I** heard the sound of birds singing outside my window.*

(b) ***I** listened to the sound of birds singing outside my window.*

(c) ***I** saw a terrible accident on my way to work this morning.*

(d) ***I** watched the sunset from my balcony every evening.*

Exercise 6.5 Grammatical functions I

Please analyze the grammatical function of the bolded constituents, providing supporting arguments.

(a) *The company implemented **a comprehensive employee training.***

(b) *Our organization expanded its **global** reach.*

(c) *There is a positive trend in **revenue growth**.*

(d) *The report was prepared by the **research** team.*

(e) *The market outlook looks **promising**.*

(f) *The company promised **its employees** a generous bonus.*

(g) ***The new safety protocols** were implemented.*

(h) *The meeting is scheduled **for tomorrow morning**.*

(i) *We became **a market leader**.*

(j) *The team conducted a productive meeting **in the well-equipped conference room.***

(k) *The team conducted a productive meeting in **the well-equipped conference room.***

(l) ***The new legislation** introduced stricter regulations.*

Exercise 6.6 Grammatical functions II

Analyze the grammatical function of the constituents in bold. Comment on the importance of formal or structural criteria.

(a) *The company implemented **a comprehensive employee training.***
(b) ***The comprehensive employee training** was employed by our company.*

(c) *He became **a new CEO**.*
(d) *They announced **a new CEO**.*

(e) *The board of directors gave **him** full authority.*
(f) ***He** was given full authority.*

Study sheet for Chapter 6

The three big concepts of syntax

- Morphemes/words form **constituents** (= phrases)
  Morpheme/word > **phrase** > clause

1. Phrases (= XPs): the analysis of syntactic category

- Bare (= head only) or complex (= head with complements or modifiers)
- DP, NP, VP, AdjP, AdvP, PP, Cl.

2. Grammatical functions: the analysis of syntactic position or relation

- Subject, direct object, indirect object, object of P, adverbial/adjunct, attribute, predicate AdjP or DP

3. Semantic roles: the analysis of syntactic meaning

- AGENT, EXPERIENCER, FORCE, PATIENT, THEME, RECIPIENT, POSSESSOR, INSTRUMENT, LOCATION, TIME, MANNER

7. Noun phrases (NPs) and determiner phrases (DPs)

In Chapter 4, we discussed the lexical category N with a focus on inflectional morphology. In this chapter, we will cover the syntax of noun phrases (NPs) and introduce a significant new grammatical category that is inextricably linked to NP: determiners (Ds). Like any category, Ds can head a syntactic phrase called a determiner phrase (DP). In hierarchical terms, the DP is higher, and contains NP, as shown by the brackets in the following example:

(71) [DP ***that*** [NP *clever* ***student*** *from Zlín*]]

In (71), the noun *student* is the head of the NP, which is the complement or object of the determiner (D) *that*, which heads the DP.

7.1 Noun phrases (NPs)

Because this category is more familiar to most students, let's begin with NP and work our way up to DP.

7.1.1 The head N

The head of a phrase is the one that sets the phrasal category, so of course an NP is headed by an N (another way of saying this is that a head projects a phrase with the same category). In our examples, this head is *student*, a singular, countable, common N, but as predicted, it can be substituted with any other singular, countable, common N.

(72) *clever student/professor/officer …*

Within a complex NP, the head N can be pre- or post-modified. We will examine nominal pre- and post-modification in the following sections.

7.1.2 Pre-modification with AdjPs

NPs can be pre-modified by AdjPs. These are always adjuncts (Chapter 12 discusses adverbial adjuncts in more detail), with the grammatical function of attribute:

(73) a. *(clever) student*
b. *clever, diligent, responsible student*
c. ?**clever and diligent and responsible student*

We can tell that AdjPs are adjuncts because they are always optional (73a); another indication is that, in principle, an unlimited number AdjPs can be used without coordination (73b-c):

7.1.3 Pre-modification with NPs

In English, NPs are frequently used as pre-modifiers of other NPs, for example:

(74) ***law/linguistics/literature*** *student*

Although some traditional sources call these 'secondary adjectives', such terminology is misleading because it confuses phrasal category with grammatical function (see Chapter 6, and the next volume of this coursebook). Pre-modifying NPs have the grammatical function of attribute in English, but they are certainly not adjectives, as the following examples demonstrate:

(75) a. *cleverest/most responsible student …*
b. **lawest/most linguistics student …*

The category of adjective in English can be inflected (with a suffix or a free morpheme) for comparative (*-er*, *more*) or superlative (*-est*, *most*) (75a, see Chapter 12 for more on AdjP). However, pre-modifying NPs cannot inflect for comparative or superlative (75b), clearly showing that these are not adjectives despite their shared grammatical function as attributes.

7.1.4 Post-modification with clauses

Turning now to post-modifiers, we first note that NPs can be post-modified by clauses. The widely used term for these is relative clauses, which are exemplified below:

(76) a. *clever student* ***who worked diligently***
b. *cleverest student* ***(that) I've ever met***

Relative clauses are again attributes, and can be introduced by various so-called relative pronouns, depending on factors like the features of the head N, the internal structure of the relative clause, or the variety of English: examples of relative pronouns include *who* (76a), *that* (76b), *which*, *whom*, and zero (76b), or in certain dialects, *what*.

Relative clauses can contain a present (77a) or past participle (77b):

(77) a. *clever student [~~who is/was~~] working diligently*
b. *clever student [~~who is/was~~] seen in the park*

In such cases, an ellipsis analysis seems plausible, as indicated by the struck-through material in brackets (77).

7.1.5 Post-modification with PPs

A head noun can be post-modified by PPs, as exemplified below:

(78) a. *clever student* ***of the law***
b. *clever student* ***from the city***

In (78a), the head noun *student* is post-modified by a PP headed by *of*, while in (78b) the NP *clever student* is post-modified by a PP headed by *from*. Although they seem similar, there is evidence that these are in fact two hierarchically distinct NP structures. In one, the PP is a complement or object of N (78a, [*clever* [*student* [*of the law*]]]), while in the other, the PP is adjunct of NP (78b, [[*clever* [*student*]][*from the city*]]).

Since these examples of PP post-modification involve the same categories (Ns, Ps) in the same liner order (N > P > D > N), why should we think that they have different underlying hierarchical structures? For one thing, notice that adjunct PPs (79a) can be multiplied without coordination (again in principle without limit), while object PPs (79b) cannot:

(79) a. *student from the city with long hair in the afternoon seminar*
b. **student of the law of linguistics of literature*

Moreover, if there are both an object and an adjunct PP, then the object PP must be adjacent to the N and not the adjunct PP:

(80) *a. student of the law from the city*
*b. *student from the city of the law*

We will discuss some differences between verbal complements and adjuncts in Chapter 10.

7.2 Determiner phrase (DPs)

Determiners (Ds) are a grammatical category that relates to NP syntactically and semantically. Morphosyntactically, Ds in English (as well as in Czech, Slovak and other languages) are free morphemes that precede NP.[31] What Ds 'determine' about the semantics of NPs includes their definiteness, proximity, possession, and quantity:

(81) a. ***a***/***the*** *student from Zlín* (definiteness)
b. ***this***/***that*** *student from Zlín* (proximity)
c. ***my***/***our*** *book* (possession)
d. ***every***/***no*** *student from Zlín* (quantity)

Determiners occur in complementary distribution. This means that only one D can be used, i.e., they cannot appear in combination:

(82) a. ****that my*** *book about history*
b. ****this our*** *book*
c. ****an every*** *book*
d. ****the no*** *book*

In syntax, Ds can morphologically express agreement with features of the NP, such as plural number:

(83) *those*/**that students*

A challenging aspect of English for native speakers of Czech or Slovak is the quite strict requirement for a determiner to be pronounced with most NPs. D as a syntactic category appears to be universal. However, in many languages an overt D is optional (Czech, Slovak). Other the other hand, in English D is obligatory. Thus, using an NP headed by a singular, countable, common noun like *student* without a D like the definite article *the* (84a) is ungrammatical in English (84b), whereas in Czech, an NP is as perfectly grammatical without any pronounced determiner (84d) as it is with a demonstrative D (84c).

(84) a. *We met the clever student*.
b. **We met clever student*.
c. *Potkali jsme toho šikovného studenta.* (Cf. 84a)
d. *Potkali jsme šikovného studenta.* (Cf. 84b)

As alluded to, not every NP requires an overt determiner in English; plural Ns don't require them (85a) nor do uncountable Ns (85b) or names, aka 'proper nouns' (85c):

(85) a. *Clever students enjoy complex subjects*.
(Cf. **Clever student enjoys complex subject.*)
b. *Information is free*. (Cf. **Fact is verifiable*.)
c. *We met Ripley*. (Cf. **We met student.*)

[31] In some languages, Ds can be expressed as suffixes (e.g., Danish and Bulgarian) or prefixes (e.g., Korean) on nouns. Moreover, D is a common base for case morphemes cross-linguistically, although case morphology can also be expressed on Ns or Adjs (see Chapter 9 for more about case).

In the rest of this chapter, we will survey the major types of English determiners, starting from the most familiar (articles and demonstratives), and finishing with those that may be more unexpected to you (quantifiers and possessives). English possessives are often misunderstood, so we have paid them a bit of extra attention here and in the following chapter on pronouns.

7.2.1 Articles

Articles are the most basic type of determiner in English and other languages that have them; well-known cross-linguistic examples of articles can be found in the Germanic (e.g., German) and Romance (e.g., French) language families. English has two articles, the definite *the* and indefinite *a(n)*.

7.2.1.1 Indefinite articles

As shown in examples (86b-c), the indefinite article shows a pattern of allomorphy that is reflected in spelling.

(86) a. *We met the interesting/clever student.*
b. *We met an interesting student.* (Cf. **We met an clever student*.)
c. *We met a clever student*. (Cf. %*We met a interesting student*.)

The indefinite article is another diagnostic for the (un)countability of Ns in English.

(87) a. *A clever student is conducting research*. (Cf. *One clever student is* ….)
b. *Research is being conducted by a clever student*. (Cf. **Research(es) are*....)
c. **A research is being conducted by a clever student*.

Since the meaning of the linguistic technical term indefinite is 'not definite', we can only briefly explain the semantics of definiteness with reference to the definite article, to which we turn immediately.

7.2.1.2 Definite articles

The definite article has the most general distribution of all determiners in English. It does not express case (88) nor agree with Ns in number or gender (88a-b) and is perfectly compatible with uncountable nouns (88c):

(88) a. *We met the mother/father of the clever student*.
b. *We met the mothers/fathers of the clever student.*
c. *The research is being conducted by the clever student.* (Cf. 87c)

In fact, the most important meaning of the definite article, and definiteness generally, for students of English to understand is that definite Ds presuppose that an NP has already been mentioned in the discourse or is already known to both speaker and listeners. For a simple example of this, NPs being newly presented in a discourse are introduced with an indefinite D, and subsequently definite Ds can be used (89a):

(89) a. *Yesterday, we met a clever student. The student is conducting research*.
b. **?Yesterday, we met the clever student. A student is conducting research.*

The reverse order of definiteness is extremely odd, bordering on ungrammatical (89b).

7.2.2 Demonstrative Ds

After the articles, demonstratives are probably the next most familiar kind of Ds in English. Demonstratives are semantically definite, but include the additional meaning of proximity, or relative nearness to the speaker. This meaning of demonstratives can be analyzed in terms of the semantic feature [±proximate]. English demonstratives furthermore agree with the NP in number.

(90) a. *We met this clever student*. [+proximate] [singular] (Cf. **this students*)
b. *We met that clever student*. [-proximate] [singular] (Cf. **that students*)
c. *We met these clever students*. [+proximate] [plural] (Cf. **these student*)
d. *We met those clever students*. [-proximate] [plural] (Cf. **those student*)

Of course, plural demonstratives are ungrammatical with uncountable Ns:

(91) a. *This/that fascinating research is being conducted by a clever student*.
b. **These/those fascinating research(es) is (are) being conducted by a clever student.*

Finally, notice that the demonstratives we have introduced in this chapter are really and truly determiners that take full NP complements like all other Ds (92a):

(92) a. [***That*** [*fascinating research*]] *is being conducted by a clever student*. (= determiner)
b. [***That***] *is being conducted by a clever student.* (= pronoun)

Demonstrative pronouns (92b), as we will see in the next chapter, are not just determiners but in fact bare DPs.

7.2.3 Quantifiers

Quantifiers, as the name suggests, are Ds whose semantics denote something about the quantity of an NP. Quantifiers, such as *every, many, some,* or *no,* interact with the number and countability of NPs. Beyond noting their morphosyntactic phrase category as determiners, we will not delve any further into quantifiers here, as their complex properties are investigated by the linguistic theoretical subfield of formal (that is, syntactic as opposed to lexical) semantics.

7.3 English possessive determiners and DPs

English has three morphosyntactically distinct grammatical forms for expressing, roughly, the meaning of 'possession' (again, leaving the details to semanticists).[32] The status of these possessives can be confusing for students of English, especially given the limitations of traditional pedagogical or prescriptive approaches to grammar. Although all of the possessive forms in English are determiners or DPs, they differ from each other in ways that are in fact quite simple to understand.

Many students are surprised to hear that English possessives belong to the category D. There are a couple of very strong pieces of evidence for this analysis. First, recall that English requires a determiner with countable, singular, common nouns (93a-b); since possessives do that job (93c-d), they must be Ds:

(93) a. **Clever student enjoys conducting research*.
b. ***A/the/this/that/every/some*** *clever student enjoys conducting research*.

[32] We only consider here the morphosyntax of possessives with the category of determiner, and do not explore the semantics of lexical verbs like *have, own,* or *possess*.

c. *The eccentric professor'**s** clever student enjoys conducting research.*
d. ***My/your/her/his/its/our/their** clever student enjoys conducting research.*

Second, review example (82) above and remember that determiners, including possessives, are in complementary distribution; example (94) shows that this is also true of English possessive -*s*:

(94) **the eccentric professor**'s a/the/this/that/every/some** *clever student*

This subsection will introduce the first two of three possessives in English, namely what we will call the possessive phrasal clitic (-'*s*) and possessive determiners (*my, your, her, his, its, our, their*). Both of these possessive forms are Ds that take overtly pronounced NPs as complements to project a complex DP.

The third type, which we will call the possessive pronouns (*mine, yours, hers, his, its, ours, theirs*), are in fact bare DPs, like other pronouns, and therefore we discuss them in the immediately following Chapter 8.

7.3.1 Possessive phrasal clitic -'s

The first type of English possessive is the possessive phrasal clitic -'*s*. Despite the fact that some traditional sources refer to it as the "(Anglo-) Saxon Genitive", English possessive -'*s* is certainly not an instance of genitive case on nouns, but rather a phrasal clitic (a morphophonologically dependent grammatical morpheme that is not an affix) which is attached to, or hosted by, the whole DP with the semantic role of possessor.

Syntactically, then, the English possessive clitic -'*s* is the head determiner of a DP (labeled DP1 in example 95 below), which contains inside it both the NP complement of D -'*s*, with the semantic role of 'possessed' (in Latin, the "possessum"), and the DP host of clitic -'*s* (labeled DP2), with the semantic role of 'possessor':

(95) [$_{DP1}$ [$_{DP2}$ *POSSESSOR*] [**D -'*s*** [$_{NP}$ *POSSESSUM*]]]

The possessor DP2 can itself be bare (96a) or internally complex (96b-e), with the result that -'*s* is not always adjacent to the head noun that is semantically the possessor (96d)—indeed, this means that the English possessive clitic can be adjacent to a preposition rather than a noun (96e)!

(96) a. [$_{DP2}$ *Parrott*]***'s** clever student*
b. [$_{DP2}$ *the professor*]***'s** clever student*
c. [$_{DP2}$ *the eccentric professor*]***'s** clever student*
d. [$_{DP2}$ *the eccentric professor of morphology*]***'s** clever student*
e. [$_{DP2}$ *the professor I work with*]***'s** clever student*

It's worth repeating this important point: English possessive -'*s* is a determiner head and is not a genitive case suffix on nouns, but instead a phrasal clitic attached to the possessor DP as a whole.

7.3.2 Possessive determiners

The second type of English possessive is the possessive determiners (*my, your, her, his, its, our, their*). As mentioned above, the possessive determiners have exactly the same syntactic distribution as other determiners (93), with which they are in complementary distribution (94).

Syntactically, then, a possessive determiner is the head D of a DP that contains inside it an NP complement with the semantic role of possessum, as shown in (97):

(97) [$_{DP}$ [**D *my/your/her/his/its/our/their*** [$_{NP}$ *POSSESSUM*]]]

We are reserving the term "possessive pronoun (e.g., *mine, yours*, etc.)" for those morphemes that can substitute for an entire DP, as we examine in the following chapter, which is solely dedicated to English pronouns.

FURTHER READING:

Parrott 2020

Exercise 7.1 NP structure

An N or NP can be pre-modified by AdjPs. Why do you think we need to call these AdjPs and not just Adjs? Give linguistic evidence for your answer.

Exercise 7.2 DP structure

Analyze the following DPs. What is the D, where is the N, and are there any pre- or post-modifiers?

(a) *this innovative technology, which has the potential to revolutionize our industry*

(b) *a report on market trends*

(c) *companies expanding rapidly in emerging markets*

(d) *the company's latest product launch*

(e) *their assessment of the risks*

(f) *some project under our strict supervision*

Exercise 7.3 Allomorphy of the indefinite article

Describe the allomorphy of the English indefinite article, giving (un)grammatical examples to support your analysis. What are the allomorphs and conditioning environments? Is the allomorphy phonologically or morphologically conditioned? Which allomorph is the default?

Exercise 7.4 Allomorphy of the definite article

Referring to the previous exercise, what about the definite article? Does it show any patterns of allomorphy? Here's a hint: spelling is not the same thing as pronunciation!

Exercise 7.5 Semantics of articles I

What are possible responses to a question like *We're looking for a clever student* or *We're looking for the clever student*? Discuss those possibilities, using linguistic terminology.

Exercise 7.6 Semantics of articles II

Provide an analysis of the compatibility of the quantifiers *every, many, some,* and *no* with plural or singular NPs, as well as with countable or uncountable Ns. Give both grammatical and ungrammatical sentences.

Exercise 7.7 The possessive phrasal clitic -*'s*

Rewrite the following DPs using the possessive phrasal clitic -*'s* rather than an *of*-headed PP.

(a) *the daughter of the CEO of the company*
(b) *the opinion of the professor of history*
(c) *the findings of somebody else*
(d) *the comments of my mother-in-law*
(e) *the office hours of the head of the department*
(f) *the performance of the conductor of the orchestra*
(g) *the ambitions of the editor-in-chief*
(h) *the commitment of the mayor of the city*

Exercise 7.8 Various phenomena

Decide if the following phrases are grammatical or ungrammatical. Use linguistic terminology regarding the structure of DPs.

(a) *a president of the USA*

(b) *The King Charles IV's horses*

(c) *this our house*

(d) *that no student*

(e) *those student*

(f) *a news about the legal case*

(g) *bachelor theses*

(h) *the student which we saw yesterday*

(i) *many those people*

Exercise 7.9 Various phenomena

Write down examples according to the given description.

(a) a head N pre-modified by another NP

…….

(b) a head N post-modified by a clause

…….

(c) a DP headed by a demonstrative D

…….

(d) a DP headed by a quantifier D

…….

(e) a DP headed by a possessive D

…….

Study sheet for Chapter 7

Noun phrases (NPs)

- an NP is headed by N: [$_{NP}$ ***student***]

- N can be **pre**-modified: AdjP [$_{NP}$ [$_{AdjP}$ ***very clever***] *student*]
  NP [$_{NP}$ [$_{NP}$ ***corporate law***] *student*]

- N can be **post**-modified:

PP complement	[$_{NP}$ *student* [$_{PP}$ ***of corporate law***]]
PP adjunct	[$_{NP}$ [$_{NP}$ *student*] [$_{PP}$ ***from Zlín***]]
relative clause	[$_{NP}$ *student* [$_{CLAUSE}$ ***who was helped by us***]]
VP (ellipsis)	[$_{NP}$ *student* [~~*who was*~~ [$_{VP}$ ***helped by us***]]]

Determiner phrases (DPs)

DPs contain NPs; in other words, D is superordinate to NP.

Ds are in complementary distribution (only one is used) and include:

- **definite and indefinite articles** — *a(n), the*
- **demonstratives** — *this, that, these, those*
- **quantifiers** — *every, many, some, no,* etc.
- **the possessive phrasal clitic -*'s*** — [$_{DP1}$ [$_{DP2}$ POSSESSOR]***'s*** [$_{NP}$ POSSESSUM]]
- **possessive determiners** — *my, your, his, her, its, our, their*

Caution! Possessive determiners are **not** identical to possessive pronouns!

- **possessive pronominal determiners** have **NP complements**

  My clever student graduated! *cf.* **Mine clever student graduated!*

- **possessive pronouns** are **bare DPs**

  Mine graduated! *cf.* **My graduated!*

8. Pronouns

In this chapter, we will survey some English pronouns. These grammatical morphemes are misnamed because, as we have already alluded to, pronouns do not stand "for nouns". In fact, the familiar personal pronouns, along with others including interrogative or Wh-, demonstrative, and possessive pronouns, substitute for entire DPs. That is, pronouns are bare DPs.

8.1 Personal pronouns

If we ask you to think of a pronoun in English, it's likely that a personal pronoun—such as *we* or *you*—is what comes to mind. These are called "personal" pronouns because of their morphological inflection for nominal (or noun-related) subcategories of person, number, and gender.

8.1.1 Pronominal inflection by inflectional subcategory

This subsection briefly sketches personal pronominal inflection categories, concluding with a full paradigm of the English personal pronoun forms.

8.1.1.2 Number

It is no surprise that English pronouns, like nouns, distinguish singular number (*I-me*, *you-you*, *she/he-her/him*, *it-it*) and plural number (*we-us*, *you-you*, *they-them*). It would be more surprising if they didn't, because cross-linguistically (or typologically) when a certain grammatical subcategory is distinguished on nouns it is strongly implied that the category will also be distinguished on pronouns. In other words, if nouns have a number distinction, pronouns will have this distinction as well.

One noteworthy observation about number inflection on English pronouns is that the same form *you* expresses both singular and plural in the 2nd person. To fill the gap created by this syncretism (i.e., the same form despite different feature values), multiple varieties of English have independently coined novel pronominal expressions for 2nd-person plural, including at least *you guys*, *y'all*, *yous*, and even *yins* (attested in Pittsburgh, Pennsylvania, USA).

8.1.1.3 Person

The grammatical subcategory of person semantically denotes the referent of a pronoun. To analyze the meanings and forms of person in English, we need two binary-valued features, whose meanings are relatively straightforward: [±speaker] and [±addressee]. When the person speaking is the referent, the features are valued [+speaker, –addressee], which is called first (1st) person (*I-me*, *we-us*); when the referent is the person being spoken to, the features are [–speaker, +addressee], thus second (2nd) person (*you-you*, or *y'all*, etc.).

Obviously, it is possible for a pronoun to refer to neither the speaker nor the addressee, so third (3rd) person means that both features are valued negatively [–speaker, –addressee] (*she/he-her/him*, *it-it*, *they-them*). Notice that all full (non-pronominal) nouns, such as *teacher,* are 3rd person. However, both person features cannot be valued positively *[+speaker, +addressee], since it is a logical—or at least, a semantic—contradiction for the same person to be simultaneously speaker and spoken to.[33]

[33] When people talk or think to ourselves, i.e., self-talk, we use 1st or 2nd person (e.g., *You can pass!* or *I can pass!* or even *We can pass!*) but not 3rd person (e.g., **She/he/they can pass!* is impossible in self-talk). However,

8.1.1.4 Gender

The traditional technical term "gender" in linguistics is unfortunately confusing, since it simply means 'noun class' (i.e., 'type', hence the etymology). We must strongly emphasize that linguistic gender is not identical to biological sex, nor to the related but again distinct social or psychological concepts standardly referred to as "gender".

English, like Czech, Slovak, and many (but not all) Indo-European languages, has three noun classes or genders: masculine (not "male" or "man"), feminine (not "female" or "woman"), and neuter (not "neutral"). In Czech, Slovak, and other highly inflected languages, gender agreement suffixes are attested on adjectives (e.g., *zelen**ý**, zelen**á**, zelen**é***) and verbal participles (e.g., *ona řekl**a***), as well as other categories including pronouns. In English, however, gender is only morphologically distinguished on a subset of personal pronouns, namely 3rd person singular (3sg) masculine (*he-him*), feminine (*she-her*), and neuter (*it-it*).

Note the total syncretism of gender in 1st and 2nd person, as well as 3rd-person plural (3pl); the latter syncretism allows *they-them* to function as a gender-neutral pronoun in English.

8.1.1.5 Case

English has two personal pronoun case forms, what we will call the subject form (SF, aka 'nominative') (*I*, *she/he*, *we*, *they*) and the oblique form (OF, here meaning 'non-nominative') (*me*, *her/him*, *us*, *them*). English also displays a case syncretism in 2nd person (*you*, *y'all*, et al.) and 3sg neuter (*it*). Case will be discussed in Chapter 9.

8.1.2 English personal pronoun paradigm

Below is a complete paradigm, or set of related forms structured by their subcategories, for the personal pronoun forms of English as subcategorized by case, gender, person, and number.

	Subject form (SF) personal pronouns			**Oblique form (OF) personal pronouns**		
1sg	*I*			*me*		
2sg	*you*			*you*		
3sg	**Feminine**	**Masculine**	**Neuter**	**Feminine**	**Masculine**	**Neuter**
	she	*he*	*it*	*her*	*him*	*it*
1pl	*we*			*us*		
2pl	*you*			*you*		
3pl	*they*			*them*		

8.1.3 Personal pronouns as bare DPs

Structurally, personal pronouns are bare DPs. There are two clear ways to confirm this empirically. First, personal pronouns substitute for DPs of any complexity (98a-b) but not for nouns or NPs excluding the D (98c) or other structure contained in the NP (98d):

(98) a. [DP *That* [NP *very clever* ***student*** *of morphology from the city*]] *is here today.*
b. [DP ***She***] *is here today.*

even though 1st and 2nd person can be used (in particular ways) for self-talk, they nonetheless denote speaker and addressee as distinct.

c. *[DP *That* [NP *very clever* ***she*** *of morphology from the city*]] *is here today*.
d. *[DP ***She*** [NP ~~*very clever student of morphology*~~ *from the city*]] *is here today.*

Second, personal pronouns are in complementary distribution with other determiners:

(99) a. [DP ***That/our/****the professors****'s*** *clever student of morphology from the city*] *is here today*.
b. *[DP ***The/a/that/our she***] *is here today.*

As we will show below, all the other kinds of pronouns can project bare DPs.

8.2 Interrogative (Wh-) pronouns

Interrogative (i.e., question) pronouns are also known as Wh- pronouns in English for obvious reasons (*how* is an exception but it is still counted among them because of its identical syntactic behavior). Interrogative pronouns can be divided into two basic categories. The argument Wh- pronouns (*who*, *what*, and *which*) are DPs and substitute for the grammatical functions of clausal subjects, as well prepositional or verbal objects (direct or indirect):

(100) a. [DP *That clever student of morphology from the city*] *is here today*. (subject)
b. [DP ***Who***] *is here today?*
c. *They met* [DP *that clever student of morphology from the city*] *today.* (object)
d. [DP ***Who***] *did they meet today?*[34]

Identically to demonstratives, which can be both determiners with NP complements and bare DPs, as noted in Chapter 7 and below, the argument interrogatives *which* and *what* (but not *who*) can also serve as Ds or DPs in English:

(101) a. [DP ***Which*** [NP *excellent thesis on morphology*]] *did she write?* (D)
b. [DP ***Which***] *did she write?* (DP)
c. [DP ***What*** [NP *fascinating topic in linguistics*]] *interests them?* (D)
d. [DP ***What***] *interests them?* (DP)

The adverbial (or adjunct) Wh- pronouns (*where*, *when*, *why*, and *how*) substitute for phrases with the grammatical function of adverbial and the semantic roles of location, time, purpose, or manner respectively:

(102) a. *That clever student will be* [*at the department*] [*on Monday*] [*for a meeting*].
b. [***Where***] *will that clever student be on Monday for a meeting?*
c. [***When***] *will that clever student be at the department for a meeting*?
d. [***Why***] *will that clever student be at the department on Monday?*

In (102), you may have observed that adverbial Wh- pronouns can substitute for PPs like [*at the department*] or [*on Monday*] as well as DPs like [*home*] or [*tomorrow*]—indeed, they can also substitute for clauses like [*because she is sick*]! We won't consider the implications here, but notice that whatever their category, all pronouns substitute for entire syntactic phrases (XPs) and not simply "words".

[34] The archaic, moribund oblique case form *whom* will be ignored here, but is briefly touched upon in Chapter 9.

8.3 Demonstrative pronouns

As discussed in the previous chapter and mentioned above, the demonstrative determiners *this, that, these*, and *those* are Ds that have NP complements (103a). However, the homonymous demonstrative pronouns *this, that, these,* and *those* can substitute for the whole DP (103b).

(103) a. [$_{DP}$ ***That*** [$_{NP}$ *fascinating research*]] *is being conducted by our clever student.* (**D**)
b. [$_{DP}$ ***That***] *is being conducted by our clever student.* (**DP**)

Once again, our terminology reflects that what we call "pronouns" can always be bare XPs.

8.4 Possessive pronouns

We now return to third type of English possessives, recalling the discussion in Chapter 7 and above. Unlike with the demonstratives, the English possessive determiners (*my, your, her, his, its, our, their*) and pronouns (*mine, yours, hers, his, its, ours, theirs*) are not homonymous but instead have distinct morphological forms (notwithstanding the accidental syncretisms of *his* and *its*). As noted, possessive pronouns substitute for entire DPs (104a-b) and are in complementary distribution with possessive determiners (104c-d), as well as personal pronouns (104e):

(104) a. [$_{DP}$ ***My*** [$_{NP}$ *clever student of morphology*]] *enjoys conducting research*.
b. [$_{DP}$ ***Mine***] *enjoys conducting research.*
c. *[$_{DP}$ ***Mine*** [$_{NP}$ *clever student of morphology*]] *enjoys conducting research*.
d. *[$_{DP}$ ***My***] *enjoys conducting research.*
e. *[$_{DP}$ ***Mine she***] *enjoys conducting research.*

Thus, the possessives in English, even more clearly than the demonstratives or interrogatives, illustrate that pronouns can be bare DPs, as opposed to only Ds with NP complements.

8.4.1 Possessive determiner and pronoun paradigm

Below is a complete paradigm for the possessive forms of English, both determiners and pronouns, as subcategorized by case, gender, person, and number.

	Possessive determiners (D)			**Possessive pronouns (DPs)**		
1sg	*my*			*mine*		
2sg	*your*			*yours*		
3sg	**Feminine**	**Masculine**	**Neuter**	**Feminine**	**Masculine**	**Neuter**
	her	*his*	*its*	*hers*	*his*	*its*
1pl	*our*			*ours*		
2pl	*your*			*yours*		
3pl	*their*			*theirs*		

8.5 Reflexive and Reciprocal Pronouns

English reflexive pronouns are multi-morphemic, composed of an inflected personal pronoun in its oblique form plus the (arguably grammatical) noun *-self* :

(105) *The clever student of morphology respects* ***herself.***

There are only two reciprocal pronouns, namely *each other* and *one another*:

(106**)** *Clever students respect* ***each other****.*

Reflexives and reciprocals are different from other kinds of pronouns because they have rather strict syntactic conditions for reference, always requiring a higher antecedent (or referent) in the same clause. Further elaboration would be too advanced for our purposes here, but interested students can consult the syntax literature for additional details and theoretical discussion.

8.6 Relative pronouns

Relative pronouns can be found in relative clauses, which are post-modifiers of NPs (as seen in Chapter 7 above). In English, relative pronouns do not constitute a dedicated morpheme category, but rather certain demonstrative (107b) or Wh- pronouns (107a) are recruited. Indeed, there is much variability in English relative pronouns: for example, under some circumstances they can be unpronounced (107c) and in some non-standard varieties *what* may be used as a relative pronoun (107d).

(107) a. *The clever student of morphology who we told you about is here today.*
b. *The clever student of morphology that we told you about is here today.*
c. *The clever student of morphology we told you about is here today*.
d. *%The clever student of morphology what we told you about is here today.*

Relative clauses will be discussed further in the next volume of this coursebook on syntax.

FURTHER READING:

Parrott 2020

Parrott 2021

Veselovská 2019, 113–122

Exercise 8.1 Pronoun types I

Find any and all pronouns in the following sentences (not just Ds, but pronouns replacing entire DPs), and determine their type.

(a) *When is that meeting?*

(b) *The woman who lives next door is a doctor.*

(c) *Are you coming to the party tonight?*

(d) *He hurt himself while fixing his car.*

(e) *They invited us to their party on Saturday.*

(f) *Who understands that?*

(g) *This book that I am reading is more interesting than mine.*

Exercise 8.2 Pronoun types I

Use *that* and *who* in sentences, each exemplifying a different pronoun type:

(a) *that* as a relative pronoun

……

(b) *that* as a demonstrative determiner

……

(c) *that* as a demonstrative pronoun

……

(d) *who* as a relative pronoun

……

(e) *who* as an interrogative pronoun

……

Exercise 8.3 Inflectional subcategories of pronouns

Analyze the inflectional subcategories of the following pronouns in terms of number, person, gender, and case.

(a) *them*

(b) *we*

(c) *him*

(d) *she*

(e) *us*

Exercise 8.4 Interrogative pronouns

Identify the interrogative pronouns in the following sentences and state which grammatical function they substitute for.

(a) *What just happened?*

(b) *What were you talking about?*

(c) *When did they arrive?*

(d) *Who did they give the present to?*

(e) *Where was he sitting?*

(f) *Who was hurt in the fight?*

(g) *Why did she do that?*

(h) *Who did you invite to the party?*

(i) *Who is responsible for the project?*

(j) *Where did she go?*

(k) *Who can we rely on?*

Exercise 8.5 Gender-neutral *they/them/their/theirs*

The subsection on linguistic gender mentioned that English 3pl *they/them/their/theirs* can be used as a gender-neutral pronoun (or determiner) with singular reference. Please elaborate on this fact, giving as many examples as you can find from natural usage (for instance, in films, television, or videos online).

Exercise 8.6 Possessive determiners vs possessive pronouns

Compare the highlighted morphemes in the following sentences. Decide whether these are examples of determiners or pronouns. Are they structurally Ds or DPs? Use linguistic argumentation.

(a) *They left **their** backpacks at the park.*

(b) *The red car is **theirs**.*

(c) *John forgot to bring **his** umbrella.*

(d) *That umbrella is **his**.*

Study sheet for Chapter 8

Personal pronouns

- *I, me, you, she, her, he, him, it, we, us, they, them*
- inflected for number (= singular, plural), person (= 1st, 2nd, 3rd), gender (= masculine, feminine, neuter), and case (= subject form, oblique form)
- bare DPs (substitute for entire DPs)

Interrogative pronouns

- *who, what, which* = argument DPs or clauses (subjects, objects)
- *where, when, why, how* = adverbial PPs, DPs, or clauses (location, time, purpose, manner)

Demonstrative and possessive pronouns (as opposed to determiners)

- bare DPs (substitute for entire DPs)
- e.g., *This book is mine.* vs. *This is my book.*

Reflexive and reciprocal pronouns

- reflexives = OF personal pronoun plus *-self*, e.g., *myself*, etc.
- reciprocals = *each other, one another*

Relative pronouns

- relative clauses (post-modifying attributes of NP)
- e.g., *who, that, which*, ∅, etc.

9. Case

The linguistic term case refers to a grammatical phenomenon that sits at the intersection of syntax and morphology, where affixes that express syntactic relationships, roughly grammatical functions (i.e., subject or object), occur on nominal categories in DPs and NPs.

In the Indo-European language family, to which English (on the Germanic branch), Czech, and Slovak (both Slavic) all belong, two typological patterns of morphological case can be observed: rich-case and pronominal-case languages.[35]

9.1 Rich case in Czech

In rich-case languages, like Czech, Slovak, German, or Icelandic, among others, case morphemes appear on all or multiple categories within the determiner and noun phrase, including determiners, adjectives, nouns, and pronouns.

As an example of this, the following subsections briefly illustrate the case inventory of Czech. Although traditional grammar instruction simply numbers the cases (i.e., "first case", "second case", etc.), we use the standard Latin-based terminology for naming cases in order to allow cross-linguistic comparison. Famously case-rich Czech has seven morphologically distinct cases: nominative, accusative, dative, genitive, instrumental, locative, and vocative; we abstract away from morphological syncretism by using examples with feminine gender and singular number.

9.1.1 Nominative (Nom) case

Our first case is called nominative, and it is the most basic one that is listed in dictionaries as the so-called "citation form". Nominative case is attested on subjects of finite clauses (108), among a few other syntactic contexts:

(108) [*Ta* *perliv**á*** *vod**a***] *je dobrá.* 'That sparkling water is good.'

D-Nom Adj-Nom N-Nom

Nominative seems to be the default case in rich-case languages, although not in all pronominal case languages, and certainly not in English.

9.1.2 Accusative (Acc) case

The next case is accusative, which occurs on the direct objects of most transitive lexical verbs (109), as well as certain prepositions, and some other environments. Notice that case suffixes, distinct from nominative and the rest, are attested on all the categories in DP, including the determiner head, the adjective pre-modifier on NP, and the noun head of NP:

(109) *Dám si* [*t**u*** *perliv**ou*** *vod**u***]. 'I'll take that sparkling water.'

D-Acc Adj-Acc N-Acc

The accusative and nominative cases are a reflex of a phrase's grammatical function (or, more accurately, syntactic position) and are not associated with any particular semantic roles. Therefore, nominative and accusative are sometimes called structural cases to distinguish

[35] Languages like Korean, Japanese, Finnish, and Turkish express case only as suffixes on nouns; such agglutinative case languages are not considered here, as their general morphological type is significantly different.

them from the non-structural cases, the so-called lexical or inherent cases, which are connected with specific prepositions or lexical verbs and their semantics.

9.1.3 Dative (Dat) case

The first of these lexical cases is dative, which is the basic case for the object of many prepositions, as well as for indirect objects of ditransitive verbs with the semantic role of recipient.

(110) *Děkuji* [***té*** ***hodné*** ***ženě***]. 'I thank that good woman.'
D-Dat Adj-Dat N-Dat

In (110), notice that dative case, not accusative, is assigned exceptionally to the direct object of specific transitive lexical verbs.

9.1.4 Genitive (Gen) case

The next lexical case is genitive, which is assigned to the object of specific prepositions, such as *bez* 'without' (111a) or *okolo* 'around', among others. Notice that such instances of prepositionally assigned genitive case are not associated with any particular meaning:

(111) a. *bez* [***té*** *perliv**é*** *vod**y***] 'without that sparkling water'
D-Gen Adj-Gen N-Gen

b. *dům* [***mé*** *drah**é*** *matk**y***] 'the house of my dear mother'
D-Gen Adj-Gen N-Gen

Additionally, however, genitive case is assigned to a DP with the grammatical function of an attribute, that is, when the DP is syntactically subordinate to an NP (111b). Here, in contrast to assignment by prepositions, genitive case is associated with the semantics of 'possession'.

9.1.5 Instrumental (Inst) case

Like the other lexical cases, instrumental is assigned by certain specific prepositions, such as *s(e)* 'with' (112a), *nad* 'over', and others, again without any particular semantics.

(112) a. *s* [***tou*** *perliv**ou*** *vod**ou***] 'with that sparkling water'
D-Inst Adj-Inst N-Inst

b. *jel* [***tou*** *rychl**ou*** *motork**ou***] '(He) went with that fast motorcycle.'
D-Inst Adj-Inst N-Inst

Instrumental case is also attested on DPs with the grammatical function of adverbial, where it is associated with its namesake semantics of 'instrument' (112b).

9.1.6 Locative (Loc) Case

Similarly, locative case often has the semantics of 'location', as when it is assigned by prepositions like *v(e)* 'in', among others.

(113) *o* [***té*** *perliv**é*** *vod**ě***] 'about that sparkling water'
D-Loc Adj-Loc N-Loc

However, some prepositions, like *o* 'about' (113), assign locative case to their DP objects despite having no obvious meaning of location.

9.1.7 Vocative (Voc) Case

Finally, unlike Slovak and many other otherwise case-rich languages, Czech is well known for having a vocative case. This case is different from the others, since it has a discourse function like 'address' rather than grammatical function like subject or object.

(114) [*Monik**o***], *pojď!* 'Hey Monika, come here!'
N-Voc

Vocative case is almost always attested on names or titles (aka "proper nouns"), but in principle it can occur on any noun, for example *květino!* 'hey flower!' in the context of a fairy tale.

This concludes our sketch of the rich-case system in Czech.[36] We now turn to the very different pronominal-case system of English.

9.2 Pronominal case in English

In pronominal case (or, pro-case) languages, like English, Danish, Swedish, or Bulgarian, among others, case morphology occurs only on a subset of the personal pronouns.[37] In contrast to a rich-case language like Czech, there are no case suffixes on English determiners, adjectives, or nouns (115a-e), regardless of their grammatical function:

(115) a. [*That sparkling water*] *is good*. DP subjects of finite clauses
b. *I'll take* [*that sparkling water*]. DP objects of lexical verbs
c. *I thank* [*that good woman*].
d. *without* [*that sparkling water*] DP objects of prepositions
e. *with* [*that sparkling water*]

English pronouns have two case forms. We will call these the subject form (SF) and the oblique form (OF). These case forms have traditionally been known as the nominative and accusative respectively (oblique means 'not nominative'), but the syntactic distribution of English pro-case is different than that observed in rich case languages like Czech or Slovak, as discussed directly below. For similar reasons, as explained in Chapters 7.3 and 8.4, we do not consider the possessive forms to be an instance of case morphology in English. Chapter 8.1.2 gives a table with all the personal pronoun forms organized by number, person, gender, and case.

Let's examine the basic distribution of English SFs and OFs according to their syntactic environment, or grammatical function. When a personal pronoun, which is a bare DP, is the subject of a finite clause, it occurs as an SF, not an OF (116a); conversely, when a pronoun is the direct (116b-c) or indirect (116d) object of a verb or preposition (116e-f), it occurs as an OF:

(116) a. *She (*her) is smart*. SF pronoun subjects of finite clauses
b. *The student met her (*she)*. OF pronoun objects of lexical verbs
c. *The professor thanked her (*she)*.

[36] For more about case in Czech, the student can consult descriptive sources like Karlík et al's *Nový encyklopedický slovník češtiny* (https://www.czechency.org/). For a theoretical treatment of Czech case, see, e.g., Caha (2013), among the vast literature on case in morphosyntactic theory.

[37] As previously noted, the fossilized oblique form of the interrogative pronoun, *whom*, will not be considered here, but see Exercise 9.6 below for more about the variation attested with *who* and *whom* in contemporary English.

d. *The professor sent her (*she) a book*.
e. *without her (*she)* OF pronoun objects of prepositions
f. *with her (*she)*

No real surprises so far, but there are significant differences between the languages beyond their number of case forms: unlike rich-case Czech, different lexical verbs (116b-c) or prepositions (116d-e) do not assign different cases in English, nor are direct (116b-c) and indirect (116d) objects distinguished by case. In the next section, we show that English pronominal case displays some even more remarkable differences from Czech.

9.3 Pro-case variation in English

English pro-case shows morphosyntactic patterns of variation that are strikingly different from rich-case languages.[38]

As we have seen, if a personal pronoun is alone in the subject position, it is always an SF (116a, 117a). However, if a pronoun is contained inside of a complex DP, such as coordination with *and*, there is variation in its case form. OFs in coordinated subjects are very well attested in natural usage (117b-c).

Prescriptivists continue to insist upon SFs in subject coordinates (e.g., 117b as *Steve and I* or 117c as *Other people and I*), but for most speakers such usage is sociolinguistically and pragmatically marked and more likely to occur in formal writing or speech contexts.

(117) a. *We (*us) were in our own bubble.*
b. % [*Steve and me*] *were in our own bubble.* OFs in coordinate DP subjects
c. % [*Me and other people*] *were making a mistake.*

Moreover, the prescription for [*and I*] has caused an unintended side effect. We have seen that English personal pronouns as verbal or prepositional objects are always OFs (116b-f, 118a-b). Once again, though, when pronouns are coordinated, the case form varies, with SFs commonly attested in coordinated objects (118c-d).

(118) a. *I sensed her (*she) as the same person.*
b. *It's Night of the Living Dead for me (*I)*.
c. % *I sensed* [*she and I*] *as the same person*. SFs in coordinate DP objects
d. % *It's Night of the Living Dead for* [*you and I*].

By far the most prevalently observed "over-correction" of SFs in object coordinates is [*and I*]. This is dramatically demonstrated by the frequent attestation of coordinate DPs containing mixed case forms with the pattern [OF *and I*]. Note that whether such a mixed-case coordinate is a subject or an object, one of the pronouns will be "mismatched" for its case form in that syntactic environment.

(119) a. % [*Him and I*] *were working at the time.* mixed case in subject coordinates
b. % *This makes* [*him and I*] *both feel really bad.* mixed case in objects coordinates

[38] Interestingly, Danish is another Germanic pro-case language that shows the same case variation patterns as English, see Parrott (2021).

Readers familiar with Czech, Slovak, or any other rich case language will be aware that such patterns of case variation as observed in English (e.g., 117–119) are simply impossible and thus completely unattested: the case forms of pronouns or any other DPs must match the case assigned in that syntactic position, regardless of whether or not they are coordinated.

We present one final but noticeable difference: when English personal pronouns occur in isolation (i.e., after some ellipsis) (120a) or as predicate DPs (i.e., following the copula verb *be*) they are virtually always OFs.

(120) a. *Me (*I) too!* cf. *Já (*mě) také!*
b. *It was just me (*I).* cf. *Byl jsem to jen já (*mě).*

In Czech and other rich-case languages, nominative case is assigned to pronouns or any other DPs in isolation or as predicates (cf. 120; we are again abstracting away from some details that are discussed in the recommended literature).

FURTHER READING

Parrott 2020, 2021

Exercise 9.1 Case from a comparative perspective

How many cases are there in Czech, Slovak, or another language you speak? What are their traditional names? Why do you think that linguists use the Latin terms for cases instead? Give examples that demonstrate all of the cases in your language, describing all case morphemes, grammatical functions, and syntactic structures.

Exercise 9.2 Czech cases

Analyze these Czech DPs in terms case, also stating how their case is assigned.

(a) *Auto mé mladší sestry potřebuje nové brzdy.*

(b) *Jsem v Praze.*

(c) *Život je plný překážek.*

(d) *Příprava na zkoušku mi zabere hodně času.*

(e) *Trávíme dovolenou na horách.*

(f) *Umí řídit auto.*

(g) *Jedu autem do města.*

(h) *Posílám synovi peníze na studium.*

(i) *Dědečku, vyprávěj nám o tom.*

Exercise 9.3 Cases in English

Analyze these English pronouns (which are bare DPs) in terms of their case form, also stating how case is assigned to them.

(a) ***She*** *is coming to the party.*
(b) *Have you seen* ***her*** *lately?*
(c) *We will go without* ***her****.*
(d) *Have you spoken to* ***them*** *recently?*
(e) ***They*** *enjoy playing board games together.*
(f) *The teacher praised* ***them*** *for their hard work.*

Exercise 9.4 Case syncretism

Review the term syncretism, and illustrate the phenomenon using examples from Czech or Slovak case paradigms.

Exercise 9.5 English pronominal forms

Analyze the types of these English pronouns. Decide if they are personal pronouns, possessive determiners, or possessive pronouns, and explain their morphological forms.

(a) *The decision is ultimately **theirs**.*
(b) ***They** will arrive at the airport in the evening.*
(c) ***Their** new house is spacious and beautiful.*
(d) *We support **them** in their decision.*
(e) ***I** enjoy spending time with my friends.*
(f) *This gift is for **me**.*
(g) *The car keys are in **my** bag.*
(h) *The bicycle in the garage is not yours, it's **mine**.*

Exercise 9.6 Oblique case with *who*

There is actually a surviving oblique case form of *who* in English, namely *whom*. However, in contemporary English *whom* is used with decreasing frequency and only in highly formal planned speech and writing. Moreover, there is reason to doubt whether *who* and *whom* really express the distinction between nominative and oblique case. Find some examples of *who* and *whom* in natural spoken or written usage. Can you find any instances of *who* being used as an object or of *whom* being used as a subject? How would you try to explain such facts?

Exercise 9.7 Case variation

Compare English and your own language with regard to their case morphology in coordinate DPs, on predicate DPs, and on isolated DPs. Are the case variation patterns attested in English possible in Czech, Slovak, or another rich-case language you know? Demonstrate your conclusions with (un)grammatical examples.

Exercise 9.8 English case in the wild

Find and analyze several attested examples of English pronouns in coordinate DPs, as predicates (following the copula *be*), and in isolated DPs. You can look for data in any naturally occurring English-language source, such as books, comics, websites, social media, news, videos, films, or television. What are their case forms? Do you notice any other patterns?

Study sheet for Chapter 9

Case

- **Rich-case languages** Czech, Slovak, German, Icelandic, among others
  Case morphology on Ds, Adjs, Ns, pronouns, among others

  Czech cases: nominative, accusative, dative, genitive, locative, instrumental, vocative

- **Pro(nominal) case languages** English, Danish, Swedish, Bulgarian, among others
  Case morphology only on personal pronouns

  English pronominal case forms: subject form (SF) *I, she, he, we, they*
  oblique form (OF) *me, her, him, us, them*
  you and *it* are case syncretic

  Caution! There is sociolinguistic and stylistic variation in the distribution of SF and OF case forms in English that is totally unlike case in Czech. The most famous pattern of variation is "mismatched" case forms of pronouns inside coordination with *and*.

10. Verb Phrases

In Chapters 7 and 8, we dealt with the structure of DPs and NPs. In this chapter, we will explore the structure of verb phrases (VPs). A VP is phrase that is headed by a lexical verb (such as *run, study, give, propose*, etc., and also including the copula verb *be*). VPs have different structures depending on the lexical verb that heads the phrase. Some verbs can stand on their own as a bare VP, such as (121a); that is, they do not need any other phrases in order to be grammatical. On the other hand, some verbs require complementation: additional phrases must be subordinated to the verb, aka verbal objects (121b-c). Moreover, verbs in the VP can be optionally pre- and post-modified by verbal adjuncts, aka adverbials (121d).

(121) a. [$_{VP}$ ***fainted***] b. [$_{VP}$ ***considers*** [$_{DP}$ *the proposal*]]
c. *[$_{VP}$ ***considers***] d. [$_{VP}$ ([$_{AdvP}$ *correctly*]) ***done*** [$_{DP}$ *the homework*] ([$_{AdvP}$ correctly])]

The VP head can be a finite (i.e., tensed) verb (121a,b) or a non-finite verb with a past- or present-participle suffix (121d). For more on verbal morphology, see Chapters 5 and 11.

10.1 Verbal valency

As mentioned above, the internal complexity of a VP depends on its head verb. In other words, we can say a verb selects its objects; valency in this context refers to the property of verbal selection. In English, as in other languages, we can identify three kinds of verbs according to their valency, which we follow tradition in labeling intransitive, transitive, and ditransitive. Moreover, we also consider so-called "linking" verbs, including the copula *be*.

10.1.1 Intransitive verbs

Verbs that can form a bare VP, such as *faint* (121a) or *sleep* (122), are called intransitive:

(122) a. [$_{VP}$ *slept*] b. *[$_{VP}$ *slept* [$_{DP}$ ***it***]]

These verbs can occur without any other phrases inside the VP; that is, they require no complementation (or objects). Indeed, objects are ungrammatical with intransitive verbs (122b). The term *intransitive* means 'not transitive', of course, so what are transitive verbs?

10.1.2 Transitive verbs

This kind of verb cannot form a bare phrase, but rather only a complex VP, because transitive verbs require an object (or, a complement):

(123) a. [$_{VP}$ *completed* [$_{DP}$ ***the task***]] b. *[$_{VP}$ *completed*]

The transitive verb *complete* requires an object, being ungrammatical without complementation (123b). Certain verbs, such as *eat* (but not *devour*), seem to be optionally transitive (124); although there are different ways to analyze this phenomenon, we will simply treat these verbs as transitive.

(124) a. [$_{VP}$ *ate* [$_{DP}$ ***the tofu***]] b. [$_{VP}$ *devoured* [$_{DP}$ ***the tofu***]]
c. [$_{VP}$ *ate*] d. *[$_{VP}$ *devoured*]

Although (123–124) exemplify DP objects, verbal objects can be various phrasal categories– DPs, of course, but also PPs, such as with *rely* (125a), or finite clauses, such as with *admit* (125b).

(125) a. [VP *relies* [PP ***on her***]] PP complement
b. [VP *admitted* [Clause (+Fin) ***that he did it***]] finite clause complement

Transitive verbs select one object, then, and intransitive (literally 'not transitive') verbs select zero objects. This brings us to the third kind of verb.

10.1.3 Ditransitive verbs

These verbs require two objects, so they are called ditransitive (the Greek prefix *di-*, like the Latin *bi-*, means 'two' and is pronounced [daɪ] not *[di]).

(126) a. [VP *gave* [DP ***John***][DP ***the book***]] b. [VP *put* [DP ***the book***][PP ***on the table***]]
c. *[VP *gave* [DP ***the book***]] d. *[VP *gave* [DP ***John***]]

e. *[VP *put* [PP ***on the table***]] f. *[VP *put* [DP ***the book***]]

The ditransitive verbs shown here, *give* (126a) and *put* (126b), have DP, DP or DP, PP as their two objects, respectively.

10.1.4 Linking verbs

Our final type of verb selects a particular phrasal or clausal complement—however, it is not a transitive object in the sense that we have seen in 10.1.1–3. Rather, together with the verb, this complement is predicated of the subject. For that reason, this type can be called linking verbs.

10.1.4.1 The grammatical linking verb "copula be*"*

The most basic example of a linking verb in English is the copula *be*. The traditional Latin term *copula* naturally means 'link' or 'tie', and although other sources sometimes use it as a synonym for all the linking verbs, we will use this term exclusively in reference to copula *be*.[39]

Copula *be* can take a DP, AdjP, or PP complement (127a-c). As expected, copula *be* is not generally grammatical without any complement (127d).[40]

(127) a. [VP *is* [DP ***a professor of law***]] predicate DP
b. [VP *is* [AdjP ***rather eccentric***]] predicate AdjP
c. [VP *is* [PP ***in their office***]] predicate PP
d. *[VP *is*] *no complement

We will refer to these as predicate DPs (127a), predicate AdjPs (127b), and predicate PPs (127c), respectively. In fact, copula *be* can also select clauses, but we will discuss these syntactic issues in the next volume of our coursebook.

[39] We will discuss the syntactic behaviour of copula *be* in Chapter 11.
[40] Notwithstanding popularly established poetic usages meaning 'exist', such as "I think, therefore I am."

10.1.4.2 Lexical linking verbs

In addition to the one grammatical linking verb, copula *be*, there are many lexical linking verbs in English, including for instance *become, remain, appear*, and *seem*. Lexical linking verbs select their complements, quite expectedly. For example, *seem* can have a predicate AdjP as a complement, and also accepts finite (128b) and non-finite (128c) clause complements.

(128)	a. [$_{VP}$ *seems* [$_{AdjP}$ ***rather eccentric***]]	predicate AdjP
	b. [$_{VP}$ *seems* [$_{Clause\ (+Fin)}$ ***that he enjoys tofu***]]	finite clause complement
	c. [$_{VP}$ *seems* [$_{Clause\ (–Fin)}$ ***to enjoy tofu***]]	non-finite clause complement
	d. *[$_{VP}$ *seems*]	*no complement

Now we take a closer look at a particular aspect of verbal selection to which we have been alluding, namely the subcategorization of phrasal categories.

10.2 Syntactic subcategorization

In the previous section, we introduced verbal valency in terms of how many obligatory phrases are selected by a verb: none (intransitive), one (transitive), or two (ditransitive). We also saw that linking verbs select a predicate phrase or clause as an obligatory complement. Evidently, though, the head lexical verb in VP not only selects a certain number of complements (zero, one, or two), but is futhermore sensitive to the category of phrase (XP) that it selects.

This is reflected in the technical term "subcategorization", where *sub-* means 'under', as in hierarchically subordinate, while *categorize* evidently refers to the selection of phrasal category. For an example of subcategorization, the verb *want* can select a DP (129a) or non-finite clause (129b) as its object, but other phrasal categories are ungrammatical (129c-e):

(129)	a. [$_{VP}$ ***wants*** [$_{DP}$ *a cup of coffee*]]	DP object
	b. [$_{VP}$ ***wants*** [$_{Clause\ (–Fin)}$ *us to visit the zoo*]]	non-finite clause object
	c. *[$_{VP}$ ***wants*** [$_{AdjP}$ *extremely happy*]]	*AdjP object
	d. *[$_{VP}$ ***wants*** [$_{PP}$ *to the United States*]]	*PP object
	e. *[$_{VP}$ ***wants*** [$_{Clause\ (+Fin)}$ *that we attend the meeting*]]	*finite clause object

As we have already noted, lexical verbs in general can select complements from various phrasal categories, comprising DP, AdjP, PP, and (non)finite clauses. However, each particular lexical verb selects only one or two XP categories. We use the following notation to indicate verbal subcategorization requirements, where the underscore ("__") in front of the bracketed category ("[XP]") represents the head lexical verb:

(130)	a. [$_{VP}$ *chased* [$_{DP}$ ***its own tail***]]	__ [DP]
	b. [$_{VP}$ *sent* [$_{DP}$ ***the student***] [$_{DP}$ ***an email***]]	__ [DP, DP]
	b. [$_{VP}$ *appeared* [$_{AdjP}$ ***extremely tired***]]	__ [AdjP]
	c. [$_{VP}$ *focuses* [$_{PP}$ ***on his studies***]]	__ [PP]
	d. [$_{VP}$ *needs* [$_{Clause\ (–Fin)}$ ***them to read it***]]	__ [Clause (–Fin)]
	e. [$_{VP}$ *thinks* [$_{Clause\ (+Fin)}$ ***that honesty is the best policy***]]	__ [Clause (+Fin)]

As we've seen, a particular verb can subcategorize for more than one type of phrase. However, there are two categories that are not subcategorized for by any verbs: AdvP and VP.

The former is never selected at all (131), because the category AdvP always has the grammatical function of adverbial, or in other words, because adverbs are always adjuncts (we introduce the difference between adjuncts and complements in the next section).

(131) a. *[$_{VP}$ *completed* [$_{AdvP}$ ***rather slowly***]] * __ [AdvP]
b. *[$_{VP}$ *completed* [$_{PP}$ ***in time***]] * __ [PP] (adjunct/adverbial)
c. *[$_{VP}$ *is* [$_{AdvP}$ ***very quickly***]] * __ [AdvP]

As for the latter, it is ungrammatical for any lexical verb to select a bare infinitive VP (132b; note that *to*-infinitives are clauses, 132a); this includes linking verbs (132c).

(132) a. [$_{VP}$ *wants* [$_{Clause\ (–Fin)}$ ***to*** [$_{VP}$ ***learn a new language***]]]
__ [Clause (–Fin)] (*to*-infinitive)
b. *[$_{VP}$ *wants* [$_{VP}$ ***learn a new language***]] * __ [VP] (bare infinitive)
c. *[$_{VP}$ *is* [$_{VP}$ ***learn a new language***]]] * __ [VP] (bare infinitive)

Lexical verbs do not select VPs headed by past participles either (133a), but some verbs allow the selection of DPs containing NPs with the verbally derived "gerund" *-ing* (133b).

(133) a. *[$_{VP}$ *enjoyed* [$_{VP}$ ***seen that film***]] * __ [DP] (past participle)
b. [$_{VP}$ *enjoys* [$_{DP}$ ∅ [$_{NP}$ ***watching horror films***]]] __ [DP] (gerund NP)
c. [$_{VP}$ *enjoys* [$_{DP}$ ***horror films***]] __ [DP]

Again, no English lexical verbs can select a VP complement. The reason for this restriction on the subcategorization of lexical verbs is the topic of Chapter 11, but it can be summarized straightforwardly enough here: only modals and auxiliaries select VP complements (bare infinitive VPs and past- or present-participial VPs, respectively).

10.3 Complements vs adjuncts

In sections 10.1 and 10.2, we have discussed verbal valency and subcategorization. Both these concepts involve obligatory constituents, that is, phrases or clauses which are selected by a lexical verb and whose omission would result in ungrammaticality. These verbally selected phrases are called complements or objects. However, in addition to obligatory complements, a VP may contain any number of phrases that are not selected by the head verb. These are traditionally called adverbials, but this terminology for a grammatical function sometimes leads to confusion with the category of adverb. Thus, we prefer the term adjunct, which points toward the observation that adverbial adjuncts express "added on" or "extra" semantics that is not part of the lexical semantics of the verb itself, and hence not included in its valency.[41]

[41] Moreover, as previously mentioned, adjuncts occur in other phrasal categories than just VPs, and where the term adverbial would be inaccurate, such as NPs, AdjPs, and clauses.

For an example, take the intransitive verb *faint*, which requires no complementation and can form a bare VP (134a). The VP in (134b) contains a PP, which is not required by the verb's subcategorization and thus optional. This PP is an adjunct, with "adjoined" semantics indicating the time of the 'fainting' event (it could also be called a temporal adverbial). Since adjuncts are not selected, they are never included in verbal subcategorization; here, the notation for intransitive verbs like *faint* is "__ [Ø]" (134a), with no PP added (134b).

(134) a. [$_{VP}$ *fainted*] __ [Ø]
b. [$_{VP}$ [$_{VP}$ *fainted*][$_{PP}$ ***after the marathon***]] __ [Ø]

Of course, complements and adjuncts can co-occur in the same VP. The verb *break* is transitive; its subcategorization is __ [DP]. This means that in (135), only the DP *the vase* is a complement; all of the other phrases are adjuncts. Notice that adjunct is a grammatical function, and so it may be realized by various categories, here including AdvP (*accidentally*), DP (*this morning*), and PP (*in the kitchen*):

(135) [$_{VP}$ [$_{AdvP}$ *accidentally*][$_{VP}$ *broke* [$_{DP}$ *a vase*]][$_{DP}$ *this morning*][$_{PP}$ *in the kitchen*]].

adjunct **complement** **adjunct** **adjunct**

The distinction between complements and adjuncts involves meaning, in that complements are part of the lexical semantics of a verb. Complements are the syntactic "actors" that have been cast in the verb's semantic roles (see Chapter 6 and the next coursebook on syntax), while adjuncts are syntactic "extras" who provide optional semantic details beyond what is specified by the meaning of the verb. However, as alluded to above, adjuncts also differ from complements in their syntax.

10.4 Distinct syntactic properties of complements and adjuncts

The distinctive syntactic behavior of complements versus adjuncts is observable in several ways that will be only briefly sketched in the section below.

10.4.1 Complements are obligatory but adjuncts are always optional

First, as discussed above, complements are selected by verbal subcategorization, so they are obligatory in a transitive or ditransitive VP (136).[42] On the other hand, adjuncts are both semantic and syntactic "extras" (136b), and therefore they are always optional—in other words, unlike with complements (136c), the VP remains grammatical if adjuncts are omitted (136a).

(136) a. [$_{VP}$ *devoured* [$_{DP}$ ***an entire pizza***]] (one object, no adjunct)
b. [$_{VP}$ [$_{VP}$ *devoured* [$_{DP}$ ***an entire pizza***]][$_{PP}$ ***in one sitting***]] (one object, one adjunct)
c. *[$_{VP}$ [$_{VP}$ *devoured*][$_{PP}$ ***in one sitting***]] (no object, one adjunct)

[42] Recall from 10.1.2 that a small set of transitive verbs, including *eat* or *drink*, appear to variably subcategorize for DP objects. Whether pronounced or not, however, these DPs are still selected verbal complements and must not be confused with adjuncts on the basis of their apparent optionality.

The optionality of adjuncts versus the selection of complements is also demonstrated by the verbal subcategorization of PP objects exemplified in 10.1.2 above. When a verb selects a PP complement, the specific preposition is exclusive, and has a special meaning in the context of that VP. For example, consider the verb *long*, which subcategorizes for a PP object headed by *for*, and has the meaning of 'strongly desire' (137a); if the PP is headed by a different preposition, the VP is ungrammatical (137b). Of course, if a verb does not subcategorize for a PP complement, for example with the intransitive *snore*, then optional PP complements can be headed by whichever preposition (137c).

(137) a. [VP *longs* [PP ***for a peaceful life***]] __ [PP *for* …]
b. *[VP *longs* [PP ***in/on a peaceful life***]]
c. [VP [VP *snored*][PP ***for hours***][PP ***in the morning***][PP ***on Sunday***]
__ [Ø] (three adjuncts)

Certain lexical verbs can select PP complements headed by more than one preposition, but there is a corresponding difference in meaning (for example, *look up* 'find information' versus *look after* 'take care of', among many other so-called "phrasal verbs" in English).

10.4.2 Complements are unique, adjuncts are multiple

Secondly, verbal valency and subcategorization select for exactly and uniquely zero, one, or two objects—there can be no fewer, as we have seen, but also no more complements than specified by the verb (138a). Because they are unselected, however, there can be multiple adjuncts in a VP (138b)—in principle, the number of adjuncts in a VP is unlimited.

(138) a. *[VP *devoured* [DP ***an entire pizza***][DP ***a whole fish***]]
b. [VP [VP *snored*][AdvP ***loudly***][PP ***for hours***][PP ***in the morning***][PP ***on Sunday***]]

Coordination (that is, conjunction with *and*, as well as disjunction with *or*) is not a counter example to the uniqueness of selected objects. Coordination does not add complements to the subcategorization but instead makes an XP more internally complex (139a).

(139) a. [VP *devoured* [CoDP [DP1 ***an entire pizza***] *and* [DP2 ***a whole fish***]] (coordinate DP)
b. *[VP *snored* ***loudly*** *and* ***for hours*** *and* ***in the morning*** *and* ***on Sunday***]

We won't dive into the surprisingly deep syntax of coordination here, but notice that adjuncts cannot be coordinated (139b), another syntactic difference between them and complements.

10.4.3 Complements are adjacent to the verb, adjuncts are peripheral

Finally, for now, and specifically in English, complements typically follow the lexical verb directly, with adjuncts on the outside edges of the VP, either before the verb (140a) or after its object (140b). An adjunct placed between the verb and its complement is usually ungrammatical in English (140c-d).

(140) a. [VP [AdvP ***swiftly***][VP *devoured* [DP *an entire pizza*]]]
b. [VP [VP *devoured* [DP *an entire pizza*]][PP ***in one sitting***]]
c. *[VP *devoured* ***swiftly*** *an entire pizza*]

b. *[$_{VP}$ *devoured* ***in one sitting*** *an entire pizza*]

The hedges (“typically”, “usually”) contained in the preceding paragraph are necessary because there is a well-known exception that proves this particular rule about the adjacency of verbs and their objects in English: when the DP complement is significantly more complex or “heavy” than the adjunct, it may be variably “shifted” across the adjunct to the right periphery of the VP (141).

(141) %[$_{VP}$ *devoured* ***swiftly*** *an entire extra-large pizza with pepperoni, onions, and anchovies*]

We will revisit this phenomenon of “heavy constituent shift” in the next coursebook on syntax.

FURTHER READING

Brinton and Brinton 2010, 205–213
Koeneman and Zeijlstra 2017, 55–61

Exercise 10.1 Verb transitivity (valency)

Using (un)grammatical sentences to support your arguments, analyze the valency of the following verbs. Are they intransitive, transitive, ditransitive, or linking verbs?

(a) *appear* ……

……

(b) *arrive* ……

……

(c) *dig* ……

……

(d) *send* ……

……

(e) *swim* ……

……

(f) *rely* ……

……

Exercise 10.2 Syntactic subcategorization

Using short and simple grammatical sentences, please comment on the subcategorization of these verbs, listing additional options where applicable, and using the notation given above (e.g., *believe* __ [DP]).

(a) *marry* ……

……

……

(b) *say* ……

……

……

(c) *try* ……

……

……

(d) *offer* ……

……

……

(e) *laugh* ……

……

……

(f) *depend* ……

……

……

Exercise 10.3 Complements vs. adjuncts I

Verbal complements are obligatory; however, with certain verbs, objects appear to be optional. Providing syntactic and semantic arguments, decide if the bolded phrases are complements or adjuncts.

(a) *Their guests ate **(a four-course gourmet meal)** at the restaurant last night.*

(b) *The kids played **(board games)** inside all day.*

(c) *He drinks **(orange juice)** all the time.*

Exercise 10.4 Complements vs. adjuncts II

Comment on the valency of the head verbs in bold. Then, decide if the underlined phrases are complements or adjuncts.

(a) *She quickly **baked** a cake for the party.*

(b) *She enthusiastically **participates** in the contest every year.*

(c) *The wind **blows** strongly through this canyon.*

(d) *He **objects** to the proposal.*

(e) *She promptly **sent** her best friend a thoughtful birthday gift by overnight delivery.*

(f) *The manager **refused** to lend him her car.*

(g) *They **agreed** on the bus on the train.*

(h) *She completely **relied** on her friends for support.*

(i) *Kim **smiled** brightly during her breakfast on the sunny balcony.*

Exercise 10.5 Complexity of VPs

Please give your own examples of VPs according to the following descriptions:

(a) a bare VP

…….

(b) a VP containing only complements

…….

(c) a VP containing only adjuncts

…….

(d) a VP with a complement and an adjunct

…….

Exercise 10.6 Analysis of VP

Find all the VPs in these sentences. Then analyze their internal structure; that is, identify any complements and adjuncts.

(a) *His research contributed valuable insights to the academic community.*

(b) *Every caterpillar eventually becomes a butterfly.*

(c) *I feel happy whenever I spend time with my friends.*

(d) *The organization gave the community a grant for renewable energy projects.*

(e) *The children laughed at the funny clown.*

(f) *She wants to spend more time with her children.*

Study sheet for Chapter 10

<u>Verbal valency</u> = number of unique complements selected

intransitive verbs	no object, can form bare phrase		[$_{VP}$ *fainted*]	
transitive verbs	need one object		[$_{VP}$ *completed* [$_{DP}$ *the task*]]	DP
			[$_{VP}$ *relied* [$_{PP}$ *on him*]]	PP
			[$_{VP}$ *said* [$_{Clause\ (Fin+)}$ *that he did it*]]	Clause (Fin+)
ditransitive verbs	need two objects		[$_{VP}$ *gave* [$_{DP}$ *John*][$_{DP}$ *the book*]]	DP, DP
			[$_{VP}$ *put* [$_{DP}$ *the vase*][$_{PP}$ *on the table*]]	DP, PP
linking verbs	copula *be*	predicate AdjP	[$_{VP}$ *is* [$_{AdjP}$ *extremely intelligent*]]	
		predicate DP	[$_{VP}$ *was* [$_{DP}$ *a diligent student*]]	
		predicate PP	[$_{VP}$ *am* [$_{PP}$ *in my office*]]	
	lexical, e.g., *seem*	predicate AdjP	[$_{VP}$ *seems* [$_{AdjP}$ *extremely intelligent*]]	
		pred. clause (+Fin)	[$_{VP}$ *seems* [$_{Clause\ (+Fin)}$ ***that he enjoys tofu***]]	
		pred. clause (–Fin)	[$_{VP}$ *seems* [$_{Clause\ (–Fin)}$ ***to enjoy tofu***]]	

<u>Syntactic subcategorization</u> =

verbal selection of complements by phrasal category	__ [XP]
[$_{VP}$ *chased* [$_{DP}$ ***its own tail***]]	__ [DP]
[$_{VP}$ *sent* [$_{DP}$ ***the student***] [$_{DP}$ ***an email***]]	__ [DP, DP]
[$_{VP}$ *appeared* [$_{AdjP}$ ***extremely tired***]]	__ [AdjP]
[$_{VP}$ *focuses* [$_{PP}$ ***on his studies***]]	__ [PP]
[$_{VP}$ *needs* [$_{Clause\ (–Fin)}$ ***them to read it***]]	__ [Clause (–Fin)]
[$_{VP}$ *thinks* [$_{Clause\ (+Fin)}$ ***that honesty is the best policy***]]	__ [Clause (+Fin)]

<u>Complements (objects) vs. adjuncts (adverbials)</u>

= different syntactically and semantically

complements = selected by verbs [$_{VP}$ *devoured* [$_{DP}$ ***an entire pizza***]]

- obligatory *[$_{VP}$ *devoured*]
- unique *[$_{VP}$ *devoured* [$_{DP}$ ***an entire pizza***][$_{DP}$ ***a whole fish***]]
- adjacent to the verb *[$_{VP}$ *devoured* [$_{PP}$ *in one sitting*][$_{DP}$ ***an entire pizza***]]

adjuncts = not selected by verbs [$_{VP}$ [$_{VP}$ *slept*][$_{PP}$ ***at a hotel***]]

- optional [$_{VP}$ *slept*]
- multiple [$_{VP}$ [$_{VP}$ *slept*][$_{AdvP}$ ***soundly***][$_{PP}$ ***at a hotel***][$_{DP}$ ***yesterday***]]
- VP peripheral [$_{VP}$ [$_{AdvP}$ ***swiftly***][$_{VP}$ *devoured* [$_{DP}$ *an entire pizza*]][$_{PP}$ ***in one sitting***]]

11. Predicate structure: modals, auxiliaries, and lexical verbs

The English verbal predicate is complex and analytic; as we saw in Chapter 5, this means that there can be a sequence of both free morphemes and suffixes, consisting not only of a suffixed lexical verb, as we saw in Chapter 10, but also the verb-related syntactic categories traditionally called modals and auxiliaries.[43] Let's examine the following examples:

(142) a. [$_{VP}$ ***is*** [$_{AdjP}$ *unhappy about the situation*]]
b. [$_{AuxP}$ ***has*** [$_{VP}$ ***eaten*** *my whole breakfast*]]
c. [$_{ModP}$ ***must*** [$_{AuxP}$ ***have*** [$_{AuxP}$ ***been*** [$_{AuxP}$ ***being*** [$_{VP}$ ***planned*** *carefully*]]]]]

In the verbal sequence, modals, auxiliaries, and verbs are not syntactically at the same hierarchical level. As previously discussed, verbs do not select VPs as complements. However, modals and auxiliaries select VPs, as well as auxiliary phrases (AuxPs). The highest modal or auxiliary (including copula *be*, but no lexical verb) can be called the operator (Op). Other sources may also refer to the operator position as T for tense, heading a tense phrase (TP). This is because tense is always in the operator position when it is occupied by a modal or auxiliary.

(143) a. [$_{VP}$ ***is*** (= **Op**) [$_{AdjP}$ *unhappy about the situation*]]
b. [$_{AuxP}$ ***has*** (= **Op**) [$_{VP}$ ***eaten*** *my whole breakfast*]]
c. [$_{ModP}$ ***must*** (= **Op**) [$_{AuxP}$ ***have*** [$_{AuxP}$ ***been*** [$_{AuxP}$ ***being*** [$_{VP}$ ***planned*** *carefully*]]]]]

In (143a), the copula *be* is in the operator position and is tensed, therefore finite. In (143b), the auxiliary *have* is in the tensed operator position, while its VP complement is non-finite because it is headed by a past-participle form of the lexical verb *eat*. In (143c), the modal is in the tensed operator position, the next AuxP down is infinitive, and remaining two AuxPs are participle forms, as is the VP at the bottom of the sequence.

11.1 The operator and its N.I.C.E. properties

The operator serves a significant role in various syntactic operations. The syntactic properties associated with this position can be encapsulated using the acronym N.I.C.E. (Huddleston and Pullum 2002, 92–93).

(144) Negation
a. *He **is** **not** unhappy about the situation.*
b. *The campaign **mustn't** have been being planned carefully.*
Inversion
c. ***Is** he unhappy about the situation?*
d. ***Must** the campaign have been being planned carefully?*
Coda
e. *He **is** unhappy about the situation, **isn't** he?*
f. *The campaign **must** have been being planned, **mustn't** it?*
Ellipsis
g. ***Is** he unhappy about the situation? Yes, he **is**.*
h. ***Must** the campaign have been being planned carefully? Yes, it **must**.*

[43] In fact, traditionally they are called "modal verbs" and "auxiliary verbs", but we avoid this terminology, reserving the term "verb" to refer only to V, the category heading VP.

The first letter N stands for negation: the clausal negation morpheme *not* immediately follows the operator, and indeed the negative clitic *-n't* can only attach to the operator (144a-b). The letter I stands for inversion: for example, in English questions, the operator is raised over the subject and linearly precedes it (144c-d). The letter C stands for coda, which means "the end part"; in this context, it refers to question tags (144e-f). Lastly, the letter E stands for ellipsis, or the non-pronunciation of syntactic structure which is still interpreted semantically. A simple example is short answers to polar (i.e., "yes/no") questions, where the subordinate verbal sequence, namely AuxPs and VP, including verbal objects and adjuncts, are elided below the operator (144g-h).

11.2 Modals, auxiliaries, verbs and the operator position

In English, modals (such as *must*, *can*, *should*, and just a few others), auxiliaries (exhaustively, *be, have,* and *do*), and verbs (e.g., *jump*, *study*, *send*, and *seem*, among many tens of thousands more lexical verbs) constitute distinct categories that differ from one another morphologically as well as syntactically (notwithstanding the grammatical linking verb copula *be*). For one, they differ in their position within the predicate sequence. Modals are always operators, at the top of the hierarchy (145a); they are never selected by AuxPs (145b-d) or VPs (145e).

(145) a. *The campaign **must** have been being planned carefully*.
b. **The campaign have **must** been being planned carefully*.
c. **The campaign have been **must** being planned carefully*.
d. **The campaign have been being **must** planned carefully*.
e. **The campaign have been being planned **must** carefully*.

On the other hand, we know that lexical verbs are never in the operator position, because they do not demonstrate any of the N.I.C.E. properties (146); the copula *be* is the only exception because it is a grammatical verb.

(146) a. **They **plannedn't** the campaign carefully*. *negation
b. ***Planned** they the campaign carefully*? *inversion
b. *They didn't plan the campaign carefully, ***planned they***? *coda
d. *Did they plan the campaign carefully? *Yes, **they planned***. *ellipsis

The auxiliaries *be*, *have*, and *do* can occur in the tensed operator position, where they show the N.I.C.E. properties as expected. However, only the auxiliaries *be* and *have* (not *do*) can appear lower in the verbal sequence as non-finite participle (147a) or bare infinitive forms (147b).

(147) a. *They have **been** planning it carefully*. b. *They must **have** planned it carefully.*

As discussed above, copula *be* and auxiliary *be* behave identically with respect to their morphosyntax, although they select different complements. Auxiliary *be*, along with the other two, is further discussed in 11.5 below.

11.3 Auxiliary "*do* support" for tense and agreement morphology

Whenever there are processes such as question formation in English, the operator comes into play (i.e., N.I.C.E.). Nonetheless, we have seen VPs with lexical verbs only, that is, without a

pronounced (aka, "overt") modal or auxiliary. In such VPs, we may say that the operator is unpronounced (aka, null, indicated by strikethrough), and the tense and agreement suffix must therefore lower to the verb (148a). When syntactic operations involving the operator take place, for example clausal negation, the auxiliary *do* must be realized in the operator position (148b-c). This characteristic English phenomenon is well known as "*do* support". Auxiliary *do* can also be pronounced in declarative sentences, where it conveys emphasis (148d).

(148) a. *He* ~~***OP***~~ *plans those carefully.*
b. **He* ~~***OP***~~ *plansn't those carefully.*
c. *He* ***does****n't plan those carefully.*
d. *He* ***does*** *plan those carefully.*

Notice that if auxiliary *do* (or *have* or *be*) is in the operator position, tense and agreement morphology is always realized on this operator—in other words, when there is a pronounced operator, for example with question formation (149a) or negation (148c), tense cannot (also) be suffixed to a lower auxiliary or lexical verb (149b,d).

(149) a. ***Does*** *he plan those carefully?*
b. ****Do*****(*****es*****)*** *he plans those carefully?*
c. *He* ***does*** *not plan those carefully.*
d. **He* ***do*****(*****es*****)*** *not plans those carefully.*

We won't explore English *do* support in further depth here, but for more details, refer to textbooks on syntax (e.g., Koenemann and Zejlstra 2017).

11.4 Modals

The English modals (*can*, *could, may, might, should, shall, must, will* and *would*) occur exclusively in the operator position and never lower in the verbal sequence.[44] This means that English modals do not have an infinitive form,[45] and moreover that they cannot be selected by an auxiliary or verb. Additionally, modals exhibit particular morphosyntactic properties that distinguish them from auxiliaries and verbs. First, modals do not express any person or number agreement with their subjects (150a). Second, modals subcategorize for bare infinitive (not *to*-infinitive, 150b) VPs or AuxPs, unlike auxiliaries, which select AuxPs or participle VPs, and unlike verbs, which select clauses but not VPs.

(150) a. **She* ***cans*** *borrow my pen*.
b. **You* ***can*** *to use my laptop.*

Modals express two distinct types of semantics, deontic and epistemic. Deontic modality encompasses meanings like 'suggestion', 'ability', 'permission', or 'obligation' (151).

---

[44] Besides the English modals mentioned above, there are so-called "marginal" modals, including *dare*, *need*, and *ought*. These are distinct due to their unique fusion of properties of lexical verbs and modals; compare the modal-like behavior in the (i) examples, versus the lexical verb behavior in the (ii) examples:

(i)	a. *He needn't apologize*.	operator
	b. **He needsn't apologize*.	no agreement
	c. **He needn't to apologize*.	bare infinitive VP complement
(ii)	a. *He doesn't need to apologize*.	*do* support
	b. *He needs to apologize*.	agreement, *to*-infinitive clause complement

The morphosyntactic behavior of marginal modals like *dare, need*, and *ought* is idiosyncratic; that is, it may vary for different speakers or dialects of English.

[45] The fact that modals are never infinitive means that by definition they are always tensed. However, the semantics of modals and tense goes far beyond the domain of our morphosyntax coursebook, so we leave the matter here.

(151) a. *You **should** apologize for your mistake.* suggestion
b. *You **can** attend the meeting.* ability/permission
c. *Everybody **must** follow the rules.* obligation

The very same modals can also express epistemic modality, which express the speaker's assessment of an events' probability (152a), certainty (152b), or necessity (152c).

(152) a. *The movie **should** start in a few minutes.* probability
b. *The shop **can't** be far.* certainty
c. *It **must** be cold if everyone is wearing jackets.* necessity

While modals can be ambiguous in whether they express deontic or epistemic modality, not all modals are available for past time reference. For example, the modal *must* can be interpreted both deontically ('obligation') and epistemically ('certainty') in present time contexts (153a). In past time contexts (expressed by the perfective aspect in the modal's complement), *must* has only an epistemic interpretation (153b).

(153) a. *She **must** prepare well for the exam.* deontic or epistemic
b. *She **must** have prepared well for the exam.* epistemic, *deontic (past)
c. *She had to prepare well for the exam.* deontic, *epistemic (past)

In order to express the deontic modality of obligation in past time contexts, English employs a complex syntactic structure with the lexical verb *have*, which takes a *to*-infinitive clause complement; like any other lexical verb, *have* can inflect for past tense (153c).

11.5 The auxiliaries *be, have,* and *do*

Finally, English has exactly and only three auxiliaries, namely *be*, *have*, and *do*. Unlike modals, the auxiliaries can inflect for tense, as well as person and number agreement with subjects, when they occur in the operator position; furthermore, auxiliaries have non-finite infinitive and participle forms when they occur lower in the verbal sequence. Each English auxiliary has a homonym that is a verb: copula *be*, a grammatical linking verb, along with *have* and *do*, both transitive lexical verbs that select complements of various phrasal categories. The English auxiliaries are given a brief individual sketch below.

11.5.1 Auxiliary vs. copula *be*

The auxiliary *be* serves two functions in English syntax. First, auxiliary *be* is a part of periphrastic progressive aspect when it selects a VP (154a) or AuxP (154b) complement with the present participle (i.e., *-ing*). Second, auxiliary *be* is part of periphrastic passive voice when it selects a VP complement with the past participle (i.e., regular *-ed* or irregular allmorphs) (154b, c). Auxiliary *be* can occur in the tensed operator position (154a-c), or as a non-finite participle (154b) or bare infinitive (154d) lower in the verbal predicate sequence.

(154) a. *The police* [$_{\text{AuxP}}$ ***were*** [$_{\text{VP}}$ *arresting student protestors*]]. **Op,** $\text{VP}_{\text{PRS PTCP}}$
b. *Student protestors* [$_{\text{AuxP}}$ ***were*** [$_{\text{AuxP}}$ ***being*** [$_{\text{VP}}$ *arrested*]]]. **Op, AuxP**$_{\text{PRS PTCP}}$,$\text{VP}_{\text{PST PTCP}}$
c. *Student protestors* [$_{\text{AuxP}}$ ***were*** [$_{\text{VP}}$ *arrested*]]. **Op**, $\text{VP}_{\text{PST PTCP}}$
d. *Student protestors* [$_{\text{ModP}}$ *could* [$_{\text{AuxP}}$ ***be*** [$_{\text{VP}}$ *arrested*]]]. Op, **AuxP**$_{\text{INF}}$, $\text{VP}_{\text{PST PTCP}}$

The homonymous grammatical linking verb copula *be* has already been discussed above and in Chapter 10—unlike all other verbs in English, it can occupy the operator position (155a).

(155) a. *The police* [$_{VP}$ ***were*** [$_{AdjP}$ *very aggressive*]]. **Op,** AdjP
b. *The police* [$_{ModP}$ *can* [$_{VP}$ ***be*** [$_{AdjP}$ *very aggressive*]]]. Op, **VP**$_{INF}$, AdjP
c. *The police* [$_{AuxP}$ *were* [$_{VP}$ ***being*** [$_{AdjP}$ *very aggressive*]]]. Op**, VP**$_{PRS\ PTCP}$, AdjP
d. *The police* [$_{AuxP}$ *have* [$_{VP}$ ***been*** [$_{AdjP}$ *very aggressive*]]]. Op**, VP**$_{PST\ PTCP}$, AdjP

Of course, like all other verbs in English, copula *be* can head bare infinitive (155b), present-participle (155c), or past-participle (155d) VPs lower in the verbal predicate sequence.

11.5.2 Auxiliary vs. transitive lexical verb *have*

The auxiliary *have* serves just a single function in English syntax, namely being a part of periphrastic perfective aspect when it selects a past participle (i.e., regular *-ed* or irregular allomorphs) VP complement (156a-b). Auxiliary *have* can occur in the tensed operator position (156a), or as a bare infinitive (156b) lower in the verbal predicate sequence.

(156) a. *The police* [$_{AuxP}$ ***had*** [$_{VP}$ *arrested student protestors*]].
b. *The police* [$_{ModP}$ *could* [$_{AuxP}$ ***have*** [$_{VP}$ *arrested student protestors*]]].

The homonymous transitive lexical verb *have*, on the other hand, expresses multiple meanings in English. First and foremost, the lexical verb *have* semantically denotes 'possession', where the subject is the possessor and the subcategorized DP object is the possessum (157a).[46] Lexical *have* can also be used as a "light" verb, which is so-named because light verbs assume idiomatic meanings depending on their selected complement, rather than having their own inherent semantics. For example, when its DP object denotes a meal (e.g., *breakfast*, *lunch*, or *dinner*), the light verb *have* means something like 'eat' (157b). Similarly, as mentioned above, lexical *have* can select a *to*-infinitive clause to express modality (157c). Lexical *have* moreover expresses causative semantics (157d-e).

(157) a. *They* [$_{VP}$ ***have*** [$_{DP}$ *several bikes*]]. 'possession' (cf. [$_{AuxP}$ *have* [$_{VP}$ *got* …]])
b. *We* [$_{VP}$ ***had*** [$_{DP}$ *a hot lunch*]]. "light verb" ('eat a hot lunch')
c. *He* [$_{VP}$ ***has*** [$_{Clause\ (–Fin)}$ *to* [$_{VP}$ *sleep*]]]. modality
d. *She* [$_{VP}$ ***had*** [$_{Small\ clause\ (Act.)}$ *me study logic*]]. causative (active small clause)
e. *I* [$_{VP}$ ***had*** [$_{Small\ clause\ (Pass.)}$ *my hair cut*]]. causative (passive small clause)

Like all lexical verbs, *have* cannot occur in the operator position. Therefore, the N.I.C.E. properties will reliably distinguish auxiliary from lexical *have* in English (see Exercise 11.6).

11.5.3 Auxiliary vs. transitive lexical verb *do*

Finally, the auxiliary *do* (sometimes also called "dummy" *do*) exclusively functions as an operator in English. It occurs in the operator position whenever there is no other modal or

[46] As is widely known, some varieties of English, notably in the UK and Commonwealth, express the same meaning of possession with a similar-looking periphrastic structure:
(i) *I* [$_{AuxP}$ *have* [$_{VP}$ *got several bikes*]].
Notice that here, as the N.I.C.E. tests will confirm, *have* is not a lexical verb meaning 'possess', but an auxiliary that selects a VP headed by the lexical verb *got* in its irregular past participle form.

auxiliary to "support" a relevant syntactic process (i.e., N.I.C.E.). English auxiliary *do*-support was introduced in Section 11.3, and further examples are given in (158) below.

(158) a. *The police* ***did****n't arrest student protestors.* negation (**Op**)
b. ***Did*** *the police arrest student protestors?* inversion (**Op**)
b. *The police* ***did****n't arrest student protestors,* ***did*** *they*? coda (**Op**)
d. ***Did*** *the police arrest student protestors? Yes, they* ***did****.* ellipsis (**Op**)

The homonymous lexical verb *do* functions as a transitive light verb. For example, when the object of lexical *do* is the DP *the dishes* (159a), the verb means 'wash', whereas when the object of *do* is the DP *their homework* (159b) or *a good job* (159c), it means 'complete' or 'perform'.

(159) a. *He* [$_{\text{AuxP}}$ *was* [$_{\text{VP}}$ ***doing*** [$_{\text{DP}}$ *the dishes*]]]. 'wash the dishes'
b. *They* [$_{\text{AuxP}}$ *have* [$_{\text{VP}}$ ***done*** [$_{\text{DP}}$ *their homework*]]]. 'complete their homework'
c. *We* [$_{\text{ModP}}$ *should* [$_{\text{VP}}$ ***do*** [$_{\text{DP}}$ *a good job*]]]. 'perform a good job'

Auxiliary *do* only occurs in the tensed operator position as *do*-support; therefore, whenever non-finite present-participle (159a), past-participle (159b), or bare-infinitive (159c) forms of *do* occur lower in the verbal predicate sequence, they are always lexical *do*.

FURTHER READING:

Huddleston and Pullum 2008, 92–93, 106–111, 113–115

Brinton and Brinton 2010, 225–228, 231–237

Veselovská 2019, 175–195

Exercise 11.1 Operators

Using the N.I.C.E. properties, for each of the words in bold, determine whether they are in the operator position or lower in the complex verbal predicate.

(a) *The defendant **had committed** a breach of contract.*

(b) *She **had** a successful career in the finance industry.*

(c) ***Preserve** all evidence for the duration of the trial.*

(d) *The property **is being** transferred to the new owner.*

(e) *The court **will** consider all relevant evidence before **making** a decision.*

(f) *The contract **is being reviewed** by the legal team.*

(g) *The documents **have been submitted** to the court.*

(h) *The property **is** in the process of **being** sold.*

Exercise 11.2 Tense and agreement morphology

Analyze the tense and agreement morphology, commenting on where it occurs in the verbal sequence.

(a) *She writes articles for a local newspaper.*

(b) *She wrote articles for a local newspaper.*

(c) *She does write articles for a local newspaper.*

(d) *She doesn't write articles for a local newspaper.*

(e) *Did she write articles for a local newspaper?*

Exercise 11.3 Modal semantics

Determine whether the modals in the following sentences express deontic or epistemic semantics, or are ambiguous. Then, make any necessary modifications so that the sentences refer to past time.

(a) *It must be late.*

(b) *The food must be delicious.*

(c) *You can use your phones.*

(d) *She can't understand what we were discussing.*

Exercise 11.4 The marginal modal *ought*

These sentences are adapted from the *British National Corpus* and the *Corpus of Contemporary American English*. What conclusions can you make based on these attested examples? Using these or similar corpora, analyze *need* and *dare* in the same way.

(a) *The children **ought** not to be separated.*

(b) *There **ought** not be electrical equipment.*

(c) ***Ought** we not to attempt to control them?*

(d) *You **ought** not bother to go.*

(e) *They **ought** to shut up, **ought**n't they?*

(f) ***Ought**n't I do something?*

Exercise 11.5 Auxiliary vs. lexical *do* and copula *be*

Analyze morphosyntactic properties of *do* and *be* in the following sentences, determining whether they are lexical verbs or auxiliaries, and identifying the function of the auxiliaries.

(a) ***Do**n't **do** your homework at the last minute.*

(b) ***Do** you like science?*

(c) *But I **did** warn you.*

(d) *It's a pleasure **doing** business with your company.*

(e) *She **is being** very helpful by volunteering at the shelter.*

(f) *They **are** to meet at the train station at 5 p.m.*

(g) *They **are** my closest friends.*

(h) *They must **be** my closest friends.*

(i) *The bike **is** stolen.*

(j) *The bike must **be** stolen.*

Exercise 11.6 Auxiliary vs. lexical *have*

Using the N.I.C.E. properties, analyze whether these examples of *have* are auxiliaries or lexical verbs, their function or meaning, and their position in the verbal sequence.

(a) *We **had** our project reviewed by the senior management.*

(b) *We **have** a new employee joining our team next week.*

(c) *We **have** lunch with new clients.*

(d) *I **had** my assistant write the report for me.*

(e) *The window **has** to be spotless before the guests arrive.*

(f) *She **had** a look at the sales report and provided feedback.*

(g) *She **had** already attended several professional development workshops.*

(h) *She **has** gotten a job offer.*

(i) *I **have** already completed the report.*

(j) *He **had** his secretary schedule all his appointments.*

(k) *The company **had** its policies updated to comply with new regulations.*

(l) *The company **has** a strong presence in the global market.*

Exercise 11.7 N.I.C.E. (un)grammaticality

Decide whether the following sentences are grammatical. If it is ungrammatical, correct the sentence and explain why it is ungrammatical in terms of the N.I.C.E. properties.

(a) *They may haven't left the party early.*

(b) *Has she a lot of work to do?*

(c) *We don't have our house painted.*

(d) *She need to find a new boyfriend.*

(e) *He doesn't his homework in the evenings.*

(f) *Do it rains often here?*

Study sheet for Chapter 11

The verbal predicate sequence: modals, auxiliaries, and lexical verbs

The operator position (Op) - if pronounced, the operator has tense and agreement

N.I.C.E.	negation	*He **is**n't reading it.*
	inversion	***Is** he reading it?*
	coda	*He **is**n't reading it, **is** he?*
	ellipsis	***Is** he reading it? Yes, he **is**.*

- modals and auxiliary *do* are always operators
- lexical verbs (*run*, *study*, *send*, etc., including lexical *have* and *do*) are never operators
- auxiliary *be*, *have* and copula *be* can be operators or lower in the sequence

Modals (e.g., *must*, *can*, *will*, etc.) - modals are always operators

- deontic modality	obligation, permission, ability
- epistemic modality	certainty, probability, necessity

Be

- auxiliary *be*	can be the operator or lower in the sequence	
	e.g., *is writing it*	progressive aspect with *-ing* participle VP
	e.g., *was written*	passive voice with past participle VP
- copula *be*	can be the operator or lower in the sequence	
	e.g., *is extremely clever*	

Have

- auxiliary *have*	can be the operator or lower in the sequence	
	e.g., *has written it*	perfective aspect with past participle VP
- lexical *have*	never the operator	transitive, DP or clause complement
	e.g., *have a nice apartment*	possession (cf. auxiliary>VP *have got*)
	e.g., *have a hot lunch*	"light" verb
	e.g., *have to write it*	modality
	e.g., *have them write it*	causative (active)

Do

- auxiliary *do*	always the operator	"*do* support" (N.I.C.E.)
	e.g., *didn't write it*	
- lexical *do*	never the operator	transitive, DP complement
	e.g., *do the dishes*	"light" verb

12. Adjectives, adverbs, and prepositions

This final chapter will take a quick look at three different categories that have so far been mentioned only in passing: adjectives, adverbs, and prepositions. First, we will discuss the inflectional morphology of adjectives and adverbs; prepositions do not have any inflectional morphology. Then we will discuss phrases that are headed by adjectives, adverbs, and prepositions, namely AdjPs, AdvPs, and PPs.

12.1 A is for adjunct: adjectives and adverbs

Adjective phrases (AdjPs) and adverb phrases (AdvPs) are similar in that both these phrasal categories modify other phrasal categories as syntactic adjuncts, a grammatical function that should be familiar from Chapter 10. The difference between these two categories lies in their syntactic behavior. AdjPs occur both as pre-modifiers (adjuncts) of NP (160a-c), or are used as predicate AdjPs with linking verbs (160d).

(160)	a. *a **great** day*	AdjP modifies NP
	b. *a **readable** book*	AdjP modifies NP
	c. *a **friendly** discussion*	AdjP modifies NP
	d. *It was **great/readable/friendly**.*	predicate AdjP

In contrast, adverbs (Latin for 'to the verb') not only modify VP (161a), but multiple other categories, namely clauses (161b), AdjPs (161c), PPs (161d), or even other AdvPs (161e).

(161)	a. *She reads it **often**.*	AdvP modifies VP
	b. ***Fortunately**, the rain stopped.*	AdvP modifies clause
	c. *their **extremely** excellent work*	AdvP modifies AdjP
	d. ***just** across the bridge*	AdvP modifies PP
	e. *We **almost** never argue.*	AdvP modifies AdvP

Both categories attest monomorphemic (for adjectives 160a, for adverbs 161a,d-e) and morphologically complex derived forms (160b-c, 161b-c). Notice that that the suffix *-ly* is not exclusive to adverbs (161b-c), since it also derives adjectives (160c-d).

12.2 Inflectional morphology of adjectives and adverbs

Unlike in Czech and Slovak, among other languages, English adjectives do not exhibit gender, number, or case agreement with nouns (e.g., feminine ***ta** nov**á** váza* 'that new vase' vs. masculine ***ten** nov**ý** džbán* 'that new jug', both singular nominative). As a result, the only inflectional morphemes used with English adjectives indicate grading of degree—in other words, 'how much' of the quality denoted by the adjective.

There are three degrees: first, the adjective base; second, the comparative degree, which means 'more than', formed synthetically with the suffix *-er* or analytically with the free morpheme *more*; and third, the superlative degree, which means 'the most', and is formed synthetically with *-est* or analytically with *most*.

	Adjective	**Comparative**	**Superlative**
(162)	a. *tall*	*tall**er***	*tall**est***
	b. *strong*	*strong**er***	*strong**est***
	c. *happy*	*happi**er***	*happi**est***

When adjectives have three or more syllables, they are graded analytically, using the free grammatical morphemes ("degree words") *more* and *most* (163).

(163) a. *beautiful* *more beautiful* (**beautifuler*) *most beautiful* (**beautifulest*)
b. *delicious* *more delicious* (**deliciouser*) *most delicious* (**deliciousest*)

Adverbs cannot take synthetic grading suffixes (e.g., **veryer* ~ **veryest*, **surelier* ~ **sureliest*).[47]

12.3 Structure of AdjPs

Adjectives serve as the heads of AdjPs. Adjective phrases can be either bare, consisting solely of the head adjective itself, such as *great*, or they can be pre-modified, like *so happy*. Adjectives can also be post-modified by finite (*bored to death*) or non-finite clauses (*happy that you came*), as well as PPs (*interested in syntax*).

AdjPs have two main syntactic functions: they can function attributively (164) or predicatively (165). Attributive AdjPs pre-modify (164a-b) or post-modify (164c-d) an NP.[48]

(164) a. [*angry*] *reaction* AdjP pre-modifies NP
b. [*very tall*] *building* AdjP pre-modifies NP
c. *time* [*immemorial*] AdjP post-modifies NP
d. *tickets* [*available for the concert*] AdjP post-modifies NP

(165) a. *His explanation was* [*full of contradictions*].
b. *The coffee seems* [*slightly stale*].
c. *The sunset looks* [*breathtakingly beautiful*].

Predicate AdjPs also occur after linking verbs, such as *be* (165a), *seem* (165b), and *look* (165c).

12.4 AdvPs

Adverbs act as the heads of adverb phrases. AdvPs can be bare phrases, consisting solely of the adverb itself, such as [*frequently*]. Alternatively, their head can be pre-modified by another adverb, such as [*so frequently*]. AdvPs have the ability to modify various constituents, namely VPs, AdjPs, AdvPs, PPs, or even clauses (161).

(166) *This connection is quick/*quickly*.

As opposed to AdjPs, AdvPs cannot be used in the predicate function (166).

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[47] In English, depending on the variety and the adjective, AdjPs can be used with the grammatical function of VP adverbials. In such cases, the head adjective may be synthetically graded:
(i) *If we want to succeed, we'll need to work much harder*.
This is not an exception but another illustration of the necessary distinction between phrasal category and grammatical function—once again, not every adverbial (function) is an adverb (category).

[48] For more details, please refer to Chapter 6, where the term attribute is introduced, and to Chapter 7, which discusses the structure of NP and DP.

12.5 PPs

Prepositions serve as heads of prepositional phrases (PPs). PPs can be pre-modified by AdvPs like *just* (167a). Prepositions select DP objects (167a-b), including with gerund NPs (167c).

(167) a. [PP *just* ***up*** [DP *the street*]]
b. [PP ***after*** [DP *the match*]]
c. [PP ***by*** [DP [NP *reading books on morphology*]]]

(168) a. *He was sitting* [*by the computer*]. PP modifies VP
b. *a story* [*with an exciting plot*] PP modifies NP

Syntactically, PP adjuncts can modify a VP (168a) or an NP (168b).

FURTHER READING:

Brinton and Brinton 2010, 196–203

Denham and Lobeck 2010, 221–229

Veselovská 2019, 130–140

Exercise 12.1 Derivational vs. inflectional morphology of adjectives

This chapter was centered around the inflectional morphology of adjectives. Review the difference between inflectional and derivational morphology, and provide several examples of derivational adjectival morphemes and derivational adverbial morphemes with examples.

Exercise 12.2 Grading of adjectives

Besides the inflectional morphemes *-er* and *-est*, the comparative and superlative forms of some adjectives exhibit examples of morphological allomorphy, and in some cases, suppletion. Please provide examples of this.

Exercise 12.3 Attributive vs. predicative AdjPs

AdjPs can be used both as attributes as well as predicates. However, not all AdjPs can fulfill both functions. Provide both grammatical and ungrammatical sentences to test the possible functions of these AdjPs.

(a) *former*

(b) *asleep*

(c) *unique*

(d) *alive*

(e) *afraid*

(f) *utter*

(g) *damn*

Exercise 12.4 Non-grading of adjectives?

Some sources use the term "non-gradable" to describe a category of adjectives that they allege are unable to form comparative and superlative degrees due to semantic reasons. These adjectives are said to denote an extreme state, or possess a property that cannot be quantified on a scale; examples include *dead, pregnant, atomic, eternal, alphabetical, perfect, left*, and *ruined*. However, there are attested examples where such adjectives are nonetheless used in comparative or superlative forms (a). Can you think of similar examples? Try searching for some, online or in a corpus. What do you conclude?

(a) *What is **more eternal** than the love you must have for yourself!*

Exercise 12.5 Adjectives vs adverbs

Decide if the underlined constituents are adjectives or adverbs (sentences taken from the *British National Corpus* and the *Corpus of Contemporary American English*).

(a) *We'll have to move **quick**.*

(b) *She ran **quickly** to catch the bus.*

(c) *She woke up **early** to catch the sunrise.*

(d) *I saw it with my **very** eyes.*

(e) *She **hardly** ever eats fast food.*

(f) *She acted **quick**.*

(g) *His **manly** handshake conveyed confidence.*

(h) *The **early** morning mist created a serene atmosphere.*

(i) *I need to grab a **quick** bite.*

(j) *This is a **friendly** reminder.*

(k) ***Sadly**, the old house was destroyed in the fire.*

(l) *She is a **very** talented singer.*

Exercise 12.6 Adjectives vs adverbs

The term "adverb" is not a synonym of the term "adverbial". Adverb is a syntactic category (similar to nouns or verbs), whereas adverbial is a grammatical function (similarly to subject, object, or attribute). Give examples of both adverbs and adverbials, exemplifying:

a) adverbials that are adverbs at the same time

b) adverbials that are not adverbs

Exercise 12.7 Various phenomena

Please write down your own example sentences that exemplify:

(a) a complex AdjP (both pre- and post-modified) in the predicate function

(b) a pre-modified AdjP that is in comparative

(c) an AdjP that post-modifies an NP

(d) a pre-modified PP including a DP complement

Study sheet for Chapter 12

Adjectives, adverbs, and prepositions

Adjectives and adverbs are adjuncts

- **Adjectives (AdjPs)** - modify NPs
  - are attributes or predicative
  - inflection for grading of degree (comparative, superlative)
  - synthetic suffixes: *-er* and *-est*
  - analytic free morphemes: *more* and *most*

- adjectives are heads of AdjPs	[$_{AdjP}$ *really* ***angry*** *about it*]
- can be used attributively	*angry students*, *students angry about writing*
- or predicatively	*were angry about the writing*

- **Adverbs (AdvPs)** - modify VPs, Clauses, AdjPs, AdvPs, and PPs

  - adverbs are heads of AdvPs [$_{AdvP}$ very ***frequently***]

- **Prepositions (PPs)** - prepositions are heads of PPs [$_{PP}$ *just* ***after*** *the class*]

13. Review

Exercise 13.1 Morpheme types

Decide if the bolded morphemes are derivational or inflectional.

(a) *the ox-**en***
(b) *the tall-**est** tree*
(c) *is sing-**ing***
(d) *had be-**en** driven*
(e) *she walk-**s***
(f) ***cat**-s*

Exercise 13.2 XPs

Analyze the category of each XP and circle its head.

(a) *[mine]*
(b) *[the book that she recommended]*
(c) *[about studying English]*
(d) *[quickly jumped onto the table]*
(e) *[bored to death]*
(f) *[extremely happy]*

Exercise 13.3 Verbal subcategorization

Circle all complements and underline all adjuncts in the following VP. Then, write the subcategorization of the verb *catch*.

(a) *The cat* [*effortlessly* ***caught*** *the ball* *with incredible precision* *in the backyard*].

Exercise 13.4 Various phenomena

Write down example sentences that contain the following phenomena.

(a) a relative clause

(b) a personal pronoun in oblique case

(c) a reflexive pronoun

(d) a predicate DP

(e) an intransitive verb

(f) a modal with epistemic meaning

(g) an interrogative pronoun

Exercise 13.5 Verb subcategories

Analyze the following verb forms in terms of mood, tense, aspect, and voice.

(a) *They **have been studying** Spanish*.

(b) ***Shut** the door behind you*.

(c) *The project **has been being worked** on*.

(d) *She **is being interviewed***.

(e) *The car **was washed***.

Exercise 13.6 Predicate structure

Circle all operators in the following sentences.

(a) *After a long day at work, she finally arrived home.*

(b) *Complete the project by Friday and submit it to the supervisor.*

(c) *She needs to have her car repaired by a professional mechanic.*

(d) *I always do my best to maintain a healthy work-life balance.*

(e) *She must attend the meeting tomorrow to discuss the upcoming project deadlines.*

(f) *The weather is beautiful today, and the birds are singing in the garden.*

Exercise 13.7 (Un)grammatical sentences

Decide if the following examples are (un)grammatical. If the sentence is ungrammatical, correct it and explain its ungrammaticality.

(a) *I suggest that she write a letter to express her concerns.*

(b) *The mayor of London's decision has been well-received.*

(c) *The kids played all day Monopoly.*

(d) *Those my friends should have reported it.*

Exercise 13.8 Determiners vs. pronouns

Please give an example of a possessive determiner and contrast it with a possessive pronoun. Explain the difference in detail.

Exercise 13.9 Suppletion

Explain the term suppletion and give two examples, each of a different category.

Exercise 13.10 Finite vs. non-finite verb forms

Explain the difference between finite and non-finite verb forms and provide unambiguous examples.

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