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Form and Functions in English Grammar

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ABBREVIATIONS

Adj(P)	Adjective (phrase)
AmE	American English
A(P)	Adjective/Adverb (Phrase)
Adj(P)	Adjective (Phrase)
Adv(P)	Adverbial (Phrase)
Aux	Auxiliary
BrE	British English
CEN	Complex Event Nominal
C(P)	Complementizer (Phrase)
Det/D(P)	Determiner (Phrase); a functional head (phrase) above NP
Dem/DEM	Demonstrative
ECM	Exceptional Case Marking structures
e.g.	for example
f/ F	Feature (f: (purely) semantic, F: grammatical)
I/INFL	Inflection; a functional head above VP. T is also used
i.e.	it means
INF	Infinitive
Mod	Modal
N(P)	Noun (Phrase)
NEG/Neg	negation
Num	Numeral
Ω	Omega, operator, the position of English Modals
P(P)	Prepositional (Phrase)
POSS	Possessive (Morpheme)
φ/Phi	Nominal features (Number, Gender, etc.)
RN	Result Nominal
Q(P)	Quantifier (Phrase)
RHHR	Right Hand Head Rule
SG	Singular
SPEC	Specifier
T(P)	Tense (Phrase), equivalent to I/INFL
θ	theta, (grammaticalized) semantic role
V(P)	Verb (Phrase)
w.r.t.	with respect to

Subscripts (Glosses) in non-English examples

Ordering of a cluster of Phi features in glosses: subscript Person + Gender + Number.Case. For space reasons, only discussion-relevant features are provided.

1, 2, 3	Person (on Predicate)
ACC	Accusative (Case), Object Case
DAT	Dative (Case)
F	Feminine (φ Gender)
GEN	Genitive (Case)
INF	Infinitive
INS	Instrumental (Case)
LOC	Local (Case)
M	Masculine (φ Gender)
N	Neuter (φ Gender)
NOM	Nominative (Case), Subject Case
P/PL	Plural (φ Number)
PRT	Participle
S/SG	Singular (φ Number)

INTRODUCTION

The purpose of this monograph is to motivate and illustrate the language specific realization (i.e. the form) of plausibly universal principles of language structure. This monograph describes the morphosyntax of the English language. The author's intention is to concentrate on the logic of the system, not to compile all types of examples of English constructions which exist and/or can be formed within the system. For much more exhaustive illustrations of these, see the standard grammar manuals: The Oxford Press English grammar manual by Quirk et al. (2004), the Cambridge Press version of Huddleston and Pullum (2002) and the more corpora based Longman edition of Biber et al. (2007). This text does not try to compete with those collections, which provide extensive data and exhaustive lists of examples in terms of detailed semantic and pragmatic taxonomies. This monograph includes topics that best represent the characteristics of language structure, and the author utilizes as often as possible standard scientific argumentation, which leads to the most generally accepted and best supported analysis of the chosen phenomena.

As for its contents, the text attempts to systematically cover all levels of grammatical analysis. It starts with a general introduction to theoretical linguistics in Chapter 1. The next four chapters describe topics in morphology. They illustrate in detail some productive and frequent processes of English word-formation, concentrating mainly on derivation and compounding, i.e. on those processes that reflect the creative productivity of the language's combinatorial mechanism. In passing, some general principles of the morphological typology of languages are also introduced, illustrated and discussed in general terms.

Chapter 6 provides an introduction to the next large part of the monograph: the English morphosyntax of the main lexical categories (parts of speech). It deals with morphosyntactic criteria for English parts of speech, providing an introduction to the topic from the perspective of universal grammar. The text does not cover absolutely all categories; Chapters 7-16 concentrate on the characteristics of the main lexical categories, i.e. special attention is given to the forms and functions of the categories of Nouns (including English Pronouns and bound anaphors), Adjectives, Prepositions and Verbs (including a thorough discussion of Auxiliaries and Modals). In this part, many syntactic terms are introduced and explained, especially those relevant for the categorial characteristics. The taxonomies are based on empirically attested formal properties, and explicitly formulated (demonstrated) diagnostics.

Because the assumed readers are most likely Czechs, English grammar is sometimes compared with its Czech formal and/or pragmatic equivalents. But in addition, any scholar focusing on a highly analytic language like English can only profit from seeing how its grammar compares with a typical Indo-European synthetic language like Czech. For this reason, comparisons of English with Czech are concentrated in sections where the two languages show some significant differences.

The taxonomy of the parts of speech is highly morphologically motivated, and perhaps language specific, and its particularities are basically reflections of empirical distributions. Therefore, after discussing the categorial features (and the level of their

grammaticalization in English), much space and argumentation are devoted to a description of the phrasal projections of the lexical categories. In describing the projections of NP, AP and VP, the relevant sections stress the parallelism of structure in the language specific realizations of the resulting combinations.

Chapter 17 provides a general introduction to the study of simple and complex sentences. The following Chapters 18-24 analyze in detail the main sentence members (or grammatical relations), focusing above all on Subject and Object, and their semantic, morphological and syntactic properties in English. The form of English clausal Negation is also introduced and demonstrated. This part of the monograph contains a list of the main sentence patterns in English, classified according to their pragmatic function and syntactic form. In Chapter 26, the nature of complex sentence patterns is summarized with various types of subordinate clauses examined in more detail; in particular, *wh*-questions and relative clauses, which are illustrated as examples of syntactic transformations.

The classification of embedded finite clauses serves as a kind of background for the discussion of English non-finite structures in Chapters 28 and 29. Both the (to-/bare) Infinitives and *-ing* forms are introduced and classified according to their structures and distribution. Their individual characteristics are related to the broader theme of morphosyntactic realization of the semantic roles. Part of this section is devoted to contrasting several distinct kinds of English nominalizations (including result nominals, complex event nominals, Gerunds and participles).

The last topic covered in this monograph is the linear ordering of units within distinct kinds of domains. The author stresses the more fixed ordering in phrasal domains compared to the greater cross-linguistic variety in constituent order in clausal domains. What motivates this constituent order variety is the concept of discourse information structure (functional sentence perspective, Communicative Dynamism). This is first introduced in general terms and then demonstrated in detail with contrasted examples of English and Czech structures in Chapters 30 and 31. The final Chapter 32 provides a terminological summary, attempting to cover clause structure on several partially autonomous levels: (a) categorial, (b) syntagmatic, (c) semantic, and (d) discourse levels.

Present day linguistic literature includes large grammar manuals of specific languages, which describe and summarize the data in quite a complete way. The formal theoretical framework behind these monographs is usually rather obscured and inexplicit, and completeness, often based on corpora searches, seems to be the most valued research tool. In some cases, this leads to an unbalanced presentation that fails to distinguish regular and productive forms and structures from exceptional and marked patterns. On the other hand, specialized linguistic monographs in a variety of frameworks nowadays concentrate on narrow research topics and try to cover them in depth, including detailed argumentation that compare alternative analyses.

This monograph consciously attempts to represent something in between the two extremes: to cover the most important parts of the system as a whole consistently, within a single compatible framework, but at the same time to present empirically based arguments in favour of specific analyses. To cover all topics that are possibly a part of

the English grammatical system would require much more space and time, and it would exceed the life expectancy of the author. It is also true that this text concentrates on topics that the author finds most important, most interesting, and sometimes neglected in other materials. To complement these individual choices, at the beginning of most sections there are some bibliographical references to the grammar manuals that are recommended as supplementary sources, together with some references to more specialized monographs. The readers may find it useful to go through at least some of the materials so mentioned.

This monograph is not a study that tries to establish or develop a specific linguistic theory or some narrow field of linguistics. As for the theoretical framework, the author believes that the central parts of current linguistics, above all contemporary grammar, can and should be an autonomous science. Therefore, the analyses here assume that human language is a system that can be studied by applying scientific methods, with the aim of developing some descriptively adequate and as explanatory as possible generalized hypotheses, most of which have implications for more than a single language. Empirical data and argumentation are thus strongly preferred to any classificatory lists or traditional truisms. No *a priori* analyses or theories simply inherited from the past or proposed in influential present day studies are taken for granted or considered as given.

Recent functional and generative approaches typically present themselves as returning to the empirical concerns of traditional grammar and at the moment provide a wide range of plausible frameworks. Trying to be cooperative with all kinds of readers, the presentation and hypotheses in this monograph, such as in the choices of categories, are based on traditional functional and structuralism grammars, which are then developed and modified by current theoretical proposals. Moreover, the grammatical analyses introduced here assume the need for empirically based scientific understanding of human language. Although they concentrate on formal grammar, the author also assumes interactions with other disciplines such as a theory of communication, and studies of literary form, psychology, sociology, and anthropology. To discuss and try to understand basic grammar in a more universal and open-minded way must be useful for all scholars of English language, who can then go on in their research in whichever field or framework fits their interests.

And at the end, I would like to thank my colleagues Joseph Emonds and Jaroslav Macháček and other external reviewers for their comments and suggested revisions, for adding many useful examples and for all their help in making this text more readable. Especially without the patience and permanent support and help of my partner, this monograph would never have achieved its present form and made it into print.

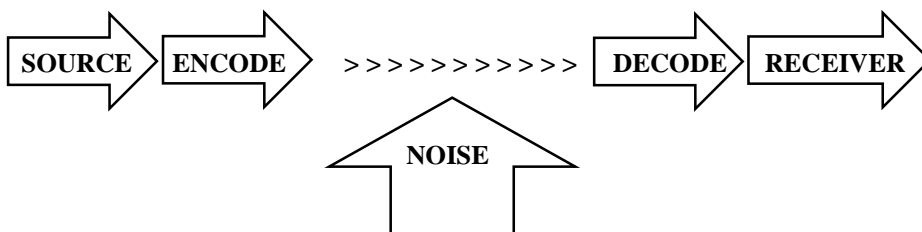
1 BASIC CONCEPTS

In this chapter, I will introduce the main concepts related to the studies of language. I will demonstrate the position of theoretical linguistics in the more general field of communication theory and mention some of the many aspects of the studies of human communication code. The reason is not to substitute a course in general linguistics but only to describe the background philosophy of language, which is going to be used in the following study.

1.1 Models of Communication

Communication is an exchange of messages (thoughts, information) by speech, signals, or behaviour. It is a rather complex process by which a human subject assigns and conveys meaning in an attempt to create a shared understanding with another. (Lat. *communis* = commonness). The process can be described in terms of a 'communication model.' One of the first models is by Claude Shannon (1948), which still illustrates quite succinctly the main idea of the communication process.

(1) Shannon's model



As early as in the 1950s, Wilbur Schramm (1954) proposed that communication should better be seen as **processes** of information transmission governed by three levels of semiotic rules (see also Berlo 1960):

- (2) (a) **Syntactic** (formal properties of signs and symbols),
- (b) **Pragmatic** (concerned with the relations between signs/expressions and their users) and
- (c) **Semantic** (study of relationships between signs and symbols and what they represent).

For these authors, communication is a social interaction where at least two interacting Agents share a common set of signs and a common set of semiotic rules.

In present day communication theories, the importance of context is stressed, and the models become more complex.¹ E.g. the **Inference Model** also takes into account inferences, i.e. a specific pragmatic interpretation including a specification of context and consistency. This is a large complex of factors including channel, noise, context, consituation, etc.

Linear models become **interactive**, indicating that communication is not a one way but a two way process. The models include field(s) of experience representing cultural background, ethnicity, geographic location, extent of travel, and general personal experiences accumulated over the course of a speaker/hearer's lifetime.

1.2 Language as a Code

Language is a human specific communication code that is **arbitrary** (conventional), as defined in Crystal (198: 395-403). In comparing human language (a human-specific communication code) with animal means of communication, the distinction is NOT in the degree of communication needs, feelings, information complexity, etc., but primarily in the **formal** characteristics of the code itself. Two notions are centrally related to its characteristics of (a) 'discrete infinity' and (b) 'double articulation' of 'duality of patterning'.

The concept of **discrete infinity** refers to the fact that human language makes "infinite use of finite means," an idea dating back to Wilhelm von Humboldt. **Double articulation (duality of patterning)** is the term introduced by Hockett (1960).

(3) Discrete infinity

A language code uses a finite list of **discrete elements** (individually distinct and countable, i.e. not elements forming a continuum), which combine according to specific formalized rules or principles to yield an infinite number of well-formed expressions.

(4) Double articulation

A general property of human language that invariably involves **two levels** of rule-governed combinatorial structure: one combining meaningless sound segments into morphemes, the other combining meaningful morpheme sequences into words and phrases. This dual, superimposed system is a **universal design feature** of human language.

Chomsky (1957) argued that language is biologically-based, and that humans are innately endowed with a property for learning it. He proposed the **innateness hypothesis**, which assumes that innate abstract principles of languages are the same for all children, irrespective of ethnic background, i.e. they are NEUTRAL with respect to

¹ For details concerning the development of the communication theory framework, see thematic monographs such as, e.g. Miller (2005), Schulz and Cobley (2013) and McQuail and Windahl (2015).

differences among languages, i.e. they are **UNIVERSAL**. In this sense, language universals reflect the existence of general linguistic principles, which facilitate a child's language-learning task.²

- (5) The **language faculty** is a human specific **innate** (i.e. genetically encoded) ability to acquire a language.
- (6) **Universal grammar** is a set of **abstract, universal principles** of the language faculty system in the brain.

Some version of the innateness hypothesis is generally accepted today. However, what is the precise nature and content of the universal grammar (and what is the mechanism of language faculty) is a matter of much present day theoretical research in the linguistic fields of **language acquisition**, neurolinguistics, etc., which include language specific studies, as well as implementations of technical statistical methods.

1.3 Linguistics and Science

Linguistics is the scientific study of language, one of the principal means of human communication, and its sub-divisions, some more or less autonomous. Linguistics involve analyses of language form, language meaning, and language in context.³

1.3.1 *Sciences and disciplines dealing with human language*

Linguistics applies the scientific method to questions about the nature and function of human language. It is divided into a wide range of areas of focus. Thus, it deals with formal studies of speech sounds, grammatical structures, meaning and usage of language. It also investigates the history of and changes within language groups and how language is acquired and learned. More broadly, linguistics also studies the relationship between written and spoken language, as well as the underlying neural structures that enable us to use language.

Many topics that linguists discuss overlap with fields in the social sciences and the humanities. Linguistics is a multi-disciplinary field that attempts to understand how language is stored in the human mind/brain and how it influences human behaviour, which makes linguistics related to the fields of neuroscience, philosophy, psychology, anthropology, sociology, and computer science. Linguistics is a part of the theory of communication, and the field of semiotics treats language as a central branch. It can be divided into several relatively autonomous fields:

² For a clear and enlightening introduction to the concept of universal grammar, see Cook (1988). For those interested in the scientific methodology of linguistics, see reference books such as Huddleston and Pullum (2002: 17-42), Huddleston and Pullum (2005: 11-28), Haegemann (2006), Aarts (2008), and those mentioned in footnote 5.

³ For more discussion on the context of English, consult Crystal (1987: 81-123). In the Czech tradition, see Svoboda (2004: 10-15).

(7) Areas of Linguistics

- Language form: syntax/morphology, phonology/phonetics
- Language meaning: semantics
- Language use: pragmatics

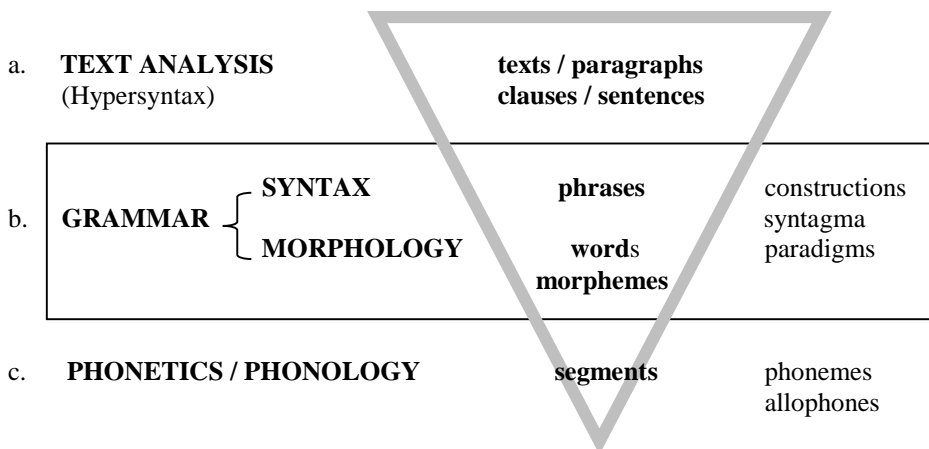
1.3.2 Formal analyses of language structure

This monograph is dealing with a general linguistic analysis of the English language. All levels of such analysis are potentially parts of formal linguistics, each including its specific taxonomic primitives.

Some levels of linguistics (e.g. phonetics/phonology, semantics, pragmatics) are quite **autonomous**, i.e. independent. They have their own definable topics and categories and apply their own **rules**, which are less derived from other fields than others. In contrast, morphology and syntax (= grammar) apply similar rules and discuss the same or similar topics and categories.

Levels of linguistic analysis and their taxonomic primitives are schematically illustrated in (8). The triangle suggests the size of the taxonomic primitives (phonemes are the ‘smallest’), and the framed middle field puts together those areas covered in this study: morphposyntax (grammar).⁴

(8) Levels of linguistic analysis and their taxonomic primitives

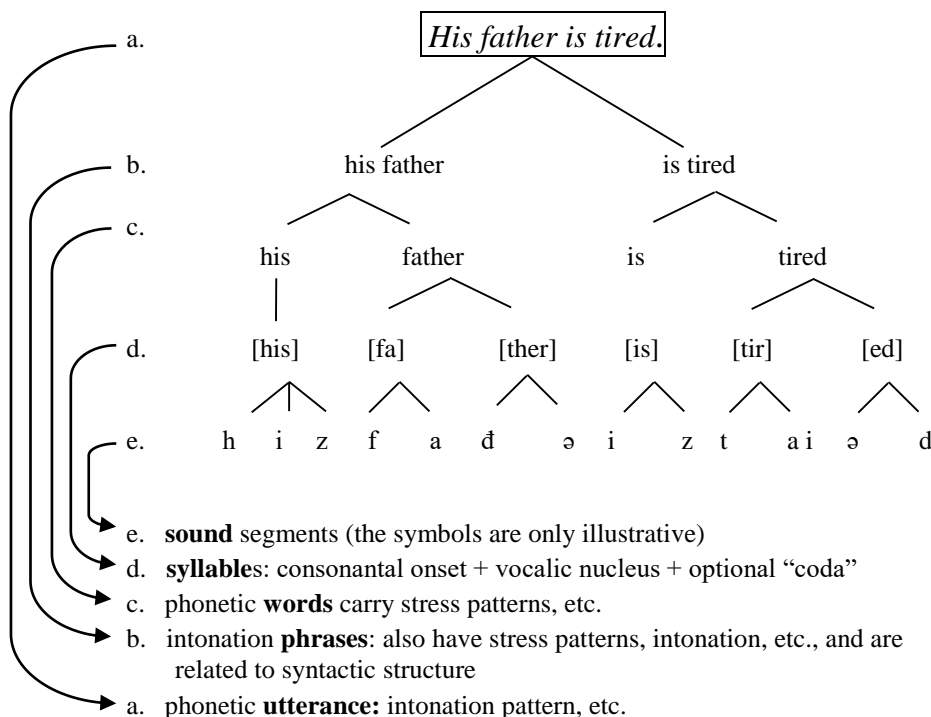


The following scheme in (9) demonstrates that **phonetics/phonology** is an autonomous field of linguistics. It deals with elements that distinguish meaning but do not have meaning themselves (sound segments/phonemes), e.g. *cat* vs. *rat*; Czech *pat* vs. *pád*,

⁴ Some schemes and examples in Chapters 1-5 are adopted from the teaching materials used in grammar seminars and published as a part of Veselovská (2017a).

myši vs. *Miši*. **Phonological rules** apply without respect to meaning, e.g. final devoicing in Czech applies to all parts of speech and all sentence members, i.e. to all similar phonetically defined elements, irrespective of their role in other parts of the language system.

(9) Immediate constituent analysis of **phonetic/phonological structure**:



Notice the **duality of patterning** in (9). A few meaningless elements (classes of sound segments such as consonants and vowels) combine into a huge number of distinct meaningful units (morphemes), which further combine into an infinite number of larger units (complex words, phrases, clauses, texts).

1.3.3 Forms and functions

The syntactic system is a complex **net of grammatical relations**. The units that form a system are not separable from the relations. In fact, it *is* their relations (=functions) that justify and define the units. Two terms are repeatedly used as the basis of linguistic analysis in terms of these functions: paradigm and syntagma.

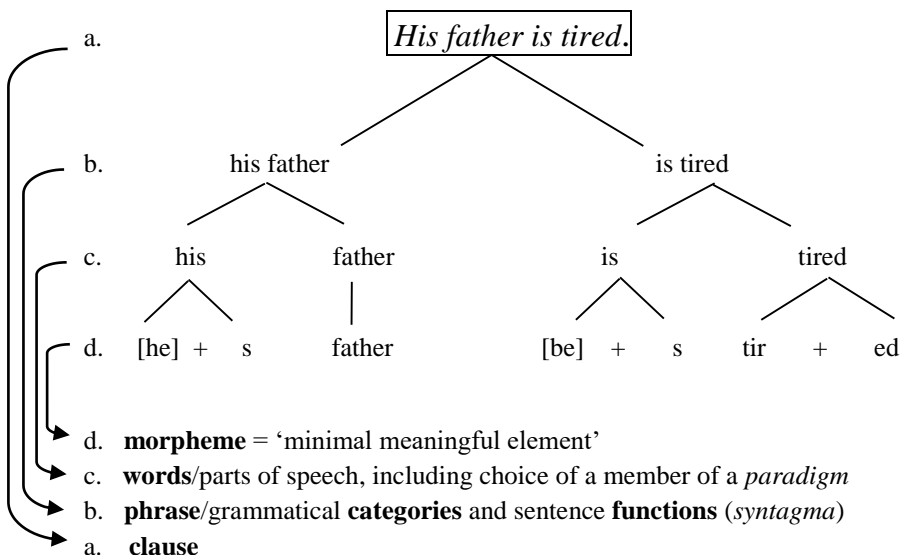
A **paradigm** is a list of morphological forms of one unit (**tokens** of a **type**). One of the paradigmatic forms is usually taken as unmarked and called the **citation form**. Paradigms are traditionally related to specific parts of speech/categories.

- (10) a. **I** (Pronoun): *I, me, my, mine*;
 b. **help** (Verb): *help/ helped/ helping*;
 c. **man** (Noun): *man, men/ man's/ men's*;
 d. **nice** (Adjective): *nice/ nicer/ nicest*.

On the other hand, a **syntagma** is a **relation** (= function) between two syntactic categories. Syntagmatic relations are **hierarchical**. Traditionally they are equivalents of sentence functions, which relate sentence members, such as Subject-Predicate, Noun-adjectival Attribute, Verb-direct Object. Sometimes we use only one of the couple to classify the relation. An **Attribute**, for example, means a relation that an Adjective has with respect to (w.r.t.) a modified Noun (*blue sky*).

- (11) a. **Attribute** (w.r.t. Noun): *real* trouble
 b. **Adverbial** (w.r.t. Verb): *often* talk
 c. **Direct Object** (w.r.t. Verb): write *a letter*
 d. **Subject** (w.r.t. Predicate): *John* reads

- (12) Levels of **morpho-syntactic (grammatical) structure**:



In this study, paradigms are going to be discussed in Chapters 6-16. These chapters provide characteristics of the main lexical parts of speech and discuss the topics related to English categorial taxonomy. The syntagmatic relation (in English) is the material of Chapters 18-21.⁵

1.4 Adequacy of the Linguistic Model

Formal linguistics, i.e. linguistics as a **science**, deals with a **language system**, meaning a structure of interrelated formally defined elements. The language system is a reality; it is a human-specific code for communication based on species-specific abilities. The language system is subject to its own principles and rules. Therefore, the linguistic model should be **specific to human language**.

A linguistic model (a framework including terminology and definitions of rules and principles) is a theoretical construct created by linguists, and it reflects a historical level of achieved knowledge. Linguistics develops as any other scientific field (e.g. present day chemistry is using more distinct primitive units than medieval alchemy did 500 years ago). Evaluating a specific linguistic model, we are considering to what extent the theory confirms scientific criteria.

Linguistics is an autonomous science. It studies a human language, and it aims at developing a model specific to a human language code, not for other systems that cannot occur as human languages. Linguistics research

- (13) a. **observes**/studies data within one or across many language(s),
- b. **describes** them by classifying their parts,
- c. looks for **generalizations** in these descriptions, and
- d. creates a **model** of grammar that can express these generalizations.

Linguistics deals with (i) narrow data from a part of the system, but with a wide cross-linguistic comparison of such data, and with (ii) concrete descriptions leading to abstract generalizations that express their common features.

In evaluating or comparing linguistic analyses/hypotheses/ theories, we consider **three levels of adequacy**.

- (14) Levels of adequacy of models of grammar:
 - i. **Observational adequacy** requires the model to reflect the empirical data correctly, as in (13)(a-b).
 - ii. **Descriptive adequacy** is achieved when symbols and categories of the model express not just the empirical data but also the generalizations in the descriptions of data, as in (13)(c).

⁵ The topics and concepts used in linguistics are discussed in more detail and demonstrated in any general introduction into linguistics. For English, a representative textbook is, e.g. Akmajian et al. (2017). Some discussion to the topic appears also in many English grammar manuals, such as Huddleston and Pullum (2002: 2-16), Huddleston and Pullum (2005: 1-10;), Akmajian et al. (1990: 1-10), and Crystal (1987: 395-414).

- iii. **Explanatory adequacy** is the top level of adequacy. It requires individual rules to be **integrated** parts of a whole **formalized system**, as in (13)(d).

When studying a language, we have to distinguish the features which are common to all languages - **general universals** (e.g. all languages have essentially the same parts of speech and central phonetic features) - from the **language-specific features**, which are typical for only a group of languages or even one language. Thus, some languages have morphological Case on Adjectives, e.g. Czech and German, while others do not, e.g. English and French. These distinctions are the subject matter of **comparative linguistics**.

1.5 Linguistics as a Science

Nineteenth century linguistics, which can be considered scientific using today's criteria (that is, it is predictive in some non-trivial sense), described historical or "diachronic" sound changes in Indo-European languages. Then, the twentieth century brought about revolutionary changes. **Ferdinand de Saussure's** *Course in General Linguistics* (1915) introduced two central ideas:

- (15) (a) The distinction between **diachronic** and **synchronic linguistics**, which is the study of language as a system in the brains of speakers, which has no (significant) historical dimension. Except for learning new vocabulary, an adult's grammar typically does not change.
- (b) The distinction between **langue** 'language' and **parole** 'speech'.

For de Saussure, all speakers of the same language share **langue**, the same store of words and morphemes, which he calls "**signs**." The relation between sound and meaning for each sign in a language is **arbitrary**.

Parole is how individuals choose to use items from their langue in making up utterances communicating with each other. Thus, the parole of any two speakers, how they choose to use their language, is different.

Noam Chomsky's monograph *Syntactic Structures* (1957) proposed that natural language grammars can be represented as **formal systems** that combine minimal units of meaning (= "morphemes") into well-formed sentences of a language. In his next monograph, *Aspects of the Theory of Syntax* (1965), Chomsky further argued that humans are **innately** disposed as small children to acquire such grammars without instruction. This ability to acquire, understand, and produce language is linguistic **competence**. The actual use of language in particular real life contexts is **performance**. Chomsky's competence not only includes knowledge of a lexicon (= de Saussure's **langue**), but the **combinatory principles of grammar** (syntax).

In the second half of the twentieth century, many fields of linguistics developed that deal with the **use** of language, i.e. **why** and **how** people use the existing language code. Those present day autonomous fields include pragmatics, text analysis, sociolinguistics, psycho-linguistics, neuro-linguistics, and many others. Combined

with statistical methods, these fields represent a large proportion of present day linguistic research. I am not going to discuss these fields here; rather, I will be concentrating on formal grammar.

1.5.1 A note about taxonomies

Studying linguistics, one soon notices that each framework (functional grammar, construction grammar, generative grammar, etc.) uses specific terminology. Some terms or labels are shared among several frameworks (but sometimes with distinct definitions in a given approach), and some are special. It is important to realize that all labels used in grammar for classifications, such as parts of speech or sentence functions, do **not** denote in themselves any real entities. The classification is always an integral part of a specific theoretical framework, and only the framework provides its justification. In this regard, the following from Fillmore (1977: 68) is appropriate:

- (16) “Taxonomy is to be valued if it provides a convenient and revealing conceptual organization of the entities in its realm... in our case something in terms of which grammatical and semantic generalizations can be easily formulated.”

More generally, terminology or labels must reflect some theoretical claim about the assumed similarity between items classified in the same way. That is, in saying that an element X is “a Noun” or “an Attribute,” I am claiming that X has the properties and behaviour that a specific theory assigns to a concept of “Noun” or “Attribute.” If the labels do not correlate with clearly defined properties/ characteristics/behaviours, they are of no use in science.

1.6 How to Evaluate Linguistic Data

Linguistics is an empirical science – its claims are based on linguistic data. Apart from using the empirical data found in various kinds of corpora, linguistics considers, especially for the purposes of argumentation, the data obtained from informants. Many seem to realize that native speakers have rather clear **intuitions** (a) about the well-formedness of strings of words, and (b) even about their structure, such as what constitute natural groupings. A language structure thus can/must be evaluated with respect to:

- (17) (a) its appropriate **usage** (in pragmatic contexts)
(b) its semantic interpretation (**meaning**)
(c) its **form** (grammaticality).

There is a problematic relation between areas of competence. Chomsky (1977: 4) proposed that

- (18) “we may make an intuitive judgment that some linguistic expression is odd or deviant. But we cannot in general know, pre-theoretically, whether this deviance is a matter of syntax, semantics, pragmatics, belief, memory limitations, style,

etc., or even whether these are appropriate categories for the interpretation of the judgment in question. It is an obvious and uncontroversial fact that informant judgments do not fall neatly into clear categories: syntactic, semantic, etc.”

The following examples are evaluations with respect to **pragmatic competence**, i.e. those relevant in (some field of) theory of language use. A pragmatically unacceptable structure is marked with a question mark as ?. (The examples (g, h) are from Chomsky (1965: Ch. 1)).

- (19) a. ? *an honest geranium*
 b. ? *The man next door swears it never loses its temper with anyone.*
 c. ? *the tree who we saw*
 d. ? *Each human being has two or three eyes.*
 e. ? *William might have been pregnant but he had a miscarriage.*
 f. ? *The umbrella is flying with the bathroom.*
 g. ? *Colorless green ideas sleep furiously.*
 h. ? *I'm memorizing the score of the sonata I hope to compose someday.*

As for **semantic competence**, in the next examples the semantically unacceptable structure is marked with an exclamation mark as !. Notice the variety of “problems” includes meaning of an individual lexical entry as in (20), which illustrates non-factive vs. factive verbs, and co-reference in (21), which shows that there are **rules for possible co-reference** (co-reference is marked by indices).

- (20) a. *He thought that Elisabeth was there, but it turned out that she wasn't.*
 b. ! *He **realized** that Elisabeth was here, but it turned out that she wasn't.*
- (21) a. *The man_i knew that somebody saw him_i*
 b. !/**He_i knew that somebody saw the man_i*
 c. *He_i hoped that Mary loved him_i.*
 d. *Who_i hoped that Mary loved him_{i or j}?*
 e. *Who_i did he_j hope that Mary loved?*
 f. **Who_i did he_i hope that Mary loved?*

If the interpretation of a specific phenomenon depends on the underlying syntactic structure (e.g. co-reference, scope, etc) the semantic evaluation is explained referring to grammatical competence. Obviously, “the borderline between grammar and semantics is unclear, and linguists will draw the line variously... Similarly, the borderline between grammar and pragmatics (and even more between semantics and pragmatics) is unclear.” (Quirk et al. 2004: 16) For **grammatical competence (grammaticality)**, the violation of the form is marked as * in the following examples:

- (22) a. **Will you opening the window?*
 b. **Opens the window, please!*
 c. **Each room have two or three window.*

- d. **Jane might be had pregnant but she had miscarriage.*
- e. **The witch flying is with straw some broom.*

Although it may be difficult for the non-linguist to distinguish the reason for ungrammaticality (native speakers often resort to the rather vague “it doesn’t make sense” even in cases when the problem is not at the level of ‘sense’ or semantics at all), the reason for ungrammaticality has to be found. It has to be **explained** referring to some rules and/or principles, which the unacceptable sentence violates. Compare the following variety of unacceptability in specific parts of linguistic competence.

- (23) Phonological acceptability:
 - a. *blick* vs. **bnick*
 - b. *SEntence* vs. **seNTENCE*
- (24) Morphological acceptability:
 - a. *men* vs. **mans*
 - b. *tigress* vs. **horsess*
- (25) Syntactic acceptability:
 - a. **I sent a copy to him out.*
 - b. **Oscar visited in January Rome.*

1.6.1 Negative evidence in grammar

Testing grammaticality (native speaker judgments) is the main method for studying a linguistic system. Grammatical examples, however, illustrate possibility, not the rules themselves. The rules are defined correctly only when their violation results in ungrammaticality. So we have to find examples of **contrasting acceptability** to demonstrate the potentials and limits of the system – i.e. the rules of the system.

Look at the following examples in (26). A hypothesis concerning word-order crucially depends on the ungrammatical examples, ignoring considerations of frequency, special interpretations, etc. In other words, making a claim about word order, we have to show the contrasting examples, one of which is ungrammatical. The Czech examples on the right are equivalents of the English ones on the left (with Case marking on the Noun Mary_{NOM} and Feminine agreement of Predicate Verb. (The label % means that the example is acceptable to some speakers only.)

- | | | | | | |
|------|-----|----|--------------------------------|-----|-------------------------------|
| (26) | SVO | a. | <i>Mary wrote the letter.</i> | a’. | <i>Marie napsala dopis.</i> |
| | SOV | b. | <i>*Mary the letter wrote.</i> | b’. | <i>% Marie dopis napsala.</i> |
| | OVS | c. | <i>*The letter wrote Mary.</i> | c’. | <i>Dopis napsala Marie.</i> |
| | OSV | d. | <i>The letter Mary wrote.</i> | d’. | <i>% Dopis Marie napsala.</i> |
| | VSO | e. | <i>*Wrote Mary the letter.</i> | e’. | <i>% Napsala Marie dopis.</i> |
| | VOS | f. | <i>*Wrote the letter Mary.</i> | f’. | <i>% Napsala dopis Marie.</i> |

Linguistic research in formal grammar (a research programme in terms of Lakatos 1978) can be viewed as a sequence of problems in a prioritized order. This set of priorities, and the associated set of preferred techniques, is the positive heuristic of a programme science proceeds. It goes on through repeated **cycles of observation, induction, and hypothesis-testing**, with the test of consistency with empirical

evidence being imposed at each stage. The rules must be demonstrated to have a **predictive** power. We have to show that a violation of the proposed grammatical rule leads to ungrammaticality. The claim is right only when we cannot produce some relevant counterexample.⁶

⁶ Eddington (2008) provided a good introduction to empirical and non-empirical approaches to linguistics by examining the extent to which they practice the scientific method. He shows that valid explanations about actual language processing rely on adherence to scientific methodology.

2 MORPHEMES

As mentioned in the introductory section, this study will cover the topics concerning the traditional **levels of linguistic analysis** (the divisions within formal linguistics). Each level includes its specific primitives and topics. Starting with morphology and word formation, we will first concentrate on morphological taxonomy.⁷

The basic units in morphology are morphemes and allomorphs. The following is a definition used by Leonard Bloomfield, the “father of American structuralism,” in his classic volume *Language* (1933).⁸

- (1) ‘A morpheme is the smallest element of a language which **carries a meaning**.’

This definition raises another question: What is “meaning?” In language, everything has ‘some’ meaning, that is, it has some reason/function/role in the system of expression/communication. I will discuss this problem in the next section.

In a detailed language specific morphological analysis, the term “allomorph” is also used when what appear at first to be several morphemes are simply different contextually determined pronunciations of a single more abstract morpheme. Thus, we say that *a* and *an* are allomorphs of a single morpheme called the indefinite article, and that the endings *-es* (*he teach-es*) and *-s* (in *she think-s*) are allomorphs of a single agreement suffixal morpheme that expresses the same “meaning” or “function” in the communication system. For simplicity, in this study I am going to use the label morpheme mainly for concrete overt morphology, i.e. I will ignore, if possible, the distinction between morpheme and allomorph. Abstract “morphemes” are frequently labelled here as features.

2.1 Lexical and Non-lexical Meanings of Morphemes

Morphology is a realization of both (a) **lexical** (inherent) meaning, and (b) **grammatical** (combinatorial) meaning/function in a system. Consider the example below. To determine the meaning of all parts of the Czech word, we need to know not only the lexical meaning of the verbal stem, but also the meanings of other parts of the word, which refer to more grammaticalized kinds of meaning.

- (2) *přeskakovali* = *přes* + ***skak*** + *ova* + *l* + *i*
over + jump + IMPERF + PAST + M.P
‘they jumped over’

⁷ General terminology related to morphological analysis can be found in Huddleston and Pullum (2002: 1567-1579); Huddleston and Pullum (2005: 264-290); Crystal (1987: 88-100); Dušková (1994: 13-22); Akmajian et al. (1990: 11-52); Finegan and Besnier (1989: 85-124); and Fromkin and Rodman (1990: 122-157).

⁸ Keep in mind that sound segments (= “phonemes”) can distinguish meanings, but they do not carry meaning themselves.

Lexical morphemes can be atomic or primitive stems and also fixed combinations of them with other morphemes that are stored in a speaker's **mental lexicon**. We cannot so simply list all of them – they express a vast number of meanings – they reflect all sorts of human concepts and new concepts can be invented and labelled any time. One needs only reflect on the variety and complexity of the meanings and connotations associated with the following diverse list of words:

- (3) *age, believe, boy, China, Christmas, deal, direction, disconcerting, flaw, free, evolution, game, intervene, Islam, love, photo montage, road block, sense, undermine, vacuum, vegetable*

Computational linguists estimate that native speakers easily control about 30,000 lexical entries of the word types seen in this list above, including compounds, derivational formations, etc. It is almost impossible to grasp the scale and breadth of concepts and meanings expressed by a speaker's lexically stored morphemes.

Non-lexical/grammatical morphemes are, in contrast, far from infinite or even indefinite in number. They are the **core of the grammar**, or the combinatorial system of a language, i.e. their number, form, positions, combinations, etc., define the limited variety and specific typological characteristics of a specific language (e.g. Czech, English, Finnish, Korean, Navajo, Spanish, Swahili, etc. – all of which have their specific grammatical morphemes, which do not necessarily have full equivalents in the other language).

Grammatical meanings. For some morphemes, their 'meaning/function' is simply to be itself a member of a category or to assign a grammatical category:

- (4) [N]: *one, thing, stuff, dark-ness, govern-ment, stupid-ity, brother-hood*
 [Adj]: *such, atom-ic, colour-ful, green-eye-d, inter-nation-al*
 [V]: *do, have, be, dark-en, modern-ize, intens-ify, celebr-ate*

Some morphemes provide a **grammaticalized (simplified, regular) meaning** within existing language specific limits. They express "grammatical features," such as animate, count, concrete for Nouns. Certain minimal morphemes can signal no more than a most basic relation, a configuration, a phrasal grouping. Consider:

- (5) *book of good stories, lack of money, the King of Kings, a matter of fact*

The English morpheme *of* exemplified above introduces NPs inside larger NPs. It signals the relation of **Attribute** between a modifying Noun and the preceding head Noun. It has no other function or meaning in this position.

In (6)(a), the Czech morpheme *-á* in *vysok-á* (tall) is a morpheme of **agreement** (in Gender, Number and Case), which signals that the expression is related to a feminine Noun *dívka* (girl). Similarly, in (b) the form *starými* shows agreement with the Noun *domy* (houses). In English, there is not much of an agreement morphology, but in (c) the demonstrative *these* contains a morpheme of agreement in Number, which signals

that it is related to a plural Noun. This agreement is obligatory, as demonstrated with the contrasted *this*.

- (6) a. *vysok-á* *dívka*
 tall_{SF.NOM} girl_{SF.NOM}
- b. *se* *starý-mi* *domy*
 with old_{MP.INS} houses_{MP.INS}
- c. *the-se young boy-s, *this young boys*

In the following example (7), the *-s* in *his* in (a) marks the function of *he* with regard to the Noun *picture*, and such a function is interpreted in the role of the Agent, Patient, or Possessor of *he*. On the other hand, in (b) the *-s* in *reads* does not modify the lexical meaning of the stem, i.e. the reading activity is identical with or without the morpheme *-s*. The morpheme *-s* is here simply **configurational**; it signals that the Verb *read* is related to a Subject and the Subject is 3rd Person singular.

- (7) a. *hi-s only accurate picture*
 b. *Helen read-s well.*

In (8)(a) we can see morphemes or more properly allomorphs, of the configurational feature Case, which shows a structural **relation** to another member of the phrase. Here, the suffix *-m* marks the Object function of the Pronoun *he* with regard to the Verb *kill* or the Preposition *with*. Such a function is interpreted as indicating that the Object (of a Verb or Preposition) is affected. These meanings include that in (a) he is dead, and in (b) he was spoken to.

- (8) a. [Case: Genitive/Accusative] *hi-s, hi-m*
- b. i. *So they killed hi-m right away.*
 ii. *She spoke with hi-m every day.*

Grammatical morphemes typically represent a **marked setting** of a relevant feature. Some English features of grammar are provided below together with the standard formatting.

- (9) **Feature:** a (usually) binary property of sound segments and grammatical categories. E.g. \pm VOICING, \pm NUMBER, \pm TENSE

- (10) a. [Number: singular/plural] *book-s*
 b. [Tense: present/past/future] *govern-s, govern-ed, will govern*
 c. [Aspect: perfect/progressive] *has stopp-ed, is stopp-ing*
 d. [Grade: comparative/superlative] *short-er, short-est*
 e. [INF: no agreement with Predicate] *to govern, to have gone*
 f. [CASE: Subject/Object/Genitive] *he, hi-m, hi-s*

2.2 Criteria for Dividing Morphemes

Morphemes are traditionally classified according to several criteria. Those used most frequently are as follows:

- (11) (a) - with respect to the **meaning or function** of the morpheme,
- (b) - with respect to the **independent occurrence** of the morpheme,
- (c) - with respect to their **position**, if the morpheme is an affix.

2.2.1 The meaning/ function of the morpheme

We discussed a variety of “meanings” of a morpheme in Section 2.1. With respect to the kinds of meaning, we can recognize a variety of morpheme types:

- (12) A. **LEXICAL**: stems (free vs. bound)
- B. **NON-LEXICAL**: functional word (free) vs. affix (bound to a stem)
 - (a) **DERIVATIONAL affixes** create a new word or a different category.
 - (b) **INFLECTIONAL affixes** create a specific form within a paradigm.

English representatives of morpheme taxonomy based on meaning are given below. First some typical derivational affix are provided:

- | | | | |
|------|----|-------------------------|------------------------------|
| (13) | a. | <i>writ+er</i> | V→N |
| | b. | <i>modern+ize</i> | Adj→V |
| | c. | <i>modern+ize+ation</i> | Adj→V→N |
| | d. | <i>nation+al+ity</i> | N→Adj→N |
| | e. | <i>king+dom</i> | N (Person)→N (region) |
| | f. | <i>instruct+ive</i> | V→Adj |
| | g. | <i>thirteen+th</i> | Num (cardinal)→Adj (ordinal) |

The following combinations illustrate English inflections. They are morphemes realizing optional categorial features on free lexical morphemes.

- | | | | |
|------|----|------------------------------|-------------------|
| (14) | a. | <i>governor+s, match+es</i> | N (plural) |
| | b. | <i>long+er, pretti+er,</i> | Adj (comparative) |
| | c. | <i>stopp-ed, is read+ing</i> | V (Tense, Aspect) |

2.2.1.1 Paradigms: Declensions and Conjugations.

As illustrated below, compared with, e.g. Czech, English has a relatively impoverished repertory of inflections.

- (15) Nominal and pronominal paradigms (**declensions**)
 - a. *he, his, him*

- b. *woman, woman's, women, women's*
- c. Czech Pronouns: *on* (he_{NOM}), *něho*(he_{GEN}), *jemu* (he_{DAT}),
- d. Czech Nouns: *žena* (woman_{NOM}), *ženu* (woman_{ACC}), *ženou* (woman_{INS}).

(16) Verbal paradigms (**conjugations**)

- a. *help, helps, helping, helped; hide, hides, hiding, hid, hidden*
- b. Czech Verbs: *pomáhám/-áš* (help_{1/2SPres}), *pomáhal jsem/jsi* (help_{1/2SPast}), *budu/-eš pomáhat* (help_{1/2SPFut}) .

2.2.2 The independent occurrence of the morpheme

A taxonomy of morphemes based on the independence of individual morphemes is one of the main **typologically** relevant characteristics of a specific language. (See Chapter 5) In Indo-European languages, this characteristic is focused on, above all, the non-lexical morphemes. In English, stems (Roots) are typically free - contrary to, e.g. Czech, they can appear in separation.

- (17) a. **BOUND** morphemes (bound stems and affixes)
 b. **FREE** morphemes (content words and function words)

The following examples provide representative tokens of both free and bound morphemes in English, Czech (CZ) and Spanish. Notice that in (c) the English variety represents a lexical morpheme and in (f) a phrasal inflection.

- | | | |
|---------|--|---|
| (18) a. | <i>more beautiful</i> | vs. <i>pretti-er</i> |
| b. | <i>to read</i> | vs. CZ: <i>čís-t</i> |
| c. | <i>little apple</i> | vs. CZ: <i>jabl-ičko</i> |
| d. | <i>will not go</i> | vs. <i>won't go</i> |
| e. | <i>bude říkat</i> (CZ: will _{3S} say) | vs. <i>hablar-á</i> (Spanish: talk _{3SFut}) |
| f. | <i>the shoes of the girl from Prague</i> | vs. <i>the girl from Prague's shoes</i> |
| g. | <i>a friend of mine is coming soon</i> | vs. <i>a friend of mine's coming soon</i> |

2.2.3 Position of the morpheme with respect to the stem

A traditional morpheme taxonomy also refers to the linear position of the (non-lexical) morphemes, i.e. affixes, with respect to the stem/Root. It distinguishes: (a) prefix, (b) suffix, (c) circumfix, and (d) in(ter)fix. Their variety is illustrated below. Notice that the typological characteristics of a specific language usually reflect that language's most representative structure, but that a language can easily exhibit other types of morphology as well.

(19) Morpheme taxonomy based on position with respect to a stem:

- a. Prefixes: *en-rich, ex-minister, mis-read, over-sleep, re-design, under-fed*
- b. Suffixes: *atom-ic, brother-ly dark-ness, govern-ment, intens-ify, modern-ize*

- c. Circumfixes: some Czech collective Nouns, e.g. *sou-ostrov-í*, (archipelago') or some German past participles, e.g. *ge-hab-t* 'had'
- d. Infixes: rare in English, e.g. *abso-bloody-lutely*, and Czech, e.g. *to-ho-to* (this_{GEN}), *to-mu-to* (this_{DAT}).

In traditional linguistics, terminology was originally established for mainly Indo-European languages, and therefore it combines more criteria mentioned above and uses a specific label for the most frequent combinations.

(20) Morpheme taxonomy (combining more criteria)

- a. bound lexical morpheme = a base
- b. free lexical morpheme = a content word
- c. bound non-lexical morpheme = a base, an affix, or a contracted form
- d. free non-lexical morpheme = a function(al) word
- e. bound inflectional morpheme = an ending or an affix

The taxonomy of morphemes is rather complex and contains many terms. However, recall the role of taxonomy discussed in Section 1.5.1. The aim of linguistics is not to provide complex labels but to find generalizations (and reasons) about the behaviour of the system. Therefore, in the following section we will not concentrate on labelling but will try to describe the characteristics of specific groups of morphemes instead.

2.3 Morphemes (Features) and Their Realizations

Since de Saussure's distinction of **langue** vs. **parole**, each primitive of a relevant linguistic level can be defined as an abstract element (part of langue) or a physical realization of the abstract element (part of the parole). In this text, I label the langue element as a **feature** and its realization in parole as a **morpheme**.

(21) Some single morphemes/features (in English):

- a. Plural of the Nouns
- b. Past Tense of the Verb
- c. Event nominalization (using English *-ing* and Czech *-ny* on Verbs)

The realized morphemes of features in (21) are given in (23). We can see that the overt morphological realization (allomorphs, elements of parole) of the abstract features hardly ever appear as a free variation. They are subject to a variety of conditions. Those are listed below and demonstrated respectively.

(22) Conditions on realization of morphemes

- a. **phonetic** conditioning, like *[-s/-z/-iz]* in (23)(a)
- b. **syntactic** conditioning, like (23)(b)
- c. **lexical**, like (23)(c)

- (23) Overt realizations (allomorphs) of abstract features (morphemes)
- Plural: -s [-s/-z/-iz] /-en /Ø: *cats, keys, bushes, oxen, deer*- Ø
 - Past: *was* if the Subject is grammatically singular, *were* elsewhere
 - Event nominal: -(t)ion/ -ment/ -al/ Ø, ... / -ing (default):
re-ceive>re-cept-ion, develop(ment), deny>deni-al, arrest- Ø, eat(ing)

2.4 Level of Abstraction in Morphology

The subject of general linguistic theory is an abstract language system valid across languages (de Saussure's **langue**, Chomsky's **competence**). In reality, however, the data come from instances of a specific language (de Saussure's **parole**, Chomsky's **performance**). The history of language study shows us that the linking of abstract features and their combinatorial rules to some language specific overt morphology are never simple and direct. Thus, based on some preferred strategy, a linguist can concentrate on morphological structure in terms of performance, i.e. perceive morphology as physical concatenations of concrete 'elements' and describe morphological processes as adding material to specific strings.

On the other hand, one can study morphology as an abstract system applying abstract rules to abstract features. The latter (competence centred) framework requires a derivational approach. i.e. a framework that assumes some ordering of inserting morphemes into an abstract structure formed in accord with some abstract principles.

The following sections demonstrate some advantages and disadvantages of each approach. They show that although overt morphology is often a good signal of underlying structure, there are examples of structures that are plausibly results of a specific (theory-based) level of insertion.

2.4.1 Combing morphemes: Early and late insertion

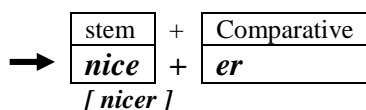
The parole-based analytical strategy, i.e. the hypothesis that morphology combines overt phonetic units (morphemes), is justified by English examples as in (10), (13), and (14) and the following transparent Czech examples in (24).

- (24) **Affixation** to a stem
- prefixes *NA-rostl* (grew up)/ *DE-stabilize* (destabilize)
 - suffixes *bez to-HO chlapce* (without that_{GEN} boy), *modern-IZE*
 - infixes *bez to-HO-to chlapce* (without this_{GEN} boy)
 - circumfixes *chodi-LA BYCH* (go_{SF} would_{1S}).

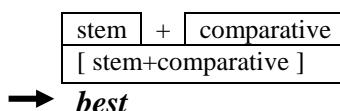
However, although the transparent examples of the type illustrated above probably statistically prevail in a language, there are also other examples that make this simplified view less plausible. To properly analyze the examples below, a linguist has to refer to a kind of **derivational** approach and late insertion, which builds the structure from abstract elements and realizes the resulting structure as a whole at the end of derivation.

The distinction is illustrated below: with the English comparative *nicer* we can assume that the real morphemes *nice* and *er* were inserted (marked by the arrow in the example below) into two separate slots, ‘stem’ and ‘comparative’, and only then were they put together to form *nicer*. With *best*, however, this strategy would generate the ungrammatical form **gooder*. Therefore we have to assume that the abstract morphemes ‘stem’ and ‘comparative’ were first put together, and only then was the phonetic form inserted (the so-called late insertion strategy).

(25) **Early insertion**



Late insertion



The existence of late insertion is supported by the phenomena of suppletion between bases or stems, which seem to have an identical core meaning: Suppletion can be full as in (26)(a) or partial as in (b).⁹ In English, partial suppletion typically involves different bases with the common phonetic part being only the same initial consonant clusters.

- (26) a. *go*>*went*, *good*>*better*>*best*, *she*>*her*, *is*>*are*, *two*>*second*
 b. *France* > *French* > *franco-phil*, *Franco-American*
fly > *flew* > *flown*; *three* > *third* > *thirty*

If one insists that morphology only involves concrete units, i.e. the early insertion strategy, then one is forced to say there are some phonological relations between say *go* and *went*, and *she* and *her*, or that the vowels in *fly* and *flew* are related to grammatical Tense. Such relations would be fully ad hoc and obscure the regular pattern to which their abstract features conform.

Other phenomena supporting derivational late insertion is **cliticization** to a stem. In English, it is usually called **contraction** and written with apostrophes.

- (27) a. *He is not at home. He isn't at home. He's not at home.*
 b. *They're not reliable. They aren't reliable.*

The next examples illustrate another type of modification of abstract morphemes. In this case, there must be a structural difference between two forms, but it is nowhere to be seen among the actual concrete morphemes. For example, null/zero affixation thus can bring about a category change; this is also called **conversion**. Notice that there is no overt morphology in spite of the fact that the same feature is present and interpreted in different categories.

⁹ Regular phonetic conditioning and conventional spelling changes are not suppletion (*stop*>*stop-ed*, *edit*>*edited*, *find*>*finds*, *nice*>*nic-er*, *city*>*cities*, *tomato*>*tomatoes*).

- (28) a. *the cut/ stop/ talk/ defeat/ phone* vs. *to cut/ stop/ talk/ defeat/ phone*
 b. *he is already back* vs. *to back his team* vs. *my back hurts*
 c. *Šel okolo našeho domu.* vs. *Šel jenom tak okolo.*
 went_{3S} around our house went_{3S} only just around
 ‘He went around our house.’ ‘He just only went around.’
 d. *Objednal si dršťkovou.* vs. *Objednal si dršťkovou polévku.*
 ordered_{3SM} REFL tripe_{FS.ACC} ordered_{3SM} REFL tripe_{FS.ACC} soup
 ‘He ordered a tripe soup.’ ‘He ordered a tripe soup.’

Assuming the late insertion of morphemes, the problematic examples in the preceding paragraphs (suppletion and conversion) can be explained with a minimum of stipulation. This langue-based model assumes that suppletive forms are “not yet present/inserted” when, for example, *go* and *went* or *she* and *her* have the same features, and hence have the same behaviour.

However, accepting late insertion as the **only general strategy** leads to some other problems that have to be solved. What are these late insertions ‘subsequent’ to? If the abstract rules do not depend on words that actually exist in, e.g. sound structure, then they are all regular and productive and say little about how the real forms of a language combine. What describes a given language are the conditions and contexts for inserting specific morphemes.

Moreover, some morphological processes do not seem to just “add things” to existing strings of morphemes: Some processes seem to apply to some underlying abstract forms, but their outputs are very concrete. A good example of such a process is a **phonological alternation** in a stem. A variety of those changes, which can occur in both inflection and derivation, is listed and demonstrated below.¹⁰

- (29) a. a stress change, e.g. final stress on a V changes to initial stress on an N;
 b. a vowel quality change - in length, height or in quantity (more technically, ablaut or apophony);
 c. consonant mutation.
- (30) a. *construct, contrast, increase, import, record, torment, transport*
 b. *lead>led, loose>loss, meet>met, hide>hid, choose>choice*
 ablaut/ apophony *sing>sang>sung, tell>told, mouse>mice, foot>feet*
 c. inflection: *bend > bent, leaf > leaves, hoof > hooves*
 N>V: *advice>advise, mouth>mouthe, belief>believe, extent>extend, use*
 and *house*, where spelling doesn’t reflect the final voicing contrasts.

Another morphological process that must refer to and specify physically real morphemes is the process of **reduplication** of a syllable or some skeletal form of one.

- (31) a. CZ: *mal-IN-ký > mali-LIN-katý* (CZ: small_{DEMIN}+_{DEMIN})

¹⁰ Notice that the processes demonstrated in (a)-(c) are never productive in English.

- b. Spanish: *poqu-IT-o* > *poqu-IT-IT-o* (Spanish: small_{DEMIN+DEMIN})

Some languages such as Latin use reduplication as a grammatical device. In English, it is mostly for word play, and is limited to spoken language. Nonetheless, some versions are common. In (32)(a), baby talk reduplicates trochaic words, replacing initial consonants with *w*-; in (b), reduplication can form compounds with regular left-hand stress, meaning ‘genuine, authentic’, and in (c) disdainful reduplication (AmE. slang, from Yiddish) replaces consonants before initial stress with *shm*-.

- (32) a. *bready-weady, butter-wutter; Daddy-waddy; milky-wilky*
 b. *salad-salad* (with no meat),
French-french (born in France or ethnically French),
city-city (not a small place more like a town),
coffee-coffee (not decaffeinated)
 c. *fancy-shmancy, bagel-shmagel, Rolex-shmolex.*

These demonstrated processes must apply in a derivation **subsequent** to the insertion of physically specified morphemes, because they can be adequately and accurately described only if they concretely modify given morphemes in phonologically systematic ways.

Morphological data in this section illustrate that to use only one strategy for morphological analysis leaves some significant empirical data unexplained. On the other hand, it seems economically defective to have several methods of combinations of morphemes (i.e. both the langue-based and parole-based strategies). Therefore, in present day formal linguistics, the topic is still a programme of much theoretical research.¹¹

¹¹ For many more examples and related theoretical discussion, see Matthews (1974), Siegel (1979), Spenser (1991), Katamba (1993), and Lieber (2004). A theoretical solution consistent with the data illustrated here is proposed also in Veselovská and Emonds (2016), who propose the complex strategy of insertion, which is directly related to the typology of morphemes as it was listed in (12) on page 31.

3 VOCABULARY

In this chapter, we are going to discuss the properties of the lexicon and its parts, i.e. of the words and how they are constructed. Although not easy to define, words are intuitive units used in the morphological level of linguistics. Moreover, in many modern languages, speakers seem to have a uniform intuition as to what constitutes these units, as those that are literate have few problems in identifying them in writing as separate units.

The processes of word formation (i.e. the way morphemes combine to form words) and the resulting structure of the lexicon and lexical items are important parts of linguistic analysis. English word formation is discussed from a current linguistic perspective in, e.g. Bauer (1983), and described from the more traditional Czech perspective in Čermák (2010).¹²

3.1 The Lexicon

In linguistics we distinguish between “**word**” (a minimal free form) and “**lexeme**” (an entry, perhaps complex, that is listed in either a theoretically assumed mental lexicon or in a man-made dictionary). Some lexemes are smaller than a word (they are bound morphemes such as *aero-*, *-crat*, *mis-*, *re-* and some are larger (non-transparent compounds and idioms).

More generally, any lexical entry is comprised of **its form + its meaning**, i.e. it includes all the item’s specific (idiosyncratic, item-particular) phonological, morphological, syntactic and semantic information.

A lexicon (in this text we will use lexicon alternatively with the term vocabulary) is thus a **repository of lexical entries**. On the level of stylistics, the set of expressions stored in a lexicon, the memory of linguistic forms available to a native speaker, can be divided into a **centre/core** and a **periphery**.

The central lexical entries are frequently used items shared by the whole community of native speakers. The periphery represents items used only by some speakers and in some situations (neologisms, cultural innovations, technical terms, slang, archaisms). The periphery undergoes more modifications; new words enter the periphery of the lexicon and leave the lexicon after they became peripheral.

Grammatical elements and basic lexical words are among those in the stable centre. The position of a specific lexical entry in one or another part of the lexicon is subject to **diachrony** – a linguistic change of status over time.

¹² Introductory information about the lexicon and word formation can also be found in every standard grammar manual, e.g. Huddleston and Pullum (2002: 1623-1695), Huddleston and Pullum (2005: 264-290); Quirk et al. (2004: 1515-1586). A specialized but reader friendly monograph covering English vocabulary (both synchronically and diachronically) is provided, e.g. by Harley (2006).

3.2 Sources of Word Formation

For discussing word formation processes in a specific language, both diachronic and synchronic views are needed. As for the processes that lead to the introduction of a new lexical entry in the English lexicon, the following examples demonstrate the main productive ones as they appear in the literature.¹³

(1) Neologisms:

- a. Totally new forms are very rare, but can be found in slang. The current Verb *to diss someone* seems unrelated to its purported source *disrespect*.
- b. Old forms with new meanings: *snail-mail*, *awesome*, *to cruise*, *to surf*
- c. Generalized meanings, e.g. *Kleenex*, *Xerox*, *Pampers*, *cola*, *faucet*

(2) Loan words:

- a. *employ*, *international*, *infant*, *perfume*, *philosophy*, *ranch*, *table*, *zoo*
- b. *coffee*, *café*, *hatcheck*, *honcho*, *polka*, *robot*, *tepee*, *typhoon*, *sushi*, *trek*

Languages can differ in their tolerance for loans. The reasons may be social (from admiration to xenophobia) or formal. For example, some morphemically synthetic languages adapt new isolated words to existing paradigms, so some borrowings are ‘smoother’ than others. Thus, Czech easily borrows Nouns for inanimates that end in –*o*, since these become typical neuter stems (e.g. *domino*).

In this monograph, I am not going to deal with the sources of new lexical entries as they are listed above in (1) and (2), leaving them to other fields of linguistics. I will concentrate on those strategies that reflect the existing language combinatorial system, i.e. on creating new words by the combination of morphemes.

3.3 Word Formation by Composition

The most frequent method of word formation is composition, i.e. creating a new word from existing (usually productive) items independently listed in the lexicon. We can divide the method with respect to which kinds of morphemes are combined. They are listed in (3), and relevant examples follow in (4).¹⁴

- (3) a. **Compounding** (including **exocentric compounding**)
- b. **Derivation**: Combining listed stems and bound morphemes.

¹³ For more, see, e.g. Ostler (2003, 2008). The author describes cultural and historical trends in American youth slang, up-to-the-minute buzzwords, and colourful catch phrases. She explains sources and demystifies over 150 of these colourful but home-grown figures of American speech. She traces each saying from its first known appearance in print to its place in Modern English, uncovering a host of cultural and historical tidbits along the way.

¹⁴ The combination of a stem with inflection is usually not considered word formation, but the process is also a formation of words by morpheme combination, and without clear theoretical discussion, the exclusion of inflected forms is not obvious.

- c. **Paradigmatic change:** Combining stems with inflections.
 - d. **Blends, acronyms, back formation**, etc. There are several other diverse ways of forming new lexemes, both words and phrases.
- (4)
- a. *blue print, dry clean, livestock, trigger-happy, offshoot, water proof*
 - b. *a blow hard, a full blood, a give away, hot dog, long shot, namesake*
 - c. *brother-ly final-ize, invest-ment, mis-calculate, re-invent, writ-er bed-s, Ann-'s, think-s, wash-ed, spok-en, breath-ing, long-er, ugli-est*
 - c+d. *friend-li-est, de-magnet-ize-s, re-develop-ment-s, , re-low-er-ing*

Exocentric compounds are compounds that do not contain an obvious (especially semantic) head. In addition to examples in (b) above, other examples are easy to find:

- (5) *a break in, lazy bones, numbskull, pineapple, private eye; to backpack, to highball* (for a train to speed), *to downsize; high strung, cut throat* (ruthless)

I will demonstrate English word formation by derivation in more detail in Sections 3.3-3.6. Compounding and idioms are described in Chapter 4. In the following paragraphs, some less frequent English-specific methods of word formation are introduced together with examples.

3.3.1 *Diverse, less central word formations*

I. Quotation compounds are special fixed phrases used as single words usually but not exclusively as prenominal Attributes:

- (6) *hard-to-get items, do-it-yourself store, don-give-a-damn attitude, fly-by-night business, hand-me-down shirts, off the cuff speech.*

II. Blends/portmanteau words are new words made by combining parts of existing words (not common).

- (7) *smog* (<SMOke+foG), *motel* (<MOTor+hoTEL), *hi-fi*, *beefalo* (<BEEF + bufFALO), *phys-ed* (<PHYSical Education), and also *brunch, Eurasia, franglais, Tex-Mex.*

III. Abbreviations are created by shortening existing words.

- (8)
- a. **Initial** abbreviations: *IBM, MP, p.m., sob, UN, EU, ac-dc, pms*
 - b. **Acronyms:** *UNESCO, radar, wasp, NASA, snafu, WACS, awol*
 - c. **Clipping:** *bike, fridge, info, veg, detox(ify), butt(ocks), to con* (<confidence), *hype(rbole), mike* (<microphone), *rehab(ilitation)*

3.3.2 The nature of back formation

So-called back formation is relatively rare but interesting from a morphological point of view. It is a source of new stems derived by **analogy**, when some part of a word is analyzed as an affix or a stem, even if it is NOT historically one of these. Sometimes back formation can appear the same as clipping.

(9) Back formations:

- a. *televise* < *television*, *difficult* < *difficulty*, *medic* < *medical*, *bus* < *omnibus*
- b. *baby-sit* < *baby-sitter*, *chain-smoke* < *chain-smoker*, *dry clean* < *dry-cleaning*
- c. *burgle* < *burglar*, *edit* < *editor*, *crap* < *crapper* < *Thomas Crapper*
- d. *tummy* < *stomach*, *civvies* < *civilian wear*, *limo* < *limousine*, *loony* < *lunatic*

To claim that some word has been back-formed, we have to provide arguments about the likelihood of the steps in the process of this type of word formation. The arguments may result from:

- (a) more detailed morphological analysis,
- (b) knowledge of some specific morphological (word-formation) process,
- (c) knowledge of historical data.

Consider the examples below:

(10) i. *tele – vis – ion*

This is a regular complex word consisting of existing morphemes

- a. *tele-* e.g. *tele-phone*, *tele-graph*, *tele-pathy*
- b. *vis-* e.g. *vis-ibility*, *in-vis-ible*
- c. *-ion* e.g. *locat-ion*, *nat-ion*, *divis-ion*, *evas-ion*

ii. *televise*

Of which morphemes does it consist?

- a. *tele-* e.g. *tele-phone*, *tele-graph*
- b. *vis-* e.g. *vis-ibility*, *in-vis-ible*

OR? * **-v-** BUT such a morpheme forming V does not exist!

- c. *-ise* e.g. *modern-ize*, *legal-ize*

Conclusion: the word '*televise*' could not be formed in a normal way. It must have been back-formed by speakers assuming an analogy with the words ending in *-ion*, which have their verbal source in *-ize* (*modern-ize* → *modernizat-ion*; *re-vise* → *revis-ion*).

Another example of back formation is the lexical entry *babysitting*. It is an instance of a regular (old, Germanic) process of compounding by incorporating Object

Nouns. This structure involves [N+ [V + *er/ing*]], never [N+V]. Exceptions are assumed to follow what is regular, not the opposite:

(11) *baby – sit – ing*

- | | | | |
|----|--------------------------|--------------|--------------------------------------|
| a. | <i>make coffee</i> | → | <i>coffee making, coffee maker</i> |
| | | BUT | * <i>to coffee make</i> |
| b. | <i>paint houses</i> | → | <i>house painting, house painter</i> |
| | | BUT | * <i>to house paint</i> |
| c. | <i>lay bricks</i> | → | <i>bricklaying, bricklayer</i> |
| | | BUT | * <i>to bricklay</i> |
| d. | <i>sit (with) a baby</i> | → | <i>baby sitting, baby sitter</i> |
| | | EXCEPTION!!! | <u><i>to baby sit</i></u> |
| e. | <i>smoke in a chain</i> | → | <i>chain smoking, chain smoker</i> |
| | | EXCEPTION!!! | <u><i>to chain smoke</i></u> |

Some derivations are even more complex, and the knowledge of historical and social data can thus be a source of information about a word's origin.

- (12) a. *Thomas Crapper* the name of an engineer
b. *crapper* the toilet Thomas Crapper invented and sold
c. *to crap / crappy* back-formed analogically to: *writ(+er)*, *crap(+er)*
- (13) a. *Hamburg* the name of a city
b. *hamburg+er* a food item made in Hamburg
c. *ham+burger* → *burger* (though *ham* was not a morpheme in *Hamburg*)
d. Compounding → *beef burger, cheese burger, fish burger, veggie burger*

3.4 Derivational Morphology

Productive derivational devices combining bound morphemes with stems are the main source of word formation.¹⁵ The productivity of a derivation follows from the rule-based processes of forming new words. We have to distinguish, however, real existing words from potential words (which can include isolated and occasional **nonce-words**: *uncomplicatedness*). Real words are listable, and are actually listed in dictionaries.

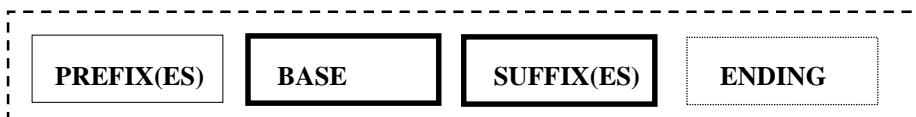
- (14) **Derivation:** Consists of creating a new word by combination of a base (or bases) and affix(es).

¹⁵ An English-based introduction to derivational morphology and related processes can be found in grammar manuals such as Huddleston and Pullum (2002: 1666-1720) and Huddleston and Pullum (2005: 264-290).

However, as far as the classification of individual morphemes can remain ambiguous, the classification of kinds of word-formation processes is also ambiguous.

The following scheme shows that in English derivational suffixes appear (more frequently) after the stem and preceding inflections. There can be more than one derivational affix and they follow in specific orders.

(15) **Word template**



3.5 The Open-endedness of the Lexicon

Productive derivations can produce an infinite number of words. In morphology, productivity is a matter of **degree, not a dichotomy**. Productivity is subject to a **dimension of time**. A certain process can become more or less productive over many years.

Productive vs. idiosyncratic or “frozen” morphemes: The English past participles *V-ed* are productive, while those formed with *V-en* are not. Productivity is related to linguistic creativity, which is of two types:

- (a) Standard linguistic competence of systemic potentials, using productive processes, creates and understands **novel sentences** (Chomsky 1965: Ch. 1).
- (b) Individual language performance can make innovations, for example in creating truly new words, and in composing poetic language.

3.6 Productivity of Derivations and Its Limits

Despite the general effect of productive processes of word formation, there are phonetic, morphological and semantic constraints that can restrict the application of some more general rules.

3.6.1 Blocking effect

A more specific (idiosyncratic) form takes preference over (blocks the existence and use of) a less specific (regular, formed in a standard way) form. This is the blocking principle of Aronoff (1976).

- (16)
- | | | | | |
|----|--------------|---|------------------|------------------------------------|
| a. | <i>write</i> | > | <i>writ-er</i> | |
| | <i>steal</i> | > | <i>*steal-er</i> | (blocked by idiosyncratic ‘thief’) |
| b. | <i>help</i> | > | <i>help-ed</i> | |
| | <i>write</i> | > | <i>*writ-ed</i> | (blocked by irregular ‘wrote’) |
| c. | <i>book</i> | > | <i>book-s</i> | |
| | <i>man</i> | > | <i>*man-s</i> | (blocked by irregular ‘men’) |

- d. *nice* > *nic-er*
 bad > **bad-er* (blocked by irregular ‘worse’)

The blocking effect explains why the presence of some morphology changes the interpretation of the stem.

- (17) *glass* (material, *-es) > *glass+es* (optical device.
The meaning ‘material’ is blocked)

3.6.2 Phonological limits on productivity

I can give several examples of phonological constraints on the productivity of specific derivational affixes. Some may have a formal (morphosyntactic) justification, but some seem to be purely phonological.

Example 1:

ADJ → ADV-*ly* cannot be used if it has a repetitive effect.

- (18) a. *easy* → *easily*, *stupid* → *stupidly*, *eerie* → *eerily*
 b. *friendly* → **friendlily*, *smelly* → **smellily*, *ghastly* → **ghastlily*

Example 2:

ADJ → V-*en* (inchoative V = ‘to begin to be ADJ/to cause to be ADJ’) (a) This derivation requires a monosyllabic base, and (b) the base must end in a stop or fricative. If these conditions are not fulfilled, this process cannot be used.

- (19)
- fast* > *fasten*, *soft* > *soften*, *dark* > *darken*, *loose* > *loosen*, *tough* > *toughen*
 - dry* > **dryen*, *blue* > **bluen*, *low* > **lowen*, *fine* > **finen*, *lame* > **lamen*
 - stupid* > **stupiden*, *morose* > **morosen*, *urgent* > **urgenten*, *alive* > **aliven*

Example 3:

The nominalizing *-al* requires a stem with final stress.

- (20) *arrive+al, arouse+al, deny+al, betray+al, rebut+al, refuse+al, reverse+al*

3.6.3 Morphological limits on productivity

Many languages have word structures with several affixes, and generally, the order of these morphemes in a specific language is fixed. Rather unusually, **English allows only one productive inflection per word**. This is unlike even similar languages like German: *ein sauer-er-er Apfel* ‘a more sour apple’.

- (21) a. *two boy-s; a boy-'s room; *two boys's room* (where *boys's* has two syllables),

- b. *some book-s; a book-'s ending; * two books's endings* (with two syllables)
- c. *that James family; those James-es are crazy; the James-'s car*¹⁶
- d. *men's room, women's room, *boys's room, *kids's room*

3.6.4 Semantic limits on productivity

Finally, specific restrictions on certain affixes can involve meaning. For instance, compound Adjectives forms ADJ+N+*ed* seem best for 'inalienable possession':

- (22) a. *red-roofed house, one-armed bandit, wide-eyed girl*
 b. **white-fenced house *two-gunned outlaw *long shirted guy*

All the morphological processes in this section have at least a certain degree of productivity, and some such as Possessive formation, are completely productive. Yet, all are subject to some restriction that requires reference not just to abstract syntactic combinations, but also to concrete morphological properties: stress placement, phonological content of adjacent segments, etc.

3.7 Classes of Morphemes

Three "levels" of morphemes are introduced in Allen (1978) and Siegel (1979). These authors divide non-lexical morphemes in English into three classes.

- (23) Allen and Siegel taxonomy of morphemes
- (a) Class I (often Romance):
 - a. *-tion, -ity, -ous, ...*
 - b. *in-, pro-, re-, ...*
 - (b) Class II (often Germanic):
 - a. *-ness, -ful, -ly, ...*
 - b. *un-, sub-, re-, ...*
 - (c) Class III: productive inflectional endings (suffixes, all Germanic)

The **level ordering of affixes** assumes a mixed level of insertion. It is based on a derivational approach to morphological and syntactic processes because, under this approach, word composition is a process interspersed among other processes. I next discuss an example of such a process:

(24) Derivation of nationalizations

- (a) Take a base and add one or more Class I affixes: *nation + al + ize + ation*.

¹⁶ As expected, two syllables with only one synchronic inflection is allowed. *Sherlock Holmes's arrogant; Sherlock Holmes's career* (two syllables ok)

- (b) Assign **word stress rules**, and apply non-automatic phonological processes.
- (c) Add affixes of Class II in their position: e.g. *de* + *nation* + *al* + *ize* + *ation*,
- (d) Add Class III affixes (regular inflection): *de* + *nation* + *al* + *ize* + *ation* + *s*.

The level/class of the morpheme predicts the position it will take in a more complex combination. Since Class I affixes always precede Class II affixes and Class III endings, these processes are **early lexical insertions** in a derivation. If affixes are not inserted in the order of their Class, ungrammaticality results.

- (25) a. *danger-ous-ly* **danger-ly-ous*
- b. *writ-er-s* **write-s-er*
- c. *courage-ous-ness* **courage-ness-ous*
- d. *abl-ity-s (abilities)* **able-s-ity*
- e. *character-iz-ing* **character-ing-ize*

In the model of Allen and Siegel, the level/Class of a morpheme predicts its ordering and type of interaction with phonology: Class I affixes undergo special **phonological processes**, while affixes of Classes II/III are **phonologically inert**.

- (26) **Assimilation** of Class I prefixes: *legal* → *in+legal* = *illegal*
real → *in+real* = *unreal* / **urreal*

Inertness of Class II: *lawful* → *un+lawful*
real → *un+real*

- (27) Class I **stress attraction** to stems: **Inertness** of Class II stress:

- a. *ocean* → *ocean* + *ic* *ocean* + *less*
- b. *conscience* → *conscient*-ious *conscience* + *ness*
- c. *rapid* → *rapid* + *ity* *candid* → *candid* + *ness*
- d. *pronounce* → *pronunci* + *ation* *pronounce* + *ment*

3.8 Conversion

Assuming that some kind of interpretation is available only in the presence of a relevant feature, current linguistics stipulates the existence of zero morphemes that carry the needed features in some contexts. Derivation of one lexical category from another by the use of such a zero (derivational) morpheme is called **conversion**.

In English, we distinguish a **true conversion**, where there is no phonological signal of the categorial change, and **partial conversion**, where the change is minimal. The minimal change may involve some stress, vowel, or consonant changes. It is frequent but no longer productive in present day English. Underlining here stands for the main stress.

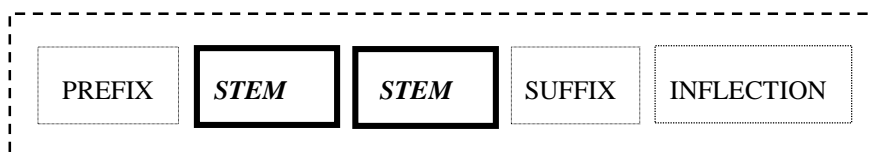
- (28) a. *construct (V)* > *construct (N)*., *increase (V)* > *increase (N)*.

- b. *loose>loss, choose>choice, sell> sale, sing>song, advise>advice,
believe>belief, extend>extent, see>sight.*

The analysis of the conversion depends on a theoretical framework. We can assume the presence of (a number of) zero categorial suffixes (null affixation). Alternatively, we can define the categories (parts of speech) in some structural manner.

4 MULTIPLE STEMS OF COMPOUNDS

Compounding: Creating a new lexical entry by combination of at least **two bases**.¹⁷



- (1) *Take the shirt to the **DRY CLEAN-er-s**'
and ask them about **re-DRY CLEAN-ing** it soon.*

Compounding is a fusion of individual words into one complex unit. It is a **process** on two levels: **semantic and formal**. Some **productive** (or “transparent”) **compounds** are fused only formally, but many **lexical** (or “opaque”) **compounds** are fused both formally and semantically.

Outside of exceptional cases, the bases are one of the **four lexical categories**, **N, V, A, P**, and the compound is also one of these same four lexical categories:

(2) **Compounds in the four lexical categories:**

- a. Nouns: *stairway, bus ticket, high street, meatloaf, think tank, holdover, outdoors;*
- b. Verbs: *brainstorm, sandblast, deep fry, underestimate, outswim, overtake;*
- c. Adjectives: *blue green, air tight, noise free, outspoken, ice cold, free standing;*
- d. Prepositions: *alongside, inside, on board, throughout, underneath, within.*

Most examples in (2) are lexical compounds, and often only this type is considered a true compound. The completeness of fusion is a matter of **degree, not a dichotomy**, and it is subject to the **dimension of time**. Moreover, distinct languages can define compounds in distinct ways. E.g. in Czech, orthography is crucial. In English, nothing stops the two bases from themselves being derived forms: *independence movement*.

Analyzing compounds, especially in English when orthography cannot be used as a reliable signal, one has to be able to distinguish a compound from a phrasal unit.

I. Phrase: a group of words that syntactic principles treat as a unit.

- a. **Free syntactic combination**, with transparent meaning, as in (3)(a);
- b. **Idioms**, with several bases connected by syntactic principles but functioning as single semantic units, i.e. the meaning is opaque, as in (3)(b).

¹⁷ For introductory English based information and data, see Huddleston and Pullum (2002: 1644-1666) and Huddleston and Pullum (2005: 264-290).

- (3) a. *That big cat likes to bite my tongue.*
 b. *The cat's got my tongue again today.*

II. Compound: a single word in a lexical category formed of multiple bases, which functions in the language structure as a single word.

- a. **Productive, transparent compounds**, as in (4)(a);
 b. **Lexical, opaque compounds**, as in (4)(b).

- (4) a. *tongue injury, blood stained, cat disease*
 b. *tongue-tied, tongue twister, blood money, catfight*

Many interesting contrasts can be made here, e.g. between (A) free syntactic combinations (standard collocations) and (B) opaque compounds:

- (5) A. *That bird is really black. Have you ever seen such a **black bird**?*
 B. *There are many **blackbirds** in the park. But some are not black at all.*

The distinctions between free syntactic combinations (phrases) and compounds can be organized as follows:

(6)	Phrasal syntax (A)	Compound words (B)
Free combinations; transparent or compositional semantics	Productive syntax: <i>A bad cat scratched my tongue.</i>	Productive compounds: <i>beef tongue; tongue stew</i>
Lexically fixed combinations; opaque semantics, and “fusion”	Idioms: <i>The cat's got my tongue.</i>	Lexical compounds: <i>tongue-tied; tongue- twister</i>

The process of *fusion* in compounding can and should be considered on several levels. We can test it (a) in orthography, (b) phonetics, (c) morphology, (d) syntax, and (e) semantics. Not all criteria need always be clear and attested – the final decision (terminological labelling) may depend on the language specific linguistic tradition used for investigation.¹⁸

4.1 No Standard Spelling for Compounds

For showing which combinations are compounds, orthography is the main (necessary and sufficient) criterion in Czech but not in English. English spelling is a sufficient but unnecessary sign of compounding. Many compounds are hyphenated or separated.

¹⁸ Practical references to idioms in American English can be found in, e.g. Spears (2005), Cryer (2012) or Oestler (2003, 2008).

Consider the following; the interpretations of “word formation” are presumably identical. Similarly, *care-taker*, *caretaker*, and *care taker* all seem acceptable.

- (7) a. Rohrer (1974): *Some Problems of Wordformation*.
 b. Aronoff (1976): *Word Formation in Generative Grammar*.
 c. Bauer (1983): *English Word-formation*.

4.2 Stress Placement

Bloomfield (1933): **Accent subordination** is a hallmark of English compounds. Compounds have one main stress, usually on the left-hand base (but not in all patterns). Any other stress is secondary. In contrast, the normal stress in English phrases is on the last lexical word. However, it is possible for an **Adjunct phrase**, as in (b) below, to follow a main phrasal stress.

(8) Stress difference in compounds and phrases

- | | | | |
|----|--|-----|--|
| a. | <i>to order iced (black) COFFEE</i> | vs. | <i>to order green ICE cream</i> |
| b. | <i>a white HOUSE with a garden</i> | vs. | <i>The WHITE House admission of defeat</i> |
| c. | <i>to DEEP fry (shrimp) can be fun</i> | vs. | <i>a deep DIVE can be dangerous</i> |
| d. | <i>that (huge) MOVING van</i> | vs. | <i>that (slowly) moving VAN</i> |

BUT: final stress is possible on several sub-types of Adjective headed compounds:

- (9) *apple PIE, man MADE, easy-GOING, pea GREEN, knee DEEP, dirt CHEAP*

So single stress on the left element is a **sufficient** but *not necessary* criterion for an English compound. Outside of contrastive stress, in free syntactic combinations the stress is rather on the right of a phrase.

4.3 Inflectional Morphology in Compounds

In the English word template, lexical morphemes are ordered in front of derivational and inflectional ones. Moreover, there is **no meaningful, productive inflection inside a true compound**. The apparent exceptions given in (i, j) are based on irregular inflections, i.e. they are not productive.

- (10)
- | | | | |
|----|----------------------|-------------------------|---------------------------|
| a. | <i>girl friend</i> | <i>girl friends</i> | <i>* girls friend</i> |
| b. | <i>short-sighted</i> | <i>*shorter-sighted</i> | |
| c. | <i>*scissor</i> | <i>scissors</i> | <i>scissor(*s)-hands</i> |
| d. | <i>*trouser</i> | <i>trousers</i> | <i>trouser(*s)-pocket</i> |
| e. | <i>*binocular</i> | <i>binoculars</i> | <i>binocular(*s)-case</i> |
| f. | <i>quick fried</i> | | <i>*quicker/est fried</i> |
| g. | <i>a clean up</i> | <i>clean ups</i> | <i>*a cleaned up</i> |

- | | | | |
|----|--------------------------|--------------------------|----------------------------------|
| h. | <i>a hand out</i> | <i>hand outs</i> | <i>*a handed out</i> |
| i. | <i>well-known</i> | <i>better-known</i> | <i>best-known</i> |
| j. | <i>a new men's store</i> | <i>a self-taught man</i> | <i>the children's department</i> |

4.4 Syntactic Transparency in Compounds

We can test whether a semantically opaque combination behaves as one syntactic word unit (a compound) or as a syntactic phrase consisting of several separable parts (for example, an idiom).

- | | | |
|------|--------------------------------|------------------------------------|
| (11) | Free syntactic complex | Idiom |
| a. | <i>when the chaps are back</i> | a'. <i>when the chips are down</i> |
| b. | <i>rule the country</i> | b'. <i>rule the roost</i> |
| c. | <i>a man from the village</i> | c'. <i>a man about town</i> |
| d. | <i>round the house</i> | d'. <i>round-the-clock</i> |
| e. | <i>as clean as you want</i> | e'. <i>(as) clean as a whistle</i> |

We can test whether a structure can be changed by some regular syntactic process.

Idioms can undergo syntactic operations to various degrees, but not always freely.

Compounds are **inert/frozen** with respect to syntax; they are syntactic atoms.

- I. **Enlarging a complex by additional material:** Nouns in a syntactic phrase can be premodified by semantically compatible Adjectives rather freely.
- II. **Passivization:**
A syntactic Verb phrase [Verb +Object] can be passivized.

Sometimes idioms do not allow much syntactic freedom:

- | | | |
|------|--------------------------------------|--|
| (12) | Free syntactic complex | Idiom |
| a. | <i>Hold your shoes.</i> | a'. <i>Hold your tongue.</i> |
| b. | <i>I held my/ his shoes.</i> | b'. <i>I held my/ *his tongue.</i> |
| c. | <i>Her shoes were held by Mary.</i> | c'. <i>*His tongue was held by John.</i> |
| d. | <i>It's her shoes that she held.</i> | d'. <i>*It's her tongue that she held.</i> |

Nonetheless, some other idioms keep a certain level of syntactic freedom:

- | | | |
|------|--------------------------------|---|
| (13) | Free syntactic complex | Idioms in the passive |
| a. | <i>break the ice</i> | a'. <i>The ice was finally broken by Mary.</i> |
| b. | <i>keep tabs on someone</i> | b'. <i>Tabs are being kept on new students.</i> |
| c. | <i>take someone for a ride</i> | c'. <i>The owner has been taken for a ride.</i> |

- III. **Questioning of separate parts:** Individual parts of a free syntactic Verb phrase (Objects, adverbials) can be questioned, but parts of idioms often cannot be:

- (14) Free syntactic complexes are in (A), while idioms are in (B).

A.	<i>stand here/ at the station</i>	<i>Where was he standing?</i>	<i>Here/ At the station.</i>
B.	<u><i>stand at attention</i></u>	<i>Where did he stand?</i>	<i>*At attention.</i>
A.	<i>take a coffee</i>	<i>What did you take?</i>	<i>A coffee.</i>
B.	<u><i>take courage</i></u>	<i>What did you take?</i>	<i>*Courage.</i>
A.	<i>have a bad cold</i>	<i>What does he have now?</i>	<i>A bad cold.</i>
B.	<u><i>have fun</i></u>	<i>What did you have?</i>	<i>*A lot of fun.</i>

Pre-modifying Adjectives can generally also be used as Predicates after a Copula, for example in a relative clause. With idioms, the same changes in the structure cause the **loss of the idiomatic meaning**, as below. (See also Section 4.5.)

- (15) *a colourful/ blue bird*
a. after a Copula: *The bird is colorful/ blue.*
b. in a relative clause: *A bird which is colourful/ blue*
- (16) *White House*
a. *after a Copula: **The president's house is white.*
b. *in a relative clause: **The protest is near the house that's white.*
- (17) *a darkroom*
a. *after a Copula: **That room is dark.*
b. *in a relative clause: **She used a room which was dark.*

4.5 Semantic Transparency in Compounds

The meaning of a lexical complex can be

- (a) **compositional** (=transparent) or
(b) **non-compositional** (=opaque).

Remember that “transparent” meaning includes (apart from the meaning of the individual parts) **syntagmatic information**, i.e. a hierarchy, with the kind of **relation** expressed in some formal way: by word order, morphology, etc. Thus, in the following pair of words, it is not enough to know the meaning of both. We must also know which is hierarchically higher and what is the function of the subordinate element.

- (18) Combining *friend* and *introduce*
a. *a friend introduced* *a friend* is the Agent of *introduce*
b. *introduce a friend* *a friend* is the Object/Patient of *introduce*
c. *introduce Mary to a friend* *a friend* is Goal/Beneficiary of *introduce*
- (19) Combining *city* and *skyscraper*
a. *city skyscraper* *city* modifies the head *skyscraper*

- b. *skyscraper city* *skyscraper* modifies the head *city*

Many phrases can have both transparent and idiomatic readings:

- (20) *break the ice* a. 'knock a hole in frozen water'
b. 'start a conversation'
- (21) a. *green HOUSE* 'a house which has a green colour'
b. *GREENhouse* 'a house made of glass to grow plants'

The **grammatical relations** between elements can also to some extent be transparent in idioms, especially if one of the elements is a Verb.¹⁹

- (22) a. *playmaker* 'a person who makes plays' (team leader)
b. *man-eater* 'an animal that eats people'
c. *house cleaning* 'activity of professionally cleaning houses'
d. *ball park* 'a park or grassy stadium for ball games'

4.6 Headedness of Compounds

Compounds are structures, i.e. there is a hierarchy between their parts. Most compounds are **endocentric**, i.e. one of the bases is its **head**.

The **HEAD** is the most important part of a compound. But what does 'most important' mean? It is not a subjective evaluation of the interpretation of the head. In grammar, we take for the head the element that **assigns a category** to the larger unit, i.e. it takes relevant inflection and determines the syntactic distribution.

- | | |
|---|---|
| <p>(23) a. <i>velké město</i>
big_{ADJ} city_N (a big city)</p> <p>b. <i>ve velk-ém měst-ě</i>
in big_{LOC} city_{LOC} (in a big city)</p> <p>c. <i>grandchild</i></p> <p>d. <i>overtake</i></p> <p>e. <i>baby sit</i></p> <p>f. <i>man eater</i></p> | <p>a'. <i>velk-o-město</i>
big – city (megapolis)</p> <p>b'. <i>ve velk-o-měst-ě</i>
in big–city_{LOC} (in megapolis)</p> <p>c'. <i>grandchildren</i></p> <p>d'. <i>overtook/ *overtaken</i></p> <p>e'. <i>baby sat/ *babies sat</i></p> <p>f'. <i>man eaters/*men-eaters</i></p> |
|---|---|

In semantics, we also consider meaning: *grandchild* is a kind of a child; a *man-eater* is a kind of eater. But semantics is an uncertain guide: if one *overtakes*, is one *taking*? If you *baby sit*, how much do you *sit*?

¹⁹ The distinct levels of syntactic and semantic transparency are discussed in present-day terms in Moreno (2007).

4.7 Right Hand Head Rule

Consider the following compounds consisting of distinct categories. Which of them decides the category of the complex, for example, with regard to inflection?

- (24)
- | | | |
|----|--------------|--|
| a. | N+N=N | <i>water-lily, bookshelf, Blackfoot</i> (Amerindian tribe) |
| b. | A+N=N | <i>hothouse, high-court, black sheep</i> |
| c. | P+N=N | <i>undergraduate, oversight, foreman</i> |
| d. | V+N=N | <i>playboy, showman, think tank</i> |
| e. | A+A=A | <i>red hot, short-lived, good-natured</i> |
| f. | P+A=A | <i>overconfident, outspoken, inbred, downtrodden</i> |
| g. | N+A=A | <i>world-wide, user-friendly, snow white</i> |
| h. | P+V=V | <i>underestimate, outrun, overcome,</i> |
| h. | N+V=V | <i>baby sit, sandblast, chain smoke</i> |
| i. | A+V=V | <i>deep fry, quick freeze, dry clean</i> |

- (25) **Right Hand Head Rule** (Williams 1981; cf. also Selkirk 1978):

In (English²⁰) morphology, we observe that the head of a morphologically complex word is the **right-hand member** of that word. This right hand head rule (RHR) holds for all **regular compounds** in English and Czech as in many languages. It explains why regular and productive inflection in an English compound is based on the right hand member, as seen in Section 4.3.

- (26)
- | | |
|----|--|
| a. | <i>short-lived</i> → <i>*shorter-lived</i> |
| b. | <i>*trouser, trousers, trouser-pocket(s)</i> |
| c. | <i>*binocular, binoculars, binocular-case(s)</i> |
| d. | <i>baby sit</i> → <i>*baby sat, *babies sit</i> |

In a few, non-productive cases, some inflection on the left hand member can contribute to the overall meaning.

- (27)
- | | |
|----|---|
| a. | <i>menservants, women priests, teeth cleaning</i> |
| b. | <i>better-known, best-known,</i> |
| c. | <i>ladies' man, bull's-eye, Achilles' heel</i> |

The right hand head rule also explains why the Gender and Number of a Czech compound is that of the right hand member. It further explains the partial semantic correlation between a compound's meaning and that of its right hand member.

²⁰ The right hand head rule is not universal. For example, the heads of French compounds are the left hand elements.

4.8 Special Kinds of English Compounds

The strategies and frequency of compounds depend on language specific typology. For example, in English, some compounds that do not appear in Czech are frequent. For more examples, see also Huddleston and Pullum (2002: 1644-1666) and Huddleston and Pullum (2005: 264-290).

4.8.1 Nominal compounds: Bracketing paradox

English compounds of the form N+N are productive and recursive. An already compound Noun can modify or be modified by another Noun. In the Czech linguistic tradition, such Nouns in English are called “secondary Adjectives”.

Modifying Adjectives can also be related to any of the Nouns. So a given string of say, three Nouns, often has an **ambiguous (more than one) interpretation**, which depends on how the listener relates the elements (which **hierarchy** is assigned to the structure). In Czech, in contrast, a translation must disambiguate the structure.

(28) A + N + N

- | | | | |
|----|---|-----|--|
| a. | <i>old hospital building</i> | (a) | <i>[_N old hospital] building</i> |
| | | (b) | <i>old [_N hospital building]</i> |
| b. | <i>American history teacher</i> | (a) | <i>[_N American history] teacher</i> |
| | | (b) | <i>American [_N history teacher]</i> |
| c. | <i>new government budget reserve....</i>
Is the <i>government</i> , <i>budget</i> , or <i>reserve</i> new? | | |
| d. | <i>Italian pasta sauce pan lid price....</i>
Is the <i>pasta</i> , <i>sauce</i> , <i>pan</i> , <i>lid</i> , or <i>price</i> Italian? | | |

Stress patterns sometimes disambiguate the structure of compounds, but are of course unavailable in writing.

4.8.2 Verbal compounds (incorporation)

- are comprised of a head **derived from a Verb**;
- a non-head is usually interpreted as Complement or Adjunct of the Verb, where Complements have a thematic Role;
- for Complements, the meaning is rather transparent (Lieber 1983).

Incorporation of Objects and adverbials into a Verb: The basis is a Verb preceded by its argument. Because of the right hand head rule (RHHR), the Verb is last.

If a Verb's **Complement** is preposed of “incorporated” into the Verb, the resulting compound must be deverbalized by a nominal or adjectival derivational suffix. This kind of ‘incorporation’ is an old, productive Germanic derivational process.

(29) Verb phrase: *lend money, make shoes, sell books, make hay, and lay bricks....*

- | | | |
|----|--------------------|-----------------------------------|
| a. | N = N+V+er | <i>money lender, shoemaker,</i> |
| | and productively | <i>budget breaker, ...</i> |
| b. | N = N+V+ing | <i>hay-making, brick-laying,</i> |
| | and productively | <i>furniture buying,...</i> |
| c. | A = N+V+en | <i>hand-written, time-worn,</i> |
| | and productively | <i>machine driven,...</i> |
| d. | A = N+V+ing | <i>God-fearing, self-seeking,</i> |
| | and productively | <i>floor cleaning,...</i> |

Besides compounding with Objects, there are some non-productive Adjunct compounds, the incorporated elements of which can be **Adjuncts** of time/place/manner, etc.

- (30) a. *steam-cleaning, baby-sitting*
 b. *low-flying, long lasting*
 c. *Sunday closing, eye-popping*
 d. *alcohol related, steam driven*

In the non-productive set of lexicalized verbal compounds, the N suffixes *-er/-ing* need not be used. The compounds can simply be used and inflected like Verbs. In this case, the left hand base must be adverbial. (See Section 3.3.2 on back formation.)

- (31) Some lexicalized Verbs: *babysit, dry clean, chain smoke, bar tend, sand blast*
- (32) a. *My aunt baby sat/ *house-cleaned all weekend.*
 b. *It's dangerous to chain smoke /*cigar smoke like that.*
 c. *They will sand blast/ *stone-clean the old cathedral soon.*

Some incorporating compounds (especially those originating from Adjuncts) are instances of “back formation” when the nominalizing suffix (*-er/-ing*), which is otherwise inseparable, is taken away. A Verb is formed that normally would be ungrammatical.

- (33) a. *babysiting/-er* [a regular Germanic compound] >>> *to babysit*
 b. *chainsmoking* [a regular Germanic compound] >>> *to chainsmoke*

4.8.3 Other types of endocentric (English) compounds

- (a) Alliterative and Rhyming Compounds
 (b) Cranberry and Neoclassical Compounds
 (c) Coordinate Compounds
 (d) Marked Left-headed Compounds

Alliterative and rhyming compounds use **ablaut**, combining a **high front vowel** with a **low vowel**. Such speech-based items have nonetheless entered the written language.

- (34) a. *wishy-washy, mish-mash* ‘random combination’,
 b. *shilly-shally* (a Verb) ‘act indecisively’,
 c. *spic and span* ‘very clean’,
 d. *tip-top* ‘best’, *be-bop, hip hop, pitter-patter, tick-tock*.

Rhyming is typical for slang and new coinings; it has a special stylistic appeal.

- (35) a. *backpack, lovy-dovy, hocus pocus, honky tonk, Black-Jack, super duper*
 b. *claptrap* nonsense reasoning about a popular topic
 c. *goody-goody* naive good person, or as Adjective
 d. *namby-pamby* weak, ineffective person, or as Adjective
 e. *chalk talk* strategy session given by a sports coach
 f. *hanky-panky* immature, almost child-like sexual play

In both alliterative and rhyming compounds, the head is on the right (RHHR): *shilly-shallying, goody-goodies, mish-mashes, chalk talks, namby-pambies*.

Cranberry and Neo-classical Compounds (sometimes considered analogical formations) is the label used for the complexes that contain a bound morpheme, which appears only in one or a few combinations, the so-called ‘cranberry’ morphemes.

- (36) a. $N + N \rightarrow N$ *straw+berry, goose+berry*
 b. $A + N \rightarrow N$ *blue+berry, black+berry*
 c. $N \rightarrow N??+N$ *cran*+berry

Actually, *cran* is from *crane*, a bird, like *cranberries*, found in marshes. *Raspberry* better illustrates the idea. Below are some other (near) “cranberry morphemes.” In compounding, the bases tend to have the same origin, and the following, for example, are all Germanic.

- (37) a. *fishmonger, war monger, iron monger* (*monger* originally meaning *sell*)
 b. *lukewarm, to jay walk, a werewolf* (**were*+*wolf*)

Let us now turn to what I am calling neo-classical compounds. Some English compounds have been taken over from a foreign language as already compounds, or invented from foreign Roots as technical or scientific terms. Their structure may be non-transparent to an English speaker, since their parts are not often used separately. On the other hand, speakers can acquire, in varying degrees, awareness of their internal structure and compositional semantics:

- (38) a. *hydrology, hydrolysis, hydrometer, hydroelectric*
 b. *theocracy, theology, theosophy, theocentric*
 c. *television, telephone, telescope, telepathy*
 d. *biology, biophysics, biography, bio-feedback*
 e. *geology, geophysics, geography, geometry*

Coordinate/copulative compounds. The bases of the so-called ‘Dvandva’ compounds (they were more common in Sanskrit) are semantically coordinated. However, morphology can detect a hierarchy, using inflection and the RHHR. These are not very common in English other than as modifiers:

- (39) *boy-friend, North-West, player-manager, washer-dryer, father-son*
- (40) a. *Josephine often has two or three boy-friends at the same time.*
 b. *Next day they took a North-Westerly direction.*
 c. *Some teams could save money by using player-managers.*
 d. *You can now purchase washer-dryers as single machines.*
 e. *Mother-daughter trips are an increasingly common type of vacation.*
 f. *Saturday-Sunday breaks in nearby cities are getting popular.*

Left hand headed compounds in English are marked and unusual in English. Inflection again reveals which element is the head. The variation seems arbitrary.

- (41) N-PREPOSITION:

- a. *passer-by, passers-by, *passer-bys*
 b. *hanger on, hangers on, *hanger ons*
 c. *stand by, *standsby, standbys*
 d. *walk on, *walks on, walk ons*

Some left-headed compounds are taken from Romance language(s) – Latin or French. E.g. compounds originating in legal language:

- (42) a. *mother-in-law, mothers-in-law, *mother-in-laws*
 b. *postmaster general, postmasters general, *postmaster generals*
 c. *heir apparent, heirs apparent, *heir apparents*
 d. *wife-to-be, wives-to-be, *wife-to-bes*
 e. *lady-in-waiting, ladies in waiting, *lady in waitings*

A Romance (French, Italian) influence may explain why, in menus and cooking, with or without French or other sources, left headed N-A and N-N compounds are common and not pronounced as foreign phrases:

- (43) *chicken supreme, chicken Kiev, salad Nicoise, eggs Florentine, oysters Rockefeller, lobster Newberg, peach melba, beef Stroganoff, veal Marengo, spaghetti Bolognese*

4.8.4 Exocentric (headless) compounds in English

With respect to the presence of a head, Bloomfield (1933) divided compounds into

- (a) **endocentric**: have a head. These are by far the most common (see above).
- (b) **exocentric**: have no obvious head, usually in some “semantic” sense.

Types of exocentric compounds in English:

- (a) Metaphoric (Bahuvrihi) compounds
- (b) Verb+Preposition Noun compounds (related to phrasal Verbs)
- (c) Quotational compounds

Metaphoric (‘Bahuvrihi’) compounds are semantically opaque: In English, some compounds appear headless **with respect to semantics/meaning**, but syntactically and morphologically, the unit almost always does have a right-hand head. One common class of such compounds are “dead metaphors;” speakers have little or no concept that a metaphor is involved. It may be impossible to determine which part is more important with respect to meaning. Morphology, however, takes the rightmost element for the head of the complex.

- (44)
- | | | |
|----|-----------------------|---|
| a. | <i>lazy-bones</i> | are NOT ‘bones’ but a lazy person |
| b. | <i>wall-flower(s)</i> | is NOT a ‘flower’ but someone who doesn’t dance |
| c. | <i>loud-mouth(s)</i> | is NOT a ‘mouth’ but a noisy person |
| d. | <i>numb-skull(s)</i> | is NOT a ‘skull’ but a stupid person |

Verb-Preposition compound Nouns are formed from **phrasal Verbs**. The phrasal Verbs are **idiomatic combinations** such as *hold NP up* ‘delay’ or ‘rob’, *put NP down* ‘insult’, *buy NP off* ‘bribe’, *carry NP out* ‘successfully conclude’, *take NP in* ‘trick’.

However, phrasal Verbs are not compounds, nor any type of constituent. Recall that compounds have parts that *cannot* be separated. But Object NPs can always separate their two parts, as in the list of them above, though they need not.

Two additional points confirm that phrasal Verbs are *not* single constituents.

- (a) Regular compounds are stressed on the left member, but parallel to idioms, in phrasal Verbs, the prepositional particle receives stress: *break the ice*, *kick the bucket*, *put a friend down*, *see Mary off*.
- (b) The RHR requires that a right member be a potentially inflected head of a compound, but inflection shows that the **V is the head** of a phrasal Verb:

- (45)
- | | | | |
|----|-----------------|-------------------|--------------------|
| a. | <i>lock out</i> | <i>locked out</i> | <i>*lock outed</i> |
|----|-----------------|-------------------|--------------------|

- | | | | |
|----|-----------------|------------------|--------------------|
| b. | <i>take off</i> | <i>took off</i> | <i>*take offed</i> |
| c. | <i>phone in</i> | <i>phoned in</i> | <i>*phone ined</i> |

Phrasal Verbs represent combinations that are more semantic than actually syntactic. Their head is the Verb, and the two elements can be separated. The process of formation of phrasal Verbs is a matter of diachrony; many are well established, while others are more recently created, or simply literal rather than idiomatic.

- (46) a. *I locked them out.* *They took their coats off outside.*
 b. *He soon walked right out.* *The plane took off.* (intransitives)
 c. *I phoned my order in to the restaurant.*
 d. *That student often put her friends down.*

Phrasal Verbs do give rise, however, to a special type of **productive English compound Nouns**. These compounds are **exocentric** i.e. they lack a head. Rather their internal structure is V+P.

- (47) a. *a put on, a take away, a pick up, a break in, a buy back, a sell off*
 b. *some hold ups* (robberies), *put downs* (insults), *take offs* (planes)
 c. *a phone in* (event to raise money), *a lock out* (tactic to break a strike)
 d. *some buy outs* (big company buying a small one), *a run about* (old car)

As we see in (b), plural inflection **follows the P**, and the combinations have the initial stress typical of compounds. These compounds are thus different from phrasal Verbs.

Quotational compounds are substitutes for Nouns and Adjectives that are hyphenated phrases, clauses, or parts of sentences. Few are in common use. They can also contain **grammatical** morphemes, not only lexical bases. Some are Nouns as in (48)(a), and others are usually N-premodifiers in parts of larger texts (48)(b-c).

- (48) a. *stick-in-the mud, forget-me-not, merry-go-round*
 b. *devil-may-care* (attitude), *touch-and-go* (situation)
 c. *fly-by-night* (company), *come as you are* (party)

4.9 Summary of English Compound Structures

To complete our summary and examples of the many different types of English compounds, some generalizations are worth remembering because, despite all the variation, some general patterns and principles are central determinants of the observed structures.

First, the vast majority of English compounds types are **endocentric**. That is, the category of the compound is “inherited” or “projected” from the category of one of the lexical bases. A central test for deciding which base is the head of the compound is the locus of where any productive inflection is to be found. An integral part of this test

concerns inflections for Number in English, and for Number and Gender in many other languages, such as Czech.

Generally, in almost all endocentric compounds, the head is the right hand lexical base. This principle is the **right hand head rule** of Selkirk (1978) and Williams (1981). This rule has effects not mentioned in traditional treatments, for example in locating inflections in forms such as *shilly-shallied*, *push ups*, *north-westerly*, *dry cleaned*, *astronauts*, *go-karts*, etc.

Not quite but nearly as general is the stress placement in English compounds, on the left side basis, or **initial stress**. Some classes of Adjectives do not follow this pattern, but otherwise, it is very general. All the above examples except the Adjective follow it. It is the combination of these general properties that suffice to predict that, for example, phrasal Verbs are not a type of compound, counter to a frequent assumption that they are.

That is, principles of headedness and stress placement help us clearly distinguish between **compounds** and (partly separable) **idioms**. A quite important diagnostic for compounds, even those productively formed and not lexically stored, is that parts of a **compound are inseparable**.

Finally, the syntactic categories of compounds seem limited to the lexical categories N, V, A and P. In this, the category P, which cannot be inflected in English, is more “liberal” than it is with respect to inflection, since P does not tolerate any inflection. As these lexical categories are the most central in the study of grammar, we now have a good basis for undertaking the latter in detail.

5 LANGUAGE TYPOLOGY

Depending on what one counts as a language, there are 3,000 - 10,000 languages (alive/dead, languages/dialects, pidgins/Creoles, styles/slangs). Ranked in terms of numbers of speakers, they are as follows: Chinese, English, Spanish, Hindi, Arabic, Bengali, Russian, Portuguese, Japanese, German, French, Punjabi, etc.

Languages can be divided into many groups. Linguistic typology is a field of linguistics, which classifies existing languages according to the variety of their formal (structural) and functional features. It aims to describe and explain the common properties and structural diversity of languages. It can be divided into several sub-disciplines:

- **Qualitative typology** deals with the issue of comparing languages and language-internal variation
- **Quantitative typology** deals with the distribution of structural patterns in the world's languages
- **Theoretical typology** tries to group and explain these distributions
- **Syntactic typology** deals with word order, word form, and inflection
- **Lexical typology** deals with language vocabulary

In the following sections, some formal classifications are described, concentrating on morphological typology. Word order is mentioned in Chapters 30 and 31. Much more, however, can be found in specialized literature dealing with comparative linguistics, language typology and language universals.²¹

5.1 Genetic Classification

One traditional classification of languages is based on a language's **origin**, as established by philological, diachronic studies of language families. **August Schleicher** was an early nineteenth century pioneer in grouping languages in families in **comparative linguistics**. In this kind of classification, English is a **Germanic** and **Indo-European** language. And so are Hindi, Persian, Latvian, Slavic languages (including Czech), and Romance and other Germanic languages. English is West or North Germanic; there is a debate. But Hungarian, Estonian, Basque, Georgian, Hebrew, Turkish, Tamil, in fact most languages, are not Indo-European.

I am not going to discuss this kind of typology here any more. Crystal's *Encyclopedia of Language* provides a good introduction to the present day genetic classification (see Crystal 1987: 84-86, 283-341).

²¹ For a historical overview of typological studies see Song (2001, 2011). An interested reader can also consult Sapir (1921), Dixon (1998), Comrie (1989: 33-54, 210-226), Greenberg (1961), Croft (2002), Nicols (1992, 2007), or Bisang (2011).

5.2 Morphological Classification (Typology)

Another kind of quite traditional classification of languages is based on which individual **morpheme types** prevail in a given language and on **how morphemes combine** into larger units and words. Here is an early classification from August von Schlegel (1767-1845).

- (1) a. Isolating, analytic, root languages
- b. Inflecting, synthetic, fusional languages
- c. Agglutinative languages
- d. Polysynthetic, incorporating languages

Compared to Czech, English is more isolating/analytic, while Czech is more synthetic/fusional. Neither of them is an extreme version, and both show mixed characteristics.

However, many other typological classifications based on morphology exist (see Sapir (1921), Skalička (1951), Sgall (1993), Comrie (1989), or Croft (2002)). A more contemporary approach to morphological typology distinguishes languages with respect to two main parameters of “Indexes:”

1.	Number of morphemes per word	analytic vs. synthetic
2.	Number of syntactic features per morpheme	agglutinative vs. fusional

5.3 Index of synthesis

This index measures **the average number of morphemes per word**, focusing on a contrast between **isolating, analytic** languages vs. **(poly)synthetic** languages. The dichotomy can be refined as a more differentiated scale.

- | | | | |
|-----|-------------------|----|---------------|
| (2) | ANALYTICAL | a. | isolating |
| | ↓ ↓ ↓ | b. | agglutinating |
| | | c. | fusional |
| | SYNTHETIC | d. | incorporating |
| | | e. | polysynthetic |

Most or even all major category words in Czech have more than one morpheme. In English, mono-morphemic words are more frequent due to the sparsity of inflection.

- | | | | | |
|-----|----|-----------------------|----------|-----------------------------|
| (3) | a. | mono-morphemic words: | Czech: | <i>proti, a, bez</i> |
| | | | English: | <i>blue, very, elephant</i> |
| | b. | poly-morphemic words: | Czech: | <i>ne-u-věři-tel-ný</i> |
| | | | English: | <i>un-kind-ly, four-th</i> |

5.3.1 Isolating languages

The ideal, 100% analytic, isolating language would have an equivalence, ONE WORD = ONE MORPHEME = ONE GRAMMATICAL FEATURE. Some Southeast Asian languages are usually taken as approximating such equivalence. See that, e.g. in Vietnamese, the form for “we” in (4) does not even combine 1st Person and plural features into one morpheme. The example is from Vietnamese:

- (4) *Khi toi den nhà bạn **toi, chúng** toi bắt đầu làm bài.*
when I come house friend I PLURAL I begin do lesson
‘When I came to my friend's house, we began to do lessons.’

Compared with typical Indo-European languages, the highly isolating languages have:

- (a) many **monosyllabic, invariable content words**, often combined with a larger phonetic repertoire, e.g. vowels with different tones,
- (b) many **non-categorical stems**. Since they do not fit I.-E. “standard” parts of speech with its Latin-based terminology, many of these are called ‘particles’,
- (c) Many of these isolating languages have relatively **fixed orders** of morphemes and words.

Isolating/analytic characteristics are much more frequent in English than in Czech. Some contrasts are illustrated in (5), but even Czech has numerous free grammatical morphemes (especially in the verbal paradigm) as demonstrated below in (6).

- (5) a. *little apple* → *jabl-íčko* (apple+DEMINUTIVE)
b. *woman doctor* → *doktor-ka* (doctor+FEMININE)
c. *more intelligent* → *inteligentn+ější* (intelligent+COMPARATIVE)
- (6) a. *to read, will have been reading, she-wolf, that other slice of*
b. *by šel, smál se, budu číst, že, ho, co*

5.3.2 Synthetic Languages

The ideal, 100% synthetic language would have at least frequently the equivalence of ONE SENTENCE = ONE WORD. The combination can be an instance of either (a) polysynthesis or (b) incorporation.

Polysynthesis: The number of compound morphemes is large, and single words can often express rather complex, contentful sentences. In such ‘words’, however, only one of the morphemes is lexical rather than grammatical. The example is from Yupik (Eastern Siberia)

- (7) *Angya- ghlla - ng - yug - tuq.*
boat AUGMENT-GET-DESIDERATIVE-3rd SING
‘He wants to get a big boat.’

Incorporation: a number of lexical morphemes can combine into one word. This is possible in many languages (in compounds); if it prevails, the language is taken for incorporating. The following sentences are single words:

- (8) Chukchi (Siberia): *Tž - meynž - levťž - pžyt - žrkžn*
 S great head ache IMPERF
 ‘I have a fierce headache.’
- (9) Tiwi (Australia): *Ngi - rru - unthing - apu - kani*
 I PAST for some time eat repeatedly
 ‘I kept on eating.’

Compared with typical Indo-European languages, these synthetic languages have:

- (a) long, **complex words**,
- (b) **fuzzy categories**, especially if one is using Latin-based terminology,
- (c) fixed orders of elements/morphemes in a word.

Polysynthetic and incorporating characteristics are rare in both English and Czech, but derivational and compounding phenomena have some traces of incorporation.

- (10) a. *re-nation-al-iz-abil-ity, over-eating stomach-calming tablets*
 b. *summer fruit juice maker repair-s, heat sensitive rocket reentry shield*
 c. Czech: *utrňinos, vlezdoprdelka, červeno-modro-bílá, černo-košil-áč*

The index of synthesis of lexical morphemes is relatively low, on a world scale, in both English and Czech. Considering grammatical morphemes, Czech is substantially more synthetic than English, however, lexical morpheme combinations, due to extensive compounding, are a bit more frequent in English than in Czech.

5.4 Index of fusion

This index classifies the way grammatical features **combine**. This index measures **the segmentability** and **invariance** of expressing grammatical features “F”, dividing languages into (a) agglutinating (simple concatenation of morphemes with one feature), and (b) fusional (one element containing multiple inseparable features). However, even individual constructions can exhibit both aspects, as illustrated in the following English verbal form:

- (11) *were re-undergoing*
 a. *were* → a fusion of 3 features F [PAST, STATIVE, PL]
 b. *re-under-go-ing* → concatenates four morphemes of one feature each.

Notice that looking for the distinction between agglutinating and fusional combinations, we take into account only grammatical morphemes. The lexical

morphemes are not supposed to ‘fuse’, and there is also rare indication of fusion in derivational morphology. Fusion vs. concatenation thus describes only characteristics of inflectional morphemes/features.

- (12)

EN:

a.

black-bird-s, baby-sit-ing, under-ground

b.

modern-is-ation-s, inter-nation-al-is-abil-ity

c.

under-gradu-ate-s, person-al-ise-s

d.

she stop-s, it leng-th-en-ed
- (13)

CZ:

a.

malo-město, vele-kněž, proti-skluzňový

b.

ne-u-věři-tel-ný, nej-ne-obvyk-le-jší

c.

bál-y se velk-ých zvíř-at

If the process of fusion is attested, it in fact represents an example of **substitution** and therefore also an argument in favour of **late insertion** of morphemes, as it was discussed in Section 2.4.1 on page 34.²²

5.4.1 Agglutinating languages (Latin *gluten* = *glue*).

Examples are Turkish, Finnish, Japanese and Swahili. One word contains several **easily dividable morphemes**. Each morpheme contains only **one feature**. The following English example is transparent:

- (14)

modern

-

ise

-

er

-

s

<i>BASE</i>	M ₁ =F ₁	M ₂ =F ₂	M ₃ =F ₃
-------------	--------------------------------	--------------------------------	--------------------------------

In the examples below, we can see agglutinative languages. Notice that individual morphemes are clearly separable; any phonetic changes at morpheme boundaries can be factored out. Each morpheme has one function/meaning/feature, often identical with distinct parts of speech.

- (15)

Swahili:

Mimi

ni - na - ku - penda

wewe.

me

I-PRES

-you-love

you

‘I love you.’

- (16)

Turkish singular and plural of Nouns, separating NUMBER and CASE:

- a.

SG/ NOM

adam

b.

PL/NOM

adam - lar
- SG/ GEN

adam-in

PL/GEN

adam - lar - in
- SG/ LOC

adam-da

PL/LOC

adam - lar - da

²² The fact that fusion is evidenced only with inflections is one of the characteristics of inflectional morphemes defined in terms of derivational process. For this kind of reformulated taxonomy, see Veselovská and Emonds (2016).

5.4.2 Fusional /inflectional languages

In fusional languages, one word also consists of several morphemes, the inflectional morpheme realizes **more than one feature**, and the multi-feature morphemes are **unsegmentable**. Typical examples are Latin, Greek, Arabic, and Czech.

- (17) CZ: *Všechny ženy viděly UFO.*
all women saw_{FP} U.F.O.

- (18) *viděl - Y*

BASE	M= F ₁ :GENDER, F ₂ :NUMBER
------	---

The Czech inflectional morpheme –y expresses a complex of features, which cannot be sequentially separated into units: the inflection contains minimally two marked features of Gender (FEMININE) and Number (PLURAL).

In fusional languages, the paradigms are complex, with marked vs. unmarked contrasts in combinations, and every analysis requires a careful study of possible zero (unmarked) morphemes, in particular when these are frequent.

- (19) Spanish: *Le compr-é un libro a él.*
him-DAT buy-1sg/ past a book to him
'I bought him a book.'

Considering the distinction between agglutinating and fusional morphemes, one has to raise and answer some questions, e.g. Is a **zero morpheme** present, when 'nothing' is pronounced? Is it fused or agglutinating? As for the Czech example below, is Nominative a morpheme? Is masculine a morpheme? Is singular a morpheme?

- (20) *On/Ona by pracoval/-a doma.*
he / She_{S,NOM} Aux_{3S} work_{SM/F} at home
'He/She would work at home.'

As for English, does the verbal morpheme –s represent a fusion or concatenation of three unmarked (i.e. plausibly zero) morphemes of 3rd Person, singular Number and present Tense?

- (21) *He drink-s a lot.*

- a. Person: 3rd [BUT: **they drinks*]
b. Number: singular [BUT: **I drinks*, **she dranks*]
c. Tense: present [BUT: **I drinks*, *I/she wa-s*]

Morphological typology was initially developed for studies of Indo-European and classical languages, and the terminology thus suits the not very wide range of the

languages of Europe (and even less of the world). Analyzing a wider variety of other world languages, linguists must re-define even the most general terminology, e.g. the concept of 'word' or a repertory of grammatical features.

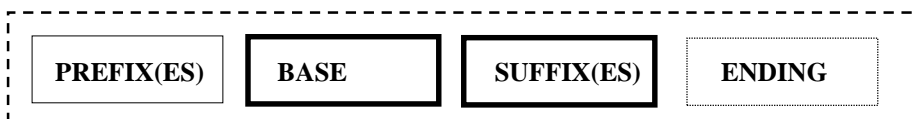
(22) The agglutination/fusion contrast can be considered with

- a. distinct kinds of morphemes,
- b. the same kind of morphemes.

In Indo-European languages, such as English and Czech, the standard word template consists of 1 or 2 stems, derivational morpheme(s), and inflectional morpheme(s) in this order. Observing the examples (12)(13), the reader can check that different kinds of morphemes usually do not fuse.

Standard Indo-European word structure. Considering distinct kind of morphemes, it is prevailingly synthetic and of the following form:

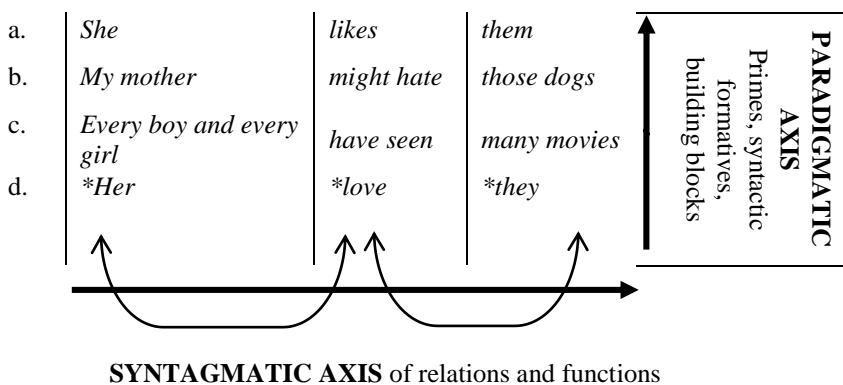
(23) **Word template:**



6 PARTS OF SPEECH/CATEGORIES

Grammatical “primitives.” Any analytical system works with units. The units are not “real,” that is, directly observable by the senses; they are **theoretical constructs** used for this or that specific analysis. The system of grammatical categories used in primary schools is inadequate and not suitable for any serious current analysis. Still, some of its terms can be used to talk about words and how they combine. Keep in mind, however, that the traditional categories are crucially related to a specific theoretical framework.²³

- (1) i. **Parts of Speech** - Categories and their paradigms
- ii. **Syntactic Functions** - Sentence members or syntagmas



6.1 The Nature of Grammatical Categories

From the beginning of the theoretical study of language in ancient Greece, words were grouped into several categories **according to various combinatorial properties**.

- (2) *“Word is the smallest part of organized speech. Speech is the putting together of an ordinary word to express a complete thought. The class of word consists of eight categories: Noun, Verb, Participle, Article, Pronoun, Preposition, Adverb, Conjunction.”*

Dionysius Thrax (170-90 B.C., *Art of Grammar*)²⁴

The labels for each part of speech express a **number of properties shared** by groups of words of the same category. That is, from the categorial status of a given word, one

²³ For standard English terminology see Huddleston and Pullum (2002: 22) and Greenbaum and Quirk (1991: 188-203). The nature, variety and ambiguity of the parts of speech across languages are summarized in Crystal (1987: 91-93).

²⁴ *Art of Grammar (Tekhne Grammatike)* by Dionysius Thrax has been translated into English by J. Alan Kemp (1986).

can derive some specific conceptual field, some possible morphological forms, and/or structural relations and usage in a clause.²⁵

6.2 Criteria for Establishing Parts of Speech

The list below shows that there are several criteria to apply when assigning a category. Ideally, **all the criteria applied to one lexical item agree**, but often they need not. In this situation, **some** criteria are taken as more important, depending on which grammatical definitions are used and which particular characteristics of the language are being analyzed. Exact definitions of word categories may therefore vary in different theoretical frameworks.²⁶

- I. **SEMANTIC** or “**notional**” **criteria** are based on general meanings of words and/or their functions in a larger group of words.²⁷

II. **FORMAL criteria:**

a. **MORPHOLOGICAL** criteria are based on the word-internal structure; each main category has **some typical morphology**. This can include:

- i. **derivational** morpheme(s), usually affixes,
- ii. **inflectional** morpheme(s), either endings or functional words.

b. **SYNTACTIC** criteria are based on

- i. **co-occurrence** restrictions inside a phrasal projection;
- ii. **distribution** in larger sentences, depending on **function**.

c. **PHONETIC** criteria are minor.

The phonetic criteria are complementary (in English). They can mention a particular stress pattern or some specific phonemes, such as the stress contrast between *transport* (N) vs. *transport* (V), or the voicing contrast seen in *advise/advice*, *believe/belief*, *extend/extent*, etc.²⁸

In traditional grammar, notional and morphological criteria prevailed over the syntactic. Czech traditional grammar uses the following word categories: Nouns,

²⁵ Some general principles for scientific taxonomy of categories were discussed in Section 1.5.1.

²⁶ Schematic trees and some examples in Chapters 6-16 are adopted from the teaching materials used in grammar seminars and published as a part of Veselovská (2017b).

²⁷ Note that in many cases, the “pure semantics of a word” is of no help in determining a category; compare *courage* vs. *brave*; *fact* vs. *happen*; *live* vs. *alive*, *cross* vs. *across*.

²⁸ In other languages, phonetics can play a greater role in determining categories. Classical Greek Nouns had stress on different syllables, while Greek Verbs and Adjectives had a fixed rule for penult or final stress. In Igbo (Nigeria), Verbs begin with consonants, and Nouns begin with vowels.

Adjectives, Pronouns, Numerals, Verbs, Adverbs, Prepositions, Conjunctions, Particles and Interjections. For English, the categories of Articles (more generally Determiners) and Modals could be added. However, the fact that current linguistics may retain most or all of these categories in no way implies that the tradition based assignments of their various sub-types is even descriptively adequate, as we will see repeatedly in subsequent chapters.

The notion of a word category is closely related to the notion of ‘**word**’, and the appropriate definition of word may differ in different languages as well. The usual criteria for inflecting words, or word categories, are morphological, while with non-inflecting word categories, including several in English, syntactic criteria are more frequent and revealing. In this text, I will always stress the formal, especially the syntactic criteria.

6.2.1 General Classification of Parts of Speech

Perhaps the most striking difference among the parts of speech is that between lexical and grammatical categories.

- (a) **‘MAJOR’ or ‘LEXICAL’ or ‘OPEN CLASS’ CATEGORIES:**
These include **N** (Nouns), **A** (Adjectives, certain classes of Adverbs), **V** (Verbs), and **P** (Prepositions in a broad sense, as will be developed in this volume). Only these have an unlimited number of items and productively form new members.
- (b) **‘MINOR’, ‘FUNCTIONAL’, ‘GRAMMATICAL’ or ‘CLOSED CLASS’ CATEGORIES:**
Pronouns, auxiliaries, Complementizers, some Prepositions, some conjunctions, certain adverbial particles, Quantifiers and numerals. As research develops, others may come to be considered separate categories, such as Focus particles, and degree words that modify Adjectives.

The existence and specific lists of the **major lexical categories** appears universal, but the importance and roles of their members may differ substantially. Sometimes lexical categories are classified together by virtue of some **shared grammatical features**; e.g. Nouns and Adjectives may share a general feature “+N”.

The number and character of **minor** or **functional categories** may differ across languages. Each closed category has a **limited number of items** (a closed or fixed list), rarely more than about 20.

6.3 Semantic-Notional Criteria for Establishing a Category

Even though the following properties do not decide many cases, they reflect **fundamental semantic aspects** of categories. They are always present as a background **concept** but are often too vague and imprecise to use reliably, e.g. why should *courage* be a Noun and *brave* an Adjective (or Verb)?

	<i>nation-al-ize</i>	= not an A, but a V
	<i>nation-al-iz-ation</i>	= not an A or a V, but an N
b.	<i>moving: -ing</i>	= N: <i>Divorce and moving are difficult.</i> <i>He avoided any more moving.</i>
	<i>-ing</i>	= A: <i>Her poetry was very moving.</i> <i>The ending seemed so moving.</i>
	<i>-ing</i>	= V: <i>He was/ began/ kept moving his office.</i> <i>I'll be moving soon.</i>

As seen in Section 4.7, the right hand head rule applies to all regular English compounds. And, it applies almost invariably in derivational morphology.

6.4.2 Inflectional morphology: Categorial features

Inflectional morphemes alter the category/part of speech of a word within its own **paradigm**. For example, the Czech forms *muž* and *on* and the English forms *child* and *they* have the following Case and Number paradigms:

- (6)
- a. *muž, muže, muži, mužem mužích, mužů, mužům*
 - b. *on, něho, jemu/ mu, jeho/ ho, o něm, s ním*
 - c. *child, child's, children, children's*
 - d. *they, their, theirs, them*

In inflectional morphemes, the presence of some features and productive paradigms for these features, for instance plural and Case forms of Nouns, are specific to and typical of each part of speech.

(7) Nominal paradigms

The nominal declension features are of Number, Case, diminutive, etc.

- a. Czech **plural** N: *pán- pán+ové_{PL}, žena-žen+y_{PL}, město-měst+a_{PL}*
- English **plural** N: *boy - boy+s_{PL}, focus - foc+i_{PL}*
- b. Czech **diminutive** N: *dome+ček, obří+ček, husi+čka, pyramide+čka*

(8) Verbal paradigms

The verbal conjugation features are of Tense, Aspect, Person, Negation, etc.

- a. Czech **Tense/Aspect** : *píš-u, píše+š, píše, píše+me... jsem psal, jsi psal...
byl bych býval napsal, byl bys býval napsal...*
- b. English **Tense/Aspect** : *help, help+ed, help+ing/ do, did, do+ing, do+ne*
- c. Czech clausal **Negation** : *dělám, ne+dělám, chodím, ne+chodím*

Although categorial features are largely universal, for example Nouns tend to have a Number but not a Tense feature, the richness of inflectional paradigms can greatly differ

across languages. Japanese Nouns have Case and politeness inflections, but Number is not an inflectional feature. Japanese Verbs inflect for Tense, negative, causative, passive, and politeness, but not for Person or Number.

Recall that the most traditionally discussed inflections are **bound** morphemes, so-called inflectional endings, but they can also be **free** morphemes expressed in separate functional words.

- (9) a. free inflectional morphemes: *cleverer, will paint, to read*,
- b. bound inflectional morphemes: *nice-er, paint-ed*.

6.4.3 Grammaticalization as a source of morphological features

The **grammaticalization** of a morpheme or word is a language specific, even an item specific process. During this process, some lexical feature becomes a grammatical feature. The conceptual or notional features, which carry real world meaning or reference, can end up being limited to a grammatical function, and the end point of this process is the usual road toward creating an inflection.

- (10) Path of grammaticalization:

LEXICAL word → GRAMMATICAL free morpheme, often compounding
→ DERIVATIONAL morpheme → INFLECTIONAL morpheme

The **grammaticalization** of a lexical semantic feature is a **diachronic** process, which means that it develops through time. A semantic feature, which becomes grammaticalized in a given language, is:

- (11) a. **simplified in meaning**: it appears only as a choice between a limited number of options;
- b. **regular**: it has a canonical representation with few exceptions;
- c. often **productive**; it is always possible in suitable contexts and can be used with new contexts.

Free lexical morphemes like *tiny/small/little* or *female/woman/she* can diachronically lose their full semantic lexical richness and can simplify into grammatical formatives, in the extreme case becoming a regular and predictable/productive bound morpheme. This process is happening with the English word *full*, which becomes the suffix *-ful*, losing some meaning at the same time. More examples are provided below:

(12) Grammaticalization scale or “cline”

- a. Free grammar of lexical entries: *a tiny/small/little apple; free/debt/tears*;
- b. Lexical compounds: *female/ woman/ she pilot; care-free, debt-free, tear-free*;
- c. Derivation: *lion-ess, actr-ess, host-ess, doktor-ess, author/*-ess, banker/*-ess*,

*care-ful, tear-ful, hope-ful, *anger-ful, *despair-ful;*
jablí-čko, mamut-ek, pekař-ka, ajťáč-ka,

- d. the past Tenses of Verbs and plural of Nouns in both English and Czech.

Recall, however, that the semantic simplification in the cline, so-called “bleaching,” does not mean that grammatical morphemes lack meaning. Meaning cannot be measured so easily, and many **grammatical morphemes**, such as Gender and Number, are in any case still **semantic** in that they are related to aspects of reality that can also be expressed lexically. Grammaticalized morphemes represent some **simplified** version of it.

Consider for a moment the real vs. grammaticalized notions of time vs. Tense:

- (a) **Time** as a limitless line: e.g. the future: *in a moment, tomorrow, two years hence, in the distant future.*
 (b) **Tense** as a grammaticalized feature is a point established with respect to the speech act. Other than that, it has little to do with actual time.
- (13) a. *He help-s me a lot.* PRESENT: including the time of the speech act.
 b. *He help-ed me a lot.* PAST: preceding the speech act.
 c. *He will help me a lot.* FUTURE: following the speech act.

Or compare the lexical vs. grammatical representation of repetition in English:

- (14) a. Lexical: *again (and again), once more, repeatedly,* etc.
 b. Derivational: *re-heat, re-tell, re-negotiate*
 c. Inflectional: *be + V -ing: he was re-heating dinner, re-telling the story*

Languages can differ as to which categories use which grammaticalized features, in other words, they have specific instantiations of inflectional morphology. Compare these English and Czech examples with respect to grammaticalization of Gender. (Notice that the masculine Gender is the unmarked form, usually a –Ø morpheme.)

- (15) a. Czech *Velk-á císař-ovna seděl-a na trůně ustaran-á.*
 [+Fem] great.Fem empr-ess.Fem sat.Fem on throne worried.Fem
 ‘The Great Empress was sitting on the throne worried.’
- b. Czech *Velk-ý císař-Ø seděl-Ø na trůně ustaran-ý.*
 [+Masc] great.Masc emper-or.Masc sat.Masc on throne worried.Masc
 ‘The Great Emperor was sitting on the throne worried.’

Due to different diachronic developments, different languages end up synchronically with distinct inventories of grammatically expressed morphological features.

6.4.4 Types of features in morphology

The inflectional morphology on a lexical item can reflect features of three types:

- (16) PRIMARY a. **inherent**: an integral part of the lexical entry
 b. **optional**: depends on the choice of the speaker
 c. **configurational**: features that are determined by the
 grammatical context, such as agreement or Case.

In (17), there are several examples of these three types of features:

- (17) a. *Hillary introduces/ *introduce her friends to Zara.*
 b. *Then they introduce/ *introduces their friends to Piers.*

The agreement feature on the Predicate *introduce(s)* depends not on the Verb itself but on some other related element; this means that agreement is not inherent. Rather, it depends on the characteristics of the Subject. Nor can speakers choose the form of the Verb, once they have chosen the Subject. So agreement is a secondary **configurational** feature.

- (18) *Helena poslala Piersovi velk-ou knih-u.*
 Helen-NOM sent Piers_{DAT} big-Fem.S.ACC book-Fem.S.ACC
 ‘Helen sent Piers a big book.’

- Here the Czech feminine Gender is an **inherent** feature, because the lexical item *kniha* is lexically stored as feminine.
- But the Czech singular Number is an **optional** feature, because the speaker is able to choose plural *knihy* instead of the singular *kniha*.
- Finally, the Czech Accusative Case is **configurational**, because the Czech Verb *poslat* requires this Case and no other for its direct Object.

In the Czech adjectival agreement seen in *velk-ou* [Fem, Sg, ACC] in (18), all the features on the Adjective are secondary, that is **configurational** features. They reflect properties of the superordinate Noun *kniha* and show that the Adjective *velkou* is its premodifier. These features are neither inherently lexical for this Adjective, nor are they the choice of the speaker.

- (19) Configurations of specific morphological features and the resulting inflectional morphology is the strongest, most reliable signal of categorial status.

Every specific part of speech has its own **intrinsic grammatical features**, and those features are usually unique and appear only with the relevant part of speech. For example, a grammatical feature of Tense is typical only for Verbs, Gender only for Nouns, and Grading only for Adjectives. Other categories can at most reflect or mirror

the grammatical category of other parts of speech, i.e. Verbs or Adjectives can mirror Gender and Number, but the latter are not their intrinsic features.

In a language with rich inflectional morphology, such as Czech, each major class lexical item can have some **typical inflectional endings** or bound morphemes, which rather clearly identify the part of speech. However, in a language with poor inflectional morphology such as English, the inflectional morphemes may be not bound but free. Moreover, a morphological signal is frequently simply absent, so that a category is indicated by co-occurring elements mainly (its phrasal projection), which we are going to see in Section 6.5.

- (20) a. *stop – stops*
 b. *zastav-**it**, zastav-**il*** vs. *zastáv-**ka**, dvě zastáv-**ky***
 c. *to stop, he stopp-**ed*** vs. *the stop, two stop-**s***

- (21) List of English bound inflectional morphemes:

Category	Ending	Example	Meaning/ Function	type
N	-s	book-s	Number [Plural]	optional
N	's	Mary's	Case [Germanic Genitive]	configurational
Pronoun	-s/-r	hi-s/ou-r	Case [Possessive]	configurational
V	-s	(he) read-s	Agreement [3sg, Present]	configurational
V	-ed	wash-ed	Tense [Past]	optional
V	-en/ ed	writt-en	Part of Aspect [Perfect]	optional
V	-ing	read-ing	Part of Aspect [Progressive]	optional
A	-er	strong-er	Grading [Comparative]	optional
A	-est	strong-est	Grading [Superlative]	optional
A	-ly	strong-ly	Modifies an X other than N	configurational

6.4.4.1 Pronunciation of English inflection –s / -ed

The **pronunciation** of the inflectional ending /s/ depends on the pronunciation, and not the spelling, of the final sound of the stem. It depends on the features [± Voice] and [± Sibilant] of this sound.

- (22) General rule of pronunciation in English consonantal inflections:
- (a) + Insert vowel (ə) after alveolar segments to facilitate pronunciation.
 - (b) **Progressively assimilate voicing** from the final segment.

Notice that identical pronunciations are valid for the plural of Nouns, Possessive inflection –s, the 3rd Person singular present agreement –s on Verbs, the verbal past –ed, and even the derivational –ed: *talented, abashed, unpassed*.

- (23) **Allophones** of English inflectional suffixes spelled (e)s
- (a) [-i-] Insert a reduced vowel, or ‘schwa’, after sibilants.
 - (b) [-s] Assimilate to [-Voice] after voiceless segments: [p], [t], [k], [f], [θ].
 - (c) [-z] Elsewhere, after, i.e. vowels and voiced consonants, assimilate to [+Voice] (this includes the position after the inserted vowel [-i-]).

- (24) **Allophones** of English inflectional suffixes spelled (e)d
- (a) [-i-] Insert a reduced vowel, or ‘schwa’, after alveolar stops.
 - (b) [-t] Assimilate to [-Voice] after voiceless segments: [p], [t], [k], [f], [θ].
 - (c) [-d] Elsewhere, i.e. after vowels and voiced consonants, assimilate to [+Voice] (this includes the position after the inserted vowel [-i-]).

The rule in (22) on page 78 is a phonetic rule, and these generally apply without exception and unconsciously. It can be noted that rule (22) contradicts the Czech (or German) rule of word-final devoicing.

6.5 Syntactic Criteria for Establishing a Category

Syntactic criteria for establishing the category of an item are based on its **distribution**, i.e. co-occurrence restrictions with other categories and sub-categories. Each part of speech appears not freely but in typical environments.

- (25) Syntax = Distribution/Co-occurrence with other categories

There are typical elements that are **subordinate** to a given category, i.e. that are lower in hierarchical structure, and typical elements that are **superordinate** to it (hierarchically higher). For example, with Nouns, the subordinate elements that depend on them are articles, numerals, Adjectives and Quantifiers, as in (b), while the superordinate elements, which an NP depends on, are Verbs and Prepositions (c-d).

- (26)
- a. N: *book, friend, water, courage, fact, trip*
 - b. NP: [_{NP} *that new **book***], [_{NP} *a **friend** of mine*], [_{NP} *some **water** to drink*]
 - c. V, __NP: *to publish* [_{NP} *that new **book***], *to see* [_{NP} *a **friend** of mine*]
 - d. P, __N]: *about* [_{NP} *the new **book***], *with* [_{NP} *some **water** to drink*]

6.5.1 Heads, phrases and Pro-forms

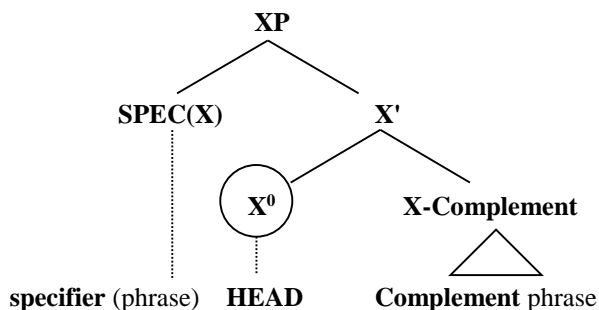
Heads: Every lexical category (N, A, V, P) can be a head of a more complex structure, which is called a phrase. The main function of each category is to be a head of its own phrase, in other words, to project into a phrase. Phrases can be bare, consisting of a head only, or they can contain premodifier(s) and/or postmodifier(s).

- (27) *that big* *brother* *of mine*
 right *out* *the door*
 already ← → *a movie*

Phrases. Exact forms of pre-/post-modification are specific to a given part of speech. Various types of modifiers can be more or less obligatory in a given type of phrase.

- (28) a. N: *boy* [NP *this little boy of mine*]
 b. A: *small* [AP *much smaller than Theo*]
 c. V: *read* [VP *to never read an article*]
 d. P: *up* [PP *right up into the clouds*]

- (29) Phrasal projection of a category X: Heads, specifiers and Complements²⁹



The form of premodification, often termed a “specifier,” and of postmodification, which include the sub-types of the “Complements,” can be very typical for a specific head of part of speech. In fact, some, like articles with count Nouns or Nouns after many Prepositions, can be obligatory.

When a phrase is a bare head or contains only a specifier and a head, we call it “simple.” When a phrase contains both a head and a Complement phrase, we call it “complex.” We will see later that simple and complex phrases of the same category type often have different distributions.

- (30) **Complement:** is a right hand sister of the head, its closest postmodifier.

²⁹ The phrasal projection here is a generalized structure proposed in Chomsky (1986). See also Adger (2003) or Haegemann and Gueron (1999).

Specifier: is a premodifier, sometimes also called an Adjunct.

Consider the examples in (31). When a phrase contains a suitable specifier and a Complement of a categorial head, the structure is acceptable. If either is of an inappropriate form for that head category, the combination is ungrammatical.

(31) **Specifier-head-Complement combinations:**

- | | | | | |
|----|------|---------------|---|---|
| a. | X=N: | <i>boy</i> | [_{NP} <i>that little boy of hers</i>] | *[_{NP} <i>little boy of hers</i>] |
| b. | X=A: | <i>small</i> | [_{AP} <i>much smaller than Theo</i>] | *[_{AP} <i>much smallerTheo</i>] |
| c. | X=V: | <i>find</i> | [_{VP} <i>to never find the article</i>] | *[_{VP} <i>to never find down</i>] |
| d. | X=P: | <i>toward</i> | [_{PP} <i>right toward it</i>] | *[_{PP} <i>right toward of it</i>] |

Sentence functions that are specifiers or Complements, like ‘Subject’, ‘Object’, ‘Attribute’ and ‘Predicate’, are phrases. However, they can be ‘bare’ phrases, which means that they can be only one word, or in other cases, whole clauses.

(32) **Phrases in various sentence functions**

- | | | |
|----|--|-----------------|
| a. | <i>We saw rabbits</i> / [_{NP} <i>that little rabbit of mine</i>]. | Object is NP |
| b. | <i>This boy was small</i> / [_{AP} <i>much smaller than Adam</i>]. | Predicate is AP |
| c. | <i>I hate hurrying</i> / [_{VP} <i>to always work so late</i>]. | Object is VP |
| d. | <i>Few campers went down</i> / [_{PP} <i>right down the slope</i>]. | Adverbial is PP |
| e. | <i>This is a big</i> / [_{AP} <i>extremely big</i>] <i>step</i> . | Attribute is AP |

However, most sentence functions can standardly tolerate several kinds of constituents.

- (33) a. *I want* [_{VP} *to go*] / [_{NP} *a new car*] / [_{VP} *to do so*] / [_{NP} *it*]
 b. *Mary is a teacher.* / *To read is to know.*

Pro-forms and the substitution test. The main categories or parts of speech N, V, A, P, or actually their phrases NP, VP, AP, PP, can typically be replaced by appropriate **Pro-forms**. These are grammatical words that can in many contexts replace them.

The Pro-form used for such **substitution** is in itself a signal of the kind of phrase being replaced. Pronouns replace NPs, adverbials like *there* and *then* replace PPs, *do so* replaces VP, and *such* or *so* can often replace AP.

(34) *The ambitious boy was running in the city's only park at 8 o'clock.*

- | | | |
|----|----|---|
| a. | NP | [_{NP} He] <i>was running in the city's only park at 8 o'clock.</i> |
| b. | VP | <i>She wondered if that ambitious boy would</i> [_{VP} do so]. |
| c. | PP | <i>That ambitious boy was running</i> [_{PP} there] <i>at 8 o'clock.</i> |
| d. | NP | <i>That ambitious boy was running in</i> [_{NP} its] <i>only park at 8 o'clock.</i> |
| e. | PP | <i>That ambitious boy was already running</i> [_{PP} then] <i>in the city's only park.</i> |
| f. | AP | [_{AP} Such] <i>a boy was running in the city's only park at 8 o'clock.</i> |

(35) [_{NP} **He**] *is* [_{VP} **doing so**] [_{PP} **there**] [_{PP} **now**].

The possibility is called the substitution test, and when grammatical, it is a reliable test for a phrase being of a specific category.

(36) **Substitution test:** The elements appearing in the same structural position or configuration with the same sentence function are likely to have the same category and degree of complexity.

The main sentence function of each part of speech or lexical category is to head its own phrase. In a sentence, a phrase can appear as (a) a bare head, or (b) with modifiers. We call both “phrases,” and say that sentences consist of phrases, not that the sentence is made up directly of words.

(37)

<i>She</i> <i>Mary</i> <i>My older sister Mary</i>	<i>saw</i>	<i>him.</i> <i>her former husband.</i> <i>her husband Piers,</i> <i>who drove a red car.</i>
}		}

(38) a. *she – Mary – My older sister Mary*: These are all NPs and Subjects.
b. *him – her former husband – her husband Piers, who drove the car* - are all NPs and Objects.

6.6 Categorical Proto-typicality

Ideally, words belonging to the same part of speech have some characteristic type of meaning, the same predictable inflections and very similar syntactic distributions, functions, and pragmatics.

In reality, grammatical categories have ‘best case’ members and members that systematically depart from the ‘best case’. An optimal grammatical description not only brings out morpho-syntactic properties that are typical, but also the degree of **categorical deviation** from the ‘best case’. To know the characteristics of a specific part of speech means to know to which extent the members of the category are ‘the same’ and what they have in common, and to what extent they can differ from the best case. Compare the discrepancies among members of the same category:

(39) a. *book/ books; flaw/ flaws* but *sheep/ *sheeps; courage/ *courage*
b. *lift/ lifted; cough/ coughed* but *go/ *goed; beware/ *beware*
c. *more/ very/ how important* but **more/ *very / *how infinite*

The term “**fuzzy categories**” refers to the fact that the boundaries between categories may sometimes not seem distinct. However, the reason for the ‘fuzziness’ of categories is due to the fact that there are multiple criteria for each category; see Section

6.2. ‘Category’ is often defined separately in each linguistic component; so the results of the multiple definitions can conflict and seem contradictory.

We usually can choose only one category for a word in a given sentence, but our choice depends on the criteria we focus on. Recall that categories are abstract collections of features and properties. Fuzziness, more likely than being a phenomenon in itself, usually signals an incomplete, inconsistent, or even wrong analysis. Consider the following examples.

(a) Meaning is adaptable, and there is no morphology:

- (40)
- | | | |
|----|---------------------------------------|----------------------------|
| a. | <i>square</i> | The meaning is V, N, or A. |
| b. | <i>We often shop on the square.</i> | N, *V, *A |
| c. | <i>We’ve lost the square plates.</i> | A, *N, *V |
| d. | <i>We should square our accounts.</i> | V, *N, *A |

(b) Meaning is adaptable, and morphology is ambiguous:

- (41)
- | | | |
|----|------------------------------------|---|
| a. | <i>reading</i> | The item <i>-ing</i> signals V, N or A? |
| b. | <i>Reading about that is sad.</i> | ?V, ?N |
| c. | <i>This reading is easy.</i> | N, *V, *A |
| d. | <i>He was reading a book.</i> | V, *N, *A |
| e. | <i>Take those reading glasses.</i> | A, *N, *V |

(c) Meaning is adaptable, morphology shows X, and distribution/syntax signals Y:

- (42) *Should we sit here or nearer the boss?*
-er suggests *near* is an A; coordination with *here*, and the Verb *sit* suggests P.
- (43) *That’s a must see movie.*
must suggests *see* is a Verb; the syntax suggests that *must see* is an A.
- (44) *Safer would be better than faster.*
-er suggests that *safer* and *faster* are As; syntax suggests that they are Ns.

Other than awareness of the generality and also the limitations of various arguments, there is no systematic way to reliably analyze these “fuzzy” usages. Conclusions must vary according to the nature of the examples and patterns at issue.

6.7 Some Functional Categories or “Minor” Parts of Speech

Non-lexical parts of speech, also called **functional** or **closed categories**, are only “minor” in that they have a limited, basically fixed number of members, rarely more than about twenty. The fact is that in the functioning of grammar, they are central.³⁰ Functional categories are short lists of specific words. According to various authors, they can be (a) associated with some major category with which they share properties or distribution, or (b) kept separate because of some special defining property.

- (45) a. **Determiners** = related to Nouns, and/or Adjectives?
b. **Numerals** = some related to Nouns, and others to Adjectives?
c. **Pronouns** = related to Nouns, or verbal Person features?
d. **Modals** = related to Verbs, and/or classes of Adverbs?
e. **Conjunctions** = subordinating, related to Prepositions?
coordinating, related to Prepositions, but differently?

In English and Czech, these categories influence neighbouring morphology, but especially in English, they exhibit very little morphology themselves. Nonetheless, they are central to grammatical systems, that is, in statements of syntactic distribution. For some correlations based on English data and an approach that tries to combine the two classifications tendencies, see Emonds (1985).

A perennial problem in distinguishing functional categories is the issue of how distinct are Quantifiers, numerals and some related intermediate elements.

(46) Quantifiers and numeral distributional variation

- a. *I saw those **three hundred (and) thirty-three** fire-brigade vehicles.*
b. *The **fourth** hotel in town we pass **twice** or **three times** a day.*
c. *The purpose of those plants is **threefold**.*
d. ***First**, they take up space; **second**....*
e. ***Many** of them are ugly but **a few** are not so bad.*
f. *They drank **barrels of** beer. **Several of them** drank **a lot of** wine, too.*

(47) Prepositions, subordinating conjunctions, temporal Adverbs

- a. *I didn't do anything **after** the dinner/ **after** the party ended/ **afterwards**.*
b. *Samuel hasn't done anything **since** he got up/ **since** the meeting.*
c. *I arranged **for** a vacation and **for** her to get a free trip. **For** she really deserved it.*

Are these three classes perhaps the same category? Just about every morpheme in these classes raises fresh questions about how to justifiably assign them to a category.

³⁰ See for example treatments in Greenbaum and Quirk (1991: 188-203); Quirk et al. (2004: 393-398); Dušková (1994: 136-140, 273-306); Svoboda and Opělová-Károlyová (1989: 138-162); and Crystal (1987: 91-93).

7 NOUNS: SEMANTICS AND MORPHOLOGY

Here is a traditional semantic or notional definition of the category of Nouns:

- (1) ‘**Nouns denote** persons, places, animals and objects or things.’

This definition, however, covers only a subset of Nouns and has to be enlarged substantially to be even close to adequate. See Sections 6.1 and 6.2.

- (2) *absence, anger, courage, event, fact, flaw, game, help, idea, mistake*

It is not that properties of reality make things ‘Nouns’, but the other way around: We think of concepts like those in this list as ‘things’ because there is a Noun for the concept. So, notional definitions like (1) are actually useless for defining parts of speech. However, there is nonetheless a relation between reality and parts of speech:

- (3) **Concrete Nouns.** If a culture recognizes something as a **material object**, the language will have a Noun to refer to it. See also (3) on page 57.

- (4)

Semantic class of N	Material object
Pragmatic function of N	Reference

Many semantic divisions among Ns are made for a variety of meanings. If those groupings are relevant for formal behaviour, the characteristics are formally represented as **features**. For example, the following “semantic” classification will be reflected in special realizations of the Determiner field by means of articles or numerals. This indicates that the classification is grammatically relevant.

- (5) **I. Common Nouns**
- i. **countable Nouns:** concrete vs. abstract
 - ii. **non-countable Nouns:** concrete vs. abstract
 - a. **countable Nouns:** *book, song, argument, event*
 - b. **concrete non-countable:** *bread, gas, powder, water, wine*
 - c. **abstract non-countable:** *time, evidence, research, courage*
- II. Proper Nouns (only concrete):**
- d. *Henry, Olomouc, Egypt, Arabs, the Netherlands, the Sahara*

The \pm Count and \pm Concrete is a four-way classification of Nouns. Note that non-countable Nouns that are concrete can have a plural form that means ‘kinds of’. In other words, the so-called semantic classifications may be based on semantic properties, but

at the same time each group has some **formal characteristics**, such as the lack of an article, possible use with numerals, etc. Even though clearer semantic divisions can be found in dictionaries or a thesaurus, they are of little use in grammar.

Formal characteristics of Nouns, or of the heads of Noun phrases (NPs), concern their morpho-syntactic characteristics. Here again, morphology leads into syntax.

(6) Morphology of Nouns (see Section 1.3.1)

(a) **Derivational** morphology:

uses nominal affixes to create Nouns.

(b) **Inflectional** morphology:

expresses nominal features, also called phi features or ϕ features³¹:

- **Countability, Number:** [\pm COUNT], [\pm PLUR] – see section 7.1
- **Animacy, Gender:** [\pm ANIM], [\pm FEM] – see section 7.2
- **Determination:** [\pm DEFINITE] – see section 7.3
- **Case:** [\pm NOMINATIVE], [\pm GENITIVE] – see section 8.3.

(7) **SYNTAX OF NOUNS**

(a) A nominal head projects to a characteristic phrasal structure: **Noun phrase**.

(b) The Noun phrases take on specific **functions** or distribution in sentences.

In the following sections, I will examine the characteristics of individual phi features in English, the level of their grammaticalization, and some minimal contrasts with the Czechnominal projection.

7.1 Countability and Number

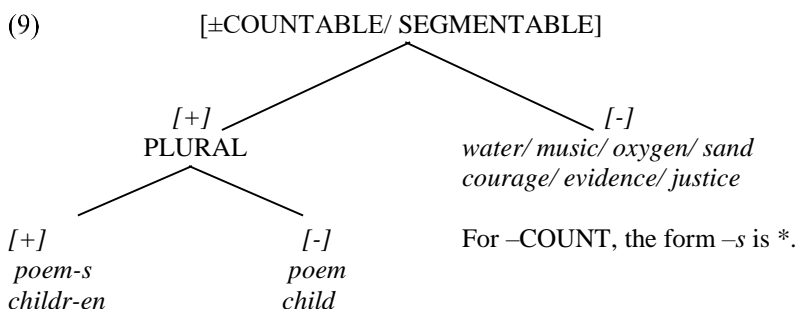
Recall that **grammatical features** are based on some **semantic property** in that they are related to aspects of reality, which can also be expressed lexically. They represent some simplified or schematic version of it; see Section 6.4.3.

(8) Real numbers vs. grammaticalized notions expressing Number:

- a. Integers (an infinite scale): 1/2/3/.../789/.../8,723,...
- b. Grammaticalized Number: *one, many, several, lots of, a bunch of, hundreds of*
- c. Inflection for Number: *those, book-s*, where *-s* means more than one.

The feature of Number is related to the plausibly lexicalized feature of countability, or perhaps segmentability, in a kind of two level feature structure as in (9).

³¹ The level of grammaticalization of individual ϕ features is a language specific characteristics. Here we are going to consider those which are realized in English and Czech.



7.1.1 Countability

Countability is an **inherent feature** of the Noun category; its value + or – is a property of a given lexical item. The speaker cannot change this without changing its lexical entry. Prototypical people, animals or material objects, that is Nouns, are countable, which means that they can appear with a smaller or larger Number.

In linguistically describing reality, apart from individual discrete or **countable** items, we also encounter with **mass Nouns** (a phenomena expressed as a continuum), which are scalar in the sense that they are measurable but not countable. Only countable Nouns can be counted, i.e. their modifiers express Number.

- (10)
- boy, tree, poem, conclusion, event*
 - water, justice, music, oxygen, courage*
 - two boy-s, a million tree-s, ten events*
 - a pint of water, much music, no courage*

Many English abstract Nouns have uses as both mass and count Nouns. They can be lexically specified as ±COUNT, for instance: *ability, argument, effect, interest*. This holds even for some concrete Nouns, such as *carpet, cloud, egg (yolk), life*.

In English, **countability** is an important formal feature that affects the choice of articles and some Quantifiers. Compare these characteristics with the formal realization of countability.

- (11) Compatibility of D and Q morphemes with the countability of N

a. Modifying **count Nouns**

many/ few/several trees/ sheep
*much/ *little tree/ sheep
each/ every/ some tree/ sheep
all/ some trees/ sheep
the/ a tree/sheep
hundreds/ a number of trees/sheep

b. Modifying **mass Nouns**

*many/ *few/ *several evidences/ courages
much/ little evidence/ courage
*each/ *every/ some evidence/ courage
the/ *a(n) evidence, courage
* hundreds/a number of evidences/ courages

7.1.2 Number

The grammatical expression of Number takes a range of forms:

- (a) An expression of quantity can indicate a semantic notion of whether a Noun can be counted, or should be represented as a mass.
- (b) Countability or Number related to quantity can be expressed on certain Determiners, plural morphemes, and numerals.
- (c) The features are [\pm COUNT], [\pm PLUR].

7.1.2.1 Singular vs. dual vs. plural Number

Dual Number, in both English and Czech, is a lexical property of a few Determiners, which are compatible (or not) with duals. In the Number system of either language, it is no longer a productive feature.

- (12) *both* vs. *all*, *either* vs. *any*, *neither* vs. *none*, *each other* vs. *one another*
- (13) a. *After my accident, each/ *every arm hurt.*
*Both/ *all of them had many bruises.*
b. *A pair of scissors/ binoculars/ trousers is/ *are here.*
c. *vezmi si *dvě /dvoje nůžky,*
koupil si? pět kalhot /patery kalhoty.

Plural Number is a productive feature with countable Nouns. Irregular variants of the plural-(*e*)s are governed by the **blocking effect** (Blocking Principle of Aronoff 1976), which states that irregularly inflected forms always block or override regularly inflected forms.

- (14) a. *children, deer, dice, feet, foci, oxen, people*
b. vs. **childs, *deers, *dies, *foots, *focuses, *oxes, ?persons*

Zero plurals are typically formed for:

- (15) a. some Nouns for living things lacking individual character,
b. nationalities ending in sibilants,
c. measure phrases on the left in compound Nouns.
- (16) a. *deer, fish, offspring, salmon, sheep, shrimp, sperm, trout*
b. *Chinese, Dutch, French, Polish, Portuguese, Swiss, Viennese*
c. *two dozen(*s) eggs, a five-meter(*s)-(long) rope,*
a fifty-dollar sweater

The **pronunciation** of the plural /s/ follows the general rule stated in Section 6.4.4.1 (see (22) on page 78) and repeated below for convenience:

- (17) General rule of pronunciation in English consonantal inflections:
- (a) + Insert vowel (ə) after alveolar segments to facilitate pronunciation.
 - (b) **Progressively assimilate voicing** from the final segment.
- (18) **Allophones** of English inflectional suffixes spelled (e)s
- (a) [-i-]: Insert a reduced vowel, or ‘schwa’, after sibilants.
 - (b) [-s]: Assimilate to [-Voice] after voiceless segments: [p], [t], [k], [f], [θ].
 - (c) [-z]: Elsewhere, i.e. after vowels and voiced consonants, assimilate to [+Voice] (this includes the position after the inserted vowel [-i-]).

The following examples demonstrate that plural inflection interacts with spelling (a) and irregularity in pronunciation (b).

- (19) a. *boys, families, volumes, radios, tomatoes, videos*
 b. *pence, dice, houses, leaves, loaves, baths*

There exist several special kinds of Nouns with respect to the Number feature and its interpretation. Those are demonstrated below.

7.1.2.2 Collective Nouns

There are semantically plural but grammatically singular Nouns: The examples in (a) require singular agreement in American English.

- (20) a. *police, audience, senate, clergy, army*
 b. *china, linen, pottery, cutlery, jewellery, silverware, furniture, clothing*

Group denoting collective Nouns such as *committee, band, team*, etc., allow both singular and plural agreement especially in British English. See Sauerland and Elbourne (2002: 294) for the ‘British English mereological plurality’.

- (21) a. **Group entity** (singular agreement)
This band, which gets top billing...
 b. **Collective plural sum** (plural agreement)
The committee, who are sitting at a large table...
 c. **Distributive plural sum** (plural agreement)
The committee, who get 20,000\$ per annum each...

Interpretations, such as collective vs. distributive, can vary with a specific Predicate:

- (22) [*John and Mary*] met_{COLLECTIVE} at the bar and had a beer (each)_{DISTRIBUTIVE}.

7.1.2.3 *Singularia Tantum*

Singularia tantum are ‘collective singulars’ but have plural morphology. They include some converted Adjectives, certain games and sciences, a few proper names, and idioms. The agreement with these Nouns is in **singular** though the N itself has a ‘plural’ morpheme.

- (23) *During their stay, the local news/ billiards/ checkers/ the bad logistics/ recent linguistics/ the West Indies, the Docklands was/ *were frequently discussed.*

Notice that the Number need not be visible on the Noun itself, but we often see it in **agreement** with demonstratives and with a Predicate such as the Copula:

- (24) *THIS news IS..., THAT new linguistics WAS...*

7.1.2.4 *Pluralia Tantum*

These Nouns typically include clothes, instruments, diseases, applied science, some converted Adjectives, and idiosyncratic items. Notice that the agreement is in **plural**.

- (25) *THESE/ *THIS* $\left\{ \begin{array}{l} \text{pyjamas/ chimes/ measles/ acoustics/ lyrics/} \\ \text{homeless/pins and needles/surroundings} \end{array} \right\}$ *are/ *is awful.*

The same groups of idiosyncratic Nouns, such as singularia and pluralia tantum, exist in Czech as well. Exactly which individual lexical entries are involved is language specific, in the sense that they do not correspond to English.

7.2 **Animacy and Gender of Nouns**

The grammatical features [\pm Animate] and [\pm Gender] are related to how we live and classify things in a specific culture.

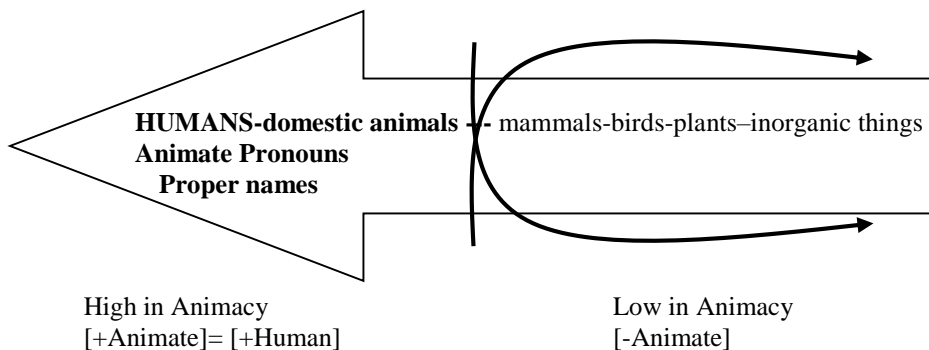
7.2.1 *Grammaticalization of Animacy*

Animacy is an **inherent** feature of Nouns; lexical items are \pm Animate both because of their meaning and form. In biology and culture, the concept of ‘Animacy’ or ‘life’ is arguably a scalar concept. Grammatical features such as [\pm Animate], however, are assigned in a black-and-white manner.

Nonetheless, the exact borderline between [\pm Animate] is an arbitrary, language and culture specific option. Czech and English grammar treat as [+Animate] only [+Human] items and those domestic animals that humans relate to in a rather close way, for instance they love, hate or care for them. Only those animals who are in a sense ‘in’ human society are or can be ANIMATE.

In English, only [+ANIMATE] **Nouns** further express Gender, with *HE* vs. *SHE*. Any use with inanimates, such as boats, rivers or motorcycles is a purely optional metaphor in English.

(26) **Semantic scale of Animacy** (universal)



Some lexical entries **inherently** contain the Animacy feature: common and proper Nouns for humans, the +Animate forms of personal, relative and interrogative Pronouns, and compound Pronouns with *-body* and *-one*.

(27)

- a. *people, relative, friend, boss, mayor, doctor, janitor, soldier, nurse, judge*
- b. *Linda, Samuel, Paul, Pauline, Mr. Smith, Your Highness (3rd Person), Mother*
- c. *some/ any/ no/ every + **body/ one** vs. some / any/ no/ every + **thing/ place***
- d. The interrogatives: **who, whose** vs. **what** and the relatives: **who** vs. **which**.

Condition on Possessives. Counter to claims in many grammar books, English pre-nominal Possessives *need not* be animate. Czech Possessives have to be animate, as demonstrated in Section 8.1.1 and listed in (9) on page 101. English Possessives must be **concrete** (for more details, see Section 8.3.4.1):

- (28)
- a. *a boy's leg, that rat's head, that table's leg, the building's foundation, the lamp's usual place; Egypt's claim to fame, a sonnet's charm*
 - b. **a party platform's leg, *a trip's leg, *a law's foundation, *our history's claim to fame, *that pain's usual place, *solitude's charm*

7.2.2 Gender

The grammatical feature Gender is related to the semantic notion of a sexual dichotomy for many living creatures, humans above all. Gender is an **inherent** feature. Lexical items have it either because of their meaning, which is referred to as **semantic Gender**, or in languages like Czech and Latin, because of their form. In this latter case, it is

called **grammatical Gender**. Recall (see section 6.4.3) the process of **grammaticalization**, whereby a feature is expressed on a diachronic scale:

(29) **lexical morpheme → grammatical free morpheme → bound morpheme**

Movement on the grammaticalization scale is signalled by simplified form, regularity, and productivity. The following examples show that the feature of Gender is minimally grammaticalized in English and completely grammaticalized in Czech.

(30) **Levels of grammaticalization of Gender in English:**

- (a) Special lexical entries: these exist.
- (b) Compounds or free morphemes: these exist, but are not productive.
- (c) Derivation using affixes: non-productive item specific Romance loans
- (d) Inflection for Gender does not exist.

- (31)
- | | | | |
|----|----------------------------------|-----|-----------------------------------|
| a. | <i>man / boy/ child/ friend</i> | vs. | <i>woman/ girl/ child/ friend</i> |
| b. | <i>him/ boy student/</i> | vs. | <i>her/ girl student/</i> |
| | <i>male nurse/ he goat</i> | vs. | <i>woman doctor/ she goat</i> |
| c. | <i>steward, lion</i> | vs. | <i>steward-ess, lion-ess</i> |
| | <i>wait-er, tig-er, widow-er</i> | vs. | <i>waitr-ess, tigr-ess, widow</i> |

Conclusion: English expresses Gender a) lexically; and b) by compounds, using two morphemes, one of which is a simplified standard. Less frequently, it uses non-productive morphology. English Gender remains mainly a semantic concept reflecting the **sexual** dichotomy, realized through lexical means on Nouns and Pronouns.

(32) **Levels of Grammaticalization of Gender in Czech:**

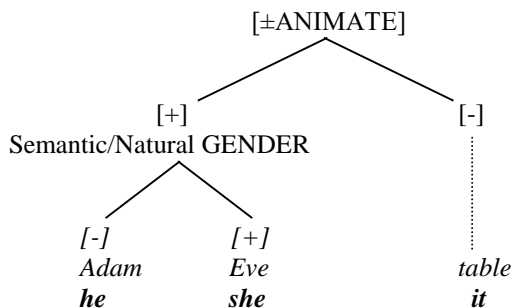
- (a) Semantic Gender. Gender of [+Human] Nouns is assigned according to the sex of the referent.
- (b) Formal Gender. Most [-Human] inanimate Nouns have a Gender based on their **final segment**.
- (c) Derivation uses productive [+Fem] Gender suffixes: *-ka*, *-kyně*, etc.
- (d) Inflection for Gender is an obligatory configurational agreement feature in pronominal, adjectival and verbal paradigms. English entirely lacks Gender inflection.

- (33)
- | | | | | | |
|----|--------------|-----|----------------|-----|---------------------|
| a. | <i>muž</i> | vs. | <i>žena</i> | vs. | <i>dítě (děcko)</i> |
| | <i>stroj</i> | vs. | <i>květina</i> | vs. | <i>město</i> |
- b. Exceptionally: ??*žena kosmonaut* ('woman cosmonaut' translation from Russian)
- c. *přítel-kyně, sportov-kyně* (from Greek *gyné* 'woman')
doktor-ka, uklízeč-ka, manžel-ka

- d. *T-a kniha ležel-a na stole otevřen-á na str. 4*
 the_F book_F lay_F on table opened_F on page 4

Comparing Gender in English and Czech: Both English and Czech have a two-level structure for the features of **Animacy** or **Gender**: **English** has semantic Gender only with [+ANIMATE], and uses neuter for [-ANIMATE].

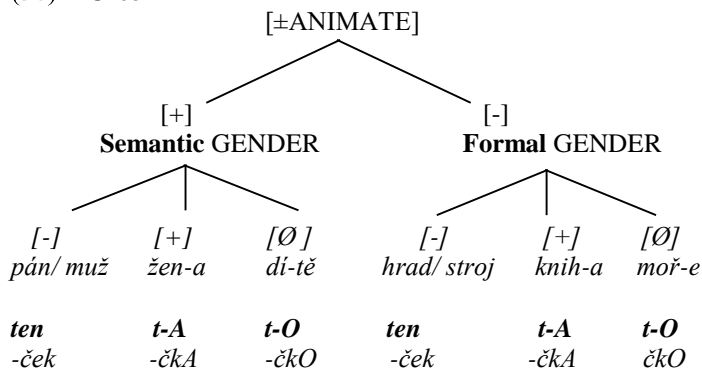
(34) **English**



Czech, and also for example German, has semantic Gender with [+ANIMATE] and formal Gender combined with the feature [-ANIMATE]. Czech formal Gender is based on the similarity of the final segments with those in [+ANIMATE] Nouns.

- (35) a. masculine: *pán, muž, hrad, stroj, les* non-vocalic final segment
 b. feminine: *žena, růže* vocalic final segment
 c. neuter: *město, moře* vocalic final segment

(36) **Czech**



Some forms such as *předseda, soudce, noc*, and *radost* need special treatments. Notice also that formal neutralization of semantic Gender is rather rare, and it appears especially with baby names.

- a.' EN: *I saw a/ some/ the/ this/ *Ø boy .*
 b. **I saw boy/ nice concert/ big ship.*

7.3.1 Classification of Determiners with respect to distribution

Determiners occupy the left periphery of an NP, and they are followed by **numerals** and then **simple** adjectival modifiers and then the head N. One NP can have up to three Determiners, one in each slot.³³

(43) (Pre)Modification of English Nouns

- a. *all* *the* *many* *handsome* *BOYS*
 b. *both* *those* *two* *beautiful* *BOOKS*

predeterminer / central Determiner / numeral + A-modifiers + **NOUN**

Functions: **DETERMINATION** field

MODIFICATION field

(44)

I. **Central Determiners** are **obligatory** and **unique**:

- a. articles: *a (an)/the/Ø*
- b. demonstratives: *this/these; that/those*
- c. Possessive NPs, Pronouns including *whose*
- d. *what/which*
- e. most Quantifiers: *some/ any/ no/ every/ each/ either/ neither*
- f. *Ø* (not allowed with singular count Nouns)

II. **Predeterminers:**

- a. **Universal Quantifiers:** *all / both/ half*
 These can precede a-c in I above, or they can stand alone.
- b. **Adverbs and fractions:** *double/ twice/ three times/ one-third*

The main predeterminers are **universal Quantifiers (QU)** such as *all* and *both*.

III. **Numerals** and some **Quantifiers**:

- a. Cardinal numeral Quantifiers: *three, fifty, ...*
- b. Some Quantifiers (*many/ few/ several/ a lot/ little...*)
- c. The Adjective *such* can follow Quantifiers but precedes *a(n)*.

³³ For a thorough description of generalizations related to modification in the English Noun phrase in a generative framework, see Jackendoff (1977: Ch. 5). The author pays careful attention to the complementarities expressed by lexical entries in the Determiner field.

Ordinal numerals, such as *third*, *seventeenth* or *hundredth*, are formed from cardinal numerals with the productive suffix *-th*. The ordinal numerals behave similarly to Adjectives.

7.3.2 Central Determiners and the category DET

Besides including several Quantifiers and the *wh*-words, the symbol D in the list in (44) also includes two more parts of speech from traditional grammar, namely **articles** and **Pronouns**. The main reason that formal grammar today groups all these items together is that, in general, two central Ds cannot co-occur in a single DP (Jackendoff 1977: Ch. 5).

- (45) **his those*, **those his*, **whose each*, **the some*, **some the*, **any her*, **her any*,
**no either*, **which every*, **every my*, **the which*, **a what*, etc.

7.3.3 Postdeterminer position and numerals

A few English Quantifiers such as *many*, *few*, *little*, *much* and *several*, are also in this position. They appear in place of numerals, and like numerals they can follow the Determiners. Recall that count Nouns occur with *many*, *few* and *several*, while mass Nouns occur with *little* and *much*.

Postdeterminers answer the question, ‘how many?’ by specifying ‘some but not all’. Therefore, such Quantifiers are often called **existential** and labelled as **Q** or **Q_E**. So this study will often use **Q** or **Q_E** as a category name for items in the English postdeterminer or numeral position.

How many independent numeral morphemes are there? There are precisely 17:

- (46) *zero*, *one*, *two*, *three*, ..., *nine*, *ten*, *eleven*, *twelve*, *-teen*, *twenty*, *thirty*, *-ty*.
Others: such as *hundred*, *thousand*, *billion*, etc. seem to be Nouns.

Numerals and the Quantifiers that behave like them are **existential Quantifiers Q_E**.

7.3.4 Contrasting Pronouns and Articles

Pronouns appear to replace whole Noun phrases, but more generally Pronouns are simply a Determiner with Noun phrases that lack Nouns; they sometimes do have other modifiers. Here I give only a few examples of Pronouns, marked in bold, without lexical Nouns in the same NPs. Such Noun phrases as these have no overt Noun in the head N position. In these situations, we say that the Determiner, namely the Pronoun, is the head of the phrase.

- (47) a. [**Who** else] would buy [**anything** so cheap] at a store like [**that**]?
b. [**Each** of the three] [**who**] John asked out turned [**him**] down.
c. [**Nobody** I know] could afford [**any** of [**those** made in Italy.]]
d. [**Everyone** here] [**who**] owns a car considers [**themselves**] satisfied with [**their** own].

There are many subtypes of Pronouns, whose properties are detailed in Chapter 9.

An **article** is a central Determiner that is unstressed and can occur only if an NP contains a lexical Noun or also an ordinal. A Pronoun is a central Determiner that must or may occur when an NP contains no lexical Noun.

- (48) a. *Nobody saw [NP the boy] / [NP him Ø] / [NP this Ø].*
 b. *Watch the boys! / *Watch (both) the!*
 c. *Here comes a boy and a girl. Watch him (*boy)! Watch this!*

Recall the variation and rules of pronunciation for articles: before vowels, *the* often rhymes with *me*. A stressed *the* rhyming with *me* also means *the one*:

- (49) a. *a book* vs. *an orange* *This is an I think nice book.*
 b. *the book* vs. *the orange* *This is the I think best solution.*
 c. *Mr. Wilson is the boss here.* *Godfather II is the movie to see.*

Since **articles** are historically grammaticalized features of Number and reference, the indefinite article *a(n)* does not occur with (uncountable) mass Nouns.

- (50) a. *one > a*
 > twice a week, one at a time, in a word
 b. *that > the*
 > for the moment, nothing of the sort

Definite articles are the most frequent **obligatory** Determiners with count Nouns.

- (51) a. *We have the (small) book/a (small) book/ *(small) book.*
 b. **I saw boy/nice concert/ big ship.*

Definite articles are distinct from demonstratives because

- i. They refer to already mentioned referents, but are never used for pointing either to things in reality or to the ‘former’ or the ‘latter.’
- ii. They can never, contrary to demonstrative Pronouns, replace a whole NP.

- (52) a. *Give me that. Give me one.*
 b. **Give me the. Give me a(n).*
 c. Compare with Czech: *Dej mi tamto/ to/ jedno.*

We can thus unite the two parts of speech, articles and Pronouns, into a single category Determiner, by saying that they share the syntax of the category Determiner, but differ in co-occurrence relation (i.e. in their distribution, with respect to N). An article always needs an N, but Pronouns can be independent of Nouns, that is, they can or must occur in an NP without them.

In this study, I am not going to deal much with interpretation of the Determiners field. The following presents only a summary of used terminology and taxonomies.³⁴

- (b) **GENERIC**

(54) a. *She carried a/the small suitcase. She carried small suitcases.*
 b. *My sister would like to meet a/?/?the Czech who speaks German.*
 c. *There might be a (*the) space in the middle of the room.*
 d. *There is a/*the dictator running that country.*

- | | | |
|----------------------------------|---|--|
| DEFINITE ARTICLE | a. shared understood reference in an extralinguistic context | |
| | b. anaphoric co-reference, with a linguistic antecedent | |
| | c. with certain modifications, definite articles are in practice obligatory | i. with postnominal <i>of</i> -phrase |
| | | ii. with restrictive relative clause |
| | | iii. with attributive clause with some Nouns |
| iv. unique pre-/postmodification | | |
| ZERO ARTICLE | d. proper Nouns; these have inherent definite reference | |
| | e. certain abstract Nouns of time and place | |

- (56) The following examples match the boxes in the above table:
- a. *The sun is too bright. Mind the step!*
Where are the scissors? The boss is coming.
Do you know the assignment for Syntax? Which way is the toilet?
- b. *I bought a book. She thought the book and a scarf would be a nice present.*
*He thought of a plan. But I thought the/ *a plan should be changed.*

97

- c.
 - i. *the head of the department; the Chief of operations*
 - ii. *the book that I bought yesterday; the man I love*
 - iii. *the fact that he didn't come; the reason she was late; the time we first met*
 - iv. *the right man, the only exception, the /*a best Czech poet, all the windows here, the/ *a number seven, the poet Robert Burns*
- d. *I want to visit China soon. I saw Chairman Novak. Saturn has many rings.*
- e. *Will winter be over soon? At plays I like intermission the best. How long does school last this year? Class will be cancelled today.*

Generic reference: Neutralization of Number

- (57) a. *Cats are better than dogs. = "Cat is better than dog."*
- b. *Similar: A cat is better than a dog = The cat is better than the dog.*


Much more can be said about the category of Determiners. Leaving aside the detailed semantic analysis, I will return to the structural position of Determiners in the following chapter.

8 THE STRUCTURE AND FUNCTIONS OF NP

Syntactic properties of a category or part of speech concern above all their **distribution**, i.e. how its lexical items co-occur with other categories, that is, their ‘**context**’: what they combine with, in which order, in what kind of hierarchy. We consider nominal structure at two levels:

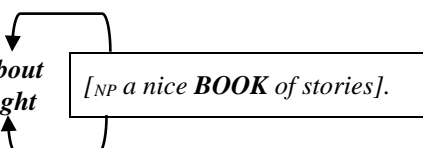
I. Elements subordinate to N

These elements modify N and combine with N in **complex NPs**.³⁵ The grammatical relation of these elements to the head N is called **Attribute**. In other words, NP is a head N plus what depends on the Noun. We can also say that a Noun phrase (NP) is the projection of a head Noun. We will discuss this in more detail in Section 8.1.

- (1) Noun Phrase (NP):
- 

II. Elements superordinate to a (bare or complex) NP

On what does the NP depend? Which category governs it? Which kind of sentence functions does it take on in a clause? In the following examples, the NP is related to the P *about* and the V *bought*.

- (2) a. *Helen is speaking about* [NP *a nice BOOK of stories*].
 b. *Yesterday Piers bought* [NP *a nice BOOK of stories*].
- 

We say that Prepositions and (some) Verbs **select** a Noun phrase complement (subcategorize for an NP complement). Notice the formalization on the right:

- (3) a. *read* [NP *every new book*] *read*, V, [_NP]
 b. *about* [NP *the nice book of stories*] *about*, P, [_NP]

I will illustrate the functions of NPs in more detail in Section 8.2.

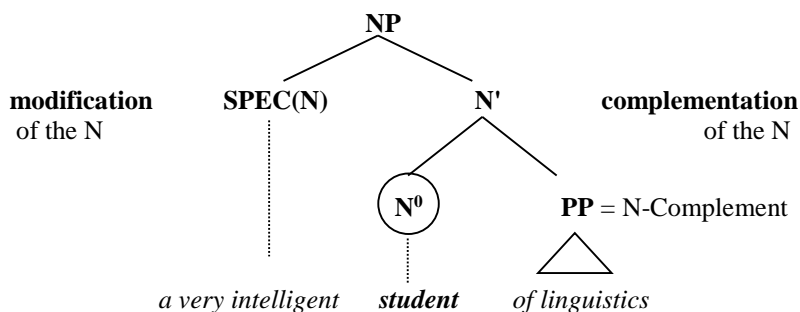
³⁵ As will be mentioned in Section 8.1.2, a complex nominal projection contains functional heads above NP and should therefore be analysed as a DP or QP as well. In this study, however, for simplicity, I am going to use also the label NP for a complex projection of a nominal category, including its functional projections.

8.1 Internal Structure of Noun Phrases

Recall that the function of the category N(P) is twofold:

- i. The main grammatical function of a category Noun (N) is to be a head of a Noun phrase (NP)
- ii. The grammatical function of a Noun phrase (NP) is to be embedded in (to be a part of) some other structure such as PP or in the clause as a sentence member such as Subject or Object.

(4) Phrasal projection of a category N; see scheme (29) in Section 6.5.1.



There can be much or little material in the NP that is related to N. The phrase can even be “bare,” e.g. proper names like *John* are bare NPs. However, NP is often rather complex, containing many various phrases, especially modifying APs and PPs. We can divide Attributes into the elements **premodifying** (proceeding) a Noun and the elements **postmodifying** a Noun.³⁶

(5) *all the three* [_{AP}very tall] *white city* **towers** *of Mordor* [_{PP}with black spires]

(QU) - D/POSS - (Q_E) - AP - AP... [N/A (+ N)] - XP...

The XP postmodifying the head N can contain: **[of-P] – AP – PP – VP - clause**

³⁶ The complexity and systematic structural description of English nominal projections (NP) can be found in grammar manuals, e.g. Greenbaum and Quirk (1991: 363-393); Svoboda (2004: 18-23), Quirk et al. (2004: 1235-1352), and in specialized monographs, e.g. Jackendoff (1977: Chapter 5). For a cross-linguistic perspective, see Rijkhoff (2002).

8.1.1 N-premodifiers

- (6) a. Central Determiners are **obligatory** and **unique**. See (43) on page 94.
 b. English Possessives are not adjectival, but full **NPs**.
 c. Adjectives and APs are **recursive**, i.e. they can follow one another.
 d. Modifying 'secondary Adjectives' inside compound Nouns are often formed from any part of speech, as in compounds like *mountain trail*, *off day*, *sweet shop*, *think tank*.

The above four properties are illustrated in the following examples, respectively a–d. (See also Section 7.3.)

- (7) a. *a/ the/ my/ which/ a friend's book*, but no combinations of these
**I bought expensive book.*
**the my book/ *John's the book/ *which your book/ *an each book*
 b. *[_{NP} my younger brother John]'s book cost a lot.*
[_{NP} A friend of my mother]'s wife came to visit us.
 c. *some big hairy stupid irritating dog*
a quite expensive, long-lasting, more fashionable fur coat
 d. *govern-ment funds, arriv-als hall, a new ladies room*
the off-season, an in-group, a think tank, an upside-down cake

With the exception of recursive Adjectives (the semantically determined order of which is not always strict), there is a strictly **fixed order** among the premodifiers of N. Consider the following examples, which compare English on the left and their Czech formal equivalents on the right. We can see that both languages obey similar rules of word order inside the NP.

- | | | | |
|--------|--------------------------------|-----|--|
| (8) a. | <i>the big green monster</i> | a.' | <i>ta velká bílá kniha</i> |
| b. | <i>*big the green monster</i> | b.' | <i>* velká bílá ta kniha</i> |
| c. | <i>? the green big monster</i> | c.' | <i>? ta bílá velká kniha</i> |
| d. | <i>some old French book</i> | d.' | <i>nějaká stará francouzská kniha</i> |
| e. | <i>??some French old book</i> | e.' | <i>?? nějaká francouzská stará kniha</i> |
| f. | <i>John's three cars</i> | f.' | <i>Johnova tři auta</i> |
| g. | <i>*three John's cars</i> | g.' | <i>tři Johnova auta</i> |

The distinctions between English and Czech premodification of N can be listed as follows:

- (9) a. English (not Czech) has an obligatory and unique central Determiner.
 b. English (but not Czech) Quantifiers are clearly defined as either Determiner or pre- or postdeterminers.
 c. English (but not Czech) Possessives are potential full phrases (NP).

Notice that the distinctions do not include word order – that is fixed in both languages irrespective of differences in Case marking; for comparisons, see Veselovská (2018).

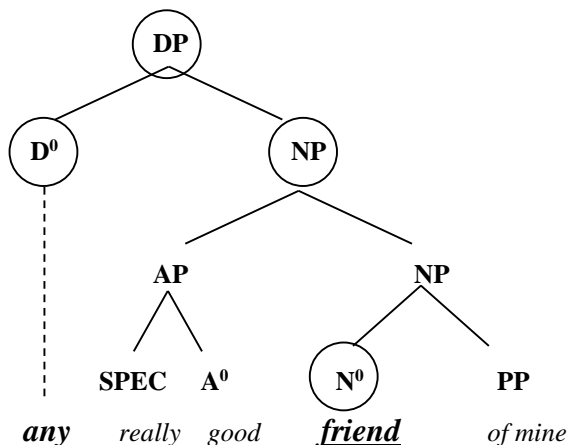
What causes the different co-occurrence restrictions between distinct kinds of N-premodifiers? They are mostly due to other special head projections above NP: **Determiners** (D/Det) and **Quantifiers** (Q, Num). See again Section 7.3.1 concerning the determination field.

8.1.2 Determined and quantified NP

Some elements in front of the head N have a specific interpretation and behaviour. Determiners and Quantifiers can be analysed as heads, and if they are heads, they project into their own phrases. While in Jackendoff (1977), the Determiners were supposed to be SPEC(N), the analysis of English Possessives introduced in Abney (1987) established the existence of a **separate functional category D** (Determiner), hosting articles, demonstratives and Possessives. Another functional head has been widely accepted after Giusti (1992) for some **existential Quantifiers: Q_E**.

The functional heads D/Q **select** (subcategorize for) a specific **Complement**, namely an NP. The following structures contain several “nominal” heads – one is “lexical” (N), and the higher heads are “functional” (D, Q). The projection of all heads uniformly reflects the bar notation. See scheme (29) in Section 6.5.1.³⁷

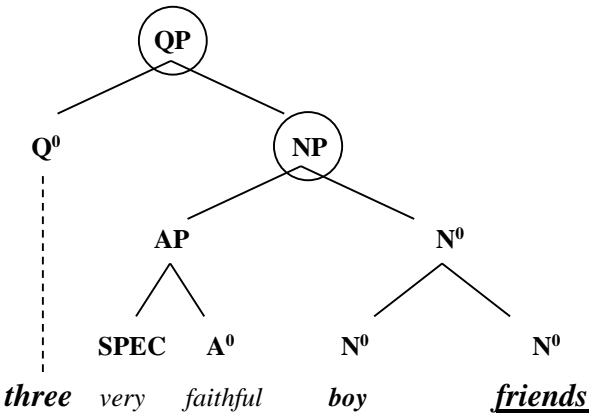
- (10) **D, [_NP]** [_{DP} any [_{NP} really good friend of mine]]



³⁷ I will often use the label NP for both DP and QP in the following text, for simplicity.

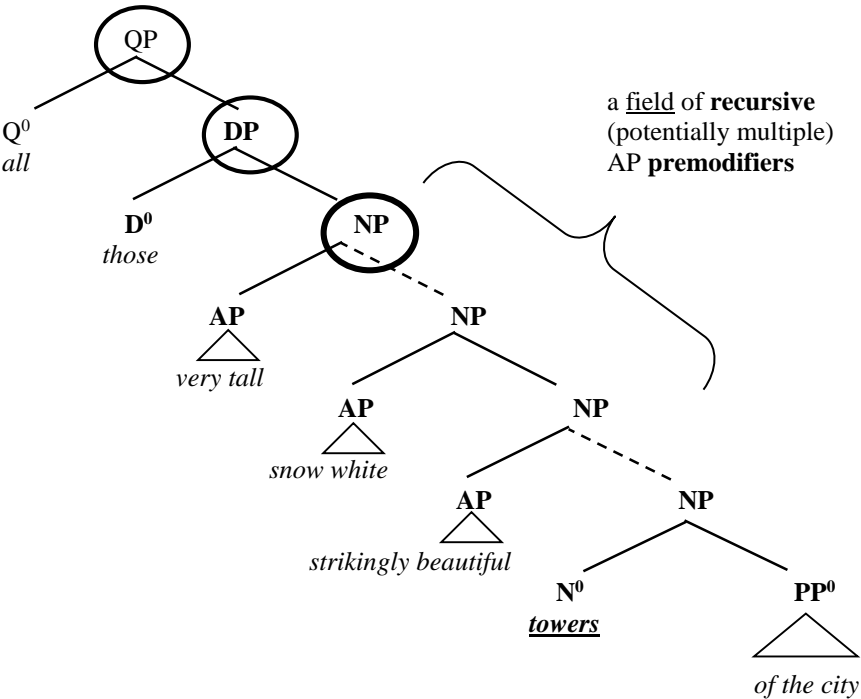
Because English articles are **obligatory**, and each NP must have a Determiner, we often label the English Noun phrase DP (i.e. Determiner phrase). Such a DP can then be at the same time quantified (QP).

(11) Q, [_NP] [_{QP} three [_{NP} [_{AP} very faithful] boy-friends]]



(12) **Determined, quantified and modified NP:** Q, [_DP]; D, [_NP]

[_{QP} all [_{DP} those [_{NP} very tall snow white strikingly beautiful towers of the city]]]



8.1.3 Recursive pre-modifiers in NP

Recall the properties of modifiers preceding the Noun. In (13), the (a) and (b) modifiers follow a strict word order, while the order of multiple APs is less strict – it is semantically determined, not grammaticalized. Secondary Adjectives are usually part of X⁰+N compounds. The groups of premodifiers are illustrated in (14).

- (13) a. Determiners including Possessives;
b. Universal and general Quantifiers;
c. Adjectives and their modifiers;
d. Secondary Adjectives, formed from Ns, As, etc.;
e. Other modifiers based on P, etc.
- (14) a. *this/ some/ every/ my/ the girl's friend*
b. *all your three friends/ half those rooms*
c. *any [very/ / somewhat more interesting] story*
d. *government funds/ town hall/ tall story*
e. *sideways motion, outer limit, inside man*

Note that adjectival premodifiers (APs) are “**recursive**”: i.e. the structure can be repeated again with no syntactic restriction. That is, the number of Adjs is limited only by parsing complexity. However, the complexity of a single AP has to be distinguished from combinations of APs:

- (15) a. *Any three [AP really nice] [AP very clever] [AP most faithful] friends of mine.*
b. *Any three [AP good and intelligent] friends of [NP John and Mary]*

8.1.4 Recursive postmodifiers of N

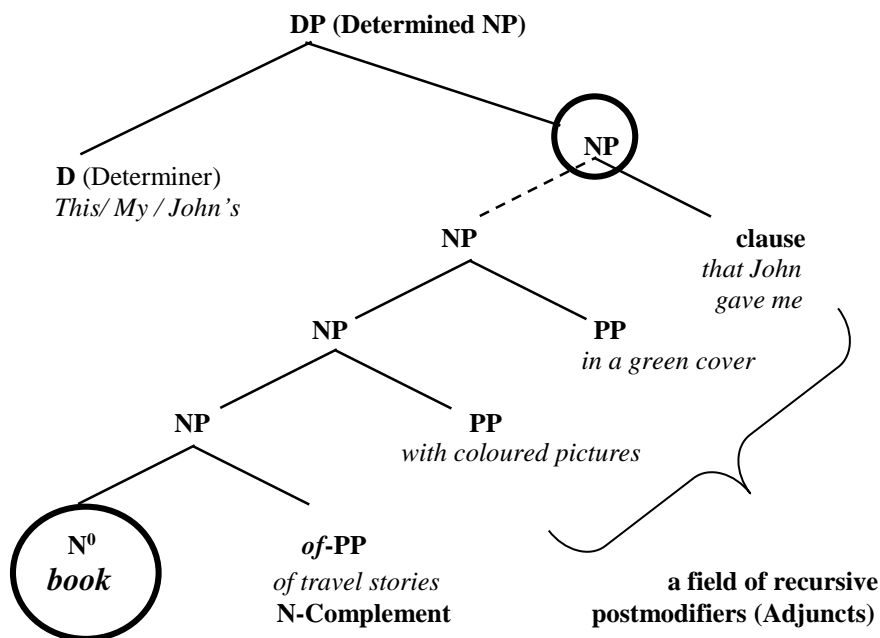
The range of possible postmodification is rather wide. All these elements are phrases, and can be bare or complex. Contrary to much V-complementation, the Complements and other postmodifiers of N are prevalingly optional. The kinds of postmodifiers are listed in (16) and illustrated in (17).

(16) Types of postmodifiers of Nouns

- a. complex adjectival phrases;
b. *of*-phrases, which are (a) unique and (b) adjacent to N;
c. other PPs, which can be multiple and are ordered more optionally;
d. participles and Infinitives;
e. clauses, Complements of N and full relative clauses;
f. others.
- (17) a. *a student [AP more intelligent than Einstein]*
b. *that brother [PP of mine] (*of no interest) from Brooklyn*
 ** that brother from Brooklyn [PP of mine]*

- c. *the student of history* [_{PP} with long hair] [_{PP} from Pilsen]
the letter for John from Bill about football
- d. *some student* [_{VP} reading math], *a candidate* [_{VP} to watch]
- e. *the fact* [_{RC} that no one is here], *any idea* [_{RC} that we might leave]
a book [_{RC} which you gave me], *the place* [_{RC} you live]
- f. *travels* abroad, *the way* home (to our village), *a guy* down and out

(18) Determined NP with post-modification



The ordering of postmodifiers of N is correlated with their **scopes** (in the same way as the order of adjectival premodifiers), with the exception of the *of*-phrase, which must be adjunct to N. Thus, the postnominal ***of*-phrase** in NPs is not recursive.

A second *of*-P/*GEN* phrase is ungrammatical if interpreted as modifying the same N; it can only modify another N that precedes it. In the example below, the PP *of Boston* can modify neither the N *cousin* nor *man*. It has to be related to *suburb*.

(19) *a cousin of the man from a suburb of Boston.*

Czech postnominal GEN phrases are subject to the same restriction, and thus are both formal and semantic equivalents of English *of*-phrases.

(20)

- a. **the description of the city of Mary* (OK if interpreted as *Mary's city*)
- b. **the pleasure of cigars of my father* (OK if interpreted as *father's cigars*)
- c. **nákup cigaret mého tatínka*
 purchase cigarettes_{GEN} my father_{GEN}
 **father's purchase of cigars* (OK if interpreted as *father's cigars*)

The English and Czech examples below confirm the claim that except for the *of*-phrase, and the corresponding Czech Genitive NP, which both must be **adjacent** to N, PP ordering in the postnominal field is free, determined probably only by size.

- (21) a. *a book of love stories with no cover* (**of love stories*)
 b. *kniha (pohádek) v barevném obalu* (**pohádek*)
 book (stories_{GEN}) in coloured cover (**stories_{GEN}*)
- (22) a. *the letter (from Zara) for Ethel (from Zara)*
 b. *dopis (od Pierse) pro Helenu (od Pierse)*
 letter (from Piers) for Helen (from Piers)

We can see that the ordering of postmodifiers is the same in English and in Czech; in both languages it depends on the structural characteristics of a given constituent. Crucially, morphological Case does not guarantee the freedom of movement of an Attribute XP. As for the function of Attribute, I will discuss this concept in more detail in Chapter 11 and Section 18.4 below.

8.2 Distribution and Sentence Functions of Noun Phrases

The distribution of NPs and their sentence functions are highly diverse.³⁸ An NP of any complexity can be (almost) any sentence member. Some positions are more typical than others. The sentence functions illustrated below are syntagmatic relations, i.e. the sentence function is a **relation between two members** of a syntactic couple. An exception is a Subject or Object 'Complement', which is a ternary relation (there are three related constituents). No constituent can be a sentence member by itself, without being in a **grammatical relation** with another constituent.

(23)

- a. Subject *[_{NP} Those three students of yours] arrived quickly.*
- b. V-Object *I saw [_{NP} those three students of yours] nearby.*
- c. P-Object *He spoke about [_{NP} those students of yours] to me.*
- d. Adverbial *Quido arrived [_{NP} the last week / in July / today].*

³⁸ In this section, the distribution (functions) is discussed for the phrasal projections of the N category, that is, the DPs and NPs. The distribution of the head N was analyzed in detail in the preceding Section 8.1, which dealt with the internal structure of NP/ DP/ QP.

- | | | |
|----|----------------------|---|
| e. | Attribute | <i>I stayed in [_{NP} those students of yours]’s house.</i> ³⁹ |
| f. | Nominal Predicate | <i>Oscar and Zara are [_{NP} two students of linguistics].</i> |
| g. | Possessive Attribute | <i>[_{NP} those three students]’ books</i> |
| h. | Object Complement | <i>We appointed him [_{NP} the chairman of the group].</i> |

We can see that in the above, ‘(those) three students’, the NP can be any sentence member, depending on the grammatical relation that it stands in with some other constituent. Some positions (sentence functions) such as Subjects or Objects are typical for NPs, but they are not exclusively nominal. Both Subject and V-Object can be of another category, e.g. VP, too. On the other hand, some functions are not so typical, but they are more exclusively for NPs; a Complement of P (a P-Object) is reliably an NP, and the Possessive can only be an NP ().

8.3 Case Inflection and Sentence Functions

8.3.1 Abstract and morphological Case

We can use the term “Case” to label an abstract **relation** between a nominal phrase and some superordinate element (i.e. **abstract Case**) or to label the morphological realization or signal of the abstract relation on the Noun – the inflectional endings (**morphological Case**). While the syntactic relations may be language universals, the morphological realizations of those relations are language specific: some languages express Cases using many and various inflectional endings, while some have only a few morphological Cases, or none at all. In other words, every language has abstract Case (i.e. structural relations between constituents), but only some languages also realize this abstract Case morphologically. Other languages may use other means (e.g. word order).

8.3.2 The repertory and realizations of morphological Case

Considering the number of morphological Cases in Czech, there are seven morphologically distinct forms within a Czech nominal paradigm in both singular and plural. The linguistic names for these Cases are:

- (24) Nominative, Genitive, Dative, Accusative, Vocative, Locative, Instrumental.

The English nominal paradigm has only 2 morphological Cases, and its pronominal paradigm usually 3:

- | | | | |
|------|----|------------------------------|--------------------------|
| (25) | a. | 3 or 4 forms with Pronouns: | <i>I - me - my/ mine</i> |
| | b. | 2 with Noun <u>phrases</u> : | <i>John - Oscar’s</i> |

³⁹ While the Czech possessive morphemes *-ův/-in* attach to the nominal stems (*otcův, matčin*) the examples in (23) (e/g) show that the English possessive suffix ‘s/’Ø attaches to the complete NP phrase.

Case taxonomy: The classification of English Case usually uses special terminology.

- (26) a. Case with Noun phrases
- i. **COMMON** Case: *Piers, girl, box*
 - ii. **Germanic GENITIVE** (Possessive) Case: *Piers's, girl's, box's*
- b. Case with Pronouns
- i. **SUBJECT** Case: *I, he, who...*
 - ii. **OBJECT** Case (Object of a Verb or Preposition): *me, him, whom,*
 - iii. **GENITIVE/ POSSESSIVE** Case
 - (a) Prenominal: *my, your, whose...*
 - (b) Independent: *mine, yours...*⁴⁰

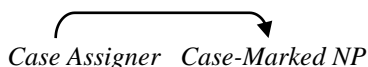
The following examples demonstrate that although English does not have many morphological Cases, those which are simple and in canonical positions are obligatory and show no tendency to disappear.

- (27) a. *He/*Him saw Mary.* *We/*Our bought a book.*
 b. *Quido saw her/*she.* *Quido looked for me/*my then.*
 c. *My/*I house is near here.* *Mary likes their/*them son.*
 d. *The mayor of Boston's son* *Who else's friend is coming?*
 e. **The mayor's of Boston son* **Whose else friend is coming?*

8.3.3 The source of Case

Abstract Case is the label for an abstract relation between a nominal phrase and some superordinate element, which can be expressed morphologically with an inflectional Case ending. The superordinate element that triggers the specific Case morphology is traditionally called the **Case assigner**.

- (28) Assignment of the morphological Case by Verb and Preposition (in Czech)



- a. *číst* [_{NP} *dlouhou knih-u*] /**číst kniha* /**číst knihou*
 read long_{ACC} book_{ACC} / *read book_{NOM} / *read book_{INS}
- b. *bez* [_{NP} *našeho dom-u*] /**bez dům* /* *bez domem*
 without our_{GEN} house_{GEN} / *without house_{NOM} / *without house_{INS}

⁴⁰ Possessive Pronouns can have an extra final *-n* or *-s* if they are final in an NP: *her own, hers, mine*, etc.

In (28), the Verb *číst* and Preposition *bez* are Case assigners. They are superordinate (higher in hierarchical structure) to their selected NPs. We can formalize it as follows:

- (29) a. *číst* (read): V, [_ NP_{ACC}]
 b. *bez* (without): P, [_ NP_{GEN}]

The categories that can assign a morphological Case are cross linguistically distinct. Look at the following examples to see which category (which part of speech) can be a morphological Case assigner. Notice that the repertory is richer in Czech than in English.

(30) What assigns Case in Czech?

- a. *Já*_{NOM} *jsem* *spal*. A **finite Verb** assigns NOM to its Subject.
 b. *Chci* *poslat* *knihu*_{ACC}. A **lexical Verb** assigns ACC to its Object
 c. *Pomáhal* *Piersovi*_{DAT} Indirect Objects get DAT, possibly from **null P**.
 d. *Šel* *cestou*_{INSTR} Some Adjuncts get INSTR, possibly from **null P**.
 e. *přes* *les/ něho*_{ACC} Some **Prepositions** assign ACC to their Object.
 do *školy*_{GEN} GEN
 proti *zdi*_{DAT} DAT
 f. *Vidím* *přítele* *své* *sestry*_{GEN}. A **Noun** assigns GEN to its Attribute.
 g. *Viděl* *osm* *obrazů* / *jich*_{GEN}. **Numerals** assign GEN to their Complement.
 h. *Je* *věrný* *své* *ženě*_{DAT} An **Adjective** assigns DATIVE to an Object.

In Czech, morphological Case can be assigned by TENSE, V, P, N, Q, and A. Notice that this list includes all major parts of speech.

(31) Case assigners in English

- a. *He*_{SUBJ} *was* *sleeping* *a lot*. A **finite Verb** assigns SUBJ Case to its Subject.
 b. *to* *see* *us*_{OBJ} A **lexical Verb** assigns OBJ Case to its Object.
 c. *about* *her*_{OBJ} A **Preposition** assigns OBJ Case to its Object.
 d. *you*_{GEN} *new* *book* A **Noun** assigns GEN Case to NP in DET.

In English, the Case assigners are only TENSE, V, P, N (or Q).

8.3.4 The role of Case in interpretation: semantic roles

The role of Case in grammar is to determine the sentence functions and thus to interpret NPs in terms of their **semantic roles**. Interpretation of some constituents can be guessed from meaning, e.g. *yesterday* probably indicates the time of the item it modifies, but the interpretation of the main sentence members **depends on structure**.

For example - the Verb *watch* combines standardly with two nominal phrases (e.g. *David* and *Mary*) in two ways; either *Mary* or *David* could be watching (i.e. the Agent/Doer of *watch*) as well as watching (i.e. Patient of *watch*). How does the listener learn which interpretation is intended? In other words – which semantic role does the

expression take with respect to the described activity? To ‘know’ a language means to know how the language expresses/realizes/encodes distinct ‘relational meanings’, that is, how it assigns the various semantic roles. Compare Czech and English:

- (32) a. *David watched Mary* *David_{NOM} sledoval Marii_{ACC}.*
Marii_{ACC} sledoval David_{NOM}.
- b. *Mary watched David.* *Marie_{NOM} sledovala Davida_{ACC}.*
Davida_{ACC} sledovala Marie_{NO}

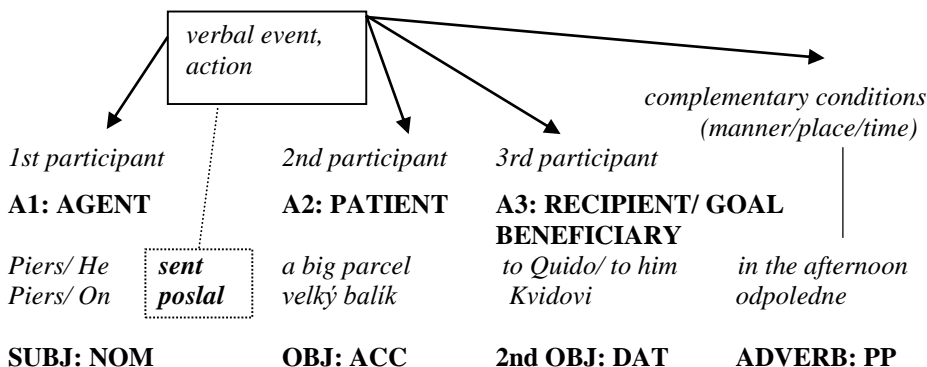
Realization of semantic roles, also known as **thematic roles**, **Theta roles**, or **Θ Roles**, depends on a Verb’s form and the structure around it, such as its Subject, Objects, and PPs Complements. Sentence members are indicated by specific formal devices, either **morphological Cases** or other means, such as **word order**. In Czech, morphological Case prevails, while in English word order is primary. Thus, Nominative/Subject Case signals a Subject, and the Subject relation is used to assign to the NP the semantic role of Agent; when the Verb is active, the Subject is the Agent. Similarly, Accusative/ Object Case signals a direct Object relation, which encodes roles like Patient.

(33) **The coding of semantic roles:** Canonical realization of the main roles:

- ↓
- i. A **semantic role** such as Agent, Patient, Benefactive, etc. is encoded in
 - ii. A **sentence function** such as Subject, Object, etc., which is signalled
 - iii. by a **formal device** such as Case or word order.

In the diagram below, the Verb *send* combines with several NPs: *Piers*, *a parcel*, *John*, *the afternoon*. Each of the NPs is related to the Verb, i.e. interpreted in a distinct way. The constituents related to the Verb are the **participants** of the verbal event. They are the **Arguments** of the Verb.

(34) participants in the event = Arguments of the Verb = semantic/thematic Roles



The formal realizations of semantic roles not only correlate with sentence functions but also crucially depend on other factors as well, for example the kind of verbal voice (active vs. passive): not every Subject or pre-verbal NP is an Agent, and not every Agent is realized as a Subject.

- (35) a. *She_{SUBJ} saw him_{V-OBJ}.*
 b. *He_{SUBJ} was seen by her_{P-OBJ}.*
 c. *Him_{V-OBJ} she_{SUBJ} saw, but not me_{V-OBJ}.*
 d. *They_{SUBJ} sent books_{SV-OBJ} directly to me_{P-OBJ}.*
 e. *They_{SUBJ} / Books_{COMMON} were sent directly to me_{P-OBJ}.*
 f. *He_{SUBJ} was sent the book_{COMMON} directly by her_{P-OBJ}.*

To sum up: The role (or general the function) of Case is to signal a sentence function, which expresses a specific semantic role.

8.3.4.1 *The specifics of the English Possessive/Genitive*

Two structures are traditionally called "Genitives" in English:

- (36) a. the prenominal Genitive with the inflection - 's:
 b. the postnominal prepositional Genitive = *of*-NP 's:

The Germanic Genitive marker's *is* a kind of "**phrasal clitic**," as the next examples show: it is not an inflectional morpheme added to a Noun, but a **phrasal morpheme** added to the whole NP.

- (37) a. *This is Adam's and my friend's. Ann's cost more than ours.*
This is the can's lid. I judge an author by his novel's sales.
 b. *any friends of that boy's; the man I saw yesterday's reputation*

Which (kinds of) NPs can appear with the Genitive morpheme? In current English, any NP, head N of which can be construed as +CONCRETE, plus a few other types. The types of possible heads are illustrated by the following respective examples:

- (38) a. Concrete Nouns;
 b. Temporal Nouns;
 c. Some idioms;
 d. Genitives of owned places.
- (39) a. *Abe Lincoln's statue, a horse's tail, Modern China's role, the central government's decision, the country's best college, a great novel's structure*
 b. *this year's sales, today's news, a month's salary, life's end*
 c. *for heaven's sake, their money's worth, at death's door, in harm's way*
 d. *to Elisabeth's, from my aunt's, breakfast at Tiffany's, near St. Paul's*

In the following examples (the reader can probably construct further relevant examples), I compare the English and Czech **counterparts** of **POSSESSIVES** with respect to their: (a) position (pre-N or post-N), (b) complexity (N or NP or PP), (c) Number and Animacy, and (d) category (A or N/NP). Below the English examples are their Czech formal equivalents (assuming the prepositionless postnominal Genitive in Czech to be the equivalent of the English postnominal *of*-Genitive).

(40)

- | | | | |
|-----|--|-----|--|
| a. | <i>* the Jim's book</i> | b. | <i>a book of Jim/ a book of our John</i> |
| a.' | <i>ta Janova kniha</i> | b.' | <i>??kniha Jana /kniha vašeho Jana</i> |
| c. | <i>the table's leg/ paint</i> | d. | <i>a pupil's / the pupils' book</i> |
| c.' | <i>* stolova noha/barva</i> | d.' | <i>žákova /* žác? kniha</i> |
| e. | <i>your mother's / father's child's room</i> | | |
| e.' | <i>(*tvo)j matčin/ otcův/ *dítětin/*ův pokoj</i> | | |

We can see that while in English the Germanic/Saxon Genitive is a **phrasal** Case added to a full DP and alternating with the position of a central Determiner, in Czech it is only a single word of a hybrid category, an adjectival Noun. It must be +Animate, singular and marked by masculine or feminine Gender. No such restrictions apply in English.

On the other hand, in both languages the position of the Possessive is that of the highest Argument of a Noun or nominalization of a Verb. In both the following examples, the Possessive *John* takes a semantic role higher than the postnominal *Mary* casemarked by Genitive (equivalent of English *of* phrase).⁴¹

- (41) a. *Janovo malování Marie trvalo 3 hodiny.*
 John_{POSS} painting Mary_{GEN} took 3 hours.
 b. *John's painting of Mary took 3 hours.*

In this chapter, we have studied both the internal structure and the external distribution of Noun phrases. Perhaps the most intricate aspect of Noun phrases concerns how they are licensed in larger constituents, in particular within a clause. This has led to considering the various sentence functions of NPs, also known as their grammatical relations, such as Subjects, Objects of V, and Objects of P. An integral part of analyzing the licensing of NPs in these various relations concerns the theory of abstract and morphological Case. This chapter has examined how Case is realized in morpho-syntax in both English and Czech, and how abstract Case is related to the universal grammar of sentence functions and the assignment of semantic roles of these NPs.

⁴¹ English *-ing* nominalizations are discussed in detail in Chapter 29.

9 PRONOUNS

Pronouns are lexical items that replace some more complex NP or other phrases. The following examples demonstrate that personal Pronouns replace whole nominal structures (NPs). If we try to replace a Noun only with a Pronoun, the resulting structure is ungrammatical, but see Section 9.5.

- (1) [That smart foreign girl] with [my two friends] was awarded [the first prize].
SHE/HER THEM IT
- (2)
- | | | | |
|----|----------------------------|--------|--------------------|
| a. | The younger <u>brother</u> | bought | a new <u>car</u> . |
| b. | *The younger <u>he</u> | bought | *a new <u>it</u> . |
| c. | He | bought | it. |

Pronouns are a typical close class category. That is, all Pronouns are listed in a grammatical lexicon. With respect to the main open class lexical categories, Pronouns can be assigned to the categories of N or D.

- (3) **Classification of English Pronouns**⁴²
(adapted from Greenbaum and Quirk 1991: 108-128)

1.	CENTRAL (+DEF)	personal		<i>I/ me, we/ us, you, she/ her,...</i>
		reflexive		<i>myself, ourselves, oneself,...</i>
		Possessive	determinative	<i>my, your, his, her, its, our...</i>
			independent	<i>mine, yours, his, hers, ours, ... *its</i>
2.	DEMONSTRATIVE (+DEF)			<i>this/ these, that/ those</i>
3.	RECIPROCAL (+DEF)			<i>each other, one another</i>
4.	RELATIVE			<i>the wh-series, that, Ø</i>
5.	INTERROGATIVE			<i>the wh-series and how, why</i>
6.	INDEFINITE (-DEF)	positive	universal	<i>all/ both, each, every</i>
			assertive, or existential	<i>some, one, half, several, enough, (an)other</i>
			non-assertive	<i>any, either</i>

⁴² These authors classify universal Quantifiers as –DEF, which does not seem accurate. For alternative classifications, see Leech and Svartvik (2004: 333-398, 817-822); Dušková (1994: 101-1350), and Svoboda and Opělová-Károlyová (1989: 84-1120). For more advanced studies of Pronouns and their types in cross linguistic contexts, see Haspelmath (2001) and Bhat (2008).

		negative	<i>no, none, neither</i>
--	--	-----------------	--------------------------

In the Table in (3), all **central** Pronouns are derived from the personal Pronouns. Among Possessives, ‘**independent**’ means it is the final item in an NP, while ‘**determinative**’ means some other element in the NP follows the Possessive:

- (4) a. *All yours are pretty,* *That friend of mine was absent.*
b. *You should have your own.* *I don’t have my others with me.*

9.1 Personal Pronouns

Personal Pronouns are **Pro-forms** for discourse participants. They are Determiners (Ds) that replace full DPs. (They are not just Nouns!)

9.1.1 Interpretations of personal Pronouns

To call oneself “*James Bond*” is appropriate only if one is James Bond. To call oneself “*I*” is always correct, no matter whether one is James Bond or not. The statement in (5) (a) is true no matter who says it, but only when James Bond actually flew, while (b) is true only if the person, who pronounces it, did so.

- (5) a. *James Bond was flying to Hawaii.*
b. *I was flying to Hawaii.*

To conclude: contrary to referential Nouns, Pronouns do not have **independent reference**. Their semantic interpretation can be defined only in **terms of discourse**, according to the conditions and circumstances of the specific **speech act**.

Personal Pronouns are named for the role that the **grammatical person** plays among them.

- (6) **Discourse interpretations** of personal Pronouns. They are always **definite**.

- a. *I* (=1sg) = the speaker = the person who performs the speech act
b. *you* (=2sg) = the hearer = the intended addressee of the speech act
c. *(s)he* (=3sg,m/f) = ‘another’ human non-participant in the discourse
d. *it* (=3sg) = a non-human non-participant
e. *we* (=1pl) = a set of people one of which is the speaker.
The hearer can be a member (**inclusive** *we*) or not (**exclusive** *we*).
f. *you* (=2 pl) = a set of people including the hearer, not the speaker
g. *they* (=3pl) = the ‘other’ non-participants of the discourse

Consider the characteristics of Number [plural] with personal Pronouns.

- (7) a. *books/ boys* [plural] = *book+book +book... / boy+boy+boy*
b. *we* [1 plural] ≠ *speaker + speaker + speaker....*
c. *you* [2 plural] = / ≠ *hearer + hearer + hearer...*

d. *they [plural]* = *the other + the other + the other*

9.1.2 Special kinds of personal Pronouns

(8) Stylistic/pragmatic usages of *we*:

- a. *As we can see in Chapter 3...*
- b. *As we just showed...* Inclusive/ authorial/ editorial *we*
- c. *Today, we are much more concerned ...* Rhetorical *we*
- d. *How are we feeling today?* Substitute for *you*
- e. *We are really in a bad mood today.* Substitute for 3rd Person Pronoun

(9) Referential vs. **expletive Pronouns**, *it* and *there*:

Expletives have no reference.

- a. *I want this book. She wants it as well, but it's mine.* Referring *it*
- b. *It is raining, and I expect it to rain tomorrow, too.* Weather *it*
- c. *It is not true that he did the work.* Expletive *it* and linked clause
- d. *There is a young man in the middle of the room.* Expletive *there* and associate NP

9.1.3 Functions and forms of personal Pronouns

Case: English personal Pronouns have four possibly morphologically distinct Case forms; see also Section 8.3.

- (10) a. SUBJECTs *I, you, he, she, it, we, they*
- b. GENITIVES *my/mine. your/yours, her/hers, their/theirs...*
- c. OBJECTs *me, you, him, her, it, us, them*
- (11) a. Possessive Pronouns *This is **my** book.*
- b. Independent/predicative Pronouns *The book is **mine**.*
*That brother of **mine** is here.*
- c. Objects of a Verb *I saw **him** /*he frequently.*
- d. Objects of a Preposition *I went there with **him** /*he last week.*

Subject Case in English is more marked and less used than the Nominative is in Czech. Consider the Case on the following English Pronouns. Compare them with the Czech translations.

- (12) a. *Who did it? - **Me**. It was **me**.*
- b. *Ann and **him**/?he often go abroad.*
- c. *It was ?she/**her**/ ?she that Adam criticised.*
- d. *Nobody but **her**/?she does it well.*
- e. *We/**Us** students have many expenses.*
- f. *We got home before **them**/*they.*

In current English, Subject Pronouns are obligatorily marked for Subject Case only as uncoordinated Subjects of **immediately following, overt Predicates**. Otherwise, spoken English currently prefers the Object Case forms, contrary to Czech, where Nominative is the unmarked dictionary form of Pronouns.

9.2 Demonstratives: Determiners, Pronouns and Adverbs

Notice both the similarity and the distinction between definite articles and demonstrative Determiners. Their distribution in English is close to identical, that of central Determiners.

(13)

- a. (all) *the/ this* (*such) book, (half) *the/ these* books
- b. *the// those* (few/ three) books, *the/ those* (*Mary's/ *some/ *no/ *all) books
- c. *There were some boys/ several boys/ *those boys/ *the boys* having dinner.

Demonstrative modifiers and demonstrative Pronouns are parallel in meaning, distribution and category (Det). The difference is whether or not they precede an overt N: *these towns, that time*. Demonstratives can have either **linguistic antecedent** NPs in **discourse**, or “**ostensive**” **antecedents** (pointed out). Definite articles do not allow ostensive antecedents. There is additionally a curious restriction on singular demonstratives, however. They can only refer to situations, and not to individual objects:

(14)

- a. *He likes this coffee but not that tea.*
**The reason is that this is strong enough, but that is too weak.*
- b. *He likes these coffees but not those teas.*
The reason is that these are strong, but those are too weak.

Both demonstrative Determiners and Adverbs express the feature [\pm PROXIMATE], as seen in the pairs *this* vs. *that*; *here* vs. *there*, and *now* vs. *then* (*here* = *in this place*; *then* = *at that time*, etc.).

(15)

- a. *I am reading this book here and now, but not that one.*
- b. *Give me this now and then give me that.*
- c. *This one here is better than that one there.*

9.3 Restricted Modification of Pronominals

There is an important distinction between Ns and NPs and pronominals as to how they can be modified. Keep in mind that since Pronouns are analyzed as in the Determiner position, it follows that they cannot be premodified by any other Determiner position items such as articles:

- (16) **an it*, **the you*, **some them*, **this I*, **which her*, etc.

More generally, unlike Nouns, Pronouns cannot be freely modified. There are some exceptions however; among others, they can sometimes be followed by relative clauses, as in (a-c) below. Some other modifiers of Pronouns are illustrated in (d-i).

(17) **Restricted variety of postmodifiers of Pronouns**

- a. *He/she who hesitates is lost.*
- b. *Those/ we/ you/ *they who work hard deserve some reward.*
- c. *Our class has someone who loves art, but do any that love art survive?*
- d. Polarity modifiers: *She likes hardly any, nothing at all, almost anybody.*
- e. Floating Quantifiers: *We all....., Them each....., You both....*
- f. Emphatic reflexives: *You yourself were late. They themselves bought it.*
- g. Pronouns in N position: *Poor old you. Silly me! Lucky her!*
- h. 1st and 2nd plurals in D position: *we doctors, us visitors.*
- i. *we from London, you there, you in the raincoat, we of the modern age*

Non-standard dialects can use 3rd Person Pronouns in (h-i), but standard usage rather requires demonstratives.

Partly because of these examples, relative clauses seem to have an adjoined structure [_{NP} NP – clause], so these modified Pronouns replace the whole “inner NPs.” The PPs in (a) above may be structured like relative clauses. If so, one may perhaps conclude that phrases that postmodify personal Pronouns are not sisters of D.

9.4 Compound Indefinite Pronouns

Like other Pronouns, **compound indefinite Pronouns** are in the D position, but they never occur with overt lexical items in N position; see the structures in Section 8.1. The Noun parts of these compounds are incorporated into the D position, and do not preserve the properties of the corresponding Noun: *-body* becomes ANIMATE, and the other N cannot be plural: **someones*, **anyplaces*, etc.

- (18) *any/ some/ no/ every + body/ one/ thing/ where/ place*

The compound indefinite Pronouns do not invariably replace whole NPs. They can combine with even short Adjectives. However, their position is distinct from that of the Nouns. The following examples demonstrate that these compound Pronouns must precede the Adjectives, which shows that they are located in the Determiner field.

(19)

- a. *everybody important, nothing interesting, anybody tall, someplace near*
- b. **red nothing*, **hungry someone*, **important everybody*, **tall anybody*
- c. **women interesting*, **sand white*

d. *interesting women, white sand*

Besides having the distribution of D, these compound Pronouns exhibit the same syntactic features as do the corresponding simple Ds. Thus, compound Pronouns using *any-* are free choice or negative polarity, those with *no-* are negative, etc.

9.5 Multi-valued English ONE

In this regard, the English morpheme *one* has some complex distributional properties. It has three syntactic uses illustrated below. Notice that in each use, the Pronoun replaces a different constituent. Only in the first is *one* truly a Pronoun, equivalent to the other personal Pronouns. The third use is more accurately a “pro-N.”⁴³

i. **Animate generic *one***, a pro-NP

- a. *One / They would assume that...*
- b. *She makes one / my brother feel good.*

ii. **Numeric *one***, a singular Q_E

- a. *I met one other boy / two other boys.*
- b. *One / many of the boys arrived at five.*

iii. **Substitute *one***, a pro-N

- a. *I'd like another steak / one other big one.*
- b. *Those red cars / red ones I like most.*
- c. *My younger one bought a new one.*

9.6 Relative Pronouns

These Pronouns introduce a relative clause. In Czech, the relative Pronoun group contains expressions like *kdo*, *co*, *jaký*, *který*, *čí*, *jenž*. In English, these Pronouns are *who*, *whom*, *whose*, *which*, *when*, *where*, *Ø*, and in some treatments, *that*.

(20) *I gave a boy who/ that/ Ø I met last week some free tickets.*

In this example, we can see that most relative clauses, underlined in the example, immediately follow the NP that they modify. That NP, *the boy*, is the **antecedent** of the **relative** Pronoun *who*. We call this NP “the **head** of the relative clause.” The relative Pronoun **agrees** with its antecedent.

⁴³ More precisely, the following example shows that the substitute *one* replaces a minimal NP, i.e. the Noun and its Complement.

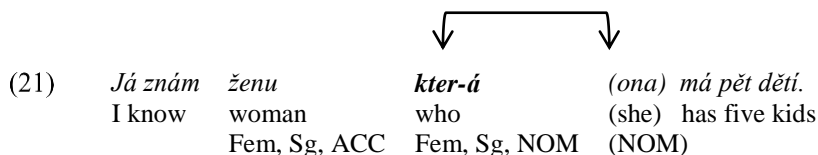
i. *Which student do you mean? The one with long hair / *The one of linguistics*

9.6.1 Relative Pronoun agreement

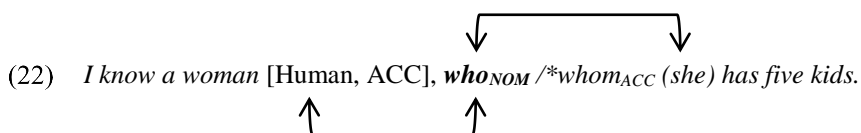
Relative *wh*-Pronouns show (agree with) some formal nominal features of their antecedent. The morphology of the relative Pronoun is built with two elements, each of which originates in a different clause:

- (a) Agreement with its antecedent in the main clause;
- (b) Case reflecting the function of the relative Pronoun in the relative clause.

The following example demonstrates the morphology of a relative Pronoun in Czech. The Pronoun *která* ‘which’ shows the morphology of (a) singular, (b) feminine, (c) Nominative Case. We can see that the Gender (Animacy) and Number features depend on the modified head Noun *ženu*, and the Case depends on the sentence function of the Pronoun inside the relative clause. In this example, the Pronoun is a Subject of the relative clause.



The relative Pronoun agreement is built the same way in English, just the agreement feature set is language specific. In English, the Pronoun reflects the Animacy features of the antecedent (in Czech it is Gender and Number). In both languages the Case depends on the function of the relative Pronoun.



In higher style, the relative *wh*-Pronouns (not *that*) can be preceded by Prepositions or other material:

- (23) a. *The boys with whom/ which/ *that I go out*
- b. *I can see our professor, the name of whom I have forgotten.*
- c. *Here is the answer, the importance of which you did not realize in time.*

9.6.2 Case with relative Pronouns

In English, the animate relative Pronouns show pronominal Case morphology; that is, they mark the Subject, Possessive, and Object functions. Their Case morphology is similar to the morphology of personal Pronouns.

- (24) a. *he - hi-s - hi-m*
 b. *who - who-se - who-m*
- (25) a. *He is a guy whose home town means a lot to him.*
 b. *Those who(m) we love hurt us the most.*
 c. *Those who(*m) love us hurt us the most.*

The Object Case of the *wh*-Pronoun, both relative and interrogative, is more likely to appear overtly in English if the Pronoun is **adjacent to its Case assigner**, a Verb or Preposition, and much less likely if the Case assigner is dissociated or **stranded** from its Pronoun Object:

- (26) a. *I know the man **who/ ?whom** you met yesterday.*
 b. *I know the man **who/ ??whom** everyone says they like.*
 c. *Let's not rely on your cousin, to find **whom/ *who** might be difficult.*
 d. *I know the man with **whom/ ??who** you were talking.*
 e. *I know the man **who/ ?whom** you were talking with.*

Preposition Stranding: The Case-assigning Preposition is separated or “stranded” from the Case-marked Pronoun.

9.6.3 Omitting the relative Pronoun

The invariant subordinator *that* can replace any English relative Pronouns, which occur with no other fronted material such as a Preposition. And even *that* can be deleted, except when it immediately precedes the V of the relative clause.

Otto Jespersen (1905) argued that *that* and \emptyset are not relative Pronouns, because this explains why they exhibit no ANIMATE feature and why they are never Objects of P. It also explains why the relative *that* never has a plural form.

- (27) a. *I know the man whom/ that/ \emptyset you invited for dinner.*
 b. *Can you get me the book which/that is lying on the table?*
 c. **Can you get me the book \emptyset used to be lying on the table?*
 d. *Show me the man **at** whom she was looking.*
 e. **Show me the man **at** that/ \emptyset she was looking.*
 f. *Show me the man (that) she was looking **at**.*
 g. *Buildings whose entrance one can't find are frustrating.*
 h. **Buildings (that) entrance one can't find are frustrating.*

Notice in (g-h) above that a Possessive relative Pronoun that modifies a fronted head Noun cannot be deleted. Only **bare relative Pronouns** can be deleted.

9.7 Interrogative Pronouns

Interrogative Pronouns are items that introduce *wh*-questions, i.e. questions that ask to identify some sentence constituent. As with any Pronoun, their form depends on the constituent they replace.

The repertory and forms of the interrogative Pronouns are like relative Pronouns plus *how* (*many/Adjective*) and *why*. We saw above that *that* or \emptyset are not Pronouns, so they are not used to introduce interrogatives.

9.7.1 The form of the interrogative Pronouns

Consider which constituents (parts of speech, phrases, sentence members) can be questioned and what is the right morphological form of the *wh*-Pronoun.

- (28) *He/Her brother met her/my sister briefly twice yesterday by their school.*
- a. **Who** met her twice yesterday by their school?
 - b. **Whom/ Who** did he meet twice yesterday by their school?
 - c. **When** did he meet her by their school?
 - d. **Where** did he meet her twice yesterday?
 - e. *By which* school did he meet her yesterday? - *By their school.*
 - f. *By whose* school did he meet her yesterday? - *By their school.*
 - g. **How many times/ How often** did he meet her yesterday by their school?
 - h. **How** did he meet her yesterday by their school?
 - i. **Why** did he meet her yesterday by their school?

As with relative Pronouns, the Case marking of interrogative *wh*-Pronouns depends on the sentence function of the sentence member about which they are asking. In Modern English, overt Case marking is most likely if the Pronoun is adjacent to the Case assigner, as in (26) and the following examples. We can see that when the Pronoun is separated from the Case assigner (the underlined P or V), the Case tends to disappear.

- (29) a. *I am waiting for hi-m.*
b. *Who(?m) are you waiting for?*
c. *For who-m/ *who are you waiting?*
- (30) a. *She met hi-m.*
b. *Who(?-m) did she meet?*
c. *In order to meet who-m/ *who did she go to the square?*

9.7.2 The position of the *wh*-Pronouns

The interrogative Pronoun in a *wh*-question is moved from its position as a sentence member; it is **fronted** in the clause. Notice that the size of the fronted interrogative constituent (the material containing the *wh*-element and preceding an inverted

Auxiliary) can be far larger than one word. Recall that the *wh*-element is a **full phrase**. It replaces the whole sentence member we are asking about.

(31) *He bought* [_{OBJ,NP} *the three books*] [_{ADV,PP} *in the new shop on the square*].

- a. [_{OBJECT,NP} *What else*] *did he buy in the new shop?*
- b. [_{OBJECT,NP} *How many books*] *did he buy in the new shop?*
- c. [_{ADV,PP} *Where*] *did he buy the three books?*
- d. [_{ADV,PP} *In which shop on the square*] *did he buy the three books?*

9.7.3 Interpretation of interrogative Pronouns

Since interrogative Pronouns ask for a reference, they have no antecedents, contrary to the relative Pronouns. The latter, like articles, can be **indefinite** (*who*, *what*) or **definite** (*which*). The Pronoun *which* asks the addressee to choose a member of a set already specified in the discourse.

- (32) a. *Who* is your favourite conductor?
What is your favourite type of music?
- b. *Which* is your favourite conductor/ type of music?
- c. *What's* the name of this tune?
Of those alternatives, which is the nature of this music?
- d. *What /Which* newspaper do you read?
- e. *Which* (of these) do you prefer? **What* of these do you prefer?

We are going to examine the distribution of *wh*-Pronouns further in section 25.3.

10 BOUND ANAPHORS

In this chapter, I will discuss a special kind of pronominal expression: syntactic **anaphors**. The overall description and generalizations related to their properties and usage in English can be found in all main grammar manuals, although the definition of the term ‘anaphor’ is far from uniform.⁴⁴ Some more theoretical literature will be mentioned in the following text.

10.1 Deixis, Reference and Co-reference

Deixis is a general term denoting reference that depends on linguistic or non-linguistic **context**. Expressions and words relating to deixis can be found in every part of speech, both grammatical and lexical. Among Pronouns, demonstratives and adverbial preforms can be deictic, but so also can be Nouns and Verbs.

- (1) “Deixis concerns the ways in which languages encode or grammaticalize features of the context of utterance” (Levinson 2005).⁴⁵

Consider which kind of information we can get from the following sentence if we have (or do not have) any context.

- (2) *If you liked it here yesterday, I'll return tomorrow.*

There are divisions with respect to **which** context and the **position** of an antecedent. For example, time and place Adverbs and discourse Pronouns in (2) are all **exophoric**.

- (3) a. **Exophora**: The antecedent or reference of the Pronoun is non-linguistic.
b. **Endophora** i. Anaphora: the linguistic antecedent precedes it.
 ii. Cataphora: the linguistic antecedent follows it.

10.1.1 Anaphors and cataphors

For **pragmatic** or discourse anaphors, linear order is relevant. These Pronouns usually follow an antecedent. When they precede an antecedent, they can be called **cataphors**. But, cataphors can never be higher in the tree than their antecedent, as seen in (c).

- (4) a. *After she met him_k, John_k asked her out.*
b. *Before he_i joined the Navy, Gerald_i made peace with his family.*
c. **He_i came late, because John_i had missed the train.*

⁴⁴ See Huddleston and Pullum (2002: 425-428); Huddleston and Pullum (2005: 100-110); Quirk et al. (2004: 335-392). For comparison with Czech, see also Dušková (1994: 101-135).

⁴⁵ For more discussion of pragmatics and cognitive frameworks, see Hobbs (1979) and Perkins (1992).

In this study, I do not focus on the distinction in (3), and I tend to use **anaphor** for any **endophor**.

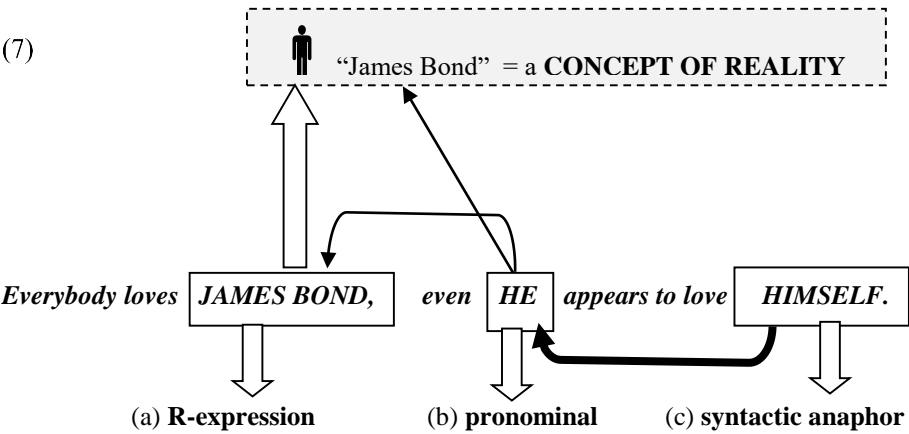
10.1.2 *Anaphors, pronominals and referential expressions*

Nominal expressions, that is Noun phrases and NPs, refer to something or somebody. Some of them, the referential expressions, have independent reference, while others require co-referential antecedents in the linguistic or non-linguistic context – these latter I am calling anaphoric. In other words, reference can be directed towards

- (5) (a) the **conceptual world** surrounding the utterance or a context of pointing,
- (b) the **discourse antecedents**, which are actually a part of (a),
- (c) an antecedent in a **syntactically definable, local linguistic context**.

According to their reference, nominal elements can be divided into three groups:

- (6) (a) R(elational)-expressions,
- (b) Pronominals, and
- (c) Anaphors.



The scheme in (7) shows several kinds of reference: some arrows aim towards a concept of reality, some aim to the linguistic context (in a specific domain) and some can refer to both reality and linguistic context (in a special domain). The type of **domain** crucially determines the structural distance between the antecedent and the Pronoun.

10.1.3 *Co-reference: Antecedents marked with indices*

The formal marking of co-reference uses **identical indices** or subscripts to show that expressions are co-referential; these are then marked with the same index. Note that in

the following (b), *Beckett_j* refers to, e.g. Beckett's works, while *Beckett_k* refers to the person.

- (8) a. *Everybody hates Beckett_i, he_i even hated himself_i / *him_i / *Beckett_i.*
 b. *?Everybody hates Beckett_j, even Beckett_k hates Beckett_j.*
 c. *He_i was looking at himself_i / *_j in the mirror.*
 d. *He_i saw him_i / *_j at the last second.*
 e. *Patrick_j described Patricia_m to himself_j / herself_m.*
 f. *[Pat and Patty]_{j,m} were looking at each other_{j,m} / themselves_{j,m}.*

In any detailed analysis, we must also distinguish two kinds of reference:

- (9) (a) unmarked readings vs. contrastive readings (= it can be so and so);
 (b) obligatory readings vs. impossible readings (= it must be so and so).

10.2 The Binding Theory

The **Binding Theory (BT)** does not try to establish antecedents of pragmatic anaphors, those for which their antecedents are in a discourse context; such antecedents are a topic for pragmatics.⁴⁶ BT deals only with **obligatory co-reference** or the lack of it, which are due to grammatical structure, as in the following examples:

- (10) a. *Miss Marple believes that Poirot invited himself.*
 b. **Poirot believes that Miss Marple invited himself.*
 c. **Poirot believes that himself is the best detective.*

A central concept for co-reference is the concept of **binding**. A Noun phrase is **bound** if it has a hierarchically higher co-indexed antecedent. If it does not have an antecedent in a given domain, it is free in that domain.

- (11) **The BINDING THEORY**, from Chomsky (1981: Chapter 3):

- A. Principle A for syntactic anaphors.** Reflexives and reciprocal Pronouns must be bound in the same clause, often in the position of Subject.
B. Principle B for pronominals. These pragmatic anaphors have an antecedent in the linguistic or extra-linguistic context, but not in the same clause. In their own clausal domain, they are free.
C. Principle C for R-expressions. These have no formal or structural antecedent; they are always free.

In many languages including Czech, syntactic anaphors can only be bound by the Subject (or Agent) Noun phrase, but in others including English, a direct Object Noun

⁴⁶ For a more thorough discussion of the pragmatics of deixis, see Horn and Ward (2005).

phrase can bind anaphors as well, as long as it is hierarchically higher. To see this, compare the following English and Czech examples.

(12) *Poirot described Miss Marple to himself/ herself* (both good in English)

- (13) a. *Poirot si popsal paní Marplovou*
 b. *Poirot popsal paní Marplovou jenom sobě*
 Poirot_i REFL_{i/*k} described Ms. Marple_k only REFL_{i/*k}

“Poirot described Miss Marple to himself/ *herself.”

10.3 The Forms and Interpretations of Bound Anaphors

Reflexive Pronouns in both English and Czech are syntactic anaphors. They both need **local antecedents** according to Principle A of the BT. Between Czech and English, there are distinctions in only (a) the morphological structure of the reflexive, and (b) the repertory of syntactic anaphors.

As for the morphology, English reflexive Pronouns are **complex**: they consist of two overt morphemes: the personal Pronoun in Object Case + the *self/selves* reflexive morpheme. The personal Pronoun inside the English reflexive repeats the features of the antecedent; it agrees with it. On the other hand, Czech reflexive Pronouns are **simple**: they contain only one morpheme *se(be)* or *sobě/si*, but not a personal Pronoun agreeing with the antecedent.⁴⁷ The antecedent features of the Czech reflexive are derived from the structure, which follows the BT. In the following Czech example, the position of the short anaphor *se* is preverbal (it is a clitic Pronoun), while the position of the strong (longer) form *sebe* is best clause final (rhematic position).

- (14) a. *On/Ona/oni (viděl-i) SEBE / SE (viděl-i)*
 he/she/they (saw) REFL (saw)
 b. “He/she/they saw himself/herself/themselves.”

As for the repertory of bound syntactic anaphors, English distinguishes between **reflexives** and **reciprocals**, while Czech has only one, and therefore ambiguous form. On the other hand, Czech has a reflexive **anaphoric Possessive**, while the English anaphoric Possessive has the same form as a **pronominal Possessive**.

- (15) a. *On/Ona/oni miluje/-í SVÉ/ SVOJE děti*
 he/she/they_{NOM} love REFL children
 b. “He/she/they love his/her/their children.”

⁴⁷ Czech reflexive Pronouns in prepositionless ACC and DAT Noun phrases have two forms: the shorter weaker *se*_{ACC}/ *si*_{DAT}, which has the characteristics of a clitic pronoun with fixed distribution, and the longer strong form *sebe*_{ACC}/*sobě*_{DAT}, which has the distribution of a standard NP. In other Cases, there is only a strong form, and (logically) there is no Nominative.

10.3.1 English reciprocals

Reciprocals are **syntactic bound anaphors**, and therefore subject to BT Principle A, as in (11). Unlike reflexives, reciprocals require a **plural antecedent**, because the action involves a plurality of participants.

- (16) a. *The two friends saw **each other**.*
 b. *Both of us saw **one another** frequently.*
- (17) a. *John and Mary introduced them. ≠ John, ≠ Mary*
 b. *John and Mary introduced themselves/ each other/ one another.*

Czech uses one form of Pronoun for both reflexive and reciprocal interpretations. The sentence in (13) is therefore ambiguous. To disambiguate the interpretation, additional lexical material has to be added to the reflexive, e.g. a Pronoun *sám* ‘alone’ or Adverb *navzájem* ‘reciprocally’ as in (b) and (c). Notice, however, that the repertory of the syntactic anaphors in a given language does not influence the fact that the BT applies to language specific elements in the same universal way.⁴⁸

- (18) a. (*Piers a Marie / Oni*) (*viděli*)

<i>se / sebe</i>
REFL

 (*viděli*)
 (Piers and Mary / They) (saw) (saw)
 “They saw themselves / each other.”
- b. (*Piers a Marie / Oni*) (*viděli*)

<i>sami</i>
alone

sebe
 (Piers and Mary / They) Saw REFL
 “They saw themselves.”
- b. (*Piers a Marie / Oni*) (*viděli*) *sebe*

<i>navzájem</i>
Reciprocally

 (Piers and Mary / They) saw REFL
 “They saw each other.”

10.3.2 More cross-linguistic variation

The binding theory is **universal**; it applies to English as to Czech. There may be some minor language specific distinctions based on distinct classifications of the lexical entries as mentioned at the beginning of Section 10.3. Apart from these, the following

⁴⁸ The binding theory as in (11) is simple and general. Several terms require more detailed definitions. For example, which form of the antecedent is acceptable in a given language. BT was widely discussed in formal grammar especially at the end of the last century. More semantic-based descriptions of the phenomena can be found in Reinhart (1983), Higginbotham (1983) and Williams (1995). Syntactic discussions of the BT are presented in Huang (1983), Aoun (1985), and Everaert (1991).

examples show distinctions in the **domain of binding**. In (19) and (20), notice the interpretations of the Possessive reflexive Pronoun.⁴⁹

(19) ‘**Long distance**’ anaphors with Possessives and Infinitives (V+V_{INF})

- a. *Oskar_J viděl Pierse_P libat svou_{J/P} / jeho_{J/P} ženu.*
- b. *Oscar_J saw Piers_P kissing his_{J/P} wife.*

Recall that compared with some languages like Czech, Objects in English are not strictly Subject oriented; Objects can bind anaphors as well as Subjects. The distinction is illustrated in the following contrasting examples:

- (20) a. *David_D popsal Marušku_M jenom sobě_{D/*M}.*
- b. *David_D described Mary_M only to himself_D / herself_M.*
- (21) a. *David_D popsal Marušku_M svému_{D/*M} kamarádovi.*
- b. *David_D described Mary_M to his_D / her_M friend.*

Thus, the possible positions of antecedents of bound anaphors can differ from language to language, but probably with limited variation overall.

10.4 The Distribution of Bound Anaphors in English

Reflexive Pronouns can be used as (i) independent sentence members, i.e. as Arguments of Predicates, (ii) a part of some complex idiomatic expression, usually based on a Verb, (iii) an emphatic Pronoun complementing an overt Argument.

The first of these uses can be seen in the following examples (a-b). They contain transitive Verbs that require Arguments that carry some semantic role. Such an Argument, ordinarily realized in the form of an NP, can also be an NP substitute such as a reflexive Pronoun. The (c-d) examples illustrate a Preposition that selects an NP Argument; we can see that it can also be replaced by a reflexive Pronoun.

(22) Bound anaphors in the function of **Object NPs**

- a. *Oscar blamed/ described the girl / her / himself.*
- b. **Oscar blamed for the accident. *Oscar described to the audience.*
- c. *They think too much about that girl / us / each other.*
- d. **They think too much about.*

Next, I illustrate so-called **reflexive Verbs**, which must be followed by reflexive Pronoun Objects. The reflexive Pronoun does not represent a semantic Argument of

⁴⁹ Syntactic anaphors in Slavic, including Russian and Czech, and the specificity of the BT in Slavic are thoroughly discussed in Timberlake (1980), Progovac (1993) and Toman (1991). The study of Slavic anaphors concerns mainly long distance binding and the possibility of the binding of the anaphor by the agreement features of verbal inflection.

these Verbs, but is an integral part of it. Notice that such a Verb may even require an obligatory PP Object. Some obligatorily reflexive Verbs in English include *absent*, *gorge*, *make at home*, *perjure* and *pride oneself*, as presented below.

(23) English Reflexive Verbs

- a. *She always **prides herself** on that.*
- b. **She always prides (him/ Ø on that).*
- c. *Everybody made **himself** at home.*
- d. **Everybody made (**himself** into his house).*
- e. *At the banquet, we gorged ourselves (on strawberries).*

Czech has quite a number of such Verbs: *smát se (Piersovi)* ‘laugh (at Piers)’, *všimnout si (Pierse)* ‘notice (Piers)’. With a few English Verbs such as *behave*, the presence of the reflexive Pronoun is optional. Those can be called **semi-reflexive** Verbs. *Behave (yourself) now!* **Behave **him** now!*

The third function of the English reflexive Pronoun is the **emphatic** function. These reflexives **double** another NP, and they have no separate semantic role themselves. Emphatic Pronouns can “float”, i.e. appear to the right of the NP that they double, even separated from their antecedent. But as seen in the following (d-e) examples, they still have to obey principle A of the BT like any other bound anaphors.

(24) Emphatic reflexive Pronouns

- a. *The President **himself** apologized to us.*
- b. *The President apologized to us **himself**.*
- c. *The mayor ran her campaign **herself**.*
- d. **Bill praised the woman **himself** who ran her own campaign.*
- e. **Mary told the boss that she would quit **himself**.*

The Czech equivalent of the English emphatic Pronoun is the Pronoun *sám* ‘alone’, which can also float, in which case it may become ambiguous.

- (25) *(Oskar / on) to udělal sám.*
 (Oscar / he) it did alone
 i. “Oscar/ He did it himself.” = personally
 ii. “Oscar/ He did it alone.” = without another person

11 THE MODIFIER CATEGORY A

Apart from the main lexical (open class) categories, there are grammatical, closed class categories that generally have the same characteristics and functions as their closest lexical, open class counterparts. If we put together the lexical and non-lexical categories into one part of speech, we can use the categorial system of only four main parts of speech.

(1) **Categorial groups of lexical entries**

- **N** (Nouns) - These include some Pro-forms such as *one* and *self*;
- **A** (modifiers) - These include most Adjectives and derived Adverbs, but also ordinals and several Quantifiers;
- **V** (Verbs) - These include Auxiliaries, which are positionally distinct from Vs but otherwise similar;
- **P** (Prepositions) - both lexical and functional Ps share properties.

In the preceding chapters I discussed the category of Nouns and Pronouns. In this chapter I look more closely at the characteristic of the category of **modifiers**, traditionally divided into two separate groups: (a) Adjectives and (b) Adverbs.

In this study, I concentrate on the features common to both Adjectives and Adverbs. I will find reasons to conflate them into one category of **modifiers**. I will justify this approach by looking at the semantics and morphology of the two groups, and describe their phrasal projection AP in English. All the empirical data presented in this chapter demonstrate a far reaching similarity between Adjectives and Adverbs and argue in favour of a single label “A” for both of them, interpreted as “modifier.”⁵⁰

11.1 Semantic Characteristics of Adjectives/Adverbs

As for its main semantic characteristics, an **Adjective** is a word or phrase that enlarges the meaning and narrows the reference of a Noun. Looking more closely at the variety of Adjectives, there are many semantic types attributing some static or stative property to Nouns. The possible “properties” or “characteristics” can be abstract or concrete. The list below shows one of many groupings and labels. This one was extracted from Quirk et al. (2004: 399-474).⁵¹

(2) **Properties expressed by Adjectives**

- value (*good, cheap, important*)
- similarity (*different, similar, other*)
- age (*old, new, young, ancient*)
- quantification (*whole, numerous, third*)
- physical property (*hard, wet, open*)
- speed (*fast, quick, rapid*)
- dimension (*big, long, huge*)
- position (*high, outer, distant*)
- colour (*red, dark, black*)
- qualification (*true, possible, plausible*)

⁵⁰ For a thorough discussion see Emonds (1986). The author builds his argumentation on data similar to those provided in the following sections.

⁵¹ These characteristics of the A modifiers are described in relevant chapters of Greenbaum and Quirk (1991: 129-157); Quirk et al. (2004: 399-474); Dušková (1994: 141-164); Svoboda and Opělová-Károlyová (198: 113-1340); and Leech and Svartvik (1975: 189-203).

- k. human quality (*happy, clever, sick*)
- l. nationality (*English, Slavic, Asian*)

On the other hand, the members of a category traditionally named **Adverb** are supposed to be words or phrases which **enlarge** the meaning and **narrow** the sense of a Verb or some other part of speech. In Quirk et al. (2004: 399-474), we can find many possible semantic groupings of Adverbs and similar labels that could easily be used for both Adjective and Adverb groups.⁵²

(3) Properties expressed by Adverbs

- a. focusing (*also, even, too, just, only*)
- b. degree (*very, well, how, as, really*)
- c. aspectual (*still, yet, already, almost*)
- d. connective (*however, thus, so, consequently*)
- e. frequency (*never, always, often, rarely*)
- f. modal (*perhaps, actually, obviously*)
- g. manner (*quickly, easily, well, clumsily*)

For conflating the characteristic of Adjectives and Adverbs, we can establish general characteristics of both of these groups: they are **modifiers**, in that they modify the meaning of some other word or constituent. The semantic parallelism of modification is illustrated below. First we can look at Adjectives in (a-b), then at Adverbs in (c-d). Below the English examples are their Czech equivalents (In Czech, the morphological distinction between A(dj) and A(dv) is visible).

(4)

- | | |
|-----------------------------------|--|
| a. <i>his quick run</i> | b. <i>certain doubts</i> |
| a.' <i>jeho rychlý běh</i> | b.' <i>určité obavy</i> |
| c. <i>He runs quickly.</i> | d. <i>He certainly doubts it.</i> |
| c.' <i>běhá rychle</i> | d.' <i>určitě o tom pochybuje</i> |

Notice that A(dv) modify any category including A itself (both A(dj) and A(dv)).

(5)

- a. *He got **suddenly** ill.*
- b. *It is a **surprisingly** stable marriage.*
- c. *Roll **directly** into a tree.*
- d. *Plant it **nearly** off the property.*
- e. ***Only** those from Germany work.*
- f. *We talked to **even** my boss.*

⁵² The traditional category Adverb covers classes of items in more than one part of speech, e.g. Prepositions or their projections. In this chapter, I provide the characteristics of only the most frequent and numerous groups of Adverbs, namely those related to Adjectives.

11.2.2 Inflectional features of the category A

To determine the canonical grammaticalized features of the category of modifiers, we can mention the following three kinds of features:

(a) **Inherent features:** Ø?, positive degree?, scalar characteristics?

(10) *intelligent, messy, fast, early, slow, often, soon*

(b) **Optional features.** The **Grading** features of A express the comparative and superlative. This feature occurs with both Adjectives and Adverbs; see Section 11.2.3.

(11) *–er, –est* : *messier, faster, earliest, slowest, oftener, sooner*
more, most : *more intelligent, more messy, most direct, most acute, more often*

(c) **Configurational features.** These are secondary, agreement features: In Czech the agreement features are typical on Adjectives and are neutralized in form on Adverbs: singular: *dobrý/-á/-é*, plural: *dob-ří/-ré/-rá*, Adverb: *dobře*, ‘good/well’. In English, inflectional morphology is not present on Adjectives but on some Adverbs instead; this is the adverbial affix *-ly* illustrated in detail in Section 11.2.4.

11.2.3 Grading of the category A

Standard Adjectives and also most Adjectives inflected as adverbial are **gradable**. The Grading can be

- a. **synthetic**, formed with the bound morphemes with *A-er*, and *(the) A –est*,
- b. **analytic** or “periphrastic,” formed with *more*, and *(the) most*,
- c. irregular, for a very few Roots in English.

- (12) a. *nice, nicer, (the) nicest*
b. *important, more important, (the) most important*
in a more interesting way, in the most interesting way
c. *good/well, better, the best*
bad/badly, worse, the worst

Notice that not only are the grammaticalized features of Grading but also the concrete inflectional morphology the same for all the members of category A: both Adjectives and Adverbs take the same inflections. I argued in Sections 6.4.2 and 6.4.3 that the grammaticalized categorial features represented by inflection morphology are one of the most important diagnostics for a specific category. The fact that Adjectives and Adverbs share Grading inflections is thus a strong argument in favour of the claim that they represent two sub-groups in **one category**.

With both Adjectives and Adverbs, **synthetic** Grading is allowed for commonly used lexical entries with at most one “**trochaic**” foot. **Analytic** Grading is allowed for any As of two or more syllables. That is, mono-syllables and As with unstressed second

syllables can have analytic Grading or can take *-er* and *-est*: *stupider, messier, friendlier, commonest, laziest, shallower, yellowest, simpler*.⁵³

Recall also that non-scalar As are non-gradable.

- (13) a. *finite/ dead, *more finite/ *more dead, *the most finite/ *the most dead*
 b. *last, *laster, *the lastest; open, *opener* (physical sense), etc.

11.2.4 The inflectional nature of *-ly*

In this section, we will see that the English *-ly* morpheme has two functions in English. It can be analyzed two ways:

- (14) a. *-ly* as a **derivational** suffix for the category A, including on
 Adjectives: *friend-ly advice, ear-ly riser, love-ly picture, ug-ly remark, brother-ly love*
 b. *-ly* as an **inflectional** ending to allow an A to have an Adverb function.
 This morphology is obligatory in standard English if A modifies any category but N: *intelligently, messily, slowly*. However, purely adverbial A (*often, soon*) and some irregular A (*fast, early, long*) do not take *-ly*.

First, let us look at the morphological structure of the words below, concentrating on the character of the morpheme *-ly*. To distinguish between A(dj) and A(dv), you can use a prenominal and post-verbal modifier, for example:

- (15) a. *sadly* - *a sad(*ly) song, to sing sadly* -ly: Adj→Adv
 b. *slowly* - *a slow(*ly) dance, to dance slow(ly)* -ly: Adj→Adv
 c. *worldly* - *a worldly speech, *to speak worldly* -ly: N→Adj
 d. *daily* - *a daily/ day newspaper, to read daily* both uses
 e. *ugly* - *an ugly quarrel, *to quarrel ugly* neither use of *-ly*

The formal and morphological arguments that ADJ+*ly*→ADV is not derivational but inflectional are based on some generalized properties of English morphology:

- (16) (a) the **double inflection ban**, and
 (b) the template of the **English word**.

First, we observe that English words have **at most one overt productive inflectional suffix**. This double inflection ban explains the ungrammaticality of the examples in (17): (a) no agreement on a tensed Verb; (b) no overt Possessive with a productive plural; and also (c) we cannot use synthetic Grading with Adverbs derived from Adjectives by means of the *-ly* suffix.

⁵³ There are many exceptions among less common words. Even some mono-syllables require analytic Grading, e.g. *dank, deft, dour, gauche, lithe, loathe, prim, suave, swell, taut, and wan*.

- (17) a. *PAST+3sg **the boy tries hard; *She sleeps well.*
 b. *PL+POSS *the Jones's/the mice's location (-'s pronounced),*
 the bones'/the rats' location (-'s silent)
 c. *-ly+ Grading suffixes: excluded if and only if -ly forms an ADV.

The data illustrating (17)(c) are provided below. The examples in (18) and (19) show that we can use synthetic Grading inflection if the -ly morpheme is truly derivational. When it derives a category A from an N as in (18)(a) or when the morpheme is already present with lexical Adjectives as in (b), synthetic Grading is allowed. But it is not allowed when the -ly morpheme changes A(dj) to Adv. The ungrammaticality can be explained appealing to a ban on two inflectional affixes in one word. This implies that we must take this -ly for an inflection.

- (18) a. *friendlier, stateliest, saintlier*
 b. *deadliest, earlier, lowliest*
 c. **slowlier, *messilier, *quickliest*

The following contrasting examples in (19) prove that the constraint is *not* phonetic.

- (19) a. friendly → friendlier **but** a.' *faintly → *faintlier*
 b. early → earlier b.' *nearly → *nearlier*
 c. lovely → lovelier c.' *madly → *madlier*
 d. ugly → uglier d.' *clearly → *clearlier*

The second argument is based on the ordering of morphemes in the English word template. In Section 3.4, we saw that, in English, derivational suffixes precede inflection, an ordering that many if not all languages follow (Selkirk 1978).

The example in (20) shows a combination of -ly + *ness*. This shows that -ly can appear in front of the derivational suffix -ness when the -ly is also a derivational suffix, i.e. when it attaches to the category A as in (20). This is because the morpheme -ly is realizing the category Adjective. However, no Adverbial -ly can appear in front of the morpheme -ness in those cases when -ly is not derivational, that is, when it only changes A(dj) to Adv, as in the examples on the right:

- (20) a. *friendly → friendliness* **but** a.' *hardly → *hardliness*
 b. *early → earliness* b.' *nearly → *nearliness*
 c. *lively → liveliness* c.' *clearly → *clearliness*
 d. *ugly → ugliness* d.' *quickly → *quickliness*

To conclude, though many traditional grammars say that Adj+ly is an Adverbial **derivational suffix**, the examples (18)-(20) demonstrate that -ly with Adverbs is better analyzed as an inflectional morphology changing one subgroup of category A (Noun modifiers) into another subgroup in the same category A (modifiers of other categories). We can still use the traditional terms to distinguish the different syntactic

functions of various APs, but the functional distribution is not sufficient to claim the existence of two separate parts of speech.

11.3 The Structure of AP

The form of a phrasal projection, in particular the kind of premodification and complementation allowed, represent core diagnostics for characterizing a category. In this section, we are going to see that the projection of the category A is uniform for both Adjective and Adverb sub-groups.

First consider the linear scheme of the pre- and postmodification of the A head. The same possibilities in the make-up of a hierarchical phrasal projection or tree is demonstrated below in (21).

(21)



The variety of premodifiers and postmodifiers of an English categorial head A is illustrated in the following sections.

11.3.1 Pre-modification of A

Premodification of the category A is related to comparatives and the level of quality. There are two main kinds of premodification: (a) Grading Adverbs, and (b) measure phrases.

Grading Adverbs are degree words or adverbial As, either adjectival or adverbial in form. These Adverbs can be highly grammaticalized, such as the bound and free inflections on the category A of ADJ and ADV groups or open class lexical morphemes. In the following examples, we can see Adjectives and Adverbs with identical premodifiers.

- (22) a. *more/ less/ the most/ the least **important***
 *more/ less/ the most **easily***
 b. *very/ rather/ too/ so/ as **nice/ important***
 *very /rather/ too/ so/ as **easily***
 c. *fairly/ surprisingly **nice/ important***
 *fairly/ surprisingly **easily***

Measure phrases are complex, often hyphenated expressions, comprised of numerals and a unit of measure such as *year*, *metre*, etc. Notice that the measure is not in the plural if the A is itself in prenominal position. The plural morpheme is however used when the AP follows a Noun or a Copula, i.e. is a part of the Predicate.

- (23) a. *a [_{AP} ten-metre(*s) **long**] bridge*

- b. a bridge [_{AP} ten-metres **long**]
- c. to look [_{AP} ten metre-s **long**]
- d. a [_{AP} five-year(*s) **old**] boy
- e. a boy [_{AP} five-years **old**]
- f. to be [_{AP} five year-s **old**]

The measure phrases are incompatible with most but not all Grading Adverbs: **three times so /too/ damned expensive* vs. *three times as/ more/ less expensive*.

11.3.2 Postmodification of A

There are several kinds of right hand **Complements** of A; they are generally compatible with Grading Adverbs. Many complex APs continue both pre- and postmodifiers. A number of combinations are listed and illustrated below.

i. A + prepositional phrase:

- (24) a. a man [_{AP} (very) **proud** of his son]
- b. some books [_{AP} (quite) **interesting** to us]
- c. a woman [_{AP} (extremely) **faithful/ loyal** to her family]
- d. many heroes [_{AP} (fully) **ready** to fight with aliens]

(25) Idiomatic combinations of A(dj) and PPs:

good at, afraid of, ready for, keen on, worried about/ over, bad at, annoyed at/with, successful in, interested in, interesting to, conscious of, convinced of, based on, dependent on, important to, subject to, compatible with, ...

ii. A + *that*-clause:

- (26) a. I'm **sure** (*that*) you can come.
- b. Men **proud** that they were born rich are rare.
- c. He seems **glad / surprised / certain / confident / proud/ sad/ annoyed / astonished / disappointed / pleased / shocked** (*that*) you can come.

With some As, *that*-clauses are not Complements of A but rather associates of their expletive Subjects:

- (27) *It is appropriate/ good/ important /odd/ alarming/ fitting/ irritating that he should be late.*

iii. A + *to*-Infinitive VP:

- (28) a. He was **ready / splendid / proud** to help his neighbours.
- b. The neighbours were **happy / slow / eager** to react to the suggestion.
- c. They were **careful / wrong / clever / cruel / kind / silly** not to follow us.

Some premodifiers are always related to a specific type of postmodification. Thus, the standards with comparative Grading are always introduced by *than* - when they are clauses and phrases. Standards paired with *too* are always Infinitives:

- (29) *It is **too** heavy to fly far/ *that it flies far. She swims **too** fast **to** be defeated/ *that she can be defeated.*

The following examples demonstrate that given lexical Adjectives and Adverbs appear in **identical constructions**. In certain **paired constructions** such as *the A+er...*, *the A+...*, Adjectives and the adverbials formed from them can be combined without distinction, as seen in (e).

- (30) a. *He is **as** proud **as**/***than** he seems.*
*She runs **as** quickly **as**/***than** he does.*
 b. *He is tall-**er than**/***as** his father.*
*He runs quick-**er than**/***as** his brother.*
 c. *He is **not as**/ ?**so** dangerous **as** his dog.*
*She does not run **as**/ ?**so** quickly **as** her dog.*
 d. *He is **far from** dangerous.*
*She speaks German **far from** well.*
 e. ***The more** expensive they are, **the longer** they last.*
***The high-er** it flies, **the less** fuel it uses.*

Inside a Noun phrase, a complex AP is sometimes divided, and part of it, the head and the premodifier, precedes the Noun, while the Complement of the A follows the Noun. Such **discontinuous dependencies** involving **Adjuncts of graded As** are rather frequent in both English and Czech.

- (31) a. [_{AP} *much bigger than me*]
He is a much bigger consumer than me.
 b. [_{AP} *not as easy as Jim*]
Oscar is not as easy a target as Jim.

Neither clausal nor PP **Complements** of the A in English can be separated.

- (32) a. **a ready student to take hard courses*
 b. **those angry guys at their boss*

11.3.3 Bare, unmodified Adverbs

Despite the essentially identical premodification and complementation of Adjectives and Adverbs, there are closed classes of grammaticalized temporal, Grading, and focusing Adverbs without adjectival counterparts. Some of these are illustrated here.

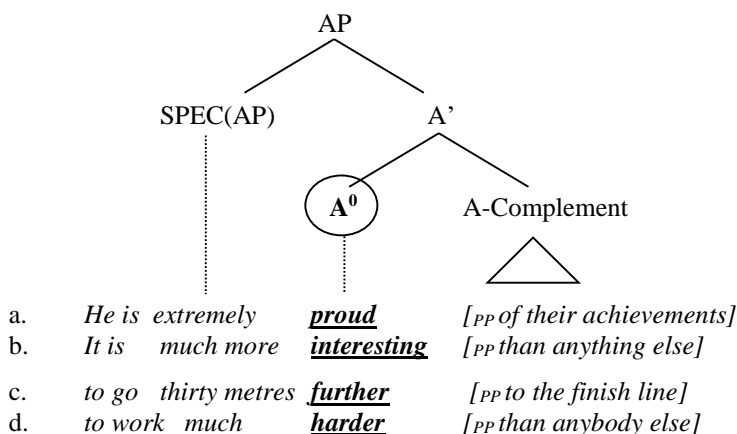
- (33) i) **Adverbs of time:**
already, yet, still, ever, never, again, once, twice, always, now, then,
- ii) **Grading Adverbs:** these modify the category A
very, quite, somewhat, so, more, less, most, least, as, too, how, real,
- iii) **Focusing Adverbs:** these can modify clauses and maximal projections:
only, also, even, ...as well, ...too

These grammaticalized Adverbs are special in another way: they are **bare**, in that they do not tolerate any standard premodification, and therefore they cannot be easily ranked among Adverbs without arguments. They, however, do appear in canonical positions of APs as modifiers of VPs and full NPs, even though they are not modifiers of lexical Nouns.

11.3.4 The category of A

Section 11.3 demonstrated that Adverbs and Adjectives have identical projections, namely the one in (34).

- (34) AP: the same phrasal structure for Adjectives (a,b) and Adverbs (c,d)



To conclude this chapter: we have seen in Section 11.1 that Adjectives and Adverbs share semantic content, as the principal role of both is to be modifiers. In Section 11.2 we saw that they share inflectional morphology, meaning that they share categorial

diagnostics. Section 11.2.4 also argued that the morpheme *-ly*, which distinguishes traditionally classified Adverbs from Adjectives, is not a category-changing derivational morpheme. It is rather an inflection that indicates the sentence function of an A, a kind of counterpart to the Case inflections that indicate various sentence functions of an NP.

The following Chapter 12 will demonstrate the different functions of APs, which motivate the division of Adjectives and Adverbs (as sub-groups within one more general category A (modifiers)).

12 FUNCTIONS OF APs

The properties of English adjectival and adverbial constituents, both labelled as APs in this study, are described in detail by relevant examples in main grammar manuals and specialized monographs, e.g. Greenbaum and Quirk (1991: 129-157); Quirk et al. (2004: 399-474); and Leech and Svartvik (1975: 189-203). Some comparison with Czech expressions of the same category are in Dušková (1994: 141-164) and Svoboda and Opělová-Károlyová (1989: 113-134).

In this chapter, I am going to describe in detail separately the distribution and sentence functions of adjectival APs and adverbial APs.

12.1 Syntax of Adjective Phrases

With respect to their distribution, there are three main **grammatical** functions of adjectival APs listed in (1a-c) and illustrated in (2) respectively.⁵⁴

- (1) (a) Adjectival pre- and postmodifiers of N, the **Attributes**,
- (b) Adjectival Predicates or **Predicate nominals**, and
- (c) Adjectival Subject and Object Complements: **Secondary Predicates**.

Notice that every Adjective phrase, underlined below with the head A in capitals, is grammatically related to some Noun or Pronoun, which are bold in (2).

- (2) a. *I met a [_{AP} very TALL] **girl** [_{AP} much more TALKATIVE than Mary].*
- b. ***Elisabeth** is [_{AP} quite SMART] but [_{AP} less POLITE than Eve].*
- c. ***She** came back from Italy [_{AP} more BEAUTIFUL than ever].*

In inflectional languages like Czech, the relation between an AP and a nominal category is the structural condition for realizing agreement reflecting the nominal features, and is typical for the adjectival category. Recall, however, that this agreement is absent in English and therefore cannot be used as a categorial diagnostic.

12.1.1 Attribute function of Adjective pre- and postmodifiers

The most standard sentence function of **adjectival APs** (AdjP) is to modify the meaning of some Noun; they are Noun modifiers.⁵⁵ Under different conditions, AdjPs appear **both in front of and after** a head N. The position of the English AdjP is not free but obligatory, and it depends on certain formal diagnostics:

⁵⁴ In this chapter, the distribution is given for the phrasal constituent AP. The distribution of the head A was described in Section 11.3, which dealt with the structure in AP.

⁵⁵ I discussed the distribution of attributive Adjectives in Section 8.1 already, dealing with the structure of NP, and I will mention them again in Section 18.2 when listing the constituents taking the function of Attribute.

- (a) The **lexical** characteristics of the A(dj) head,
- (b) and especially, the **complexity** of the modifying AdjP.

12.1.1.1 Premodifying Adjectives (AdjPs)

First, in the following examples, notice that Adjective modifiers are phrases (AdjPs), because they can be enlarged; compare the AP in scheme (21) on page 137. The A(dj) head is in capitals, the A(dj) premodification is underlined, and the head Noun is in bold. The proposed structure is indicated in (a) by the brackets.

- (3) a. *Zara is [_{DP} an [_{NP} [_{AP} easily SCARED] **girl**]].*
- b. *How LOYAL a **woman** did she turn out to be?*
- c. *I have some very EAGER **co-workers**.*
- d. *Oscar jumped over a two-metre(*s) **WIDE ditch**.*
- e. *Quido jumped over the DEEP AND DANGEROUS **ditch**.*

Premodifying APs are syntactically “**simpler**,” they can be either **bare**, which is most often the case, or **premodified** themselves by Grading adverbials and measure phrases: *very/ extremely/ how/ two-metre wide*. However, they cannot have their own postmodifying PP/VP Complements:

- (4) a. **Zara is a SCARED of wolves **girl**.*
- b. **Did she turn out to be a LOYAL to her husband **woman**?*
- c. **I have some EAGER to please the boss **co-workers**.*

We will see below that the complex APs containing postmodifiers are standardly located after the head Noun.

12.1.1.2 Post-modifying Adjectives (AdjPs)

Both English and Czech have AdjPs that are regularly and obligatorily postnominal. Their distribution is the result of a productive syntactic rule for AdjPs, which are **structurally “complex.”**

Compare the patterns in (3)-(4) above with those in (5)-(6) below. Notice that the grammaticality is exactly the opposite in spite of the fact that the AdjPs are headed by the same Adjectives. The contrast proves that the distinction in position is not caused by any lexical characteristics of the A(dj) head but by the internal structure of the AdjP. The postnominal APs are more complex because they contain a right hand Complement to the head Adj (usually a PP or VP; see Section 11.3.2).

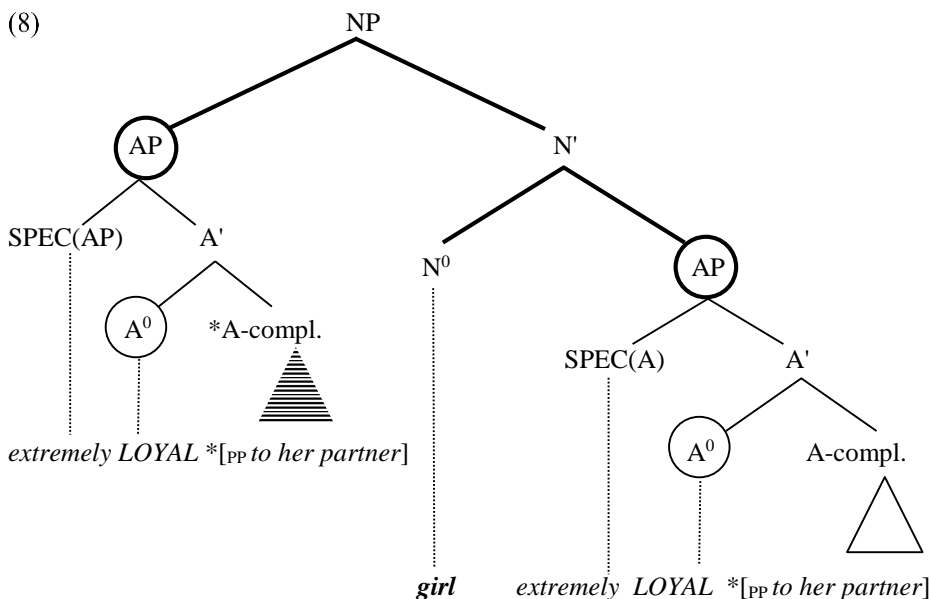
- (5) a. **Zara is a **girl** very SCARED.*
- b. **She turned out to be a **woman** LOYAL.*
- c. **I know an employee extremely EAGER.*
- (6) a. *Zara is a **girl** SCARED of wolves.*
- b. *She turned out to be a **woman** LOYAL to her husband.*

- c. *David met a **man** very FOND of English literature.*
- d. *I know some **employees** extremely EAGER to please the boss.*
- e. *I saw a **girl** as BEAUTIFUL as Mary.*

For the distribution of AdjPs, a simple statement is given in Emonds (2013: 69):

- (7) “Adjectives without Complements precede English Nouns, while AdjPs that contain Complements follow them.”

The scheme below sums up the data above, showing the structure of pre- and postnominal AdjPs. Notice that in the prenominal position, the AdjP can contain a premodifier of A(dj) (*extremely loyal*), but it cannot have the A-Complement (**loyal to her husband*). The complemented AdjPs must be located postnominally.



Apart from Adjs with Complements, some other AdjPs also tend to be located after the Noun. They are usually “heavy,” i.e. complex in some way. The example below has coordinated AdjPs, which can stand either before or after the Noun.

- (9) a. *Ethel is a **girl** [_{AP} very BEAUTIFUL and INTELLIGENT].*
 b. *Ethel is a [_{AP} very BEAUTIFUL and INTELLIGENT] **girl**.*

Moreover, diachronically, the position of AdjP is not very stable. E.g. in Czech, the postnominal position was standard until the nineteenth century, and it is still used with marked (e.g. poetic) structures. The following example is from a well known romantic poem dating back to the mid-nineteenth century.

- (10) *Po nebi modrém oblaka bílá plynou...*
 On sky blue clouds white flow...
 “White clouds float on the blue sky...”

Veselovská (2015; 2018, Chapter 2) cites corpus data to show the above ordering is no longer attested to in unmarked Modern Czech. The studies demonstrate that the ordering of AdjPs is in fact exactly the same in current English and Czech.

In some contexts, we can find so-called **discontinuous AdjPs**. When Smith (1961: 344) deals with complex modifiers in English, she remarks that their “Complements never precede Nouns.” Her statement refers precisely to the dissociated AdjPs, which are comparative AdjPs where the PP is an Adjunct, not a Complement selected by the head Adjective. Those examples are in (a,b) below. In (c), we can see that dissociation of a complex AP with Adj-Complement is not possible.

- (11) a. *You cannot get a more EXPENSIVE dish than caviar.*
 b. *We have to find a CHEAPER meat than steak.*
 c. **She is a FAITHFUL woman to his man.*

The Adjunct PPs (mainly in comparisons) can appear after the Noun separated from the first part of the AP. The whole AP can be postnominal as well, but never prenominal.

- (12) a. *I need a more INTELLIGENT man than Bill.*
 b. **I need a more INTELLIGENT than Bill man.*
 c. *I need a man more INTELLIGENT than Bill.*

Apart from the productive combinatorial rules for the distribution of AdjPs, there are structures containing some specific, exceptional Adjectives, which are usually located after the Noun. There is no structural reason for it; it is the idiosyncratic property of these Adjectives.

- (13) Idiosyncratic Adjectives
- a. obligatory order. *syntax **proper**, president **elect**, wine glasses **galore***
 - b. optional order: *the few students **present/ absent/ available***
 - c. the prefix *a-*: *passengers **aboard**, any wood **afloat**, a child **asleep***
 - d. French borrowing: *court **martial**, notary **public**, fee **simple**, battle **royal***

The example (d) above demonstrates the ordering that is typical for Adjectives that appear in an idiomatic combination taken from French. In the following examples, we can see a standard ordering of Adjectives and Nouns in a French NP.

(14) Modern French

- | | | | |
|----|---|----|---|
| a. | <i>une princesse royale</i>
a princess royal
'a royal princess' | b. | <i>ce devoir simple</i>
that duty simple
'that simple duty' |
|----|---|----|---|

French is a Romance language, in which adjectival Attributes are regularly after the Noun, and English loans of fixed phrases copy this ordering. These constructions are frequent in some specific styles such as legal language and restaurant menus. However, these postnominal APs are always marked **exceptions**; they are not a part of the Modern English grammar system. Thus, the French loan *princesse royale* also has an English counterpart, *royal princess*, with a productive unmarked word order.

The Czech language now uses Romance word order with certain Adjectives as well. It appears in stylistically marked constructions in **scientific language** terminology, which is thereby distinguished from common speech. Compare the following Czech phrases with their English equivalents.

- | | | | |
|---------|---|----|---|
| (15) a. | <i>kysličník uhličitý</i>
dioxide carbon
'carbon dioxide' | b. | <i>antilopa šedá</i>
antelope grey
'grysbok (Raphicerus melanotis)' |
|---------|---|----|---|

A post-head position of AdjP is also obligatory with compound Pronouns because these are in the DETERMINER position:

- | | |
|---------|---|
| (16) a. | <i>somebody very intelligent / more intelligent than Mary</i> |
| b. | <i>something so interesting / something less exciting than this</i> |

12.1.2 Predicate function of Adjective phrases

A Predicate Adjective is an AdjP that follows a Copula or **linking Verb**. In Czech, these AdjP show agreement with the Subject in all phi features, including a Case (typically Nominative). We can see an example below. Notice that in spite of the agreement, the underlined AP is *not* a part of the Subject NP. In English, the morphological agreement is not visible.

- | | |
|---------|--|
| (17) a. | <i>Naše malá Etelka</i> <i>je</i> <u><i>moc hodná.</i></u>
[_{NP} our little Etel] _{FS.NOM} is [_{AP} very nice _{FS.NOM}]
'Our little Ethel is very nice.' |
| b. | <i>His brother Oscar is /seems/ became/ looks</i> [_{AP} <u>very handsome</u>]. |

In some grammar manuals, such as Greenbaum and Quirk (1991: 129-157) and Dušková (199: 141-164), this sentence member is labelled a Predicate Adjective, complementing a Copula, or a Subject Complement. This is because its status or label correlates with specific theoretical frameworks. It crucially depends on the way the respective theories define a **Copula**. Is a Copula a special verbal element, or is it the equivalent of a lexical Verb? This question is far from trivial, and we will discuss it in the next section.

12.1.3 Predicate Adjective or Subject Complement?

The first question is, what is the diagnostics distinguishing a Copula from a lexical Verb? Using both Czech and English examples, let us consider:

- i. the **interpretation** of the Copula as a Predicate,
- ii. the **co-reference** of the Subject and Predicate
- iii. the **Case** on the Complement, and
- iv. the form of the AP: as an **Adjective** or an **Adverb**.

The examples on the left contain a Copula. Those on the right have verbal Predicates. (The English translation examples are below the Czech examples).

(18)

- | | |
|---|--|
| a. <i>Quido_y je řidič_y.</i> | b. <i>Quido_y viděl řidiče_{*y}.</i> |
| a.' <i>Quido_y is a driver_y.</i> | b.' <i>Quido saw a driver_{*y}.</i> |
| c. <i>Chlapec je student(em)_{NOM-INSTR.}</i> | d. <i>Chlapec viděl studenta_{ACC}</i> |
| c.' <i>The boy is a student.</i> | d.' <i>The boy saw a student.</i> |

In these examples, we can see that a Copula is a kind of Verb, which shows the following characteristics, which are not canonical for a prototypical Verb. I focus first on Czech because in some ways it most clearly shows these characteristics.

- (a) A Copula does not denote any action but only “identity,”
- (b) A Copula is related to two nominal Arguments referring to the same entity,
- (c) A Copula does not assign Object or Accusative Case to Nouns, but at most in Czech it combines with the Instrumental Case.

The following examples in (iv-v) show further that

- (d) A Copula cannot passivize, i.e. the NP following a Copula is not an Object;
- (e) A Copula can be followed by an AdjP or an N, which both morphologically agree in features with the Subject, including in Nominative Case.

The Copula constructions are on the left, while the Verb is on the right. The English translated examples are below the Czech examples.

(19)

- | | | | |
|-----|---|-----|--|
| a. | ?? <i>Student byl chlapcem</i> | b. | <i>Student byl viděn.</i> |
| a.ʹ | ?? <i>The student was a boy.</i> | b.ʹ | <i>The student was seen.</i> |
| c. | <i>Oskar je spolehlivý/rychlý_{ADJ.NOM}</i> | d. | <i>Oskar pracoval spolehlivě/rychle_{ADV}.</i> |
| c.ʹ | <i>Oscar is reliable/quick_{ADJ}.</i> | d.ʹ | <i>Oscar worked reliably/quickly_{ADV}.</i> |

In Czech, there is only one Verb with all characteristics (a)-(e). It is (a version of) the Verb *být* ‘be’. Sometimes *stát se* ‘become’ is also considered as a kind of Copula, though it conforms to only some of the above characteristics.

Comparing Czech with English, we can see that the same criteria are more difficult to discern. English lacks agreement morphology, and therefore the diagnostics based on Case and agreement cannot be used. Therefore, the criterion in (e) becomes of special importance. The **selection of AdjP and/or NP** becomes a main diagnostic. Then, English has a range of Verbs that can be called Copulas, even though they are not semantically minimal. Those are listed in (20) and illustrated below respectively.

(20) **English Copulas and semi-Copulas**

- a. *be, seem, appear, stay, remain, act,*
- b. some Verbs of **change**: *become, get, grow, turn,*
- c. some Verbs of **perception**: *look, feel, taste, smell, sound.*

(21)

- a. *Quido is/ seems/ is acting silly / very silly / unbelievably silly.*
- b. *Oscar became/ got/ grew ashamed of his few achievements.*
- c. *Helen felt/ looked/ stayed twice as mad at her mother as Piers did.*

The traditional terminology concerning Copulas was created to describe Greek and Latin. Comparing English and Czech with those languages, Czech is closer to the prototype because of its inflection being quite similar to Latin. Therefore, the traditional terminology is easy to apply to Czech. We can see that it is not so easy to transfer the same terminology to English. In this light, there are two ways to solve the terminological problem:

First, we can accept the idea that English has many Copulas, not all deprived of lexical meaning. Those grouped in (20)(b-c) are then labelled as **semi-Copulas** or **linking Verbs**, and this **list** is given and established in many grammar manuals. As the tradition requires, the Complements of these (semi-)Copulas are called Predicate Adjectives, or Predicate nominals, if they have the form of NP.

Alternatively, linguists can conclude that English does not have any real Copula at all. Then all the Predicates in (20) are a special (kind of) Verb. In this case, instead of being a Predicate Adjective or nominal, the AdjP or NP following the Verbs in (20) are labelled **Subject Complements**, which is a traditional label for the constituents related to both a Predicate and a Subject NP. This sentence function is described and illustrated in the following section.

12.1.4 Subject and Object Complements (secondary Predicates)

Syntactic relations are typically binary, e.g. Verbs combine with Objects, Nouns combine with Attributes. **Subject and Object Complements**, however, enter into a **ternary relation**. They are a special type of selected Complement XP (= NP, AP, PP, or VP), which apart from being related to the Predicate Verb also has a grammatical function of further specifying the content of a Subject or Object NP.

(22) Binary relations of sentence functions

- | | | |
|----|---|---|
| a. | VP = [_{VP} V + NP OBJECT] | <i>to write <u>a letter</u> / to <u>Piers</u></i> |
| b. | [_{VP} V + ADVERBIAL PP] | <i>to <u>dash home/ back/ into the office</u></i> |
| c. | [_S NP SUBJECT + VP PREDICATE] | <i>that <u>somebody</u> must <u>finish the task</u></i> |
| d. | [_{PP} P + NP OBJECT] | <i>to rush <u>outside the house</u></i> |
| e. | [_{NP} AP ATTRIBUTE + N] | <i>find <u>very tasty food</u></i> |

In the following contrasted examples, the Predicate AdjP or NP are related to both the verbal Predicate and some Subject or Object NP. The relation is therefore ternary and more complex, and the AdjP/ NP are functioning as Subject or Object Complements. In the examples (23) and (24), the Predicates are bold, the Subject and Object Complements are underlined, and the Subjects and Objects related to them are bracketed. In (23)(a), the Predicate is a lexical Verb; in (23)(b) we can see Copulas.

(23) Ternary Relation. NP_{SUBJECT} + VP + Subject Complement

- a. [*The girl*] _{SUBJECT} [**returned to work**] [_{AP} as happy as before].
 b. [*The girl*] _{SUBJECT} **is/ looks** [_{AP} as happy as before].

In (23)(b), I analyze the AdjP *as happy as before* as a **Subject Complement**, i.e. I take the (semi)-Copulas *is/looks* for Verbs like the Predicates in (23)(a). Using the traditional analysis mentioned in the preceding section, I could alternatively take the AdjP *as happy as before* in (23)(a) as a part of the Predicate and label it a **Predicate Adjective**, complementing a Copula and a linking Verb.

In (24), there is an AdjP related to the Predicate and at the same time to the Object. Such AdjPs are called Object Complements.

(24) Ternary Relation. V + NP_{OBJECT} + Object Complement

- a. *Little Piers* [**painted**] [*his door*] _{OBJECT} [_{AP} light green].
 b. *They* [**elected**] [*Quido*] _{OBJECT} [_{NP} chairman of the committee].

Yet another analytical option makes the terminology even more complex. Many theoretical linguists claim that ternary relations are not desirable in syntax. Therefore, they propose to reanalyze the ternary relations of Subject and Object Complements into

- * *some citi-er skyscrapers,*
- b. * *that more government project*
- * *some expensive [our government] project*
- * *some expensive [very government] project*

The fact that nominal Attributes do not project suggests an analysis of these structures as N+N compounds. I already provided an analysis of those in Section 4.8.1 in examining so-called bracketing paradoxes, which involves a limited possibility for modifying both nominal parts of the N+N compounds.⁵⁷

On the other hand, there are several arguments for the at least partial adjectival nature of the initial N premodifiers, which can be taken as signals of their perhaps gradual “adjectivization.” First of all, there is a possibility of **coordination** of the N-like premodifier with a primary Adjective. Recall that coordination is a strong signal of categorial identity. In other words, assuming that only the same categories can be coordinated, *vulgar* and *commonplace* are the same category; this suggests that perhaps *government* here is also some kind of Adjective.

- (28) a. *She seems quite vulgar and commonplace.*
 a. *Private and government funds will be invested.*
 b. *We love the fresh and country air in this village.*

Second, I argued in favour of a fixed position for AdjP premodifiers in front of a Noun head. The position of *evening* in example (29)(a), in between two primary Adjectives, suggests the adjectival nature of the expression. The same conclusion follows from example (c), which shows that some of those nominal premodifiers can appear in front of a ‘substitute *one*’; see Section 9.5. Such distribution is typical for adjectival constituents.

- (29) a. *He is reading the new evening radical paper.*
 b. *Electric engines are cheaper than steam ones.*

Finally, the following examples illustrate a stylistically marked possibility of **Grading**. The grammatical modifiers ‘*too/ most /-est*’ are Grading morphemes, and only the A category can be graded (see Section 11.2.3). Therefore, expressions like *London/ top/ bottom/* must indicate some sort of peripheral A in these structures.

- (30) a. *That’s a much too London point of view*
 b. *the topmost picture, the uppermost/ bottommost position*
 c. *the choicest fruits*

⁵⁷ Prepositions and Adverbs can also function as Attributes in compounds. As expected, inflectional morphology is frozen, and they lack modification: *down time, inside trading*.

However, notice that with the rather irregular Grading morphology, the interpretation of these examples is not canonical either.

- (31) a. **This evening political newspaper bothers me.*
 b. ?*Electric radiators are more expensive steam ones.*
 c. **That's the Londonest expression I know.*
 d. ?*Evening and local newspapers are losing customers.*

The same tests do not always give clear results with all the secondary Adjectives. Their “adjectivization” is subject to diachrony and represents a marked style.

12.2 Syntax of ‘Adverbial’ Phrases

The sentence functions of the category A are all broadly speaking modifiers: **Adjectives** modify nominal categories, and **Adverbs** are those modifiers that standardly combine with every category, including Nouns and Noun phrases.⁵⁸

12.2.1 Adverbials as modifiers

Generally, adverbial modification indicates manner, place, time, frequency, etc. That is, adverbials typically modify a verbal action and are related to Verbs.

- (32) *He is **running** quickly/ away/ there /daily/ now.*

But, other parts of speech are modified by adverbials; notice their positions.⁵⁹

- (33) **Adv+Adj** a. *We are **very**/ **so**/ **too**/ **rather**/ **somewhat** late.*
 b. *He seems **more**/ **less** ambitious than her.*
 c. *I met the three **most**/ **least** clever girls in London.*
Adv+Adv d. *He runs **very**/ **so**/ **too**/ **rather** quickly.*
 e. *She will do it **probably** slowly but **certainly** well.*
 f. *That airplane can fly **very**/ **less**/ **extremely** far.*
- (34) **Adv+Preposition** a. *He ran **right** up/down the hill.*
 b. *He put them **directly** into the boxes.*
 c. *They were sitting **just** outside the hut.*

⁵⁸ Let us recall that one must not confuse the label **Adverb**, a specific (sub)type of the category or part of speech, and **adverbial**, a rather widespread grammatical function that can involve other parts of speech. Adverbs usually have an adverbial function, but many phrases with adverbial functions are not Adverbs. Many traditional so-called Adverbs are not a part of the category A at all. For instance, the distributional properties of particles such as *out*, *down*, *off*, *back*, *away*, *together* show they are in the category P even though their function is usually adverbial. The derivational suffix *-ward(s)* can then create an adverbial P of this type: *up-ward*, *back-ward*, *home-ward*, *east-ward*, etc.

⁵⁹ Greenbaum and Quirk (1991: 158-187) provide more examples of various adverbial functions.

- (35) **Adv+full clauses**
- You should **certainly** do it.*
 - Naturally**, he arrived late.*
 - I can help you **perhaps**.*
 - The election **actually** didn't take place.*
- (36) **Adv+Nouns**
- The road **upwards** is to the left soon.*
 - His travel **abroad** lasted more than a year.*
 - The movements **sideways** were most unpleasant.*
- (37) **Adv+Pronouns**
(marginal)
- hardly** anybody*
 - precisely** that*
 - almost** nothing*

When adverbial or adjectival constituents of category A modify some other constituents (some lexical category or some phrase or even a clause, as demonstrated in the examples in (33)-(37)), we say that they “**take scope**” over that constituent. (When an AP has an adverbial sentence function, I will often write it as AdvP.)

- (38) The **scope** of adverbials:
- the **verbal action**, typically at the left or right edge of VP; adverbials tend to precede the stressed XP,
 - the polarity, Tense, or modality of the **operator position**, including indicators of probability,
 - the whole **sentence**, especially if the Adverb is set off by a comma,
 - other constituents**: AP, NP, etc.

12.2.2 General distribution of adverbial Adjunct APs

Consider the distributions among AdvPs seen in the following examples:

- (39)
- Oscar speaks English **frequently** /**fluently**/***certainly**/***frankly** at home.*
 - Oscar will speak **frequently** / **fluently**/***certainly**/ **frankly** in English.*
 - Oscar will **frequently**/ **fluently**/ **certainly**/***frankly** speak English.*
 - Frequently**/***Fluently**/ **Certainly** /**Frankly**, he speaks English at home.*

With respect to their interpretation and scope, the AdvP appear in specific distinct positions, which are listed and demonstrated below. The positions overlap; for example, the position preceding a finite open class Verb accepts all three types.

- **Sentential adverbials**: these usually precede the Verb, or, if longer, are at the very beginning of a clause.
- **Temporal Adverbs**: their position is rather free, especially those of frequency; these appear to occur in any adverbial position.
- **Manner Adverbs**: These must be inside the Verb phrase.

The distributions of AdvPs depend on their **interpretations** and **complexity**. Some commonly used purely descriptive labels for the positions in English clauses:

(40) Adverb(ial) positions

- (a) “I” for the **initial** position,
- (b) “M” for the pre-verbal or **middle** position, and
- (c) “E/F” for the end or **final** position.

In the following examples, we can see that the **I-position** or pre-Subject position in (41) is also typical for the so-called **disjuncts**, adverbials that optionally precede commas. These can be temporal, locational, or sentential adverbials, and take scope over the whole clause.

(41) **Multiple positions of English Adverbs**

- a. (Certainly) Mary can (certainly) write it (*certainly) for Oscar (*certainly).
- b. (Quite often) he (quite often) runs (quite often) to the post office (quite often).
- c. He (*quickly) should (quickly) fold up (*quickly) his clothes (quickly).

The **M-position** in (42) is the post-Subject, pre-verbal position. The position of the negative *-n't/not* morpheme is following the first Modal/Auxiliary. Short *-ly* adverbials and temporal Adverbs can be found in this position. Adverbials of category PP, even short, do not occur in the M position, unless set off by pauses/commas.

(42)

- a. She had (**never/merely/usually/still**) sent a card (*never/*merely/*usually/*still).
- b. He had (*before/*off/*by noon/*home) driven a car (**off/ before/ by noon/ home**).

The **E/F-position**, the end or final position, follows all Object NPs and any idiomatic combinations selected by the Verb. This is the natural position for all **Adjuncts**, including PPs and APs. Some short Adverbs (*already, yet, again, then, now*) can also be in the E/F position. These are also Adjuncts.

Some English Adverbs have specific characteristics because of their feature content. In Section 24.8, I will discuss the behaviour of English **negative and partially negative Adverbs**, which can trigger negative polarity throughout the whole clause, and their presence can influence the clausal constituents’ order.

12.3 Adverbial Prepositions and Particles as PPs

The traditional class of Adverbs is in reality a **mixture of distinct elements**. Most of them, especially those of form A + *-ly*, can be placed in the same category as Adjectives; see the discussions in Chapter 11 and Emonds (1986).

On the other hand, many other items also known as “Adverbs” or “Particles” share properties rather with prepositional phrases (PPs). Because of their distributions

and also their possible modifiers, their syntactic category is better analyzed as **Preposition**, not “Adverb.”⁶⁰

(43) **Parallels among particles, conjunctions and Prepositions**

- a. *The pupils put the boxes down (the stairs)/ inside (the closet) (right) back.*
- b. *Where she left it was (right) near the door/ (right) outside / (right) nearby.*
- c. *Jim dashed (right) into the street/ in/ up/ off/ away/ back.*
- d. *Did you ever meet him since/ before (he grew up/ his marriage)?*
- e. *Jessica arrived there / back/ in a village / at the cinema.*

These adverbial ‘particles’ can even be coordinated with PPs; recall that coordination combines like categories.

- (44) a. *Jack ran up the hill and away.*
 b. *They will be arriving there or at the cinema.*

Besides As and Ps with adverbial sentence functions, other small classes of modifiers, such as Grading particles, are also traditionally called ‘adverbs’. This is accurate for their ‘adverbial’ sentence functions, but they also need a **grammatical category**, a part of speech like N or P.

12.3.1 *Adverbs and particles*

Other small classes of adverbial words that modify V are often labelled particles or PRT. The frequently used classification is listed and demonstrated below.

- (45) a. **Temporal** particles:
Adv_T: already, yet, still, ever, never, once, twice
- b. **Modal** particles:
Adv_M: perhaps, maybe, however, moreover, of course
- c. **Focus** particles:
Adv_F: only, even, also

Traditional grammar often resorts to the term ‘particle’ when it has proposed no analysis for leftover ‘little words’ with item specific behaviour. But actually, various particles do have properties of some projection or another part of speech, mostly parts of A(P) or P(P) constituents. Therefore, I propose here that they can be taken for a grammaticalized version of those categories, rather than as instances of an “Adverb.”

⁶⁰ For discussion of a possible universal categorial system based on mostly English and French data, see Emonds (1985). Directional and locational particles are discussed in Chapter 6 of that work.

13 VERBS

In this chapter, I will introduce the open class category of Verbs, starting with their semantics and morphology. In Chapters 0-16, I will examine the syntax of Verbs, concentrating on a formal taxonomy based on subcategorization and clause modality (i.e. the role/function of verbal elements in a wide variety of English clausal patterns).⁶¹

13.1 Semantic Specifications and Classifications

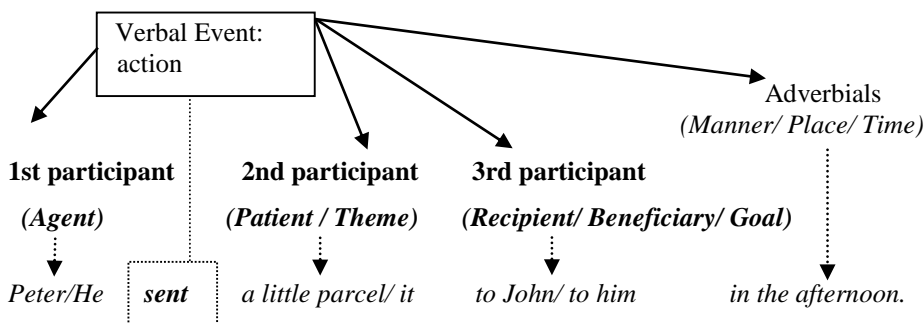
Universally, **Verb (V)** is the category expressing a temporally restricted concept of an activity or **event**. As discussed in the theory of **valency**, verbal semantics also integrates the **roles of the Arguments** of Verbs (the participants of the action). For the theory of verbal valency, see Tesnière (1959), or in the Czech linguistic context, Karlík (2000). I will work here with a rather simplified version of the present day terminology, based on Fillmore (1968, 1977).

13.1.1 Event structure and valency

The following scheme illustrates the semantic frame or “**event structure**” of the Verb *send*. We have seen it already in (34) on page 111 and I repeat it below for convenience. Notice that there are two kinds of possible elements related to the Verb:

- (a) Arguments or participants: these are the more or less obligatory parts of the event structure of a specific Verb.
- (b) Complementary conditions: these give background information appearing optionally with essentially any Verb.

(1) Semantic **event structure** or **valency** of the Verb *send*



⁶¹ Detailed data-based descriptions of English verbal structures can be found in many standard grammar manuals: Quirk et al. (2004: 93-240); Greenbaum and Quirk (1990: 24-69); Dušková (1994: 165-272); Svoboda and Opělová-Károlyová (1989: 7-50); Leech (1971); Leech and Svartvik (1975); and Svoboda (2004: 24-36).

In this example, the participants = Arguments of the Verb are assigned some standard pragmatic Roles, called **semantic roles** or **thematic (Theta, θ) Roles**, and they also exhibit here quite standard formal realizations, as Subject and Objects. The complementary conditions are usually optional and correlate with adverbial sentence functions.

13.1.2 Classification of Verbs based on semantic structure

The event structure or valency expresses a number of relations between the Verb and its participants = Arguments. When these Arguments are obligatory, they are part of the Verb's **semantic selection** or **S-selection**. Lists of Arguments of a specific Verb are specified in arrow brackets as follows:

(2) S-selection

- a. *send*, V < Agent, Theme, Recipient >
- b. *hit*, V < Agent, Patient >
- c. *arrive*, V < Agent >
- d. *rain*, V < -- >

S-selection is the semantic basis of a Verb's classification. This taxonomy based on the number of obligatory Arguments, e.g. whether a Verb is transitive, intransitive, or ditransitive, also uses semantic valency to describe some syntactic processes, e.g. passivization. A schematic list of this kind of taxonomy is provided below with respective examples.

(3) Number of Arguments: Many partly semantic divisions have been studied:

- a. **Transitive** Verbs: Agent \leftarrow VERB \rightarrow Patient/ Theme
- b. **Passive** Verbs: Patient of Theme \leftarrow VERB \rightarrow (Agent)
- c. **Intransitive** Verbs: Agent **and/or** Theme \leftarrow VERB

- (4) a. *The farmers built a new barn.*
The farmers rolled the rocks away.
- b. *A new barn was built (by the farmers).*
The rocks were rolled away.
- c. *Marilyn often swims long distances.*
The rocks rolled away.

In the following paragraphs, we can see some more detailed terminology that refers to the semantic frame of a Verb. Notice that in spite of the fact that the terminology is referring to interpretation, the taxonomy is used in grammar because of some specific formal properties that can be attributed to the valency of given groups of Verbs. Purely semantic taxonomy with no formal correlations is not a part of grammar (it may be used for some specialized synonymic dictionaries or so).

Intransitive Copulas or linking Verbs are semantically ‘weak’ Verbs that combine with only a single Theme Argument. For the characteristics of Copulas, see also Section 12.1.3.

- (5) a. *Zach is a lawyer/ clever.*
- b. *Zach seems/ appears silly.*
- c. *Zach became/ grew/ got older.*

Intransitive Verbs combine with only one Argument with the role of Agent or Theme. We can divide them into ergatives, unaccusatives and inchoative Verbs.

First, in (6) we can see **ergative** Verbs such as *turn*, *break*, *close* and *cough*, which include also Verbs expressing a Subject’s “energy.” Some of these can become transitive causatives, when used with an Agent Subject, as in (c-d).

- (6) a. *The boat **turned** back.*
 *Some windows **broke**.*
- b. *The door **closes** automatically.*
 *Someone **coughed**.*
- c. *The navy **turned** the boat back.*
 *The boat was **turned** back by the navy.*
- d. *A thief **broke** some windows.*
 *Some windows were **broken** by a thief.*

In (7)(a), there are examples of **unaccusatives** such as *come*, *go*, *return*, *fall*, *die*, the sole Argument of which can sometimes combine Patient/Theme and Agent Roles. They include Verbs of movement and change of state.

And finally, (8) demonstrates **inchoative Verbs of temporal Aspect**, which are usually followed by another non-finite Verb.

- (7) a. *Many people **came back/died** in the winter.*
- b. *More trees **fell** yesterday.*
- c. *In this ballet, the dancers must **fall** together when they die.*
- c. *The cold weather **returned**.*
- (8) a. *Quido **started** to speak rather late.*
- b. *Ethel **kept/ went on** pushing the pram down the hill.*
- c. *Zara will **finish** eating very soon.*

The Verbs that select more than one Argument are called **transitive**. Most frequent are the mono-transitive Verbs selecting two Arguments: Agent and Patient/Theme. There are many groups of **transitive Verbs**; some are exemplified in (9) and respectively illustrated in (10).

- (9) a. Verbs of sense perception, the Object of which has the Theme Role
- b. ‘Verbs dicendi’ (indirect speech Verbs), including ‘performatives’

- c. Causative Verbs
 - d. Transitive reflexive Verbs
- (10) a. *We can see him run to the supermarket.*
They will hear us coming to the living room.
David could feel it rain.
- b. *say, tell, cry, think, whisper, order*
I hereby order you all to leave.
I'm telling you that you should go.
- c. *make, let, force, persuade, convince, order, tell*
Zara will make all of us leave.
Don't force them to work every day so hard.
Helen let him finish the homework himself.
- d. *perjure oneself, absent oneself, pride yourself (on NP)*

Many verbal collocations in English consist of more than one word. These verbal complexes are usually labelled as (a) **phrasal Verbs**, which contain a Verb and a particle, and (b) a **verbo-nominal complexes**, which consist of a weak Verb, a nominal element and a Preposition.

- (11) a. *take off, look up, put away, think through, buy off*
- b. *have fun (with), take a shower, make money (off), make love (to)*
take the trouble to, take time to, take a nap, take a look (at)

In the next section, we are going to look at a full verbal paradigm, that is, all the inflection characteristics of the category of Verbs in English.

13.2 The English Verbal Paradigm

The inflectional paradigm which reflects the grammaticalized verbal features is the hallmark of the category of Verbs. Most of the verbal forms consist of more than one morpheme, but even in English, there are several synthetic verbal forms, i.e. forms that consist of a verbal Root and some accompanying bound morphology only. Thus, the English verbal paradigm can be divided into (a) simple synthetic and (b) periphrastic analytic forms:

- (12) a. *he kisses/ kissed, she drives/ drove, it keeps on/ kept on*
- b. *he could have been being kissed/ kept out/ driven to his home*

The terminology used for the synthetic forms varies (some of which appear alone and others in combination with Modals or Auxiliaries). The following table was put together from material in standard English grammar manuals. It provides examples of

each form for regular Verbs, irregular Verbs and for the Verb *be*, which is the most idiosyncratic. The bound allomorphs are in the leftmost column.

(13) **Morphological verbal forms in English:** 3 (e.g. *read*) – 8 (e.g. *be*)

allomorphs	Quirk et al. 1985: 96	Biber et al. 2007: 57	Huddleston and Pullum 2002: 74	examples		
				regular	irregular	<i>be</i>
Ø	base form	base form	plain form	<i>help</i> <i>raise</i>	<i>keep</i> <i>drive</i>	<i>be</i>
-s	-s form	3rd sg. pres. indicative	3sg. present	<i>helps</i> <i>raises</i>	<i>keeps</i> <i>drives</i>	<i>is</i>
-ing	-ing participle	-ing participle	Gerund- participle	<i>helping</i> <i>raising</i>	<i>keeping</i> <i>driving</i>	<i>being</i>
-ed -/t or vowel change	past form	past Tense	preterite	<i>helped</i> <i>raised</i>	<i>kept</i> <i>drove</i>	<i>was/</i> <i>were</i>
-ed/-t/-en or vowel change	-ed participle ⁶²	past participle	past participle	<i>helped</i> <i>raised</i>	<i>kept</i> <i>driven</i>	<i>been</i>

13.2.1 Finite vs. non-finite verbal forms

With respect to the presence or absence of agreeing and Modal features, we can distinguish non-finite Verbs and finite Verbs. The following examples provide English non-finite verbal forms. Notice that to make any non-finite form past, which expresses relative Tense, the Auxiliary *have* is used with the *-en* participle.

- (14) a. (to) *drive* / (to) *have driven* present/past Infinitive
b. *kissing* / *having kissed* present/past participles or Gerund
c. *kept* / *driven/ kissed* passive and past participles

Past Infinitives can be used after Modals or in participial structures. Notice that they do not indicate real, absolute Tense, calculated with respect to the speech act, but only precedence with respect to the Tense of the main Verb. This is called “**relative**” Tense, and I will return to it in the next sub-section.

Inflection in English expresses several features grammaticalized on the category Verb. English verbal morphology thus overtly realizes the following categorial features:

⁶² In this study, I am going to use the label “*-en* participle” for this form, i.e. for the Verb in passive and perfect periphrasis (*have written/ been/ helped*). I will use the label “past” for the *-ed* form in the simple past Tense.

(15) **Verbal features**

- i. Aspects: \pm Perfect and \pm Progressive
- ii. Tense: \pm Past
- iii. Voice: \pm Passive
- iv. Nominal features: Person, Gender, Number

The four features in i-iii, namely Tense, two Aspects and voice, are **optional** features, i.e. the speakers choose the values according to their intentions. The nominal features in iv are **configurational** morphology, which reflects the structural relation of the Verb to the subject. Configurational morphology is rather minimal in English, and Subject Predicate agreement is represented by only one productive morpheme *-s* for the 3rd Person singular indicative and by the idiosyncratic paradigm of the Verb *be*.

Apart from those listed above, a Predicate generally also carries a feature of **Mood**, or modality. In English, however, this feature is expressed by a clausal pattern with free Modal morphemes or by intonation, and there is no morphology related to it. The following section will discuss the features in more detail.

13.3 Tense

Time vs. Tense: Tense is the grammaticalized feature referring to pragmatic or semantic notions of time. Real time is an open-ended and infinite phenomenon. But language uses a simplified, grammaticalized reduced version of time, namely Tense, which is related to the **moment of the speech act**.

- (16)
- a. **Past** = before the speech act
 - b. **Present** = includes “now” (i.e. the moment of the speech act)
 - c. **Future** = after the speech act, as yet unrealized

Tense is an optional verbal feature; the main lexical Verb in a clause can take any of the Tenses depending on the intended meaning.

(17) **Morphology of Tense**

- a. [+PAST] I/ You/ Zara *help-**ed*** the others.
- b. [+PRES] I/ You/ They *help- \emptyset* the others. Zara *help-**s*** the others.
- c. [+FUT] I/ You/ Zara/ They ***will*** help the others.

Apart from a deictic absolute Tense related to the speech act, non-finite Verbs are able to express a **relative Tense** on Infinitives and participles. Relative Tense is interpreted with respect to the main Verb. It can be (a) “present,” i.e. the **same** as the main Verb’s finite form, or (b) “past,” i.e. **preceding** the related finite form. Consider the interpretations of the following Infinitives and participles, which are in bold,

- (18)
- a. *He must/ should **go** home now.*
→ *He must/ should **have gone** home yesterday.*

- b. **Kissing** good bye, John left.
→ **Having kissed** good bye, John left.
 - c. The hero waved to us (while) **dying** on the balcony.
→ ??The hero waved to us (after) **having died** on the balcony.
- (19)
- a. **Waving** good bye, Quido **drove/ is driving** off in his car.
 - b. **Having waved** good bye, Quido **drove/ is driving** off in his car.
 - c. Quido should **have waved** good bye, before **driving** off in his car.
 - d. Quido should **wave** good bye as he **drives** off in his car.

Finally, the pronunciation of the –(e)s and –(e)d suffixes depend on the general rule for English pronunciation of productive consonantal inflections, which I discussed in Section 6.4.4.1. The rule and relevant allophones are repeated below for convenience.

- (20) General rule of pronunciation in English consonantal inflections:
- (a) + Insert vowel (ə) after alveolar segments to facilitate pronunciation.
 - (b) **Progressively assimilate voicing** from the final segment.
- (21) Allophones of English inflectional suffixes spelled (e)s / (e)d
- (a) [-i-] Insert a reduced vowel, or ‘schwa’, after sibilants/alveolar stops.
 - (b) [-s]/[t] Assimilate to [-Voice] after voiceless segments.
 - (c) [-z]/[-d] Elsewhere, i.e. assimilate to [+ Voice].

The following examples demonstrate the application of the rule for the –ed suffix, which appears in the [PAST] Tense, [PERFECT] Aspect, and [PASSIVE] voice.

- (22)
- a. Her friend kiss-**ed** / wav-**ed** her good bye.
 - b. Her friend has treat-**e-d** her to lunch.
 - c. Zara was introduc-**ed** to me last week.

13.4 English Verbal Aspects

Aspect is added to the Tense system to provide additional conditions for reporting an action. In English, Aspect is related to the **duration** of the action, and it also allows reference to the **end point** of the event. These are the two separate Aspects in English:

- (23)
- a. **Progressive Aspect:** expressing continuous (durative) or repeated (with stative Verbs) activity,
 - b. **Perfective Aspect:** relates the activity to another Tense, thus expressing the time of completion, or the telicity of the action.

Both Aspects have complex morphology: a free Auxiliary and a bound morpheme on the following lexical verbal form. The following scheme suggests that the part carrying the bound aspectual morphemes, the –ing and –en of the participles, is fixed, while the

preceding Auxiliary is modified with respect to the other verbal features. The examples illustrate the [+PROG]/ [+PERF] circumfixes with the Verb *explain*.

(24) The **Aspect features** in English

a.	PROGRESSIVE	<i>BE</i>	<i>V-ing</i>
b.	PERFECTIVE	<i>HAVE</i>	<i>V-en</i>

- (25) a. *Piers* *is* *explain-ing/ choos-ing* the right answers.
Piers *will be* *explain-ing/ choos-ing* the right answers.
Piers *has been* *explain-ing/ choos-ing* the right answers.
- b. *Piers* *has* *explain-ed/ chos-en* the right answers.
Piers *had* *explain-ed/ chos-en* the right answers.
Piers *will have* *explain-ed/ chos-en* the right answers.

In Czech, (im)perfective Aspect is a rather complex phenomena, and the (im)perfective morphology is highly lexicalized and integrated with the verbal Root. In English, both Aspects are a regular and productive optional verbal features. The Verb can have no Aspect (“simple” Tenses), it can have one Aspect, or both Aspects.

13.4.1 *Combinations of Aspect and Tense*

Although we usually say that the Verb appears in some specific “Tense,” the Predicate in fact usually refers to the time of the action together with aspectual specifications, thus putting together the features of Tense and Aspect. Combining the three Tenses and the two Aspects in English, we get twelve grammatical temporal concepts, with a possible additional idiomatic *going to* for future. The following table demonstrates all the existing verbal forms in English.

(26) **Tense and Aspect Combinations** of English Verbs

				+PROG ASPECT	
[+PAST]		<i>he</i>	<i>finish-ed</i>	<i>he</i>	<i>was (be+ed(+s)) finish-ing</i>
[+PRES]		<i>he</i>	<i>finish-es</i>	<i>he</i>	<i>is (be+s) finish-ing</i>
[+FUT]		<i>he</i>	<i>will finish</i>	<i>he</i>	<i>will be finish-ing</i>
[+PAST]	[+PERF]	<i>he</i>	<i>ha+d finish-ed</i>	[+PERF]	<i>he ha+d be+en finish-ing</i>
[+PRES]		<i>he</i>	<i>ha+s finish-ed</i>		<i>he ha+s be+en finish-ing</i>
[+FUT]		<i>he</i>	<i>will have finish-ed</i>		<i>he will have be+en finish-ing</i>

Notice that the verbal morphology is regular and predictable: the functional features of agreement and Tense always appear in the leftmost part of the form (with the exception of Modals), and the template follows a regular order of inflection; see Section 15.6.

Using these twelve verbal forms, English can express a wide variety of meanings. For a proper analysis, it is necessary to distinguish between the **form**, namely, which Tense, Aspect, etc. morphemes are present, and the **interpretation**. The interpretation of the twelve existing verbal forms partially reflects a transparent combination of the features. In many cases, however, the pragmatics of the aspectual forms, that is, their usages in specific contexts, is rather complex and idiosyncratic. In other words, the meaning is influenced not only by which morphemes are used but also by other factors, such as marked and unmarked usages. Each form must be considered as part of the system, as contrasting with the other existing forms. We will not deal with interpretation here.⁶³

13.5 Mood and Modality

The category of Mood refers to the **framing of a speech act** or sentence with respect to its intended communicative function. The following list provides the main communicative functions, or speakers' intentions, in the left column. The right column gives the respective formal clausal structures, which are used to realize the intended functions.

(27) A. <u>communicative function</u>	B. <u>standard formal realization</u>
a. statement, informs about facts :	→ indicative (declarative) Mood
b. question, asks for information:	→ interrogative Mood
c. order, directed at the hearer:	→ imperative mood
d. wish, expressing a wish:	→ optative Mood

In many languages, Mood is expressed in verbal morphology, either by bound morphemes or in periphrasis, e.g. Czech has special morphemes marking an imperative Mood *vypráv-ěj-me/te!* ((let us) talk!). But in English, the main sentence modality is not a part of verbal morphology.

(28)		
a. declarative:	<i>He can read.</i>	
b. interrogative:	<i>Can he read?</i>	no morphology but inversion;
c. imperative:	<i>Read this letter!</i>	no morphology but intonation;
d. wish:	<i>May he read it himself!</i>	no morphology but periphrasis;

⁶³ Leech (1971) provides a good discussion of the possible uses of English verbal forms, including combinations with Modals in both their deontic (Root) and epistemic functions.

These examples demonstrate that English lacks verbal inflections signalling sentence modality, which instead is encoded syntactically by word order (see Section 25.2 below). Two exceptions are periphrastic imperatives and wishes:

(29) **Periphrastic imperative**, 1st and 2nd Persons:

- a. *Let's go.* *Let's us give it a try.*
- b. *Let me help you.* *Let it be.*
- c. *Do say hello for me.* *Don't waste any time on it.*

Consider the status of the morpheme *let* in the following examples.

- (30)
- a. *Let's not have the same opinion.*
 - b. *Don't let's trick the teachers.* <esp. BrE>
 - c. *Let's don't use this soap anymore.* <esp. AmE>
 - d. *Let's you and me create a new procedure.*
 - e. *Let's us create a new procedure.*
 - f. *Let us go home, shall we/will you.*
 - g. *Let's go home, shall we/*will you.*

The category of Mood can also express the concept of **probability of the action**. The feature **CONDITIONAL** is optional in English, but does have a morphological representation. It is expressed by combining the Modal *would* and a bare Infinitive. The Modal remains the same, but the bare Infinitive is present in simple conditional and past in the past (perfect) conditional.

- (31)
- a. simple conditional (*would* + bare Infinitive)
 - b. perfect (past) conditional (*would* + bare past Infinitive)

(32) Conditional MOOD:

- a. *Quido*

would

arrive...
- b. *Quido*

would

have arrived...

(33) **Conditional clauses**

- a. *Helen **will** come tomorrow, if you ask her within an hour.*
- b. *Helen **would** come tomorrow, if you ask(ed) her within an hour.*
- c. *Helen **would have** stayed here, if you asked her politely.*

A realis main clause is in the indicative Mood; an irrealis main clause uses the conditional Mood. Like many languages, e.g. Romance, English conditionals with *would* use a combination of the future (*will*) and the past.

13.6 Voice: Actives and Passives

The category of voice is related to the distribution of semantic roles among verbal Arguments (sentence members). Verbs can take active or passive morphology, which realize the **feature ±Voice**.

English voice is an optional feature of the V.

- (34) a. Active *Zara took/ introduced Oscar to Helen.*
 b. Passive *Oscar was taken/ introduced to Helen by Zara.*

Passive morphology consists of a free Auxiliary *be*, which inflects according to the Tense and Aspect(s). With a somewhat different meaning, the passive Auxiliary can also be *get*. Either Auxiliary is complemented by the *-en* participle.

- (35) Passive morphology: *BE / GET* V + *-en*

- a. *The book is / was / will be writt-EN (by a friend).*
b. *The letter is being/ getting writt-EN (by a friend).*
c. *The message will have been being/ getting writt-EN (by a friend).*

The form and functions of English passivization are discussed in detail in Chapter 20.

13.7 Subject-Verb Agreement

Subject-Verb agreement is a morphological realization of the nominal features of a clause's Subject on the finite Predicate. On the Verb, they are typical configurational features; they spell out intrinsic features of the Subject NP, not any features of the lexical Verb activity.

The agreement in Czech encodes the nominal phi features of Person, Number, and sometimes also Gender (with participles). Although for Czech speakers the agreement represents the main signal of finiteness, notice that in English this is not so. Verbal morphology reflecting the characteristics of a Subject NP in English is impoverished.⁶⁴

The agreement morpheme *-s* in English is bound to the leftmost word of the Predicate, unless it is a Modal (see Table in (26)). This part of Predicate is closest to the Subject, usually right after it. It can, however, appear in front of the Subject, too, in interrogative structures with an inverted Auxiliary.

- (36) a. *He/ She/ It call-s rather often.*
 b. *He/ She/ It do-es indeed call (*s) rather often.*

⁶⁴ For details and references related to subject Predicate agreement in English compared with Czech and the null subject phenomena (pro-drop), see Sections 22.2.2 and 22.2.3.

- c. *Do-es he/ she/ it call(*s) so often?*
- c. *I-s it raining here every day?*

The English verbal agreement –s is a purely formal configurational feature. It appears to fuse the three phi features of Person: [3rd], Number: [singular], and Tense: [present]. However, notice that all these features are unmarked. Both in English and in many other languages (see Benveniste 1960), they are usually realized as a zero (unmarked form). The agglutinating vs. fusional characteristics of –s_{3SP?} can therefore be only hypothetical.

- (37) a. 3rd Person: *they call(*s)*
- b. Singular Number: *I read(*s)*
- c. Present Tense: *I go(*s) vs. he wa-s vs. he kept(*s)*

With more complex Subjects, English agreement sometimes allows different options, not always semantically accurate, leading linguists to speak about semantic (‘ad sensum’) vs. formal (‘ad forma’) agreement. The following examples illustrate some of the problems.

- (38) a. *His only success was his short stories.*
- b. *His short stories were his only success.*
- c. *What we need most is/are sufficient funds.*
- d. *Two years is/*are a long time to wait.*
- e. *Bread and olive oil is/*are a nice breakfast.*
- f. *A large number of students are/*is granted scholarships.*
- g. *Every year, a group of excellent students is/are granted scholarships.*
- h. *Either he or you are/*is mistaken.*
- i. *Either you or he is/*are mistaken.*
- j. *For a birthday, flowers or a book is/*are a good present.*
- k. *For a birthday, a book or flowers *is/are good presents.*
- l. *The police is/are looking for the criminal.*

These phenomena are shared by many languages – the variety of agreements usually appear with coordinated Subjects, Subjects containing a Quantifier, a complex NP with several heads, and are often restricted to Copula Predicates. For Czech, these structures are discussed in detail in Veselovská (2018).

13.8 The Morphological Template of a Predicate

We can now see that the English verbal paradigm consists of several free Auxiliary verbal parts and a lexical stem. The Auxiliaries combine with a bound morpheme on the following lexical item. The maximal number of elements is five.

The 5-slot morphological Predicate template demonstrated in (39) is adopted from Quirk et al. (2004). It schematically captures the order of inflectional morphemes in English complex verbal forms.

(39) **The 5-slot morphological Predicate model**

Zara may have been being introduced to the teacher already.

Modal	Perfect Auxiliary	Progressive Auxiliary	Passive Auxiliary	Lexical Verb
<i>MAY</i>	<i>HAVE → +EN</i>	<i>BE → +ING</i>	<i>BE → +ED</i>	<i>introduce</i>

The order of morphemes and the distribution of the bound morphemes is predictable and fixed, and any departure from it results in ungrammaticality. In a clause, the complex verbal form behaves as a unit. The systematic exception to this is the position of the first Auxiliary in question formation and negation. Apart from this, the only elements that intervene between the parts of the template are short Adverbs: *never, still, only, rarely, carefully*, etc. We will discuss this concept of English Predicate in Chapter 15.

14 SYNTAX OF VERBS: THE VERB PHRASE

The formal taxonomy or classifications inside the category of Verb is based on two main parameters:

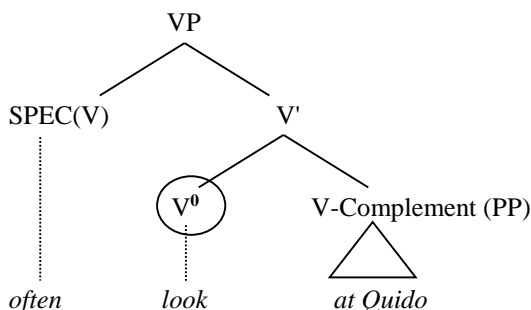
- the internal form of a Verb Phrase (a VP): How a Verb's selection of its sister constituents (**c-selection** or **subcategorization**) is related to its combining with Arguments in a semantic event structure (**s-selection**).
- the external distribution and sentence function of the **Verb's phrasal projection**: whether V is lexical or non-lexical. Non-lexical Verbs are crucially related to a clause's "operator position."

The preceding chapter introduced the concept of semantic event structure. In this chapter, I will examine its formal realization in terms of the selected Complements and adverbials of given Verbs. For more detail in a traditional framework, see Greenbaum and Quirk (199: 335-362). The classification of Verbs with respect to their own sentence function and distribution will be discussed in Chapter 15.

14.1 Verb Phrase Internal Structure

A linear description of the English Verb phrase shows that it does not have many premodifiers; these are usually short one-word Adverbs. The following simplified structure demonstrates that to form a VP (Verb phrase), a head Verb such as *look* combines on the right with a PP Complement *at Quido*. Notice that a Subject is not a part of a VP but is rather an "external Argument" of a VP.

- (1) Phrasal projection VP of the category V:



14.2 Complement Selection (= Subcategorization)

The range of possible Complements of individual Verbs includes DPs/NPs, PPs, APs, semi-clause VPs and full finite clauses. The number of obligatory selected Complement phrases related to the verbal head ranges from 0 to 2. Apart from these, in a given

clause, we can often find more constituents on the right hand side of the VP, in particular, optional adverbial phrases or clauses. These adverbials express complementary conditions on the action, such as manner, place, and time.

(2) Some **obligatory verbal Complements**. See the valency in (3) on page 157.

- | | |
|--|---|
| a. <i>The neighbour will find <u>the girl</u>.</i> | e. <i>I handed <u>the book to Benjamin</u>.</i> |
| b. <i>Our neighbour can swim.</i> | f. <i>I handed <u>Benjamin the book</u>.</i> |
| c. <i>Let's glance <u>into the cinema</u>.</i> | g. <i>They got/ seemed <u>so tired</u>.</i> |
| d. <i>Who would call <u>him a hero</u>?</i> | h. <i>Bush was declared <u>President</u>.</i> |

(3) Some optional modifications of the Verb, both Complements and Adverbs.

- a. *He often reads books aloud in the kitchen.*
 b. *Last year Henry visited his grandparents twice in Prague and once in Berlin.*
 c. *To invite Mary to the cinema was not a good idea.*
 d. *For Piers to introduce his sister to his friend was painful.*

When the combination of a Verb and its Complement (i) is **obligatory**, (ii) **idiomatic** or (iii) involves assigning a **semantic role** to the Complement, we say that the Verb **lexically selects** (= subcategorizes for) the Complement phrases. These phrases can be NPs, PPs, APs, VPs and clauses.

Such c-selection or subcategorization is thus the specification of the obligatory complementation of the Verb. It specifies the Number and usually some featural characteristics of its Complements, which are the main characteristics used for the formal classification of Verbs.

In Section 13.1.2, I demonstrated semantic selection (s-selection), which defines verbal complementation in terms of semantic roles. Formal c-selection (subcategorization) is stated in terms of the category selected by the head, which in this study is usually a Verb. It is usually written using square brackets.

- (4) a. V, [__NP] transitive Verbs requiring complementation by NP
 b. V, [__] intransitive Verbs with no complementation

The next example shows the argument for transitivity, a specific type of c-selection.

- (5) a. **We will soon find.* → this Verb is transitive.
 b. *You will find a book.* → this Verb selects an NP.
 c. **I found into the hall/ *very slow.* → this Verb cannot select a PP or AP.

The data above suggest that the classification of the Verb *find* in (6) is as follows. We provide both (a) its **s-selection** stating a semantic structure as a list of semantic roles, and (b) its **c-selection**, a list of obligatory right hand Complements.

- (6) s-selection and c-selection of the Verb *find*
- a. *find*, V, < Agent, Theme > “*find* is a Verb with a semantic structure including the Roles of Agent and Theme.”
 - b. *find*, V, [__NP] ⁶⁵ “*find* is a Verb that selects an NP.”

According to their subcategorization, i.e. **obligatory c-selection**, I distinguish the following groups of Verbs; see also Section 13.1.2.

- i. **intransitive**: no complementation,
- ii. **(mono)transitive**: one obligatory Complement, of any category,
- iii. **ditransitive**: two obligatory Complements,
- iv. **complex transitive**: two obligatory Complements, the second being a **secondary Predicate** (SP).⁶⁶

The following table provides a simplified list of Verbs divided according to their subcategorization. The complementation of a Verb is best stated in terms of both the **function** and the **category** or part of speech of the phrasal constituents selected, for example Object/NP, adverbial/PP, etc. The **semantic frame** can be used to distinguish the patterns, which are categorially identical. First, some examples of the various classes of Verbs are given below.

- (7)
1. *The tramp **laughed**.*
 2. *Mary **lost** a diary.*
 3. *The tramp **leaned** toward the girl.*
 4. *Bill **started** to read/ reading/ a new life.*
 5. *He **got/ seemed** tired.*
 6. *He **told** the girl an interesting story.*
 7. *He **bought** two drinks for her.*
 8. *Oscar **put** a book on the shelf/ outside.*
 9. *I **called** him a fool.*
 10. *He **saw** Zara run off.*
 11. *This music **makes** her sad/ drive funny.*

⁶⁵ Notice that the top semantic argument (A1: Agent) is not represented in the c-selection scheme. A1 becomes a clausal subject, and its realization is not part of the lexical characteristics of individual Verbs.

⁶⁶ The English term *complement* has three meanings: (i) Generally, outside of linguistics, it means a kind of completion of something. (ii) In traditional linguistics it is a ternary sentence function, either subject Complement or Object Complement (Czech “*doplňěk*,” see Section 12.1.4). In this study we use the term secondary Predicate for this function. (iii) In formal structuralist linguistics, including this study, Complement with a small “c” is an obligatory constituent selected by a head, by an N, A, V or P. In Czech, this term is translated as *komplement* or *strukturní předmět* (structural Object).

(8) Verb classification, based on c-selection

	V functions ⁶⁷	subcategorization	traditional labels (θ Roles)	
1	(S)-V	V, [__]	intransitive Verbs	
2	(S)-V- O _{direct}	V, [__NP]		monotransitives
3	(S)-V-Adv _{Direction}	V, [__PP]	Verbs of movement	
4	(S)-V- SP	V, [__VP/ NP]	temporal Aspect Verbs	
5	(S)-V-SP	V, [__AP]	Copula and linking Verbs	
6	(S)-V-O _{indir.} -O _{dir.}	V, [__(NP) NP]	true ditransitive Verbs <patient, beneficiary>	ditransitives
7	(S)-V-O _{dir.} -O _{indir.}	V, [__NP (PP)]		
8	(S)-V-O _{dir.} -Adv	V, [__NP PP]	<patient, location>	
9	(S)-V-O _{dir.} -SP	V, [__NP NP]	Object + secondary Predicate	complex transitives
10	(S)-V-O _{dir.} -SP	V, [__NP VP]	perception Verbs	
11	(S)-V-O _{dir.} -SP	V, [__NP AP/VP]	causative Verbs	

There are some transitive Verbs, the Objects of which can be missing or understood with special readings: *clean, cook, help, read, write, wash*, etc. *Jane cleans/reads/writes/washes on Sunday morning*. These can be described as optionally selecting Noun Phrases, using parentheses for the frequent but not fully obligatory complementation [__(NP)]. There are also grammatical strategies, which allow omitting of an otherwise obligatory Argument. For instance, the progressive Aspect often suggests a reading with understood Objects: *Today, Robert is entertaining and Eliska is recording*. I will return to the subcategorization of Verbs in Chapter 19, in which a range of clausal functions will be further discussed.

14.2.1 Verbs selecting Verbs: Complex VP projections

Many Verbs can also select, besides NP or PP Complements, other Verbs, that is, VPs. This is typical not only for non-lexical Verbs such as Auxiliaries and Modals but also for many other purely lexical Verbs. A selected VP has the form of an **Infinitive**, bare or with *to*, or an **-ing form**. These **non-finite structures** are often called **semi-clauses**. Some Verbs select a variety of VPs while others tolerate only one specific form. If a

⁶⁷ The description of verbal complementation in terms of its grammatical functions, including S for subjects and O for Objects, is traditionally used in the description of the clausal patterns such as SVO, SOV, etc. See Quirk et al. (2004: 734).

Verb selects several alternatives, we use the **slash symbol** for this kind of disjunction: the lexical entry *love*, V, [_{VP_{ing}}/VP_{inf}] allows both *love taking walks* and *love to take walks*. In the following examples, the Verbs in bold select the underlined Verbs/VPs.

- (9)
- a.

*I **am** reading the book.*
- b.

*We **must** read that book.*
- c.

*I **have** read the book.*
- d.

*She **has/ is to** read another book this week.*
- e.

*She **makes/ has/ lets** us read the same book for her class.*
- f.

*I **saw/ heard** the students exchange insults/exchanging insults.*
- g.

*I reluctantly **started/ finished/ kept/ resumed** reading a huge book.*
- h.

*He **started/ began/ continued/*kept/*resumed/*finished** to tell stories.*
- i.

*She **wanted/ expected** (everyone here) to read a different book.*
- j.

*They **love/ hate/ prefer/ hesitate/ try** to read those best-selling books.*
- k.

*My mother **loved/ hated** anyone to read/ reading best-sellers.*
- l.

*They **love/ hate/ prefer/ avoid** reading those books.*
- m.

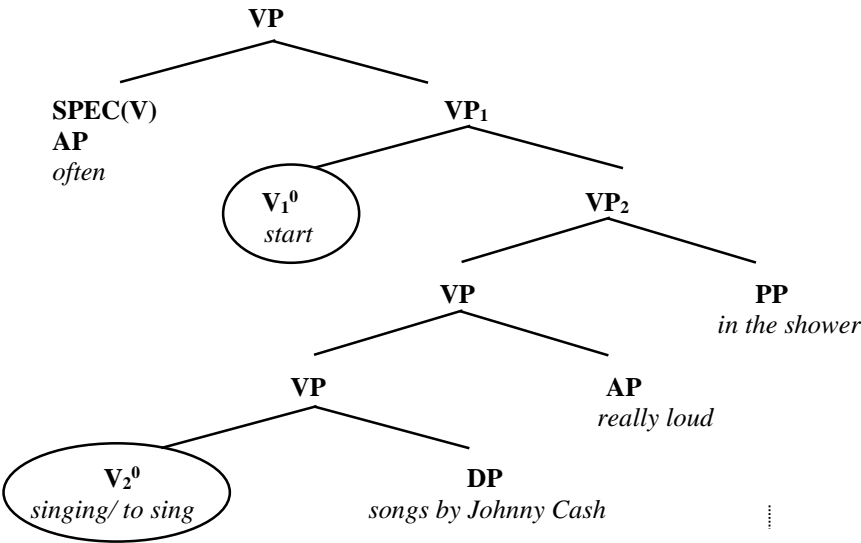
*We **decided/ arranged/ hoped** to read a different book.*
- n.

*We **promised** Anne to read that book soon.*
- o.

*He **convinced/ persuaded/ ordered** Anne to read it instead of me.*
- p.

*He **arranged/ preferred/ waited** for Anne to read it first.*

(10)



Apart from the subcategorized obligatory V-Complements, a complex VP can also contain recursive modification, one or more **optional** adverbial APs or PPs, or even a V-Complement of V. The complex VP projection, however, does not contain a clausal

Subject. This “external” Argument is outside not only the smallest VP projection, but rather outside the entire complex.

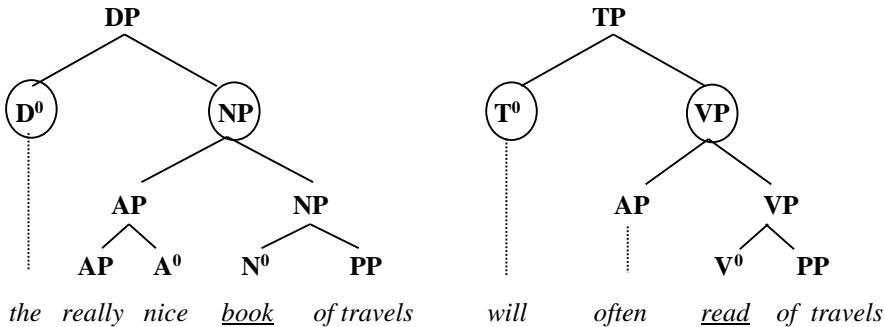
We will see more technical data concerning verbal subcategorization and the structure of VP in Chapter 19 and 20.

14.3 Comparing VP and NP Projections

In Section 6.5.1, I proposed that the projection of heads follows a universal scheme. We used the projection in (29) on page 79 for the lexical categories of N, A, V, and P. The universal characteristics of syntactic phrasal structures is further supported by the similarity of functional, non-lexical projections to those of lexical projections.

Compare the VP projection (29) on page 187 with the schematic NP projections in scheme (10) on page 102 in Section 4.1.2. Notice that both contain a lexical head category V or N and a “functional category” head above the phrases VP and NP. NP we labelled D for Determiner. It is common to label VP for Tense/modality, abbreviated to T. The parallelism is demonstrated below, where we see the relation between specific lexical and functional projections.

(11) **Lexical** heads N and V vs. **functional** heads D and T.



The structures are examples of the so-called **extended projections** of the categories N and V. These contain one lexical head and possibly several functional heads. In analytic languages, the extended projection consists of several individual words, while in a synthetic language, the functional heads tend to be alternatively realized in the form of bound affixes, known as inflections.

- (12) a. Extended nominal projection, based on the **Determiner: D**, [$_\text{NP}$]
Another possible intermediate head is quantification = Q.
- b. Extended verbal projection, based on **Tense/modality: T**, [$_\text{VP}$]
Another possible intermediate head is Aspect.

14.4 Typical Sentence Functions of Verb Phrases

The typical primary sentence function of a finite Verb is the **Predicate function**. The non-finite VPs, however, can appear in many other functions. For example, both Gerunds and Infinitives can take on the typical NP functions of Subject or Object. Consider the sentence functions of each underlined semi-clause in these examples:

- (13) a. *To read so many books to Adam every day must be tiring.*
To read (such books) is to learn (facts about life quickly).
Reading (books every day) is easier than writing (poems every day).
- b. *I like to read/ reading books at night.*
I promised to read the book immediately.
Everyone avoided working in the field by staying at home Sunday.
We talked to Adam about studying harder for the exams.
- c. *This is not a letter to read quickly/ to a child.*
A meal to eat in the office was an errand taking up too much time.
- d. *Saying good bye to Zara, her mother left.*
Peter got rich while working overseas.
In order to write the assignment, Oscar went to the pub.
- e. *I saw Mary reading the newspaper.*
She heard the car leave the garage.
Our car broke down coming back from the match.

These examples demonstrate that non-finite VPs can take on essentially all the clausal functions in (a) of both Subject and Predicate, in (b) of Objects of both V or P, in (c) of Attributes to Nouns, in (d) of Adverbials, and in (e) of Secondary Predicates.

15 LEXICAL VS. NON-LEXICAL VERBS

The classification of Verbs can be based on a variety of criteria. The choice depends on the **motivation** for the classification. In the category of Verbs, we can find classifications based on

- (a) **meaning,**
- (b) the presence or type of **morphology,**
- (c) historical **origin,**
- (d) syntactic **behaviour/distribution in a clause.**

Various authors use different taxonomies or labels, as in (1) and (2) below. Taxonomies are scientifically relevant only if each sub-group has special **formal characteristics** that can be contrasted with others.

(1) An example of classification used in Quirk et al. (2004: 93-172)

- (a) **Auxiliaries** *be, have, do*
- (b) **Central Modals** *can, will, may, shall, must; could, would, might, should*
- (c) **Marginal Modals** *dare, need* (both are negative polarity), *ought to*
- (d) **Modal idioms** *had better, would rather, have got to*
- (e) **Semi-Auxiliaries** *have to, be about to, be going to, be to* (obligation/future)

This classification is quite traditional. However, it utilizes a mixture of criteria; the labels often do *not* reflect empirical properties and are used only because of Latin-based tradition. Above all, each label is defined separately, which is not desirable. Therefore, I am not going to use the above taxonomy in this study.

A taxonomy used in grammar should be based on formal grammatical (morphosyntactic) characteristics. Such a classification is not derivable from or compatible with classifications based only on assumed **meanings**. Table (2) is a more general morphosyntactic classification for English; the right columns indicate its similarities to the taxonomy in Huddleston and Pullum (2002). The following sections will show how the labels on the left in (2) are based on formal criteria of morphology and distribution, i.e. the ways given verbal elements function in a clause in particular structural patterns. This contrasts with Quirk et al. (2004), who combine several taxonomies based on traditional and other more semantic labels.

(2) Taxonomy of verbal elements

morphosyntactic classification			Huddleston and Pullum (2002: 74)		Quirk et al. (2004:136)
lexical	Verb	<i>eat, like, take...</i>	lexical	lexical	full
non-lexical grammatical	Auxiliary	<i>do, be, have</i>	Auxiliary	non-Modal	primary
	Modal	<i>must, can/could, may, will/would, shall, etc.</i>		Modal	Modal Auxiliary

Comparing (1) and (2), we can see that the classification of Verbs can be completely different when distinct criteria are considered. Thus, a verbal element can be labelled as “Modal” when its **meaning** is considered as in (1), but as “lexical” when its **formal properties** are taken into account as in (2). For example, in (3), the Verb *have* may well express a “Modal” meaning, but formally it is a lexical Verb, because it requires *do*-support.

- (3) *Oscar did not **have** to go home, did he?*

Given the distinction between criteria used for classification, linguists should always say which diagnostics they use when they provide some terminological classification. Unfortunately, not all authors justify their taxonomy explicitly.

In the following section, I will compare the three groups of verbal elements with respect to (a) semantics, (b) phonetics, (c) morphology, and (d) syntax. We will see that at every level of the language system, each has some specific characteristics.

15.1 Semantic Specifications of Verbs

There is no semantic distinction between full meanings of lexical Verbs vs. grammatical meanings of non-lexical Verbs that establishes a reasonable basis for their comparison. The logic is in fact quite the contrary; the grammatical meanings are largely determined by and depend on an item being classified as grammatical.

One often-cited semantic diagnostic for the classification of Verbs in traditional grammars is the claimed ability of lexical Verbs to “**stand alone**,” while non-lexical Verbs require a verbal Complement; see Section 14.2.1. This correlation is false. The following examples demonstrate that **non-lexical Verbs**, contrary to lexical Verbs, are obligatorily used in elliptical structures, i.e. they do stand alone. Moreover, every transitive Verb requires a Complement, and many cannot stand alone even when the context makes it perfectly clear which Complement is meant.

- (4) a. *I think Emma **completes** her homeworks.* ***Does** she?*
 Yes, Emma often **completes.* **No, Emma never **completes**.*
- b. *Emma has (not) **found** a job.* ***Has** she (not)?*
 Has she really never found?* **Emma has (not) **found.*

A semantic distinction can be found, however, in the **event structure** of the various verbal elements; see scheme (1) on page 156. While most lexical Verbs have some kind of semantic frame and assign specific semantic roles to their Arguments, non-lexical Verbs do not have their own Arguments. The following example shows that the presence of an Auxiliary does not change the event structure of a Predicate: *Helen* remains the Agent of the Verb *meet*, and *Piers* remains the Patient of the Verb *meet*.

- (5) a. *Helen met Piers in the garden.*
 b. *Helen has met Piers in the garden.*
 c. *Helen will be meeting Piers in the garden.*

(6) a. *Emma found a good job.*
 b. *Emma **has to / ought to / must/ may** look for a new job.*
 WHO/ WHAT makes/ allows her?

There is thus no grammatically adequate taxonomy of Verbs that would divide them only according to their semantic characteristics. Their meaning is often used as a secondary criterion, but even then, it does not furnish clear cut diagnostics if it does not correlate with some overt formal distinction.

In discussing the meaning of verbal elements, we should recall that Modals can express two types of meaning: either obligation or duty, or level of certainty of truth. The former modality is called the **Root** or **deontic** modality, while the latter is the **epistemic** modality. Consider the following examples. There is little formal distinction between the deontic and epistemic modality in the present Tense, although one can compare the influence of Aspect on negation with *may*.

- In past Tense, the distinction becomes overt, and the [+PAST] is marked on the initial verbal part of the Predicate. [Past] feature must be located on the Modal element with deontics, and so a Modal that cannot carry this feature itself (*must, may, should*) has to be replaced by its paraphrase: *to have, to be allowed*, etc.⁶⁸ With the epistemics, the Modal is behaving like an adverbial element, and as such it cannot carry verbal features. Therefore, it is the following infinitival Verb that is a past Infinitive.

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- (8) a. *He **must** be at home.* (present: ambiguous)
 b. *He **had** to/ ***must** be at home yesterday.* (past: deontic modality)
 c. *He must **have been** at home yesterday.* (past: epistemic modality)

Leech (1971) provides a detailed description of the complex variety of pragmatic interpretations of all English Modals in combination with past Infinitives.

15.3 Phonetic Reductions of Auxiliaries and Modals

The process of grammaticalization takes place at all linguistic levels, and in particular, **phonetic reduction** often accompanies **semantic bleaching**. One standard reduction in the English Predicate domain occurs on the top level of the Predicate, around the position of negation. The following examples show that the phonetic reduction of Auxiliaries and Modals has become part of Modern Standard English. In contrast, lexical Verbs do not contract, even those with the same form as non-lexical ones, e.g. *do* contracts only when it is an Auxiliary.⁶⁹

(9) **Auxiliaries**

- a. *he is reading* > *he's reading* > *he isn't reading*
 b. *I have/ had gone* > *I've/ I'd gone* > *I haven't/ hadn't gone*

(10) **Modals**

- a. *I can/ will eat* > **I'n/ I'll eat* > *I can't/ I won't eat*
 b. *he must eat* > **he'st eat* > *he mustn't eat*

(11) **Lexical Verbs**

- a. *I will him my money* > **I'll him my money* > **I won't him my money.*
 b. *I have/ had to go* > **I've/ I'd to go* > **I haven't/ *hadn't to go*

These examples show a growing level of standard phonetic reduction, which appears in (a) declarative sentences between the Subject and the first verbal element, and (b) in negative contexts with the bound form of the particle *not* = *-n't*. The Auxiliaries *have* and *be* exhibit reduction in both cases; the Modals have only some reductions, and lexical Verbs do not reduce or contract at all in standard speech.

15.4 Morphological Properties of Auxiliaries and Modals

Contrary to the English Noun, the English Verb retains several inflectional morphemes, which express Tense, Aspects and voice. These were introduced in Sections 13.2-13.7. The following examples demonstrate that Auxiliaries (*be*, *have*, *do*) are able to carry all verbal inflectional morphology. Many forms of the Copula, as generally holds for Indo-

⁶⁹ The only exception is the Verb *be* - see Section 16.2.

European languages including Czech, are **suppletive**: their forms are often irregular substitutions for the basic form *be*. Nonetheless, all Auxiliaries have a full verbal paradigm including Infinitives. In other words, with respect to morphology, Auxiliaries are like lexical Verbs lacking passive forms.

(12) **The full paradigms of Auxiliaries**

- a. *He is / was / will be* reading the news.
- b. *He has / had / will have* written the notice.
- c. *I want to be* reading more.
- d. (While) **Being** examined, Elisabeth broke into tears.
- e. *The doctor seems to have* examined her carelessly.
- f. **Having been** examined, Elisabeth left.

As for the Modals, these are morphologically quite deficient; the following examples illustrate their lack of any verbal morphology, with the exception of the partial past Tenses *could* and *would*. (Recall that the paraphrases *be able* and *be allowed* are not part of the Modal paradigms.) The lack of morphology makes Modals a clearly delineated group radically distinct from other Verbs.⁷⁰

(13) **Infinitives**

- a. *William is **can-ing/ must-ing/ will-ing** visit his parents.
- b. *William has **can-ed/ must-ed / will-ed** visit his parents.
- c. They want ***to can/ *to may/ *to shall** visit my parents.

(14) **Tense**: limited to deontic *will* and *can* , i.e. past conditionals

- a. *After reaching Rome, Constantine can/ could* march eastward.
- b. **After reaching Rome, Constantine musted / shoulded* march eastward.

(15) **Aspect**

- a. *Constantine **is canning/ shoulding** march again.
- b. *Constantine **has canned/ oughted to** march again.

(16) **Voice**; neither Auxiliaries nor Modals can be passivized.

- a. *The clothes were/ got (*canned/*shoulded) put away by the children.*
- b. *A new apartment was found/ *had) by the neighbour.*
- c. **A resident of Prague was been by my uncle.*

⁷⁰ Morphological deficiency is a specific characteristic of English Modals. Neither Czech nor German Modals show any deficiency, and with respect to morphology their Modals can better be ranked among standard lexical Verbs. The discussion in this section is following the analyses presented already in Lightfoot (1979) and more recently in Machová (2015).

(17) **Subject-Verb Agreement**; exhibiting secondary nominal features

- a. *William *cons/ wills* read more than you.
- b. *William *musts/ oughts to* read more than all of them.

To conclude: with respect to morphology, the Auxiliaries group together with lexical Verbs, because both have **full verbal paradigms**, including infinitival forms. But, central Modals (*must, can/ could, will/ would, may/ might, shall/should*) and Quirk's marginal Modals (*dare, need* and *ought to* when used as Modals) are unique verbal elements of traditional grammar that lack verbal morphology.

15.5 Syntax of Lexical and Non-lexical Verbs

Consider the order of the Subject and the Verbs (in bold) in the following sentences. If Predicates are assumed to be single constituents based on Verbs, there is no distinction in the ordering in the examples below in spite of the fact that they give rise to highly distinct clausal patterns.

- | | | |
|---------|--|---|
| (18) a. | <i>Marcel</i> does eat well. | <i>Marcel</i> has eaten well. |
| | <i>Marcel</i> designs dresses well. | <i>Marcel</i> has a good time. |
| b. | Does <i>Marcel</i> eat well? | Has <i>Marcel</i> eaten well? |
| | * Designs <i>Marcel</i> dresses well? | * Has <i>Marcel</i> a good time? |
| c. | <i>Marcel</i> does not eat well. | <i>Marcel</i> has not do eat well. |
| | * <i>Marcel</i> designs not dresses well. | * <i>Marcel</i> has not a good time. |

Simply referring only to the 'finite Verb' is not enough to correctly describe the word orders of the main clausal structures in English. The Predicate in Modern English is **analytic**. We must divide it into (sometimes several) independent elements, which make up complex verbal Predicates. How many and which elements we define as separate entities depends on the purpose of our division. In the following subsections, I will examine the main clausal structures of English.

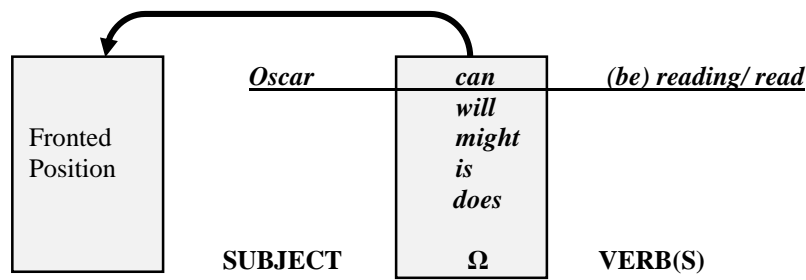
15.5.1 Question formation

In English, a question is formed by placing a verbal element in front of the Subject. With respect to this phenomenon, English Verbs can participate in the fronting process in two ways: they either can be fronted, or they cannot. The distinction is clear cut and is illustrated below in (19). Notice that only one single verbal element is fronted; in (a) it is the Modal *can*. In (b), we see that the Auxiliary *be* is fronted when initial, and (c) demonstrates that a lexical Verb is never fronted in Modern English.

- | | | | |
|---------|-------------------------------------|---|-------------------------------------|
| (19) a. | <i>Oscar</i> <i>can</i> be reading. | → | <i>Can</i> <i>Oscar</i> be reading? |
| b. | <i>Oscar</i> <i>is</i> reading. | → | <i>Is</i> <i>Oscar</i> reading? |
| c. | <i>Oscar</i> <i>reads</i> . | → | * <i>Reads</i> <i>Oscar</i> ? |
| d. | <i>Oscar</i> <i>does</i> read. | → | <i>Does</i> <i>Oscar</i> read? |

The (d) example in (19) reveals the **hidden structure** of an English clause lacking a visible Aux/Mod, which suggests the following scheme. Notice the importance of the first phonetically present Mod/Aux, which is a **separate word** from the lexical Verb. This first element, and not the lexical Verb, is placed in front of the Subject. I will call this position the **Ω position**.

(20) **Question “Inversion:”** the first Aux/Mod moves in front of the SUBJECT.



To keep the rule for question formation systematic, linguists stipulate the existence of a covert Auxiliary *do*, which remains phonetically zero when [AFFIRMATIVE], [DECLARATIVE] and [NON-EMPHATIC].

15.5.2 Negation

English clausal negation is regularly created using the negative particle *not* or its contracted form *n't*. What is the exact position of *n't*?⁷¹

- (21) a. *Oscar can be reading.* → *Oscar can't be reading.*
 → **Oscar can ben't reading.*
 b. *Oscar is reading.* → *Oscar isn't reading.*
 c. *Oscar reads.* → **Oscar readsn't.*
 → *Oscar doesn't read.*

We can see that the negative particle *n't* appears in front of some Verbs but after others. Assuming the structure proposed in (20), we can say that the negative particle immediately follows the **Ω position**, namely the first Mod/Aux. In (22), I propose that in the absence of an overt Mod/Aux, the covert Aux *do*, which always occupies the Ω position, becomes lexicalized.

The formation of English clausal negation can be generally described as putting the **NEG morpheme *n't* after the Ω position**. Note that this rule about clausal negation confirms my previous analysis of question formation, namely:

⁷¹ The distribution of a negative particle *not* is not restricted to clausal Negation. As observed in Chapter 24, *not* can serve as phrasal Negation too, including Negation of VP: *Susan can't not visit her son*. Therefore the contracted form *n't* is a better diagnostic of clausal Negation.

- (a) the Predicate is divided into two parts, the first of which we label the Ω position,
- (b) the existence of a covert Auxiliary *do*, which occupies the Ω position in a context of [AFFIRMATIVE], [DECLARATIVE] and [NONEMPHATIC].

(22) **Clausal negation:** the negative Particle immediately follows the Ω position.

<i>Oscar</i>	<i>can</i>	<i>not/ -n't</i>	<i>(be) reading/ read</i>
	<i>will</i> <i>might</i> <i>is (-ing)</i> <i>does</i>	<i>never</i> <i>just</i> <i>still</i>	.
SUBJECT	Ω	NEG	VERB(S)

The analysis in terms of the above generalizations is further supported by the existence of several English structures that can be unified as different contexts for VP ellipses. These are demonstrated in the following subsection.

15.5.3 Codas and truncated clauses

The role of the Ω or ‘operator’ position (the first Mod/Aux) is again crucial in several short clausal structures, which are used to represent more complex, redundant clauses in a discourse. They are:

- (a) Tag questions,
- (b) Short answers,
- (c) Questions of surprise.

All three of these structures are based on the existence of a more complex clause in the preceding discourse, for which they are abbreviations. They repeat some parts of it, using a **pronominalized Subject** and **the position Ω** (the first overt Modal/Auxiliary including the lexicalized Auxiliary *do*). A lexical Verb is never used in any of these structures.

(23)	Tag questions	Short answers	Surprise
a.	<i>Ethel can see us, can't she?</i>	<i>Yes, she can.</i>	<i>Can she?</i>
b.	<i>Ethel has been reading, hasn't she?</i>	<i>Yes, she has.</i>	<i>Has she?</i>
c.	<i>*Ethel reads them, reads she not?</i>	<i>*Yes, she reads.</i>	<i>*Reads she?</i>
d.	<i>Ethel read them, doesn't she?</i>	<i>Yes, she does.</i>	<i>Does she?</i>

15.5.4 N.I.C.E. properties

The previously illustrated diagnostics for verbal classification are used in Huddleston and Pullum (2002). These authors label the relevant properties as **N.I.C.E. properties**. The term is an acronym from Denison (1993) for the main diagnostics for the position of operator which is in the trees here labelled as Ω or T). In fact, there are six such properties, so the abbreviation should perhaps be N.I.C.C.E.E.

(24)

- a. **Negation** → Ω can be directly followed by *not* or *n't*; a lexical V cannot.
- b. **Inversion** → Ω “inverts,” i.e. it moves before the Subject in questions and certain negative sentences. Lexical Verbs never do this.
- c. **Coda** → Ω is used in short reactive structures: question tags, short answers; questions of surprise. A lexical V is not.
- d. **Contraction** → Certain Ω contract onto the Subject, lexical Vs never do.
- e. **Emphasis** → Overt Ω is used to emphasize the polarity of a clause.
- f. **Ellipsis** → Ω is used in ellipsis or to replace “understood Predicates;” a lexical V is not.

The N.I.C.E. properties distinguish the lexical Verbs from the non-lexical ones; these are the diagnostics that allow us to state whether a verbal element is in the position of a lexical Verb or in the position of the Ω operator. The division between the position of V and Ω is thus relevant for much more than theoretical contemplation. English cannot be spoken/ written correctly if this division is not respected, consciously or unconsciously. It represents a core concept in English syntax.

15.5.5 Phonetically empty Ω , the Auxiliary DO and DO-support

In English, to provide an empirically supported and theoretically systematic general description of several syntactic processes, the Predicate needs to be divided into two parts: (a) an initial constituent of ‘Mod/Aux’, which among other properties is fronted in questions, and (b) a second constituent for the rest of the Predicate, including combinations like a non-initial Aux and V_{LEX} , which is essentially never fronted.

I have provisionally called the first position the ‘ **Ω position**’⁷² and I assume it is occupied by an empty Auxiliary in those structures where only a lexical Predicate is overt: *Oscar \emptyset (=does) reads*; *I \emptyset (=do) know*; etc.

⁷² Quirk et al. (2004) use the name “operator” position. There are, however, other kinds of operators, and therefore I am not using this term here. The label used in structuralist or generative syntax is changing with the development of the frameworks. This so called verbal functional head was called INFL, then I, AGR^S , Mod and now T (Tense) is used most frequently. Each label is related to some theoretical assumptions, for example T should be the position of Tense features. Given that I do not want to make any claims about its feature content, I prefer the neutral label Ω .

Earlier sections discussing the N.I.C.E. properties proposed the existence of a **covert *do*** in English. I assume that it is a part of the paradigm of the Auxiliary *do*. This phonetically zero allomorph has three unmarked features of [AFFIRMATIVE], [DECLARATIVE] and [NON-EMPHATIC]. The following examples demonstrate that if any of these features becomes marked, the Auxiliary *do* is overt.

- (25) a. *He Ø reads.* [AFFIRMATIVE], [DECLARATIVE], [NON-EMPHATIC]
 b. *He **does** not read.* [NEGATIVE], i.e. not [AFFIRMATIVE]
 c. ***Does** he read?* [INTERROGATIVE], i.e. not [DECLARATIVE]
 d. *He **does** read.* [EMPHATIC], i.e. not [NONEMPHATIC]

Establishing the existence of an empty allomorph is by now almost commonplace in grammar. They must, however, always be justified. Their main justification is their usefulness in stating and preserving generalized statements. In this section, the empty variant of the Auxiliary *do* allows us to have a single general rule for question formation instead of several separate rules, one for each group of Verbs. Moreover, we will see in the following sections that an empty counterpart of *do* will enable us to be equally parsimonious in describing other grammatical processes. Therefore, the existence of the empty allomorph of *do* renders the description of English grammar processes more simple, general and systematic. This conceptual usefulness justifies the existence of an empty variant of the Auxiliary *do*.

The use of the lexicalized Auxiliary *do* in the Ω position is called “*do*-support, *do*-periphrasis, or *do*-insertion,” and the Auxiliary itself is labelled as “supportive *do*, dummy *do*, empty *do*, or the operator *do*.”

15.6 Morphological vs. Syntactic Model of English Predicates

Every analysis of the English Predicate assumes that it is analytic, and consists of several independent words. In (26) on p. 163, we saw the schematic template of the English verbal paradigm. Its simplified version is repeated below. Notice that the template consists of up to five words, the ordering of which is basically fixed.

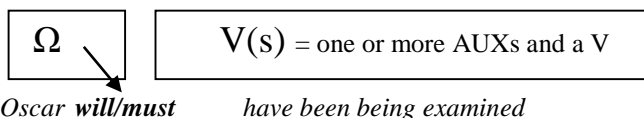
- (26) The 5-slot morphological verbal paradigm

Modal	Perfect	Progressive	Passive	Lexical
-------	---------	-------------	---------	---------

This morphological template is a transparent way to illustrate the ordering of verbal inflectional morphemes in English. It is not, however, of much use for the description of syntactic processes like those demonstrated in the preceding sections: question formation, negation, etc.

For syntactic analysis, i.e. when discussing the word order of English clauses and the variety of functions taken by individual verbal elements, the scheme (27) of the Predicate is sufficient as well as more elegant.

(27) The 2-slot syntactic Predicate model



As proposed in (20) and (22), the first slot is the ‘operator’ Ω , the first Modal MOD/AUX, and the other slots are any following Aux and Vs. The position of negation (the morpheme *-n’t*) provides a clear border between the two positions.

The syntactic behaviour of distinct verbal elements, i.e. their function in clausal patterns, is the basis of their formal classification. The following proposed taxonomy (classification) is based on the way a given verbal element participates in the structure of a particular clausal pattern.

- (28)
- | | | |
|----|--------------------|--|
| a. | Modals (Mod): | Modals <u>always</u> appear in the Ω position |
| b. | Auxiliaries (Aux): | These appear either in Ω or in a following V. |
| c. | Lexical Verbs (V): | These <u>never</u> appear in the Ω position. |

In our concept of verbal projection, lexical vs. non-lexical Verbs are distinguished by reference to the Ω position. Although the terminology may sometimes suggest it, the correlation with some kind of meaning is not relevant.

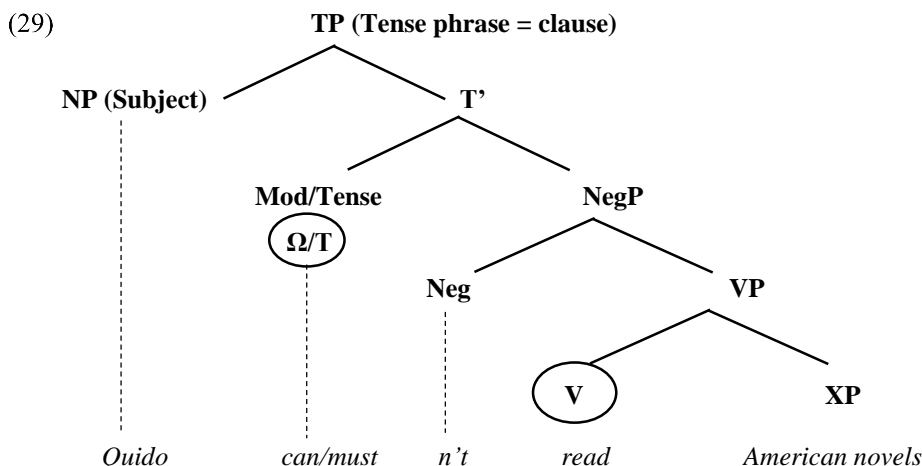
15.6.1 Functional classification

Using a structure for VP similar to those in Section 14.3, we first have to allow more head positions for the verbal elements. Recall that the clausal negation morpheme *-n’t* represents a border between the Ω position and the rest of the Predicate. This suggests we first have to add a special head Neg above VP, which hosts the morpheme *not/’t* used for clausal negation. The structure is illustrated below.⁷³

Above NegP we locate the head Ω , the position of the English Modals and first Auxiliaries. In formal grammar studies it is often called INFL, I or T (Tense). This scheme allows us to classify the English verbal elements as proposed in (28) on page 186. In this classification, I in fact do not classify the words (Verbs) themselves, but instead I refer to the **positions** that verbal elements occupy.

The two positions in the structure are signalled by clearly distinct syntactic behaviour. The categories Ω and V act differently in a number of syntactic operations, those known as the N.I.C.E. properties. The position of negation [Neg] is the fixed point allowing us to situate a verbal element as the one preceding Neg or the one following Neg.

⁷³ The proposed structure is minimal. In more theoretical discussion, the number of functional heads is higher. For the purposes of this study, however, I will use only Neg and $\Omega=T$. A thorough discussion of the structural position of Negation in a clausal tree can be found in Laka (1990). She names her functional head hosting polarity Sigma. For simplicity, I use a descriptive label Neg. See Veselovská (2012), who compares the positions of *n’t* and *never*.



(30) **Syntax of the N.I.C.E. properties** using the labels ‘Ω’ and ‘V’:

- N. - Ω immediately precedes the **negation** (NEG). V must follow NEG.
- I. - Ω can **Invert** with the Subject. English V never inverts with the Subject.
- C. - Ω appears in a **coda**. V never does.
- C. - Ω sometimes **contracts** onto the Subject. V never does.
- E. - Ω immediately precedes the **emphatic** polarity particles *so, too, neither*. V never does.
- E. - Ω remains when **ellipsis** deletes the rest of the Predicate. V never does.

15.6.2 Classification of non-lexical Verbs

The N.I.C.E. criteria divide Verbs into lexical V in the V position and non-lexical Mod/Aux in the Ω position. The criteria, however, do not differentiate Modals from Auxiliaries. This must be done by morphology and other grammatical mechanisms.

The **morphology** of English Verbs, both lexical and Auxiliary, was illustrated in Section 15.4. We could see that lexical Verbs have a relatively rich verbal inflectional morphology: *-s/ -ed/* the Infinitive, etc. Auxiliaries have the same morphology, even though it is often idiosyncratic, but Modals lack any inflection.

- (31)
- | | | | |
|----|-------------------------------|--------------------------------------|-----------------------------------|
| a. | <i>he speak-s</i> | <i>he i-s/ h a-s spok-en</i> | <i>*he can-s/must-s speak</i> |
| b. | <i>I want <u>to</u> speak</i> | <i>I want <u>to</u> be speak-ing</i> | <i>*I want <u>to</u> can read</i> |

As for **position**, both Modals and Auxiliaries can be in the Ω position. For Modals, however, it is the only position available. Because there is only one Ω position, only one Modal is possible in one clause. As for Auxiliaries, they can occupy positions in the V field, because there is more than one V available if **recursive VPs** are used. Auxiliaries move to Ω if the position is not otherwise occupied, i.e. there is no Modal.

In terms of a theory of universal grammar, such movement is plausibly more economical than inserting an empty morpheme *do*: **John does be eating lunch*.

(32) The distinctions between Modals and Auxiliaries can now be summarized:

- a) **morphology:** Modals have neither inflection nor an Infinitive.
Auxiliaries have standard, though idiosyncratic morphology.
- b) **position:** Modals are *always* in Ω .
Auxiliaries are positioned in Ω only when initial in a Predicate.
- c) **uniqueness:** Only one Modal per clause
1-3 Auxiliaries possible: *have been being examined*
Several Vs are possible in one clause.

The following table summarizes the diagnostics that I have discussed in this chapter.

(33) Characteristics of English verbal elements

		<i>semantics</i>	<i>phonetics</i>	<i>morphology</i>	<i>subcate- gorization</i>	<i>N.I.C.E.</i>
lexical	VERBS	semantic roles assigned	no reduction	T, Aspect, voice, Infinitive	Any, including ___VP	a) *+n't b) *inversion c) *coda d) emphatic <i>do</i>
non-lexical	AUXILIARIES <i>be, do, have</i>	no semantic roles	reduction of present Tense <i>be</i> , <i>have</i>	like V, with substitutions	___V _{ing} , ___V _{en} , ___V _{bare-INF}	a) +n't b) inversion c) coda d) *emphatic <i>do</i>
	MODALS <i>can, may, must</i> <i>will, should,....</i>	"secondary" semantic roles	only of <i>will</i> , <i>would</i>	no inflection	V _{bare-INF}	

16 SPECIFICS OF THE ENGLISH AUXILIARY VERBS *DO*, *BE* AND *HAVE*

Every English Auxiliary and Modal is rather **idiosyncratic** (= specific, ‘sui generis,’ with some unpredictable properties).⁷⁴ Part of the idiosyncrasy of the Auxiliaries is the fact that they all have their lexical counterparts. These ‘lexical’ counterparts have special characteristics, too, and are all described in the following sections.

16.1 Two Lexical Entries for the Verb *DO*

There are two varieties of the Verb *do* in English: a lexical Verb *do* and an Auxiliary *do*. Considering the characteristics of Aux/Mod vs. lexical verbal elements discussed in earlier sections, the two kinds of *do* are the least idiosyncratic. In the following examples, in the left column, we can see that a lexical *do* requires *do*-Support as any other lexical V. On the other hand, the right column shows that the Auxiliary *do* conforms to all the N.I.C.E. properties.

(1) Lexical <i>do</i>	Auxiliary <i>do</i>
a. <i>He did his homework.</i>	a.’ <i>He did read that novel.</i>
b. <i>Did he do his homework?</i>	b.’ <i>*Did he do read that novel?</i>
c. <i>*Did he his homework?</i>	c.’ <i>Did he read the novel?</i>
d. <i>He wants to do his work.</i>	d.’ <i>*He wants to do read it.</i>
e. <i>Don’t do it again!</i>	e.’ <i>*Don’t do read it again!</i>
f. <i>*She didn’t her homework yet.</i>	f.’ <i>She didn’t read the novel yet.</i>
g. <i>*Do not your homework here!</i>	g.’ <i>Do not read that novel here!</i>

Therefore, we conclude that there are two kinds of *do*: the **Auxiliary *do*** and a **lexical Verb *do***. The lexical *do* is a prototypical transitive V. In Section 15.5.5, we saw that in an [AFFIRMATIVE], [DECLARATIVE] and [NONEMPHATIC] context, the Auxiliary *do* becomes phonetically zero: *They ∅ read novels*. The existence of this phonetically zero allomorph is the only special characteristic of the Auxiliary *do* paradigm. Otherwise, the two kinds of *do*, the lexical Verb and the Auxiliary, represent **two distinct lexical items**, each of which behaves regularly with respect to its category.

The lexical classifications of the verbal elements *do* are as follows:

- (2) i. *do*, Aux, [_ VP]
 ii. *do*, V, [_ NP]

⁷⁴ The characteristics of individual Auxiliaries are in detail described in standard grammar manuals, e.g. Greenbaum and Quirk (1991: 24-69) and Quirk et al. (2004: 93-240). Comparison with Czech can be found in Dušková (1994: 174-180) and Svoboda and Opělová-Károlyová (1989: 7-50).

16.2 Multi-functional *BE*

The English Verb *be* can take on multiple functions in a clause. Based on its complementation and minimal semantics, it is traditionally analyzed as several different elements. The traditional labels are illustrated below:

(3) Kinds of *be*

- | | | | |
|----|--|-------------------------------|------------------------------------|
| a. | <i>He is reading some novel, isn't he?</i> | <i>be</i> (+ing) | = progressive Aux, |
| b. | <i>It is written in English, isn't it?</i> | <i>be</i> (+en) | = passive Aux, |
| c. | <i>Piers is a good student/ silly, isn't he?</i> | <i>be</i> (+NP/AdjP) | = Copula , |
| d. | <i>Mary is at home, isn't she?</i> | <i>be</i> (+PP/AdvP) | = location , |
| e. | <i>There is a boy in there, isn't there?</i> | <i>there</i> (<i>be</i> +NP) | = existential <i>be</i> , |
| f. | <i>I am to read this article by next week.</i> | <i>be</i> (+to-Infinitive) | = <i>be</i> of obligation . |

In terms of the 5-slot morphological template model – see (39) on page 168 – *be* can occupy three positions: two of Auxs (progressive and passive) and one as a lexical Verb. With respect to the 2-slot Predicate model – see (27) on page 186 – the special properties of the English Verb *be* are illustrated below. The examples show that the Verb *be* itself can occupy, in some abstract sense, the position of a lexical Verb when it is not followed by another bare V. However, unlike any other V, any *be* also appears in the Ω position when this position would otherwise be empty.

(4) Positions of *be*

- | | | |
|----|--|--|
| a. | <i>Is he at home?</i> | |
| b. | <i>*Does he be at home?</i> | <i>be</i> inverts like an Aux/Mod, |
| c. | <i>He is not reading any books.</i> | |
| d. | <i>*He does not be reading any books.</i> | <i>be</i> precedes NEG like an Aux/Mod, |
| e. | <i>We arranged for it to be translated.</i> | |
| f. | <i>I want to be a teacher.</i> | <i>be</i> can be non-finite like lexical Vs, |
| g. | <i>There is/are a man/men here.</i> | <i>be</i> has inflection like an Aux, |
| h. | <i>He can/ will (not) be (*not) at home.</i> | <i>be</i> can appear after Mod/Aux in VP, |
| i. | <i>Don't be silly!</i> | <i>be</i> co-occurs with the Aux <i>do</i> . |

We can see that *be* can occupy both syntactic positions: Ω as an ‘operator’, the first Mod/Aux, and a V position for both Aux and lexical Verbs. This makes the Verb *be* special: it is the only Standard Modern English V that can rise to the Ω position, leaving the V position empty. Notice that in the following example (5)(a), *be* is in V, following the negation, while in (b) it is in Ω , and there is no V at all.

- (5)
- | | |
|----|---|
| a. | <i>Emma cannot be at home/ reading any books/ a teacher, can she?</i> |
| b. | <i>Emma is not at home/ reading any books/ a teacher, is she?</i> |

There seems to be one exception to the dual positioning of *be*: the rather specific deontic use of *be* followed by the *to*-Infinitive, the so-called ‘**Modal *be***’. Its position is limited, plausibly due to its interpretation, to only the Ω position:

- (6) a. *We are to read that article next week.*
 **We may be to read that article next week.*
- b. *I am to report to the office.*
 **I wouldn't want to be to report to the office.*

16.3 Specificity of *HAVE*

Looking at the behaviour of the English Verb *have*, its clausal patterns exhibit a wide range of controversial paradigms. This suggests that there exist more than one lexical entry for this verbal element, too. I will show that this indeed is the case. There is an Auxiliary *have* and several semantically specific lexical Verbs *have*’s. In other words: from the perspective of the 2-slot Predicate model on page 186, *have* can appear in both the Ω and V positions.⁷⁵

16.3.1 Stative *HAVE*

The probably most frequent use of *have* is that of a Possessive Verb selecting a nominal complex. This *have* does not describe activity, but possession. Its external semantic Argument is not an active Agent, a doer of some activity, but a Possessor. Therefore, this Verb is called **stative**, **non-agentive**, or **Possessive *have***.

Let us first consider the examples of the stative Verb *have*. Given that this kind of pattern is especially attested to in diachronically older versions of Modern English, I have labelled this kind of stative *have* ‘archaic’.

- (7) **Archaic stative *have***
- a. *I (should) **have** [_{NP} a good book] here.*
- b. *I want to **have** more good books.*
- c. ***Have** you a good book here?*
- d. *I **haven't** any good book here.*

These examples suggest that the archaic usage of the Possessive, non-agentive Verb *have* is structurally similar to the Verb *be*:

- (a) Like *be*, archaic *have* is not followed by another V.
- (b) Like *be*, archaic *have* is able to move to the Ω position in front of negation.

⁷⁵ The data, argumentation and analysis in this section appear in more detail in the more pedagogically centred study of Veselovská (2012). On a more theoretical level, the argumentation is discussed in Machová (2015).

Although we can find such forms in literature, and native speakers do not take the above paradigm of archaic stative *have* for ungrammatical, the same speakers usually say that they do not use them themselves. This suggests that the archaic forms are at least not preferred today.

There are two other patterns used with the stative Verb *have*. For these two forms, I chose the labels ‘Modern British’ and ‘American English’ because of the respective higher frequency of the forms in British and American-based corpora.

The examples in (8) show the British English pattern. It treats stative Possessive *have* as a regular **non-lexical Auxiliary**, i.e. an element that can appear in the Ω position. The position of the lexical Verb in this pattern is represented by a special morpheme *got*, originally an *-en* participle of the Verb *get*. The following examples show its similarities with the standard perfective *have received*.

(8) Stative Possessive *have* in **Modern British English**

- | | | | |
|----|---|-----|---|
| a. | <i>I (*will) have got new books.</i> | a.’ | <i>I (will) have received new books.</i> |
| b. | <i>Have you got a new book?</i> | b.’ | <i>Have you received new book?</i> |
| c. | <i>*Do you have got good books?</i> | c.’ | <i>*Do you have received good books?</i> |
| d. | <i>I haven’t got any books.</i> | d.’ | <i>I haven’t received any books.</i> |
| e. | <i>*I don’t have got any books.</i> | e.’ | <i>*I don’t have received any books.</i> |
| f. | <i>You’ve got them, haven’t you?</i> | f.’ | <i>You’ve received them, haven’t you?</i> |

The next examples (9) show that, in contrast to the British usage, American English treats stative Possessive *have* as a regular **lexical Verb**, i.e. the lexical item located in the position of V, with Ω occupied by a (possibly covert) Auxiliary *do*. The examples show the similarities of this *do* with the standard lexical Verb *receive*.

(9) Stative Possessive *have* in **Modern American English**

- | | | | |
|----|--|-----|--|
| a. | <i>Do you have new books?</i> | a.’ | <i>Do you receive new books?</i> |
| b. | <i>Yes, I (do) have new books.</i> | b.’ | <i>Yes, I (do) receive new books.</i> |
| c. | <i>No, I don’t have any new ones.</i> | c.’ | <i>No, I don’t receive any new ones.</i> |
| d. | <i>You (do) have some, don’t you?</i> | d.’ | <i>You do receive some, don’t you?</i> |

The two regularization strategies applied to the archaic stative *have* support a claim about the development of the Modern English Predicate. Assuming that languages tend to get rid of irregularities in favour of a single simple system, the two strategies are strong arguments for the standard **analyticity** of the Modern English Predicate, and in the same time for the existence of a separate functional level Ω (= I or T) as in tree (29), page 187.

The classification of stative Possessive *have* is as follows:

- | | | | | |
|------|--|------|--------------------------|---------|
| (10) | Stative Possessive <i>have</i>, | i. | Aux, [_NP] | Archaic |
| | | ii. | Aux, [_ <i>got</i> ^NP] | BrE |
| | | iii. | V, [_ NP] | AmE |

(11) Schematic picture of the position of the stative Possessive Verb *have*

i. Archaic:	<u>HAS</u>	-n't	<u>Ø</u>	
ii. British: <i>Quido</i>	<u>HAS</u>	-n't	<u>got</u>	<i>any toys.</i>
iii. American:	<u>(does)</u>	-n't	<u>HAVE</u>	
SUBJECT	Ω =Mod/Aux	Neg	VERB	OBJECT

Apart from stative Possessive *have*, which synchronically appears in three forms, two of which seem to be productive, English also uses *have* for other purposes. In these other uses, British and American are the same. The following sections show that some of these *have* can be Aux located in Ω, while others are lexical Verbs located in V.

16.3.2 Auxiliary HAVE

The following example demonstrates the use of the Auxiliary *have* that expresses the perfective Aspect. In terms of the 5-slot morphological template, given in (39) on page 168, this Auxiliary *have* occupies the same position as a progressive Auxiliary, and it selects an *-en* participle. The form is ungrammatical with *have* in the V position.

(12) Perfective *have*

- a. *Have you writt-en a letter?*
*Do you have written a letter?
- b. *I haven't writt-en a letter.*
*I don't have written a letter.
- c. *You have writt-en one, haven't you?*
*You have written one, didn't you?
- d. *For Jane to have writt-en a letter would surprise me.*

With respect to the 2-slot Predicate model, in (27) on page 186, the *have* is a typical Auxiliary, and as such it can rise to the Ω position if there is no Modal.

(13)

- a. *She will have writt-en a letter, won't she.*
- b. *She has writt-en a letter, hasn't she.*

The classification of perfective *have* (a typical English Auxiliary) is as follows:

(14) *have*, Aux, [__V-en]

16.3.3 Lexical frames for the Verb HAVE

Apart from the American English stative *have* illustrated in Section 16.3.1, there are other *haves* that show characteristics of a lexical Verb. They are usually labelled according to their complementation and semantics.

16.3.3.1 HAVE of obligation

The first example below involves a *have* of **Obligation**, which is used as a paraphrase of the Modal *must* in contexts where *must* cannot be used because of its deficient morphology. This *have* is always ungrammatical in the Ω position.

(15) Obligation *have*

- | | | |
|----|---|--|
| a. | <i>*Have you to go there?</i> | <i>Do you have to go there?</i> |
| b. | <i>*I haven't to go there now.</i> | <i>I don't have to go there now.</i> |
| c. | <i>*You have to go now, haven't you?</i> | <i>You have to go now, don't you?</i> |
| d. | <i>For Piers to have to go now would surprise me.</i> | <i>I may have to go there immediately.</i> |

For this kind of *have*, I am not using the label “Modal *have*” like many traditional grammar manuals do, because the terminology contradicts the formal behaviour of this Verb. In spite of its interpretation, all the distribution of the *have* of obligation demonstrate that it is a lexical Verb located in V, not a Modal located in Ω . Leaving aside the minimal semantic distinctions, which some speakers feel distinguishes the two forms where both are possible, I take the following examples as synonymic, assuming that the bold verbal items are two separate lexical entries.

- | | | | |
|------|----|---------------------------------------|--|
| (16) | a. | <i>Sam must (*to) help me.</i> | <i>The bus must be almost here.</i> |
| | b. | <i>Sam has *(to) help Joe.</i> | <i>The bus has to be almost here.</i> |

Notice that apart from being in distinct categories, Mod and V, they also c-select distinct Complements: *must* selects a bare Infinitive, like any other Modal, while *have* selects a *to*-Infinitive. The classification of the above synonymous verbal elements is as follows.

- | | | |
|------|----|--|
| (17) | a. | <i>must, Mod, [_V_{bare-Infinitive}]</i> |
| | b. | <i>have, V, [_V_{to-Infinitive}]</i> |

16.3.3.2 Dynamic agentive HAVE

Another frequent use of *have* is the **dynamic agentive have**. This label suggests that, contrary to stative Possessive, non-agentive *have*, this *have* refers to an activity, and its top semantic Argument is Agent, that is, a doer of the action.

- | | | |
|------|----|--|
| (18) | a. | <i>You (can) have a look around.</i> |
| | b. | <i>They (will) be having a good time later.</i> |

- c. ***Have** a walk in the park with her.*
- d. *I (could) **have lunch** with Joe.* (i.e. eat it, not possess it in a box)

The following contrasted examples demonstrate the N.I.C.E. properties of the dynamic *have*. They show that it behaves like regular lexical Verbs.

(19) **Dynamic have**

- | | | |
|----|--|--|
| a. | <i>*Had you a look around?</i> | <i>Did you have a look around?</i> |
| b. | <i>*I haven't a look around often.</i> | <i>I don't have a look around often.</i> |
| c. | <i>*Had they some good times later?</i> | <i>Did they have some good times later?</i> |
| d. | <i>*I haven't good luck lately.</i> | <i>I don't have good luck lately.</i> |
| e. | <i>*Had you lunch with Joe today?</i> | <i>Did you have lunch with Joe today?</i> |
| f. | <i>*I hadn't lunch with Joe.</i> | <i>I didn't have lunch with Joe.</i> |
| g. | <i>*She often has lunch here, hasn't she? She often has lunch here, doesn't she?</i> | |

There are several additional constructions using the Verb *have*, some more and some less productive. The labels provided on the right are used in traditional grammar manuals; see, e.g. Greenbaum and Quirk (1991: 4-46) and Dušková (1994: 65-272). On a point relevant in this study, I can state that all of them have the N.I.C.E. properties of **lexical Verbs**.

(20) Other uses of *have*:

- | | | |
|----|---|---------------------------------|
| a. | <i>Oscar has a shower every day, doesn't he?</i> | Experiencer have |
| b. | <i>Oscar has Zara carry his suitcase, doesn't he?</i> | Causative have |
| c. | <i>Oscar had his car repaired, didn't he?</i> | Causative passive have |
| d. | <i>She had better get a new car, hadn't she?</i> | Idiomatic semi-Auxiliary |

This chapter has provided a formal taxonomy of verbal elements based on formal characteristics: (a) their behaviour and functions in a clause, such as exhibiting the N.I.C.E. properties, and (b) their morphology.

We have also seen several times that the interpretation of a specific lexical entry can but does not have to correlate with its formal characteristics. This is demonstrated again below with three structures expressing obligation. Notice that the minimal (if any) semantic distinction between the bold verbal elements cannot be used to explain their distinct categorial and distributional characteristics.

- | | | |
|---------|------------------------------------|---|
| (21) a. | <i>Helen must go.</i> | <i>must, Mod, [_ V_{bare.inf}]</i> |
| b. | <i>Helen has to go.</i> | <i>have, V, [_ V_{to-inf}]</i> |
| c. | <i>Helen has got to go.</i> | <i>have, Aux, [_ V_{got+to-inf}]</i> |

The analyses proposed in this chapter have argued that the characteristics (category) of a lexical entry are best explained referring to the 2-slot Predicate structure of Modern

English, schematically demonstrated in (27) on page 186, and crucially utilize two available **positions** (Ω =T and V) in the tree structure (29) on page 187.

16.4 Items with Dual Specification as Modals and Lexical Verbs

Some of the non-lexical Verbs have homonymous lexical counterparts; as just seen in the previous subsections, all Auxiliaries do. Such dual characteristics hold for the “marginal” Modals *dare*, *need* and *ought*, which have lexical counterparts with in fact identical interpretation. This is the basis for calling them “marginal.” As Modals, their usage is restricted to non-affirmative (i.e. negative and interrogative) polarity contexts. As lexical Verbs, they can appear without contextual restriction.

The examples below show Modal properties in (a) and lexical properties in (b). Notice that when used as Modals, *need* and *dare* exhibit all diagnostics of Modals: the N.I.C.E characteristics, no morphology and bare Infinitive Complements. When used as lexical Verbs, they require *do*-support, have verbal morphology and are followed by a *to*-Infinitive; only very rarely do the lexical versions take a bare Infinitive.⁷⁶

- (22) a. *She need / dare not (*to) see a doctor.*
b. *She does not need / dare to see one.*
- (23) a. *Needn't she (*to) see a doctor?*
b. *Doesn't she need/ dare to see one?*
- (24) a. *Dare she (not) see a doctor?*
b. *Does she (not) dare to see one?*
- (25) a. **She now needs/ dares see a doctor.*
b. *She now needs/ dares to see one.*

The fact that all the N.I.C.E. and other properties systematically correlate, i.e. there is no Verb which would show some, but not others, proves that the diagnostics are reflecting some unifying cause. I follow a standard assumption here that this reason is their **structural position**. Once these items are located in Ω , they assume all the properties related to the position, including the N.I.C.E properties.

The classification of these English grammatical Verbs is then as follows. In spite of similar interpretations, their distinct characteristics indicate they are in distinct categories, Mod and V, and c-select different Complements; a Modal selects a bare Infinitive, while V selects a *to*-Infinitive.

- (26) i. *dare*, Mod, [$_V$ _{bare-Infinitive}], Negative Polarity
ii. *dare*, V, [$_V$ _{to-Infinitive}]

⁷⁶ Bare Infinitives are not restricted only to Modals, as demonstrated in Table (7) on page 304. A more detailed discussion of the Verb *dare*, including data from the *BNC* and *COCA* corpora, can be found in Veselovská (2011).

17 CLAUSAL CONSTITUENTS

In this chapter, I am going to introduce the concept of a clause as a projection of a Predicate, i.e. a **finite VP**. First, I will review in brief the taxonomy of clausal structures, and then in more detail I will demonstrate the **constituency tests**, which provide diagnostics that argue for the phrasal complexity of a simple clause.⁷⁷

17.1 Models of Predication Clause Structure

As a general, pre-theoretical notion, a **sentence** is a pronounced or written complete idea. For use in grammar, the definition of a sentence must be formalized. The term ‘clause’ is widely used more technically, and it covers a more specific concept. A **clause** is a definable semantic or formal structure.

- (a) A clause as a semantic notion suggests a kind of **predication** relation.
- (b) A clause as a **formal** notion means expressing two main parts of the sentence as a relation between them: a clause consists of a **Subject** and a **Predicate**.

A clause is a maximal unit in a system of grammar for a specific language. Nonetheless, several clauses can combine to make a sentence, which is still considered to form a unit in the domain of grammar. When several sentences combine, it is called a text. A **text** is a unit at the level of discourse analysis. There are no pure grammar rules that apply to texts.

17.1.1 *Relation between Subject and Predicate*

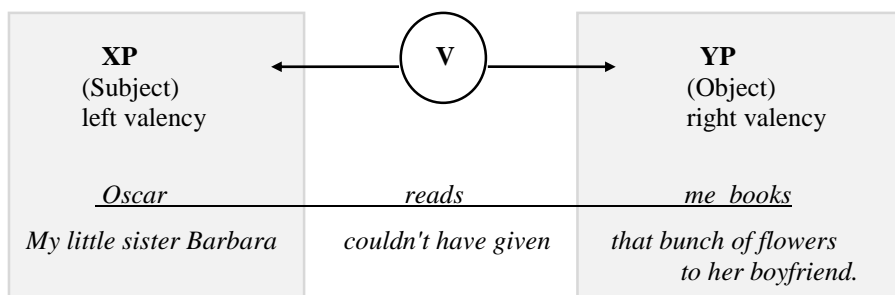
A clause as a **formal structure** represents the relation between the two main parts of the sentence: Subject and Predicate. Exactly how the relation is defined depends on the framework, i.e. the model of grammar used, especially on how it represents the notion of a hierarchy. In all models, however, the clausal structures consists of constituents bigger than a part of speech (categories of words). In other words, Subjects, Predicates or Objects, which represent the building blocks of a clausal structure, are **phrasal constituents**.

The most traditional view perceives the clause as a complex consisting of two equal parts. It assumes that the Subject depends on the Predicate and vice versa. Their relation is not supposed to involve subordination.

Theories proposed in the twentieth century stress the role of the Predicate. Various kinds of **valency** models consider clauses as the **projection of a verbal Predicate**. The following scheme illustrates the valency concept with a Verb as the **main member** of the structure. The other members, including the Subject, are verbal **Arguments** and thus subordinated to the Verb.

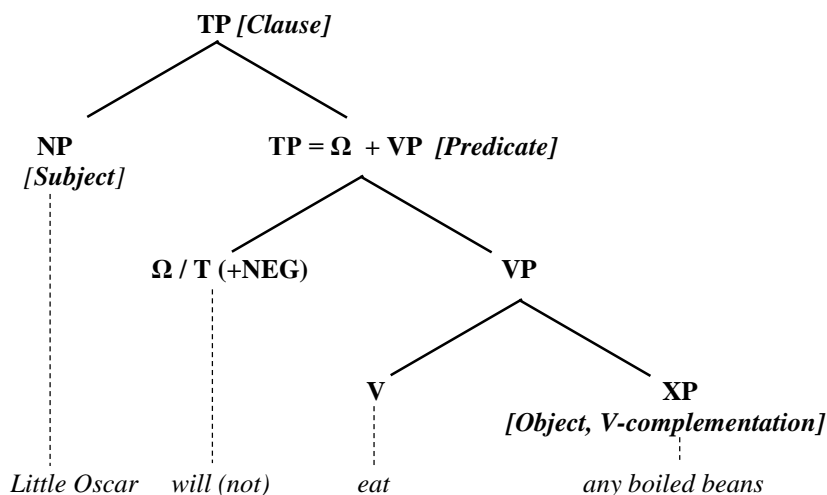
⁷⁷ For relevant introductory texts, see Huddleston and Pullum (2002: 35-243); Quirk et al. (2004: 717-770); Dušková (1994: 401-422); Huddleston and Pullum (2005: 11-28,63-66); and Greenbaum and Quirk (1991: 204-230).

(1) Valency model of a Predicate



While the valency models concentrate on the functions of the other constituents with respect to the verbal event, the scheme below shows an immediate constituent analysis that was introduced by structuralist frameworks in the mid-twentieth century. It represents clausal structure in terms of a hierarchy of related **categorial** constituents. Although it does not explicitly deal with relations, among them, the structure does implicitly contain them. A crucial advance in Chomsky (1965: Ch. 2) proposed that the **functions** are derived from the positions of individual constituents; in the scheme, the functions are in italics in square brackets next to the categorial labels.⁷⁸

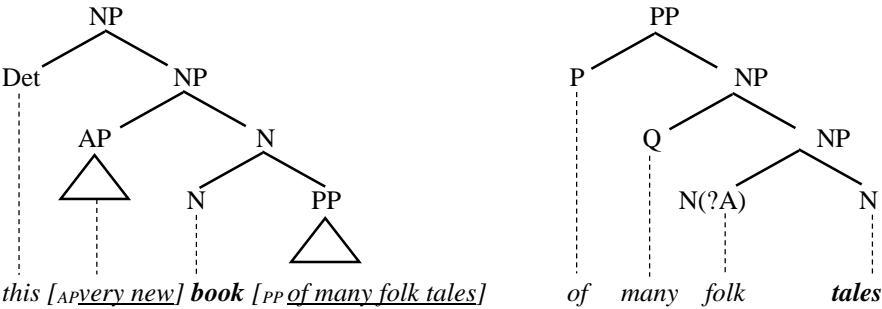
(2) Immediate constituent analysis



⁷⁸ Some schemes and examples in Chapters 17-24 are adopted from the teaching materials used in grammar seminars and published as a part of Veselovská (2017c).

Notice that the immediate constituent analysis captures the fact that the clause consists of more complex units, namely **phrases**, which can be further divided into smaller units. A tree can be therefore expanded down to the level of individual words, or **heads**. The schematic trees for the examples below are equivalent to the bracketing notation and contain the details required for a full analysis. Notice that, apart from its **head**, the phrase can contain phrases that are often minimal or bare but which can become more complex.

- (3) [NP *this very new book* [PP *of* [NP *many folk tales*]]]



For practical purposes of simplicity and space, the structures in the following section may also be represented using linear schemes like the following, which also shows the process of Ω fronting used in English question formation; see Section 15.5.1.

- (4) **Linear notation**, for structure and movement
(an English question formation)

<u>NP</u>	<u>Aux/Mod (NEG)</u>	<u>V + YP</u>
<i>Oscar</i>	<i>does (-n't)</i>	<i>eat beans</i>
	<i>will</i>	
	<i>can</i>	

17.2 Constituency Tests

In the preceding section, we saw that when analysing a clause, we do not assume that it consists of words. Instead, we work with units, which are projections of word categories. To stay general, we say a clause consists of (phrasal) constituents.

- (5) A **constituent** is a word or a sequence of words that behaves as a single unit of a larger hierarchical structure or “tree,” e.g. of a clause or larger phrase.

The constituent structure of a clause is identified using **constituency tests**, which **manipulate** some part of a sentence, a word or sequence of words, such that the result of manipulation is that we can make conclusions about which combinations of words should be represented as units and as which units. The tests are thus empirical but use **formal diagnostics** to identify the constituent structures of sentences. The following sections will show that specific diagnostics allow us to identify different specific units. Notice that not every test is a good diagnostic for every category.

- | | | |
|-----|---------------------------|--|
| (6) | Constituency Tests | <ol style="list-style-type: none"> 1. Topicalization (fronting) 2. Clefting and pseudo-clefting 3. Pro-form substitution (replacement) 4. Ellipsis (fragments, question test) 5. Omission (deletion) 6. Coordination 7. Inflectional morphology |
|-----|---------------------------|--|

17.2.1 Topicalization (fronting) of constituents

Topicalization is a simple reordering or ‘movement’ operation. It involves changing the position of the tested sequence, i.e. moving it to the front of the sentence. It tests for NP, PP and some clauses. Topicalization does not apply for APs and VPs. In the following examples, the fronted constituents are in bold.

- | | |
|------|--|
| (7) | <ol style="list-style-type: none"> a. <i>Mary sends her brother those magazines on his birthday.</i> b. <i>Those magazines</i> <i>Mary sends her brother on his birthday.</i> c. <i>*Her brother those magazines</i> <i>Mary sends on his birthday.</i> d. <i>*Those magazines on his birthday</i> <i>Mary sends her brother.</i> |
| (8) | <ol style="list-style-type: none"> a. <i>The teacher arrived from the station late.</i> b. <i>From the station</i> <i>the teacher arrived late.</i> c. <i>*From the station late</i> <i>the teacher arrived.</i> |
| (9) | <ol style="list-style-type: none"> a. <i>The detective found the suspect in a nearby bar/asleep at home.</i> b. <i>In a nearby bar</i> <i>the detective found the suspect asleep at home.</i> c. <i>*Asleep at home</i> <i>the detective found the suspect in a nearby bar.</i> |
| (10) | <ol style="list-style-type: none"> a. <i>Michael is going to attend another course to improve his English.</i> b. <i>To improve his English,</i> <i>Michael is going to attend another course.</i> c. <i>*Improve his English,</i> <i>Michael is going to attend another course to.</i> |

17.2.2 Clefting and pseudo-clefting of constituents

Clefting involves placing a sequence of words (= the constituent to be tested), in the position X of the structure. ***It is/was... X... that...*** In English, clefting is a test for NP or PP, but not other XPs.

- | | |
|------|--|
| (11) | <ol style="list-style-type: none"> a. <i>She bought a pair of gloves of embroidered silk.</i> |
|------|--|

- b. *It was **a pair of gloves of embroidered silk** that she bought.*
 - c. **It was **a pair of gloves** that she bought of embroidered silk.*
- (12) a. *She grows vegetables just outside (the back door).*
 b. *Just outside (the back door) she grows vegetables.*
 c. ****Outside the back door** she grows vegetables just. (Only part of PP)*
- (13) a. *Jim seemed upset about the exam.*
 b. **It was **upset about the exam** that Jim seemed.*
- (Cleft does not test APs)

Pseudo-clefting or ‘Focus postposing’ involves inserting a tested sequence of words in the place of answers to a question, i.e. into a **Focus position** after the Copula. This pattern tests for *all* types of XP constituents. This postposed Focus is then a Predicate Attribute, as in the following (b) examples. As is often the case in copular sentences, the nominal Predicate that answers the question can be interchanged with a Subject, as in the (c) examples.

- (14) NP: a. *She bought a pair of gloves with silk embroidery.*
 b. *What she bought was **a pair of gloves with silk embroidery**.*
 c. ***A pair of gloves with silk embroidery** is what she bought.*
- (15) AP: a. *David was/ felt upset about the exam.*
 b. *What David was/ How David felt was **upset about the exam**.*
 c. ***Upset about the exam** was what David was / how David felt.*
- (16) VP: a. *My son will fix my car for me.*
 b. *What my son will do for me is **fix my car**.*
 The adverbial PP is outside the small focused VP.
 c. *What my son will do is **fix my car for me**.*
 The adverbial PP is inside the small focused VP.

Both clefting and pseudo-clefting involve a change in interpretation dependent on contrastive stress. The moved constituents become focused and thus stressed.

17.2.3 Pro-form substitution (replacement)

Replacing an assumed constituent with a so-called **Pro-form** is called **substitution**. Different kinds of phrasal constituents have different kinds of Pro-forms. NPs (Noun phrases) are replaced by Pronouns, PPs (prepositional phrases) with short Adverbs, etc. If the substitution gives rise to a grammatical result, the tested sequence is most likely a constituent of the type of its substitute:

- (17) a. *I don't know the man who is sleeping in the car.*
 b. **I don't know **him who is sleeping in the car**.*
 c. *I don't know **him**.*

The following examples illustrate a variety of English Pro-forms. Notice that these simple expressions always represent phrases, not categorial heads.

(18) *The little boy was already running in the city's only park at 8 a.m.*

- | | | |
|----|--|------------|
| a. | <i>[_{NP} He] was already running in the city's only park at 8 a.m.</i> | NP |
| b. | <i>She wonders if the little boy [_{VP} did so].</i> | VP |
| c. | <i>The little boy was running [_{PP} there] at 8 a.m..</i> | PP |
| d. | <i>The little boy was running in [_{NP} our] only park at 8 a.m.</i> | NP |
| e. | <i>The little boy was running in the city's only park [_{PP} then].</i> | PP |
| f. | <i>[_{AP} Such] a boy was running in the city's only park at 8 a.m.</i> | AP |
| g. | <i>And [_{NP} he] is [_{VP} doing so] ([_{PP} there]) ([_{PP} now]).</i> | NP, VP, PP |

The Pro-form for certain clauses, which are TPs, is *so*.

- (19) a. *We all thought [_{TP} **you had left**]. We all thought [_{TP} **so**].*
 b. *John hopes _{TP} **you will win**], and we hope [_{TP} **so**] too.*

17.2.4 Ellipsis (sentence fragments, question answering test)

An ellipsis can test the ability of an assumed constituent to stand alone, e.g. as a short reply to a question. The test is usually used to test the constituency of a VP (Verb phrase). *How* can be used as a test for omitted VPs, PPs, and certain clauses.

- (20) a. *Isn't your project due next week? What will you do tomorrow?*
 b. *Work on my project (until supper).* Tests here for VP.
 c. **Work on, of course. ??May work on it.*
- (21) a. *How do you expect Quido to spend the weekend?*
 b. *At the golf course. Sitting by the TV.* Tests for PP and VP.
 c. **The cinema festival. *His girlfriend for new clothes.*

17.2.5 Omission (deletion) of constituents

Some constituents, especially locative or temporal adverbials PPs, can be omitted without making the clause ungrammatical. Such an omission often signals that the omitted unit is a constituent. The test is not always reliable, since sometimes more than one constituent can be omitted.

- (22) a. *Fred should relax **in the evening** on the new couch.*
 b. *Fred should relax on the new couch / **in the evening**.*
 c. *But Fred rarely relaxes.*
- (23) a. *Mary can **cover 100 metres in 30 seconds**, but Zara can't [_{VP} Ø].*
 b. **Mary can cover 100 metres in 30 seconds, but Zara can't cover.*

- (24) a. *Piers goes **to the doctor** often, but Helen goes [pp Ø] rarely.*
 b. **Piers goes to the doctor often, and so does Helen go to.*

The deletion of parts of sentences that occur earlier in the same discourse is therefore a less reliable diagnostic for constituency than the movements exemplified in topicalization, clefting, and pseudo-clefting.

17.2.6 Coordination of like constituents

The coordination test for constituency and types of constituents is based on the assumption that only similar units can be coordinated, i.e. joined by means of a coordinator such as *and/ or* or (*but*) *not*. This test can be used to argue not only for constituency, but also for determining which category is involved as well. Note that Gerunds pair with NPs, while Infinitives do not. This diagnostic thus demonstrates the distinction between NPs and TPs, even when their meanings are nearly or perhaps entirely identical.

- a. *I love a good coffee / to read. *I love [a good coffee] and [to read].*
 c. *He started out [writing poems] and [playing the violin].*
 d. **He started out [writing poems] and [in the theatre].*
 e. **He started [to play the violin] and [in the theatre].*
 f. *She enjoys [short plays] and [writing poems/ *to write poems].*
 g. *The good smells made me [hungry] and [ready to eat].*
 h. **The good smells made me [hungry] and [start to cook dinner].*
 i. **His father makes him [angry] and [go out drinking].*

17.2.7 Morphology characteristic of types of constituents

In a language with a rich agreement system, a constituent and its type can be signalled by inflection. The test can be used especially for NP or PP constituents.

- (25) *Ta ošklivá liška honila našeho milého králíčka.*
 [NP the ugly [N **fox**]_{FS.NOM} hunted [NP our lovely [N **rabbit**]_{NS.ACC}
 ‘The ugly fox was hunting our lovely little rabbit.’

But even in an inflectionally poor language like English, there are constructions the phrasal natures of which are best established by using morphological tests – e.g. the suffix *-s* for the Possessive shows where the phrasal boundary is in a sequence of N-premodifiers:

- (26) *[That man from New York]’s three bedroom house is too expensive.*
**That man’s from New York three bedroom house is too expensive.*
**That man from New York three bedroom’s house is too expensive.*

Similarly, the proper places for inflections show us that English Nouns consisting of Verb-particle combinations are constituents, while English Verbs consisting of the same sequences are not. This final paradigm shows that the so-called ‘phrasal Verbs’ that are so widespread in English are *not* constituents at all.

- (27) *The [clean up]s after the storm were costly.*
 **The cleans up after the storm were costly.*
 The city cleans up the parks after a storm.
 **The city [clean up]s the parks after a storm.*

18 STRUCTURAL RELATIONS IN SENTENCES

We have seen up to this point that clausal structure can be analysed on several levels. As for its form, we can consider the following: (a) constituent labels, i.e. **parts of speech**, some of which are illustrated in the preceding Chapters 6-16. In this part of the book, I will concentrate on (b) grammatical relations among phrasal constituents, i.e. their **sentence functions**, two of which are described in detail in Chapters 20-23. Although this study does not deal much with interpretation, in Section 13.1, we saw that especially nominal constituents take **semantic roles** with respect to the Verb; and in Section 22.3, I will introduce the further concept of pragmatic **discourse roles** related to **information structure** or **sentence dynamism** (discussed in detail in Section 30.4 and Chapter 31).

With respect to grammatical relations, recall that they should always be defined as **hierarchical**. We define these relations in order to describe the influence of one constituent on another constituent. The resulting influence can concern,

- (1)
 - a. Interpretation: especially **co-reference**, which involves distance, precedence, and hierarchical dominance.
 - b. Formal **grammatical relations**, which include **morpho-syntactic features** of Case, agreement, and other bound affixes.

The next sections of this chapter will focus on diagnostics, which suggest how to formulate the hierarchical architecture of formal relations. In other words, we will see what kind of hierarchy best expresses the relations between pairs of constituents.

18.1 Hierarchy and Co-reference

Co-reference of two nominal expressions was introduced in Chapter 10. We distinguished between an antecedent, the **superordinate** source of a referential index, e.g. *Oscar* in (2), and anaphors, the **subordinated** co-referential elements, e.g. *himself* and *he* in (2).

- (2) *Oscar_i hurt himself_i, and Quido was helping him_{*k/l?}.*

Among anaphors, we distinguished between syntactic anaphors, which grammatically are bound, e.g. *himself* above, and pragmatic anaphors, which look for their antecedent in the larger linguistic and/ or extralinguistic context.

The **binding theory** of Chomsky (1981: Ch. 3) stipulates that, within a minimal structural domain, pragmatic anaphors must remain free. Thus in (2), *him* may be co-referential with *Oscar*, but it cannot be co-referential with *Quido*. In Section 10.2 on page 126, we saw a simplified version of this binding theory, which deals in quite general fashion with permitted co-reference in terms of structural hierarchy.

The following paragraphs demonstrate that the relation between an antecedent and its syntactic anaphors is indeed structural and hierarchical. In other words, within a given **structural domain**, an empirically adequate statement of the relation must be formulated in terms of **hierarchy**. The structural relation involved in co-referential relations is not simply linear nor storable in terms of precedence and word order.

How to decide which structural factor is the relevant one for a given relation? To do this, we must consult the data.

i. Distance: a “closeness” requirement between antecedent and anaphor

- (3) a. *Adam_x will often be introducing himself_x / him_{*x}.*
 b. *Adam_x promised to Mark_y [Ø_x to shave himself_{y/*y}, / him_{*x/*y}].*
 c. *Adam_x asked Mark_y [Ø_y to shave himself_{*x/y}, / him_{x/*y}].*
 d. *Adam_x explained to Mark_y that somebody must shave himself_{*x/*y}.*

Bound anaphors such as those based on *–self* and *each other* must have an antecedent in the same clause. In the Infinitives in these examples, that antecedent is the understood, covert Subject NP marked Ø. On the other hand, ordinary personal Pronouns like *him* must not have an antecedent in the same clause. So we see that the “closeness” of an overt antecedent to a bound anaphor, e.g. in example (c), is in terms of hierarchical, not purely linear, closeness.

These examples show a pattern of grammatical **disjoint reference**, a phenomenon that was never recognized in any version of traditional grammar, even though it is a topic of study in some discourse text analysis.

- (4) a. *The woman_x described herself_x / her_{*x} in a letter to the newspaper.*
 b. *All contestants_x have to describe themselves_x / them_{*x} in a short letter.*

These examples of anaphors demonstrate that an antecedent must be present or absent within a certain **hierarchical domain**; we have to state the distance between the antecedent and a syntactic anaphor in terms of structure. It appears to be the minimal structure in which there is a Predicate, which is usually a simple clause.

ii. Word order or precedence

The next examples demonstrate that the surface phonetic realization of syntactic anaphors can both precede and follow their antecedents. Without reference to structure, linear word order alone is not a determining factor in formulating principles for co-reference.

- (5) a. *Oscar_i did not introduce himself_i.*
 b. *Himself_i Oscar_i did not introduce.*
 c. *Which pictures of himself_{i/*k} did Oscar_i show to Quidok?*
 d. *Near herself_i, Zara_i saw a snake.*

iii. Hierarchy

In analyzing the basic sentence structure as a hierarchical projection, as in scheme (29) on page 187 or in (2) on page 205, we see that an anaphor never has a position hierarchically higher than the antecedent: With syntactic anaphors the antecedent is always higher (c-commanding the anaphor in the local domain). With pronominals, it can be higher or on the same level (then linearity becomes a factor).

- (6) a. *Oscar_x described himself_x.* (S-O)
b. *Mary_x was talking with Ann_y and then described herself_{x/*y}.* (S-O)
c. *Mary described Oscar_x to himself_x.* (direct - indirect)
d. **Mary described himself_x to Oscar_x.* (direct - indirect)

Notice, however, that the hierarchy is stated in terms of a basic structure, which can undergo changes, e.g. Objects can be fronted as in (5)(c) or below. Such changes do not influence the hierarchical relations.

- (7) a. *To himself Oscar decribed himself.*
b. *Which picture of himself did Oscar see?*

Once we can establish the structural relationship between an antecedent and a syntactic bound anaphor, we can use co-reference as a signal of this structural relation. E.g. if two such expressions are co-referential, we can assume that they appear within the same domain and that the antecedent is positioned higher than the anaphor. Thus, in the next examples, we should analyze (8)(a) as one minimal domain, which includes *Piers* and *himself*. We can claim that *Piers* is in a structural position higher than *himself*. On the other hand, in example (8)(b), our analysis must be different because *Piers* is not available as an antecedent to the anaphor *himself*. This is irrespective of the extralinguistic context in which *Piers* is more likely to shave than Mary.

- (8) a. *Piers promised to Mary to shave himself.*
b. **Piers ordered Mary to shave himself.*

The binding theory as defined in this study is a simple and early version, and it has developed substantially since being introduced in 1980. It plausibly will be further modified in the future, becoming more precise. The main principle, however, remains: there is a structural relationship between the antecedent and the anaphor that results in co-reference, and therefore co-reference can be used as diagnostics for the structure.

18.2 Hierarchy and Morphosyntax

18.2.1 Case and adjacency

Morphological Case was discussed in Section 8.3. We saw that the English nominal paradigm is rather poor. With nominal expressions, English has only two forms marked

by morphological Case: Common (*men/ Mary*) and (Germanic/ Anglo-Saxon) Genitive: *men's / Mary's*. By substituting for the NP with a Pronoun, we can get the richer paradigm of English Pronouns.

(9) **English pronominal Case paradigm**

i.	Subject	<i>they / I</i>
ii.	Objects of V and of P	<i>them / me</i>
iii.	Germanic (Anglo-Saxon) Genitive	
	= Possessive	
	(a) pronominal	<i>their / my</i>
	(b) independent	<i>theirs / mine</i>

Recall that morphological Case reflects abstract Case. In turn, abstract Case is a “configurational” feature and is a kind of relation between a superordinate “Case assigner” and the Case-marked nominal. What kind of relation is there between a Case assigner and a Case-marked NP? Consider the following examples, in which % means acceptable in formal style.

- (10) a. *Zara loves Quido/ him/ *he more than ever.*
 b. *Quido/ Him/ *He Zara loves more than ever.*
- (11) a. *I know the man - who/ %whom you met yesterday.*
 b. *I know the man - who/ *whom you were talking to.*
 c. *I know the man - to whom you were talking.*
 d. *I know the man - *to who you were talking.⁷⁹*

In English, for the morphological Case to be realized, the Case assigner and Case-marked personal Pronouns are adjacent. On the other hand, in contrast to these, the Case-marked form of the *wh*-Pronoun *whom* need not be adjacent, but is fully acceptable only when it immediately follows its Case assigner. The same principle explains the following forms of relative *wh*-Pronouns.

- (12) a. *I know the man who/ %whom I think everyone says Mary likes best.*
 b. *Who/*whom do you think Mary wrote to Piers that Oscar was looking for?*
 c. *He must be the artist in order to meet whom Helen flew to London.*

The usually local relation between the Case assigner and Case-marked nominal is a good diagnostic for structural relations in languages that have richer Case paradigms and more free word order. Those languages often also have morphology of agreement, which is considered below.

⁷⁹ Pied-piping is also a formal style, so the combination *to who* is an unacceptable mix.

18.2.2 Agreement

Agreement in Indo-European languages can be found in two main domains.

(13) Two domains of **morphological agreement**

- a. Agreement inside a nominal complex, or “**concord**.” It often involves secondary Predicates and participles.
- b. **Subject-Predicate agreement.**

As for NP internal concord, English has none, apart from the Number feature in the Determiner field and its reflection on the Noun head. Czech concord is rich; the following examples show how such concord, together with overt morphological Case marking, serves as a signal of hierarchical structure.

In (14)(a), we have a sentence that has been changed by two syntactic processes: fronting of a contrastively stressed AdjP *takových* ‘those’ and clitic movement of *jich* ‘of them’. The concord including morphological Case, however, clearly marks the underlying structure, which is illustrated in (b).

(14)

- a. *Takových jich Etel viděla mnoho rozbitých*
those_{FP.GEN} them_{GEN} Ethel_{NOM} saw many broken_{FP.GEN}
‘Ethel saw many of them broken.’
- b. *Etel viděla mnoho takových sklenic rozbitých*
Etel_{NOM} saw many those_{FP.GEN} glasses_{FP.GEN} broken_{FP.GEN}
‘Ethel saw many of those glasses broken.’

In English, agreement is found only when features of the Subject are reflected on the Predicate. This agreement can also be stated in terms of structure. Consider the following examples. In which position can one find the morphology of **Tense** in an English Predicate? Where can one find the **Subject (Number) agreement** morpheme?

- (15) a. Consider the “**kind of Verb**”: Lexical, Auxiliary, Modal.
- b. Consider the **position** and **adjacency** with respect to the Subject.

Looking at the paradigm of the English Verb as in Table (26) on page 163, we can see that verbal inflection invariably appears on the first verbal element following the Subject, with Modals cancelling this morphology. The following examples show that this agreement, too, depends on the basic declarative structure, as proposed in schemes (29) on page 187 and (2) on page 205.

- (16) a. *Quido does/ has/ will indeed put his toy bulldozers to good use.*
- b. *Does / Has/ Will Quido put his toy bulldozers to good use?*

These examples in fact argue in favour of the existence of a zero allomorph of *do* in the English Ω /T position and the complementary process of Ω /T fronting. The claims proposing both these theoretically useful concepts are thus also based on morphological data, and both of them assume a hierarchical structure.⁸⁰

18.3 The Structures of Sentence Members

Clausal structure is a hierarchy built out of **binary relations**. These relations (functions, syntagma) have usually two members, one higher or superordinate and the other dependent or subordinate. The sentence members are therefore **relational terms** (grammatical relations).

As illustrated in scheme (1) on page 69, the sentence functions are the labels for the relations between two positions in a larger structure, i.e. between the constituents located in those positions. Those constituents carry their own individual labels as phrasal projections of specific categories or parts of speech.

- (17)
- a.

Noun/NP: The category is an **inherent** property of the constituent.
- b.

Subject/Object: The sentence function is the constituent **related** to another expression that is its syntagmatic partner.

In example (18), *the little girl* in both (a) and (b) is an NP constituent. In (a) it has the function of **Subject** with respect to the Predicate, and in (b) it is the **Object** of the V.

- (18)
- a.

***[The little girl]** saw a big dog.*
- b.

*The big dog saw **[the little girl]**.*

The following table lists traditional clausal functions. The leftmost column gives the labels for the relations, and the middle column the other superordinate member of the syntagma; notice that the latter is often a **head category**.⁸¹ The rightmost column illustrates a simple example of a relevant constituent in bold. Although the examples provide a small token of a given function, all these functions are phrasal, so they can as well be rather long.

- (19)
- A list of traditional **sentence members**, or **sentence functions**

	function	the other member of the syntagma	example
--	----------	----------------------------------	---------

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The analysis of the English subject-Predicate agreement morpheme *-s* was one of the most theoretically challanging proposals made in Chomsky (1957), and phenomena related to this still remain a central topic for discussion in any formal framework. The analyses may vary substantially, but all of them assume structural hierarchy. See e.g. Veselovská (2018).

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For a salient discussion of sentence functions in a compatible framework, see Aarts (2011: Chapter 3-4, 41-112) or Aarts (2011: Chapters 1-12, 189-235).

a.	Subject	Predicate	<i><u>Little Oscar</u> arrived in time.</i>
b.	Predicate	Subject	<i>Old <u>Bill</u> slept late.</i>
c.	Object Complement of V or P	Verb, Preposition	<i>He <u>saw</u> a big dog. He looked <u>for</u> the little dog.</i>
d.	Adverbial: Adjunct/ disjunct/conjunct	Verb, VP, A	<i>He <u>arrived</u> home soon. <u>very late</u> afternoon</i>
e.	Attribute , any category	Noun	<i><u>another big</u> book of mine</i>
f.	Secondary Predicate Subject/Object Comp.	Verb + Subject NP Verb + Object NP	<i>Oscar <u>looked</u> tired. <u>paint</u> the door green</i>

Because these sentence functions refer to complex constituents, the structure can be analyzed at distinct levels of complexity in the manner suggested below. A complex analysis in terms of categorial projections can be provided in the form of a tree or with brackets. In the tree, the grammatical relations are represented by the branching; in the linear notation, they are not labelled in a formal way and must be hypothesized separately.

- (20) a. *Oscar* [_{VP} *lives* [_{PP} *in* [_{NP} [_{NP} *his father's*] [_N *house*]]]]].
b. *in his father's house*: PP, adverbial of place related to the Verb *lives*
c. *his father's house*: NP, Object of the Preposition *in*
d. *his father's*: NP, Attribute to the Noun *house*

In a subsequent part of this monograph, I will demonstrate in more detail two sentence functions: Objects in Chapters 20/ 20, and Subjects in Chapters 21/ 23.

The discussions of the sentence functions are most often related to a specific category, because their distribution (the structural positions of the function) is one of the relevant diagnostics for the categorial nature of given elements. On the other hand, no sentence function can be fully characterized only by category. Although the correlation between some category and some function can be quite high, e.g. Predicates are indeed prevailingly headed by Verbs, the same positions and functions can usually be fulfilled by other categorial projections, as we will see.

In the following section, I will briefly return to the function of Attribute, showing that, apart from adjectival phrases, there is a wide range of constituents that can be related to a Noun in the same function.

18.4 Attributes

In the most general sense, the following definition of Attribute can be used:

- (21) An **Attribute** is a constituent subordinated to a head Noun, and it forms a part of the **extended nominal projection** of the head Noun.

Even though it is true that the (sub)category Adjectives of the general category A is in some sense closely related to Nouns, not every Adjective takes on the function of Attribute, and not every Attribute is an Adjective. In this section, we will see examples that show that the range of constituents that can appear within an extended projection of a Noun is quite wide.

18.4.1 Scope and interpretation of Attributes

Most generally, Attributes modify a head Noun. There are several more specific terms that refer to the kind of available modifications, which I will mention below. First, I will review the notion of scope applied on Attributes.

I introduced the concept of scope in Section 19.2.2 with respect to the positional definitions of Complements, Adjuncts and disjuncts. I explained that the notion of scope is related to the position or structural level at which elements adjoin to a larger structure: a modifier takes scope over the constituent to which it adjoins. In Chapter 8, I demonstrated this with projections of NP, DP and QP and provided schematic representations of their structures.

The structure in (22), which follows rather well the usual linear order of modifications, reflects the scopes of the modifiers. Consider the scope of the Determiner *the*: it adjoins to and therefore takes scope over the whole NP: [_{NP} *very smart twenty-year-old student of geometry who Oscar loves*].

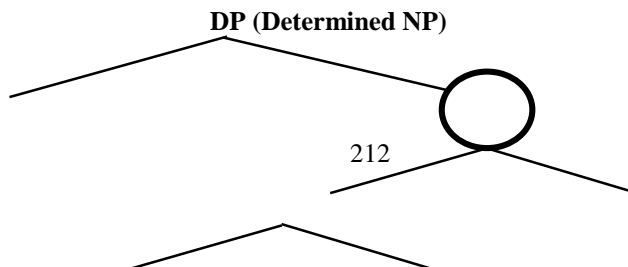
On the other hand, also in (22), the PP Complement of *geometry* adjoins to and therefore takes scope only over the head N *student*. The adverbial modifier *very* adjoins to and therefore takes scope only over the A head *smart*, while the whole AP *very smart* adjoins to and therefore takes scope over the full NP, [_{NP} *twenty-year-old student of geometry*].

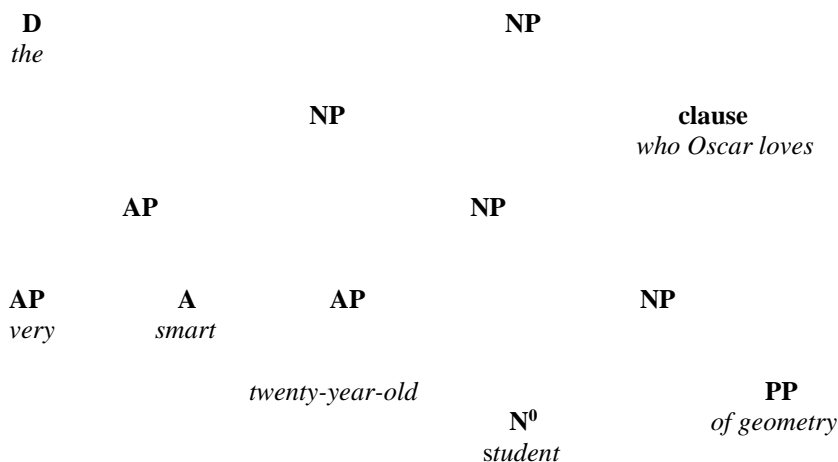
The Determiner and the relative clause are not inside the structure that the AP *very smart* adjoins to and are therefore **outside the scope** of this modifier. As far as the linear order reflects the structure, the Determiners and Quantifiers have the widest scopes, and therefore they tend to be the most specific modifiers.

As for the **interpretation** of Attributes, the traditional literature provides special terminology for a range of possible modifications: e.g. specification, generalization, characterization, etc. In this way, we say that Determiners **determine** the Noun, and that Quantifiers **quantify** over the Noun.

(22) Determined and pre- and postmodified complex NP

[_{DP} *the* [_{NP} *very smart twenty-year-old student of geometry who Oscar loves*]]





The order of multiple prenominal modifiers, according to Quirk et al. (2004: 1337-45), conforms to both formal and semantic requirements. These authors propose that it is “helpful to divide the territory into several locality zones” and state that Quirk et al. (2004: 1345)

- (23) “modifiers relating to properties which are (relatively) **inherent**... visually **observable**, and objectively **recognizable** or accessible, will tend to be placed nearer to the head and be preceded by modifiers concerned with what is relatively a matter of **opinion**, imposed on the head by the observer, not visually observed, and only **subjectively** accessible [and] there is plenty of room for difference of opinion.”

Other studies propose to define the ordering of premodifiers in similar ways. Below are three examples of cross-linguistic studies; all of which assume that their proposals have a universal basis.⁸²

- (24) The order of **Adjective premodifiers**, proposed as universal
- a. **Halliday** (1985): numerative > epithet 1 (evaluative/attitudinal) > epithet 2 (objective/experiential) > classifier
 - b. **Sproat and Shih** (1991): Possessive > cardinal > ordinal > quality > size > shape > colour > provenance/ nationality

⁸² For alternative definitions of the modifier order, see also the corpora-based grammar manuals of Biber et al. (2007: 598-99) and Huddleston and Pullum (2002: 452-455).

- c. **Cinque** (1994): Possessive > cardinal > ordinal > speaker-oriented > Subject-oriented > manner > thematic

These orderings concern mainly **adjectival modification**. Given that their ordering apparently follows a kind of semantic rather than syntactic hierarchy, I will not go into more detail here. However, I want to mention one special interpretation that is widely discussed with respect to derived nominals. This is their possible **Argument interpretation**.

The Attributes of Nouns derived from Verbs can keep their ability to assign semantic roles to their Attributes. The following examples compare the valency of the Verb *destroy* to the Argument interpretations of the Attributes (a Possessive phrase and an *of*-phrase) of the deverbal Noun *destruction*.

- (25) a. *Caesar destroyed the city.* verbal valency
 b. *Caesar's destruction of the city* nominal counterparts
 c. *Caesar's destruction / the city's destruction*

While the semantic roles of a Verb's Arguments are usually clear, and its Arguments are realized strictly with respect to these interpretations, the semantic roles related to Nouns are often ambiguous, and their interpretation depends on context.

- (26) a. *Our Mary's picture* **Possessor or Agent or Patient**
 b. *The picture of Mary*

The combination of other co-occurring modifiers, especially Possessives and *of*-phrases, can, however, restrict these interpretations. *By*-NP must house an Agent, *of*-NP must house a Possessive, and each Argument can have only one semantic role.

- (27) a. *Mary's picture of Renoir/ by Renoir/ of Renoir's*
 b. *Maruščin obrázek Renoira*

Note the distinction between 'semantic Argument' and 'pure modification'. APs and PPs are usually only modifiers, and as in the next examples, POSS and *of*-NP are positions typical of Arguments:

- (28) *Their attack, the attack of wild tribes*
John's proof of the theorem, the theorem's proof

To conclude: despite numerous distinctions between Verbs and Nouns, the Argument positions within a nominal projection are not random but hierarchically ordered, as in clauses: the highest role A1 is assigned to the Possessive element and the second role A2 to the *of*-phrase. When only one Argument is present, the structure is ambiguous, but when both are present, the hierarchical relation between them is strictly observed. In contrast, the roles taken by Adjective premodifiers are non-argumental.

18.4.2 Prenominal Attributes

Below I exemplify a range of different types of prenominal Attributes. Determiners are a closed class list of grammaticalized lexical entries, including some quantification expressions; for a more complete classification, see Section 7.3.

- (29) **Determiners**
- a. *a/ the/ that book*
 - b. ** that some book*
 - c. *taková nějaká kniha*
 - d. *each/ every/ any/ some/ no friend*
 - e. *which/ what friend*

Possessive elements are located in the Determiner domain. They are NP phrasal projections with their own Determiners. The phrasal Case suffix -'s (the Germanic/Saxon Genitive) appears in **complementary distribution** with central Determiners.

- (30) **Possessive NPs**
- a. *(*a /*the) our Piers's (*some) book*
 - b. *(a/the) bird's nest*
 - c. *that dress's colour*
 - d. *(*any) [_{NP} my older brother's] books*
 - e. *[_{NP} our own earth's] gravity*

The field of recursive and thus potentially multiple premodifiers and their characteristics have been extensively discussed in Section 8.1.3. They include above all either bare or premodified AdjPs, the distribution of which is also mentioned in Section 12.1.1. They can also include Adjectives derived from Verbs (including participles) and the so-called secondary Adjectives, which take the form of other parts of speech, usually fossilized Nouns or Adverbs; see Sections 12.1.5 and 12.1.6.

- (31) **AP premodifiers**
- a. *a [_{AP} very large] [_{AP} dark green] book*
 - b. *true gentlemen*
 - c. *a great Italian painter*
 - d. *a quite dedicated Spanish student*

- (32) **Derived and secondary Adjectives** (often Nouns in productive compounds)

- a. *exercise book*
- b. *steel wire, rubber tyre*
- c. *corrosion immunity*
- d. *the UEFA Cup*
- e. *three act play; *three acts play*
- f. *heat-resistant glass lamp shades*

- (33) **Adverbs**
- a. *the then president*

- b. *the **down** computers*
- c. *the **today** show*
- d. *a **nearby** shop*

(34) **Participles** (deverbal Adjectives)

- a. *a (long) **forgotten** artist, an unspoken assumption*
- b. *an **entertaining** person, those moving stories*
- c. *such **unheard** of justifications*

(35) **Quotational compounds**

- a. *a **take-me-as-I-am** smile*
- b. *an **after-dinner** cigar*
- c. *a **come-as-you-are** party*

18.4.3 Postnominal Attributes

The typical postmodification of a head Noun includes complex APs, i.e. those which include Complements, French loans and some idiosyncratic Adjectives.

(36) **Postnominal AdjPs**

- | | | |
|----|-------------------------|--|
| a. | Romance As | <i>battle royal, fee simple, attorney general</i> |
| b. | idiosyncratic As | <i>syntax proper, members absent</i> |
| c. | As after Pronouns | <i>something very interesting, no place ugly</i> |
| d. | complex postmodified As | <i>man [_{AP} taller than me]
hero [_{AP} faithful to his ideals]
food [_{AP} ready to eat]</i> |

The field of PP postmodification contains a typical signal of a nominal projection, the *of*-phrase, which is unique and must be adjacent to N. The rest of the field includes other recursive PP postmodifiers; see Section 8.1.4.

(37) **PP postmodifiers**

- | | | |
|----|--------------------------|---|
| a. | unique <i>of</i> -phrase | i. <i>a man [_{PP} of courage]</i> |
| | | ii. <i>the book [_{PP} of my brother]</i> |
| | | iii. <i>a pair [_{PP} of trousers]</i> |
| | | iv. <i>a great variety [_{PP} of opinions]</i> |
| b. | recursive PPs | v. <i>a way to school through the forest</i> |
| | | vi. <i>a girl with a blue scarf</i> |
| | | vii. <i>a story about animals from ancient times</i> |

Postnominal Attributes can also take the form of a VP projection. The VP can be either an Infinitive or participle or a finite clause (relative and Complement clauses).

- | | | | |
|------|---------------------------|----|--|
| (38) | VP Infinitives | a. | <i>a promise to help us</i> |
| | | b. | <i>a man to talk to</i> |
| (39) | VP participles | a. | <i>the book lying on the table</i> |
| | | b. | <i>the man reading a newspaper</i> |
| (40) | Relative clauses | a. | <i>the book which you gave me</i> |
| | | b. | <i>a doorway that nobody should enter</i> |
| (41) | Complement clauses | a. | <i>the idea that it's too late</i> |
| | | b. | <i>a warning that nobody should enter</i> |

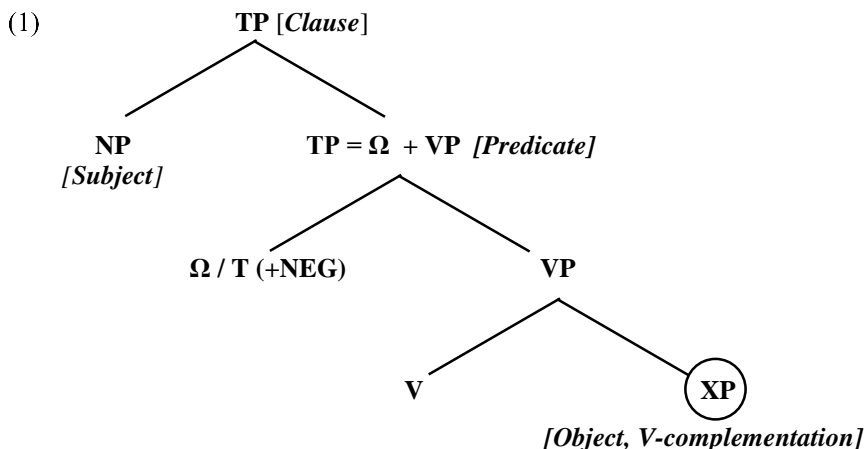
A special kind of Attribute is apposition, which represents a kind of semantic doubling of a head Noun.

- | | | | |
|------|-------------------|----|--|
| (42) | Apposition | a. | <i>The River Danube, Her Majesty the Queen</i> |
| | | b. | <i>Paul Smith the lawyer, Henry my husband</i> |

The functions of APs were examined in this study in Chapter 12. Secondary Predicates (subject and Object Complements) were also defined in Section 12.1.4. The standard grammar manuals of Huddleston and Pullum (2002: 26-561) and Quirk et al (2004: 402-437) provide more detailed lists and many more examples. Dušková (1994: 484-517) gives a Czech perspective on English Attributes.

19 SUBCATEGORIZATION

In the scheme in (2) on page 205, repeated below for convenience, the Subject is labelled as NP (which it usually is), and the right hand verbal complementation, circled in the scheme below, is labelled as XP.



What is the XP in the scheme above? In other words, what follows the Verb head V, creating the VP/ Predicate? Notice that some of these XPs are obligatory.⁸³

- (2)
- | | | | |
|----|---|----|-------------------------------------|
| a. | <i>Quido sent a book (to his father).</i> | g. | <i>Ethel often swims.</i> |
| b. | <i>Quido sent to his father.</i> | h. | <i>Ethel swims to the bridge.</i> |
| c. | <i>*Quido sent there every day.</i> | i. | <i>Ethel swims there every day.</i> |
| d. | <i>Oscar handed the box to me.</i> | j. | <i>*Zara relied.</i> |
| e. | <i>*Oscar handed the box quickly.</i> | k. | <i>*Zara relied his brother.</i> |
| f. | <i>*Oscar handed to me quickly.</i> | l. | <i>Zara relied on her mother.</i> |

In Section 14.2, I introduced the concept of verbal **subcategorization**, which specifies the form of **complementation required** by head Verbs. The selection can be stated in terms of Semantic (Argument, Theta) Roles and in terms of the categories of Complements.

First, let us review **semantic subcategorization**, using the Verb *hit*. Its semantic selection is given below. It states that, for its full interpretation, the activity Verb *hit* requires two Arguments: the top one A1 with the semantic roles of Agent and the other A2 one with the semantic role of Patient.

⁸³ For more details, see also Huddleston and Pullum (2002: 213-319, 663-784); Quirk et al. (2004: 740-754, 1147-1234); Dušková (1994: 349-367); Huddleston and Pullum (2005: 63-81); Greenbaum and Quirk (1991: 336-362).

- (3) **s-selection** *hit*, V, <Agent, Patient>

Apart from its semantic selection, the lexical entry also has a specific formal **syntactic subcategorization** (= Complement selection, categorial selection, c-selection). It does not indicate the top semantic Agent Argument (A1) because this Argument is uniformly realized as a VP external Subject. The syntactic selection states the categorial form of the second Argument (A2). The lexical entry of the item *hit* specifies that it is a Verb,⁸⁴ which must be complemented by a nominal phrase NP that will take the function of structural Object, i.e. a right hand Complement that in English canonically immediately follows it.

- (4) **c-selection** *hit*: V, [___ NP]

If the Verb subcategorizes for a variety of different Complements, we mark the optional choice among all of them with a slash.

- (5) a. *love*: V, [___ NP/VP]
 b. *I love a good coffee / to read good books.*

If another XP is selected apart from the obligatory Complement (like an indirect Object or other type of PP), which is however not fully obligatory, it is put within parentheses in the subcategorization:

- (6) a. *send*: V, [___ NP (PP)]
 b. *I want to send it (to Mary)*

These examples of subcategorization are only simple and primitive. Lexical entries have more complex and often language specific requirements. For example, in languages with morphological Case, the selected NP can be Case specific; see the Czech examples in (29) on page 110. Or in English, when a Verb selects another Verb, the form of the selected VP must also be indicated as a Gerund, Infinitive, or finite TP. With Verbs or Adjectives selecting a PP, a specific Preposition can be relevant for both well formedness and interpretation:

- (7) a. *look*, V, [___ PP] P: *at, for, forward to...*
 b. *think*, V, [___ PP] P: *about, of, over, ...*
 c. *angry*, A, [___ PP] P: *at, about, over, with...*

⁸⁴ Recall that the categorial label Verb itself suffices to predic the behaviour of the lexical entry with respect to the N.I.C.E. criteria and morphology. For a detailed discussion, review Section 15.5.

19.1 Semantic and Formal Hierarchies

The **semantic roles** determined by specific lexical Verbs are derived from “the verbal meaning,” and they form a **hierarchy**. The **sentence functions** (= sentence members or grammatical relations) also form a hierarchy.

As proposed in Fillmore (1968, 1971), the two semantic and grammatical hierarchies are linked. They are related or matched in a way that results in the semantic interpretation of the grammatical functions. These matching or “linking” rules are rather complex and not yet fully clarified. The following scheme provides a simplified version of the proposed correlations.

(8) The form and the meaning of arguments

Canonical formal realization of the semantic roles, with active agentive Verbs

Semantic hierarchy			Formal hierarchy		
Semantic roles of Arguments:			Sentence functions of Arguments		
a.	Agent	A 1	↑	SF 1	= or ≠ Subject
b.	Patient/ Theme	A 2		SF 2	= or ≠ Direct Object
c.	Recipient/Beneficiary	A 3		SF 3?	= or ≠ Indirect Object or PP
d.	Direction/ Manner,...	A 4		SF 4?	= or ≠ PP or Adv

These two hierarchies cannot be unified into one, because the relation between them depends on many factors and can be language or speaker specific, especially with Verbs with atypical semantic roles.

The realization of semantic roles also depends on the form of the Verb. The linking above is proposed for the active forms. With passivization, however, the semantic roles are systematically distributed to sentence functions in a distinct way.

- (9)
- Zara wrote many letters to mummy.*
 - Many letters were written to mummy (by Zara).*
 - Zara wrote mummy many letters.*
 - Mother was written many letters (by Zara).*

The linking of semantic roles is subject to language-specific modifications, especially with Verbs that do not transparently denote some activity. Let us compare the English Verb *like* with its Czech counterpart *libit se*. The meaning does not imply any clear Agent, Patient or Theme. The following translated examples show that English can choose one of the Arguments, the Recipient or Experiencer, for the top semantic role, while Czech chooses the other one, presumably the Patient.

- (10)
- Piersův spolužák se líbí Helence.*
Piers's schoolmate_{NOM} like Helenka_{DAT}
 - Helenka likes Piers's schoolmate.*

We have now seen that both the formal and semantic hierarchies used for interpreting arguments are language specific. Moreover, the semantic hierarchy changes with a language’s specific lexical items. The examples below demonstrate semantic frames vary according to a speaker’s analysis of an event and choice of lexical entries:

- (11) a. *Mary **liked** the play.* *The play **pleased** Mary.*
- b. *David **bought** a car from Sally.* *Sally **sold** the car to David.*
- c. *Peter **borrowed** money from Bill.* *Bill **lent** money to Peter.*

Because the linking of s-selection and c-selection is not fully transparent, we have to conclude that the knowledge of a language includes both (a) the knowledge of its formal hierarchy of the sentence functions/ members and (b) the properties of specific lexical and grammatical items, including their semantic hierarchies.

The information about each lexical entry is in fact very complex. For example, to be able to use the lexical entry *borrow* properly, the speaker must know:

- (12) a. **semantic** definition: what does the word mean, e.g. *borrow* = ‘obtain something temporarily from somebody else by agreement’
- b. **phonetic** information: how does it sound, e.g. *borrow* = [bɒrəʊ]

- c. **syntactic** information
 - (i) which **category** is it (e.g. *borrow* is a Verb)
 - (ii) what is its **SUBCATEGORIZATION**

s-selection: *borrow*, V, <Recipient, Theme, (Source) >
c- selection: *borrow*, V [__ NP, (PP_{from})]

The information about the Verb *lend*, i.e. the Verb that denotes the same activity as the verb *borrow*, can seem distinct, and the distinction can be captured in the subcategorization frames.

- (13) **s-selection:** *lend*, V <Source, Theme (Recipient) >
 c- selection: *lend*, V [__ NP, (PP_{to})]

19.2 Complements and Adjuncts

The contrasted terms **Complements vs. Adjuncts** are approximately the same as the traditional terms **Objects vs. Adverbials**. In both cases, they are two kinds of phrasal modification of a Verb; one is closer and one is more distant, in terms of both word order and semantics. In this study we will use the terms Complements/ Objects and adjuncts/ adverbials as synonyms. In either case, we must be aware of the distinctions.

19.2.1 Defining Complements and Adjuncts

The distinctions between Complements and Adjuncts can be illustrated on both semantic and formal levels. However, the terms are primarily **syntactic** and structural.

A. Lexical and semantic ‘closeness’

Complements are semantically related to a verbal action - they are direct participants in the event, often necessary for a specific activity itself. On the other hand, adjuncts, in parentheses below, are more like additional background information compatible with any kind of activity.

- (14) a. *write a letter/ *a tree/ *some courage to/ *at/ *onto your friend (soon)*
b. *kill a man / *a stone/ *a picture (on the beach in January)*
c. *write/ describe somebody/ something (for fun/ for no reason)*
d. *to rely on/ *for/ *with/ *onto nuclear weapons (in peacetime)*

B. Formal obligatoriness, due to selection by a Verb or class of Verbs

Any (relatively) **obligatory** phrasal modifiers of a Verb are called **Complements**. This complementation is **inherent** to the action. Inessential **optional** modifiers of a Verb are called **Adjuncts**.

- (15) a. *Mary must send a letter to Henry **on Monday**.*
b. *Mary must send a letter **promptly on Monday**.*
c. **Mary must send to Henry **on Monday**.*
d. **Mary must send **promptly**.*

C. Constituency test for VP *do so/do it*

These tests **distinguish Adjuncts from Complements**, including optional ones. The pro-forms for VPs of activity in English are *do so* and *do it*. These are VPs that refer back to minimally **complete VPs**, i.e. the V plus its Complements. So *do so* and *do it* cannot be followed by a Complement. Whatever can follow them is an adjunct.

- (16) Possible continuations of (15)(a-b) with adjuncts:
a. *... and Zara must do so (on Tuesday) as well.*
b. *... but Zara can do it at her leisure.*
c. *... *and Zara must do so to Henry's sister.*

This test suggests that directional PPs with motion Verbs (P of direction taking Accusative Case in Czech) are Complements, whether obligatory or optional:

- (17) a. *One guy put his mail on the table, and then the other did so (*by the door).*
b. *Adam spilled his drink on the computer, and Emma did so (*onto the floor).*

D. The Number of Complements and Adjuncts

Complements of a given type are **unique**, while adjuncts of a given type can be multiple. (Coordination does not count as a multiple occurrence.)

- (18) a. *read [**a book**] [*a journal*]
b. *read a book [*to Harry*] [*to my sister*]
c. read **a book** [*at home*] [*in Olomouc*] [*outside*] [*today*] [*for two hours*]

E. Distribution

In neutral word order, Complements, bold in the following examples, **immediately follow the Verb** in English. Adjuncts are more peripheral.

- (19) a. *Emily will visit* [**Rome**] [*(on) Tuesday*].
b. **Emily will visit* [*on Tuesday*] [**Rome**].
c. *Hillary wrote* [**a letter**] [*in January*] [*at home*].
d. *Hilary wrote* [**a letter**] [*at home*] [*in January*].
e. **Hillary wrote* [*at home*] [**a letter**] [*in January*].
f. *We will speak* [**of Linguistics**] [*with friends*] [*on the train*]
g. **We will speak* [*on the train*] [**of Linguistics**] [*with friends*]

19.2.2 Adjuncts: Verbal and sentential Adverbs: ‘Scope’

Apart from its Complements (Objects), which denote a direct participant of the event, the Predicate is often further modified with respect to other parameters: manner, probability, time, space, degree, etc.

- (20) a. *He does not speak* **naturally**.
Naturally, he can speak English.
b. *He will* **perhaps** not speak **this evening**.
Perhaps, he speaks English.
c. *Frankly*, she **never** attended the meeting.
d. *Those guys* **actually** stole my book **during the meeting**.
e. *The flood waters reached* **nearly** into the station.
f. *We consider that family* **desperately** poor.

The list A-D below provides the terminology as it is used in Quirk et al (2004: 475-654, 729-738). It represents the division of complementation based on syntactic criteria. A range of individual elements are illustrated in the tree in (23).

We can classify these same terms with regard to the **scope** they take. This terminology is related to the size/ level/ projection of the verbal phrase: elements take scope over the constituent to which they adjoin.

- (21) The **Scope** of an adverbial:
i. the verbal action: the scope is the VP.

- ii. the whole proposition, or clause TP. These are “sentence Adverbs.”
- iii. the truth of the proposition, i.e. the YES/NO polarity of Ω + NEG.
- iv. some sentence member, i.e. some phrase within the clause.

The following list summarizes possible positions of modifiers in clause structure are:

- A. **COMPLEMENTS** are closest to the Verb and **internal to the minimal VP**.
 - i. *The students [_{VP} read books] for pleasure in the evening.*
 - ii. *I will soon [_{VP} speak to Jill] in private.*
- B. **ADJUNCTS** are adjoined inside a maximal VP, but are external to V + Complements. This gives rise to a “VP over VP” structure.
 - i. *The students [_{VP} [_{VP} read books] every day].*
 - ii. *I will [_{VP} soon [_{VP} speak to Jill] on the bus].*
- C. **DISJUNCTS** take scope over the whole proposition, more than a VP.
 - i. *Naturally, he will help you during the summer.*
 - ii. *Of course, he is extremely polite.*
- D. **CONJUNCTS**, in the sense of Quirk et al, (2004), are not related to the VP; they modify some other sentence member.
 - i. *He did it [_{AdvP} very well]. He seems [_{AP} desperately poor].*

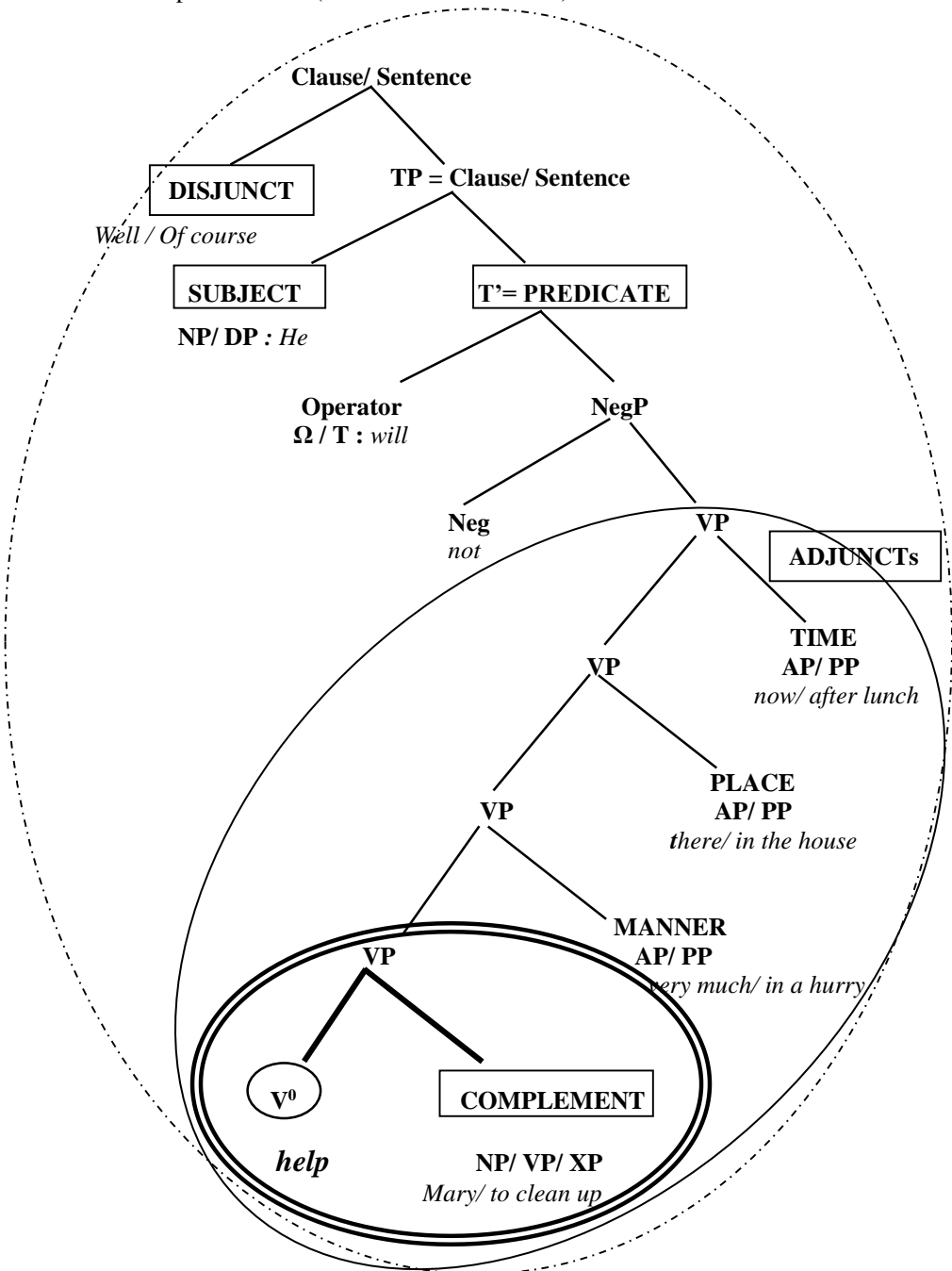
19.2.3 Bottom up Merge of lexical items in trees

Consider the following derivation of a clause and the scheme that represents the resulting structure. At each step, two constituents **merge** to create another more complex constituent. Alternatively, we can say that the Verb **projects** – a constituent merges into the projection of V and makes the VP more complex. When a head merges with a phrase, the projection changes its label according to the label of the head : V → VP → VP → NegP or PolarityP → TP...

(22) *Of course, he will not help Mary very much there now.*

- | | |
|--|--------------------|
| a. help + <u>Mary</u> | V+NP → minimal VP |
| b. [<u>help Mary</u>] <u>very much</u> | VP+AP → larger VP |
| c. [<u>help Mary very much</u>] <u>in the house/ there</u> | VP+PP → larger VP |
| d. [<u>help Mary very much there</u>] <u>after lunch/ now</u> | VP+PP → larger VP |
| e. <u>not</u> [<u>help Mary very much there now</u>] | VP+Neg → PolarityP |
| f. <u>will</u> [<u>not help Mary very much there now</u>] | T+NegP → TP or T' |
| g. <u>he</u> [<u>will not help Mary very much there now</u>] | NP+T' → TP: clause |
| h. <u>of course</u> [<u>he will not help Mary very much there now</u>] | PP+TP → clause |

- (23) Structural basis of the main sentence functions; the scope of verbal complementation (the c-command relation)



20 STRUCTURAL V-OBJECTS

In spite of the fact that many modern English grammars use the terminology of Complements, in contrast to adjuncts and disjuncts, the traditional terms for these sentence functions, i.e. Objects', appear as well.⁸⁵ In the following sections, I am going to review the properties of structural Objects (Complements) of Verbs in English, as they have been partially specified in the preceding chapter (Section 19.2). I will utilize diagnostics related to different linguistic levels, i.e. the **semantics**, **morphology** and **syntax** of V-Complements/ Objects.

20.1 Semantic Roles of Objects of the Verb

The most general semantic (thematic, θ) role A2 related to the function of the Object of a Verb is Patient/ Affected Object. This specific semantic role is the one most closely related to the meaning of the Verb, and it is therefore **extremely varied**.

Many distinctions between similar Verbs are best defined referring not to the activity itself but instead to particulars associated with specific Argument roles of a given Verb. Consider these contrasting examples:

- (1) a. *My grandma killed a rabbit.*
b. *? My grandma murdered a rabbit.*
c. *?? My grandma assassinated a rabbit.*

Moreover, the roles of some Objects can be otherwise typical for other functions (agent, possession, instrument, location). Examples (2)(a-c) provide the most general and therefore not very specific labels that cover most Object roles. Examples (2)(d-i) list some of the large variety of available roles with more specific labels.

- (2) a. **Affected Object** *He overturned THE CHAIR.*
b. **Patient** *The mob killed JOHN BROWN.*
c. **Theme** *Oscar gave/ sent Piers A BOOK.*
d. **Cause** *I love JOHN.*
e. **Result of the action** *He wrote A BOOK.*
f. **Locative** *John climbed MOUNT EVEREST.*
g. **Agentive** *The room easily dances TWENTY COUPLES.*
h. **Possession** *We (have) inherited MANY DISHES.*
i. **Instrument** *They threw STONES.*

The number and labelling of the semantic roles related to Objects depends on the author and the topic of the research. In this syntactic study, I will use the most general terms,

⁸⁵ See Huddleston and Pullum (2002: 244-250), Quirk et al. (2004: 717-754); Dušková (1994: 423-444), and Huddleston and Pullum (2005: 63-81).

usually Patient or affected Object, or even more simply Argument 2 (A2), unless some more specific term is needed in the context of the analysis.

20.2 Morphological Properties of Objects

In languages with overt morphological Case, morphology furnishes a visible signal of the status of a sentence member. In Indo-European languages especially, the Object Case is usually Accusative. With English Nouns, the form is the morphologically unmarked common Case. A Pronoun in the position of a verbal or prepositional Complement takes the morphology of the Object Case. Object Case (Accusative) is a structural Case, assigned by a Case assigner V or P to a following sister NP.

(3) Object Case after Verbs and Prepositions

- | | | |
|----|--|-----------------------|
| a. | <i>I saw/I introduced/ met him/ her/t hem.</i> | Object of Verb |
| b. | <i>We will talk about/ with/ to him/her/them.</i> | Object of Preposition |

In Modern English, Object Case marking is obligatory with personal Pronouns, while with *wh*-Pronouns it tends to disappear when the Case assigner is not adjacent to the NP. For more details concerning English Case, see Section 8.3.

- | | | | |
|-----|----|---|-----------------------|
| (4) | a. | <i>Mary loves our Adam. → She loves *he/ him.</i> | personal Pronoun |
| | b. | <i>Mary loves herself/ *sheself.</i> | reflexive Pronoun |
| | c. | <i>Who/ Whom does she love?</i> | interrogative Pronoun |
| | d. | <i>the man who/ whom she loves.</i> | relative Pronoun |
| | e. | <i>the man with whom/ *who she goes to the opera</i> | relative Pronoun |

Example (4)(a) demonstrates that nominal Objects in English take the common Case, the basic form. So with expressions like *our Adam* in (4)(a), we cannot use Case marking as a diagnostic in as much as no Case is visible. However, the Case of the position can be tested by substitution of a Pronoun for the nominal complex, because these do show the Subject-Object Case distinction: *he – him; we – us*, etc.

20.3 Syntactic Definition of Objects as V-Complements

Some syntactic characteristics of English structural Objects (= Complements) have already been demonstrated in the preceding Section 19.2. To sum them up:

- | | | |
|-----|-------------|---|
| (5) | Objects are | (a) subcategorized ,
(b) very often obligatory ,
(c) unique ,
(d) in neural word order, right side , and
(e) phrasal Complements of a selecting head Verb. Together with the Verb, they can be substituted for by <i>do so/do it</i> . |
|-----|-------------|---|

The category or part of speech related to the Object function is the **Noun**, i.e. **NP** and its substitutes, or a clause or a non-finite semi-clause. Recall that Objects are always **phrasal** constituents; while they can be single words, they are usually more complex.

- (6) a. *He said it. He saw elephants.*
 b. *He described their (big) argument (about the elections).*
 c. *She said that she would do it/ to visit that museum.*

In English, the simplest diagnostics for Objects is their **distribution**. This is defined as the position of the Object with respect to other sentence members, mainly the Verb and adjuncts. See examples (18) and especially (19) on page 223, which show that in unmarked declarative clauses, the Object **immediately follows** the Verb and **precedes** the adjuncts. There is, however, another widely attested position of Objects. As the following examples demonstrate, English Objects are **initial**: (a) in WH questions, where they are followed by Aux/Mod, (b) as relative Pronouns where they precede the Subject, and (c) in topicalization structures also preceding a Subject.

- a. *Who(m) did he love most? What do you want?*
 b. *This is the man who Mary loves most.*
 c. *Syntax I hate. The movie that we saw Mary didn't like at all.*

20.3.1 English vs. Czech definitions of 'syntactic/ structural' Object

English and Czech are typologically distinct, as respectively analytic vs. synthetic languages, and therefore their syntax may accentuate distinct criteria for Objecthood.

- (7) A. The Direct Object in English is defined above all **syntactically**. The Object is the Noun Phrase that **immediately follows the Verb**. It is the position, the constituent order, which defines the structural Object.
 B. The Direct Object in Czech is defined above all **morphologically**. It depends on Case marking; the Direct Object is in the **Accusative**.

There are consequences of these distinct and traditionally preferred definitions of Object in Czech and English, as illustrated in the next examples; more will be seen in the next Chapter in discussing the passivization process. Notice that in the Czech examples in (8), the sentences in (a) and (b) mean the same. In the English counterparts of the Czech word orders, however, the meanings are different:

- (8) a. *Anna ukázala své děti nové sousedce.*
 Anna showed [her kids]_{ACC} [new neighbour]_{DAT}
 a.' *'Ann showed her kids the new neighbour.'*
 b. *Anna ukázala nové sousedce své děti.*
 Anna showed [new neighbour]_{DAT} [her kids]_{ACC}
 b.' *'Ann showed the new neighbour her kids.'*

The terminology is also blurred by the fact that many Czech ‘Objects of Verbs’ (i.e. Case-marked **prepositionless** Complements of a Verb) take Prepositions in English. Consider the status of the underlined sentence members:

- (9) a. *Etel hrabala zahradu (s) hráběmi.*
 Ethel raked garden (with) rake_{INSTR.}
 a’. *‘Ethel raked the garden with a rake.’*
 b. *Oskar přinesl květinu mamince / pro maminku.*
 Oscar brought flower_{ACC} mother_{DAT} / to/for mother_{ACC}.
 b’. *‘Oscar brought a flower to/for his mother.*

We see that the traditional, Latin-based definition of Object (7)B depends to a large extent on morphology and can be easily applied to synthetic Czech. However, this term gets vague when applied to analytic languages like English. If we want to use the term ‘Object’ in English, we have to make its definition distinct and language specific, i.e. we have to assume that English but not Czech ‘Objects of Verbs’ can have Prepositions. Alternatively, we can use a different terminology more suitable for English: Complement (approximately Object) vs. Adjunct (approximately Adverbial). Therefore, in many present-day grammars of English, we can find either of the following terminologies for labelling the right hand complementation of the Verb:

- (10) Traditional morphology-based (Latin-based) terminology distinguishes:
Objects vs. Adverbials
 (11) More modern, mostly syntax-based (English-based) terminology distinguishes:
Complements vs. Adjuncts

In most cases, Objects are the same as Complements, and adverbials are the same as adjuncts. We can use both of the terms, but we must be aware of the cases when there can be some discrepancies. In this study, I take the terms structural Object and Complement of a Verb as synonyms with the meaning in (5) on page 227.

The following list provides a short summary of diagnostics used to define the sentence member of a V-Complement (Object). The last characteristic, the ability of Objects to passivize, will be discussed in the next chapter.

- (12) **The canonical / standard / unmarked syntactic/ structural Object**
- (A) semantic role → A2, i.e. Patient/Affected Object/Theme (wide variety!)
 - (B) morphology → Object or Accusative Case (if visible)
 - (C) syntax
 - a. immediately follows V (but also possibly initial)
 - b. usually NP and its preforms; also PP, VP, TP clause
 - c. can be passivized

20.4 A Note about Terminology using COMPLEMENT

In this section, I am going to discuss a terminological overlap related to the multifunctional term ‘Complement.’ In grammar manuals, we can find this label used for three completely distinct concepts:

- A. A general term “**complement / complementation**,” which would translate into Czech as “*doplnění*,” is defined vaguely as any phrasal modification of something, e.g. a Verb (*doplnění slovesa*). An example of such complementation is (13); the term includes Objects, adverbials and so on. In theoretical grammar, this concept cannot serve at all as scientific terminology. In this study, I will use it with a small initial letter in ‘complement’ or ‘complementation.’ Example (13) has three instances of complementation of the Verb *send*.

(13) *Zara sent [little Piers] [to Prague] [yesterday afternoon].*

- B. The same term **Complement**, but written here with a capital letter, names a **syntactic function/ sentence member** defined in relation to a Verb. The best translation into Czech is “*syntaktický předmět*” or “*komplement*,” which can be assimilated to the traditional concept Object, “*předmět*.” For the similarity and distinctions, see Section 19.2, which contrasts Complements with Adjuncts, and Chapter 20, where Complements are redefined using the term Object. Throughout this study, Complements are then the same as Objects, illustrated in (13) by *little Piers* and in (16) by *the door* and *Mary*. In (14) Complement of the V *give*, of the P *about*, of the V *rely*, of the N *towers* and of the V *start* are in bold.

- (14) a. *He gave [NP **a letter**] to little Oscar.*
b. *Mary talked about [NP **little Oscar**].*
c. *The Estonians cannot rely [PP **on their weapons**] any more.*
d. *They admired the tall white towers [PP **of the city**].*
e. *Josephine started [VP **to run**].*

- C. A third use of the expression, usually in a more complex compound form, **Subject/ Object Complement**, would translate to Czech as “*doplněk*” and is a distinct and particular syntactic function. It denotes functions defined by their **ternary** relation involving a **Verb**, some **NP** and a Predicate XP. When the NP involved is a Subject, we get a Subject Complement, and when the NP is an Object, we get an Object Complement. In the following examples, the bold constituents, ‘*a better man*’ and ‘*a teacher*’ are Subject Complements (Cz: *doplněk*) related simultaneously to the Verb and to the Subject *he*.

- (15) a. *He came back from prison [**a better man**].*
b. *He became / is [**a teacher**].*

In (16), the bold constituents *green* and *a chairwoman* are Object Complements (again **doplňěk**), related to the Verb and this time to the Objects *the door* and *Mary*.

- (16) a. *Piers painted [the door] [green].*
 b. *They elected [Mary] [a chairwoman].*

For more discussion concerning this exceptional ternary sentence function, see also Section 12.1.4. I propose there to use the term **Secondary Predicate** to avoid a mismatch and confusion with the terms Complement and complement.

20.5 Complements and Syntactic Subcategorization

In the previous chapter, we saw that Verbs can be classified with regard to the number and characteristics of Complements that they **require**, i.e. which ones are obligatory, and needed to form **grammatically complete** structures.⁸⁶ Earlier in (8) on page 172, I provided a simple traditional, classification of English Verbs based on functional-structuralist approaches and using elementary subcategorial frames. I am repeating this listing of various types of Objects (Complements) for convenience, and adding formal subcategorizations of some non-lexical Verbs.

(17) Subcategorization of English Verbs.⁸⁷

a. Lexical Verbs

Subcategorization	Example	Traditional term
V, [--]	<i>The tramp laughed a long time.</i>	Intransitive Verb
V, [--NP]	<i>Mary found <u>a diary</u>.</i>	Monotransitive Verb
V, [-- AP]	<i>He seemed <u>less tired than before</u>.</i>	Linking Verb
V, [-- PP]	<i>The tramp leaned <u>towards the girl</u>.</i>	Verb of Movement
V, [-- VP]	<i>Harry kept <u>whistling at her</u> today.</i>	Temporal Aspect Verb
V, [-- (NP) NP]	<i>He read <u>the girl</u> <u>a charming story</u>.</i>	Ditransitive Verb
V, [-- (NP) (PP)]	<i>He was preparing <u>a letter</u> <u>for Joe</u>.</i>	<Patient, Recipient>
V, [-- NP PP]	<i>Joe put <u>the books</u> <u>on the shelf</u> fast.</i>	<Theme, Location>

⁸⁶ This is not to be mistaken for communicative completeness or appropriateness.

⁸⁷ The selected XPs are underlined, and the unselected adverbials are not.

V, [-- NP NP]	<i>He called <u>her a clever girl</u> again.</i>	V + Object Complement
V, [-- NP (VP)]	<i>Sue saw/ let <u>the car hit the tree</u>.</i>	Perception/ Causative Vs
V, [--NP AP]	<i>The music made <u>me sad about it</u>.</i>	V + Secondary Predicate

b. Modals and Auxiliaries

Mod, [-- VP]	<i>The boy can <u>come to the party</u>.</i>	Modal
Aux/V, [-- NP]	<i>Joe was <u>a student</u>.</i>	Copula
Aux/V, [-- AP]	<i>Joe is being <u>very polite</u>.</i>	Linking Verb
Aux/V, [-- PP]	<i>Joe must be <u>at home</u>.</i>	<Location>

Notice that

- (a) all the Complement types are realized as **phrases**,
 - (b) that some Vs have **semi-clause** VP Complements, and
 - (c) that many Complements **alternate** with a **finite or non-finite clause** (a *to*-infinitive or an *-ing* form Verb), as can be observed in the following examples:
- (18) a. *I started/ finished/ wanted a new book/ to write another paper.*
b. *I love/ hate to constantly write / constantly writing these papers.*
c. *I convinced Benjamin of the danger/ to write the paper.*
d. *He said something awful/ that Mary would come in time.*
e. *He asked many questions/ for a loan/ whether Mary would come back.*

21 PASSIVIZATION

Passivization is a process typical for structural Direct Objects. Elements that can passivize are syntactic/ structural Objects of the Verb. In English, they can also follow a Preposition in a Complement of V.

- (1) a. *Benjamin wrote/ saw/ bought/ discussed those books.*
b. *→ The books were written/ seen/ bought/ discussed by Benjamin.*
c. *Our family was counting on Mary's visit.*
d. *→ Mary visit was being counted on by our family.*

The process of Passivization can be described as follows:⁸⁸

- a. The Verb changes its form from active to passive: e.g. *wrote* → *was written*; regarding morpheme *be+ -en*, see Section 13.6.
- b. The A1 (usually Agent) and A2 (usually Patient) of a Verb are distributed in a distinct way; they acquire different sentence functions. The Agent, instead of being a Subject of an active Verb, becomes an optional PP adjunct of a passive Verb. The Patient, instead of being an Object of an active Verb, becomes a Subject of the passive form.
- c. As a result of (b), the Arguments change their formal properties (Case, Prepositions, crucially in English their position, etc.)
Oscar/ He → *by Oscar/by him*, *those books/ them* → *those books/ they*

21.1 Pragmatics: Usage or External Function of Passivization

The results of passivization are formal and semantic/ pragmatic. Passivization changes the formal realization of a verb's semantic valency. As for the Patient, which changes from postverbal Object to preverbal Subject, it gets to the clause initial position of Topic (Theme, old information).

21.1.1 Deagentization

As for the Agent or top semantic role, by becoming an optional *by*-PP, can be omitted. The following example illustrates **demoting the Agent** or “**deagentization**”.

- (2) *This book was written in just a few weeks.*
 - i. The Patient *the book* becomes the Subject, a non-dynamic Topic/ Theme.
 - ii. The Predicate *written* can become clause final, a dynamic Rheme.
 - iii. The Agent disappears.

⁸⁸ For a descriptive generalization and numerous examples of English passive structures, see Huddleston and Pullum (2002: 1427-1441) and Quirk et al. (2004: 159-171). For some comparison with Czech, see Dušková (1994: 249-272).

The reasons for omitting the Agent (A1) can be many. The agentless clauses in following examples show some of the commonly used contexts with Agent being (a) a modest author, (b) too general, (c) hidden or (d) non-existent.⁸⁹

- (3) a. *As has been stated before...* *This topic was studied in detail.*
 b. *It is believed that...* *Many things can't be explained.*
 c. *Our team was beaten in the finals.* *Their house was searched.*
 d. *The city is situated in a valley.* *The two types are evenly distributed.*

In Czech, Subjects can be partially demoted by dropping them since it is a consistent pro-drop language, but this 'deagentization' is only formal, and therefore passivization as in (3)) appears, too, especially to rhematize/ focus some adverbial located in final position.

- (4) a. *Kniha byla napsána na zeleném papíře*
 a'. *The book was written on green paper*
 b. *Kniha byla napsána skvělým způsobem*
 b'. *The book was written in a brilliant way*
 c. *Kniha byla napsána v 15. století*
 c'. *The book was written in the 15th century.*

21.1.2 Rhematization of Agent

On the other hand, when the Agent is not omitted in a passive structure but realized as the final clausal constituent, the *by*-phrase gets the Focus, and the Agent is **rhematized**.

- (5) *This book was written by Oscar.*
 i. The Patient becomes Subject= Topic= Theme.
 ii. The Predicate remains neutral.
 iii. The Agent is clause final = Focus = Rheme.

The realization of the Subject of the active sentence also depends on its semantic role. True Agents are canonically realized with the Preposition *by*, while Instruments use the Preposition *with*.

- (6) a. *The phenomenon was first demonstrated by/ *with Oscar Brown.*
 b. *I was impressed by/ with his discipline.*
 c. *The metal was flattened with/ ?by a new machine.*
 d. *The door could opened with/ ?by the brass key.*

Passivized Inanimate Subjects can also lead to other Prepositions.

⁸⁹ For an alternative method of deagentization, see Section 21.4.4 on the mediopassive.

- (7) a. *Sculpture interests her.* → *She is interested **in/ by** sculpture.*
 b. *His attitude surprises me.* → *I am surprised **at** his attitude.*
 c. *This prospect delights us.* → *We are delighted **at** the prospect.*
 d. *The situation worries me.* → *I am worried **about** the situation.*

In Czech, the Subject can be rhematized by a change of word order, which seems simpler, perhaps easier to process, than using the passive transformation. Therefore, this kind of passive structure is not often used, unless stylistic reasons make it more plausible, for example with long and complex Subjects.

Compare the Czech and English structures below, considering which constituent is in the rhematic or final position. The active version in (a) exists in both languages. Example (b) shows that, in Czech, the Subject can be postverbal and therefore rhematized, which is not possible in English. The availability of (b) in Czech makes (c) superfluous and very infrequent, while it is standard in English, where (b) is ungrammatical. The examples in (d) demonstrate the availability of this passive in both languages in case it is stylistically desirable, i.e. if the Agent is heavy and complex and therefore tends to appear at the end.

- (8) a. *House provedl operaci.*
 House_{NOM} performed operation_{ACC}
 a.' *'House performed the operation.'*
 b. *Operaci provedl House.*
 Operation_{ACC} performed House_{NOM}
 This equals (a) with the Agent focused.
 b.' **The operation performed House.*
 c. *?? Operace byla provedena Housem.*
 ?? Operation_{NOM} was performed House_{INSTR}
 c.' *The operation was performed by House.*
 d. *Pacient nepřežil, přestože operace byla provedena těmi opravdu nejlepšími chirurgy našeho oddělení za účasti geniálního doktora House a jeho tři ambiciózních asistentů.*
 d.' *The Patient did not survive, although the operation was performed by the best surgeons of the board including the genial doctor House and his three ambitious assistants.*

Because English clausal word order is fixed, and in particular, the position of the subject must be preverbal, the language is **forced to use the passive** in order to either pragmatically “hide” the Agent or, at the other extreme, to emphasize and focus it as new information. Consequently, especially in written English, the passive is much more frequent than in Czech, and is often a mark of good and effective written style.

The term **transitive Copula** is sometimes used for the idiosyncratic Verbs that do not passivize. For example, some Verbs meaning ‘**possession**,’ such as *have* and often *get*, do not usually passivize. But notice that the Verb *possess*, with a similar meaning, does passivize. These kinds of idiosyncratic exception also include *cost*, *measure*, *weigh*, etc.

- (11) a. *Zara now possesses ten books.* → *Ten books are now possessed by Zara.*
 b. *Zara has a new book.* → **A new book is had by Zara.*
 c. *Zara got the book.* → **The book was got by Zara.*
 d. But: *There was nothing to be had.* What could be got for that?
 e. *The book cost 20 crowns.* → **20 crowns were cost (by the book).*
 f. *The bridge measures 1 mile.* → **1 mile was measured by the bridge.*

21.3 Adjectival and Verbal Passives

There is a high level of similarity between the passive participle, a Verb following the Aux *be*, and an Adjective derived from V, which can follow the Copula *be*. In Czech, the distinction can usually be seen in morphology: *-n* is a verbal inflection marking passives, while *-ný* is an agreement inflection used for deverbal Adjectives.

- (12) a. *Dům byl postaven/-ný z cihel firmou Skanska.*
 house_{NOM} was built_{V/Adj} from bricks company Skanska_{INSTR}
 ‘The house was **built** from bricks from the Skanska company.’
 b. *Kvido je už unaven/-ný.*
 ‘Quido is already **tired**.’

In English, the passive participle morpheme *-ed/-en* is similar or identical to the derivational morpheme *-ed/-en*, which also creates derived adjectives. Both forms can appear after the Verb *be* and can therefore be mistaken for one another. Some linguists use the term ‘fuzzy’ for this kind of ambiguous inflection. Notice, however, that with a closer look at the characteristics of the two forms, one can demonstrate categorial distinctions between the two.

The categories of Verbs and Adjectives each carry a **canonical interpretation**. Therefore, after the category is chosen, based on the formal characteristics or simply the speaker’s choice, we can also discover a distinction in meaning. Verbs denote a **process** or **activity**, while Adjectives describe an achieved **state** or **property**.

- (13) a. *The house is being built/ sold.* processes (= V)
 b. *Oscar is very silly/ tired.* states (=Adj)

The scale from activity/ process to state is gradual, and some forms, especially if unmodified, remain ambiguous unless some context disambiguates them.

As for formal categorial diagnostics, the following examples demonstrate that only with verbal passives can English use a *by*-phrase to denote an Agent. Adjectives

cannot be complemented with a *by*-phrase.⁹⁰ Another difference is that given modifications are specific to either processes or states; that is, both processes and states combine with specific types of Adverbs.

(14) **By-phrase Modification of V, but not A**

- a. *This chicken was (being) **brutally/ quickly** kill-ed by Harriet.*
- b. *This chicken is/ seems **freshly** kill-ed (*by Harriet).*
- c. *They dined on a chicken **freshly** kill-ed (*by Harriet).*

The next examples show uses of the Auxiliaries *be/ get* in **marked verbal** structures. The auxiliary *get* and the progressive are never used with stative, adjectival passives.

- (15)
- a. *We **are being / will get** served quickly.*
 - b. *She **was being / got** exposed to radiation.*
 - c. *The matter **is being** attended to.*
 - d. *Such things **are being / get** noticed.*
 - e. *She never **got** caught when understating her income.*
 - f. *That doesn't **get** solved by being talked about.*

On the other hand, only the A category can be graded. Therefore, finding that an expression is gradable is a clear signal of A being its category label. Still, some adjectival passives are not gradable, as in the (c) example.

(16) **Gradability implies Adjectives**

- a. *I am **very/ rather/ more** tired/ exhausted/ surprised/ irritated.*
- b. *This is **very/ so/ more** unexpected/ unjustified/ clear-cut/ widespread.*
- c. *The car is/ seems/ looks ***very/ *rather/ *more** repaired/ tuned up.*

The distinctions in English between Adjectives and verbal passives are summarized in table (17). Notice that the interpretations adapt to the form.

(17) **Verbal passives and Adjectives**

Verbal passive		Adjective	
a.	ability to contain <i>by</i> -phrase	a.'	no Agent <i>by</i> -phrase
b.	active counterpart	b.'	modification of properties, states
c.	non gradable	c.'	gradability common
d.	activity reading; can be presented as progressive	d.'	stative reading (when progressive, then temporary)

⁹⁰ However, the Czech Instrumental can combine with Adjectives.

21.4 English Specific Characteristics of Passive Structures

The process of passivization in English and Czech seems similar, though some distinctions with regard to **frequency and usage** were already suggested in the first part of this chapter. This section will show in more detail the distinctions, which are the result of the different definitions of the structural Object in the two languages, as summarized in Section 20.3.1 on page 228.⁹¹

21.4.1 English double Object structures

Following the definition in 20.3.1 on page 228, the Czech sentences (18) (a/b) have identical direct Objects, since the same NP is in the Accusative: *knihu* ‘book_{ACC}’. In English, however, assuming the Object is the NP **immediately following** the Verb, in spite of the interpretations of these sentences being identical, there are distinct candidates for objecthood: *a book* in (c) and *Mary* in (d):

- (18) a. *Piers dal **knihu** Marii* b. *Piers dal Marii **knihu**.*
Piers gave book_{ACC} Mary_{DAT} Piers gave Mary_{DAT} book_{ACC}.
c. *Piers gave [_{NP}**a book**] to Mary.* d. *Piers gave [_{NP}**Mary**] a book.*

These differing analyses are confirmed by the process of passivization, which in both languages targets the structural direct Objects. In English, both the NPs following the Verb can passivize, while in Czech it is only the NP in Accusative. A Dative NP (DAT) cannot passivize.

- (19) a. *Piers sent **a letter** to Oscar.* → ***A letter** was sent to Oscar.*
b. *Piers sent **Oscar** a letter.* → ***Oscar** was sent a letter.*
- (20) *Piers napsal (**dopis**) Janovi (**dopis**).*
‘Piers wrote (letter_{ACC}) John_{DAT} (letter_{ACC})’
→ ***Dopis** byl napsán Janovi.* /**Jan byl napsán dopis.*
‘A letter was written to John.’ / ‘John was written a letter.’

Notice that I assume that each English passive sentence in (19) has its own active counterpart. I claim that it is the NP immediately following the Verb that passivizes; it is not the second NP in the (a) example, the so-called ‘Dative’ NP.

To illustrate some specifics of the English **double Object structures** and to support my proposed analysis, consider the following facts:

⁹¹ A quite thorough comparison of English and Czech passives, especially with respect to their pragmatic functions, can be found in Mathesius (1915). For more data, see also Dušková (1994: 249-272).

I. Not all English ‘double Objects’ participate in the alternation $[\text{NP}_{\text{direct}}, \text{PP}] \rightarrow [\text{NP}, \text{NP}_{\text{direct}}]$. The so-called ‘Datives’ with the Preposition *to* most likely do, but some *for* ‘Datives’ are also possible. What seems excluded are **verbs with non-initial stress**.

- (21) a. Carolyn baked that cake **for my children**. __NP, for PP
 b. Carolyn baked **my children** that cake. __NP, NP
 c. They described/ suggested/ explained that movie **to us**. __NP, to NP
 d. *They described/ suggested/ explained **us** that movie. * __NP, NP

II. Most of the structures that allow alternation, [NP, NP] vs. [NP, PP] have two passives, but not all. The Prepositions *to* vs. *for* seem to correlate with the distinction.

- (22) a. *They brought a book to me.* → *A book was brought to me.*
 They brought me a book. → *I was brought a book.*
 b. *They offered the job to a woman.* → *The job was offered to a woman.*
 They offered a woman the job. → *A woman was offered the job.*
 c. *They bought a hat for me.* → *A hat was bought for me.*
 They bought me a hat. → **I was bought a hat.*
 d. *They fixed lunch for the guest.* → *Lunch was fixed for the guest.*
 They fixed the guest lunch. → **The guest was fixed lunch.*

At least in some dialects, some ‘Direct Object’ structures are (?marginally) acceptable with passivized direct objects and no Preposition *to*.

- (23) ?Some new clothes were sent the children.
?Were their job benefits unfairly denied them?

English double Object structures are complex and remain theoretically challenging, but they can not be explained by referring to their Czech translations, because English has no Dative morphology, and not all Czech Datives can passivize in English.

21.4.2 Preposition stranding and Phrasal Verbs

According to the definition in Section 20.3.1 on page 228, the direct Object in English is the NP immediately following the Verb. It follows that to recognize the Object, we have to recognize the Verb, at least to be able to find the **right edge of the Verb**.

- (24) Subject -Aux, “Verb”] + Object NP

In analytic languages, this structure need not be so transparent because of the presence of Prepositions or some other “short words” between the Verb and the potential Object. In the following example, the Verb *look* is followed by a Preposition, which the Verb idiomatically selects; that is, the PP is a subcategorized Complement of the Verb.

- (25) a. *Mary was looking [pp **at** Oscar] in the garden.*

- b. *We look* [_{PP} **forward** *to his visit*].
- c. *Everyone looked* [_{PP} **after** *Oscar*].

In a binary structure, when a Verb is followed by a PP, the Preposition is usually grouped with the NP as suggested by the brackets in the examples above. However, in English (but not most Indo-European languages, including Czech), when the PP results from subcategorization, the Preposition can be analysed as a separate entity, i.e. as a bare P or a PP containing only a P. This makes it invisible for the process of English passivization. In (26), the NP *Oscar* is not part of the bare PPs containing *at*, *forward to* and *after*; the P(P) and NP are two separate sister constituents.

- (26) a. *Mary was looking* [_{P(P)} **at**] [_{NP} *Oscar*] *in the garden*.
- b. *We look* [_{P(P)} **forward to**] [_{NP} *his visit*].
- c. *Everyone looked* [_{P(P)} **after**] [_{NP} *Oscar*].

Since the subcategorized bare PPs are invisible for passivization, the NP following such a Preposition can be perceived as ‘immediately following the Verb’. Such an NP, according to the definition in Section 20.3.1 on page 228, counts as the structural Object, and so can be **passivized**.

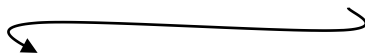
- (27) a. *Mary was looking* [_{P(P)} *at*] [_{NP} **Oscar**]. → *Oscar was being looked* [_{P(P)} *at*].
- b. *We look* [_{P(P)} *forward to*] [_{NP} **his visit**]. → *His visit is looked* [_{P(P)} *forward to*].
- c. *Everyone looked* [_{P(P)} *after*] [_{NP} **Oscar**]. → *Oscar was looked* [_{P(P)} *after*].

This analysis, which takes the Preposition and the following NP as separate entities, is also supported by the ability of the NP to be separately questioned or relativized. The phenomenon, which leaves the Preposition in postverbal position, is called **Preposition stranding**, and especially in passive structure is a specific characteristic of English (van Riemsdijk 1978).

The phenomenon is attested to in all structures targeting a Direct Object, e.g. (a) *wh*-questions, (b) relativization and (c) passivization.

- (28) Contexts for Preposition stranding:

Mary is looking [_{P(P)} **at**] [_{NP} **those flowers**] *very carefully*.



- a. **What** *is she looking* at?
- b. *They sold out the flowers* **which** *Mary looked* at *yesterday*.
- c. **Those flowers** *were being looked* at *very carefully*.

Not all prepositions following Verbs can be stranded, while prepositions in adjuncts usually cannot be. When subcategorized PPs are adjacent to verbs, stranding is frequent

but not obligatory. On the other hand, with some idiomatic **subcategorized PPs**, stranding is even obligatory; these are often called **Phrasal Verbs**.⁹²

- (29) a. *Who were you **looking at**?* *At whom were you looking?*
 b. *Who were you **looking for**?* *??For whom were you looking?*
 c. *Who were you **looking after**?* **After whom were you looking?*

With adjunct PPs, especially those following a subcategorized Complement, stranding is ungrammatical.

- (30) a. *Were you looking for the picture **with** Adam?*
 b. **Who were you **looking for** the picture **with**?*
 c. *With whom were you looking for the picture?*

Adverbial PPs immediately following a Verb can be structurally ambiguous, and so can have distinct interpretations. In contrasting examples like the following, probably only the Ps that can be stranded are in Complements.

- (31) a. *I am sure this bed has been slept in.*
 b. **I am sure this bed has been slept next to.*
 c. *The bridge was crossed under by Caesar on his last expedition.*
 d. *?? The railroad bridge was crossed under by Zara.*

21.4.3 V+N compounds and verbo-nominal Predicates

In English, we must distinguish Objects of a Verb from ‘Object-like’ parts of complex verbal forms. Here are examples of idiomatic verbal compounds in the form of V + N.

- (32) a. *I had a walk / a nap.*
 b. *They ended up taking a chance / a nap/ courage.*
 c. *Shee took advantage of his mistakes.*
 d. *He made a mistake / a bet.*
 e. *They put an end to the practice.*

These V+N compounds are **semantically opaque** expressions. They constitute “semantic units” and are also **formally unified**. The process of V+N compounding is, however, subject to diachronic change. When the process is finished, the compound becomes inert with regard to syntactic operations: true compounds do not allow passivization or questioning of items that may look like a Direct Object. See also Quirk et al. 2004, Section 16.2.

⁹² Idiomatic Phrasal Verbs are subject to diachrony, and certain expressions can remain ambiguous. For non-English speakers, idiomatic interpretations of English Phrasal Verbs can be suggested by translation, which sometimes lacks any Preposition: e.g. *Cz hledat Jana*_{ACC} ‘look for John’.

(33) Wh-questioning of an Object: *He took **some book/ a nap/ courage**.*
*Finally, **what** did they take?*
 a. *Some book.*
 b. *% A nap// %A chance*
 c. **Courage.*

- In English, there is a group of the so-called ‘light Verbs’, which combine with a Noun/ Noun Phrase and are perceived (by some speakers) as V+N compounds.

- When analysed as a V+N compound, a P in a subcategorized adjacent PP can strand, yielding the following *wh*-questions and passive structures:

- At the same time, however, the complex Predicates can be taken for Verb + Object constructions. Then the N following the light Verb passivizes, and can be modified:

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But even though the passive structure need not express an Agent overtly, this semantic role is still part of its interpretation, as shown by the fact it can be questioned:

- (39) *That book was written in the 19th century.* *Who wrote it?*

There is another structure called the **medio-passive**, which seems quite similar to the normal analytic passives discussed in this chapter. Notice that in the following example, the Patient of the activity is the Subject, and there is no Agent at all.

- (40) *That book sold very well.* *???Who sold/ sells it?*

Looking more closely at the medio-passive structure, we can see two specific characteristics. First, the verbal morphology is not passive; the Verb takes active forms. Second, the deagentization effect is even stronger than with the analytic passive: the example above does not imply an Agent at all, and therefore it is pragmatically deviant to question it.

Medio-passives are used in contexts where the role of Agent is suppressed.

(41) **general characteristics**

- a. *These clothes wash easily.* =*It is easy to wash these clothes.*
b. *Things like that are easy to believe.* =*It's easy to believe things like that.*

(42) **Modal possibility**

- a. *The lid finally shuts.* =*The lid can be shut.*
b. *Only this door locks.* =*Only this door can be locked.*
c. *His poem doesn't translate well.* =*His poem can't be translated well.*

(43) **individual characteristics**

- a. *He counts among the best.* =*He can be counted among the best.*
b. *The text sings to that tune.* =*The text is sung to that tune.*
c. *The dress buttons down the back.* =*The dress is/can be buttoned.*

Example (44) shows the Czech version of both English passive forms. Example (a) is a so-called analytic passive, which in both languages consists of an Auxiliary (Cz: *byly*) and passive participle (Cz: *zavřeny*). In (b) there are the medio-passive alternatives. In Czech, this form is called a **reflexive passive**. It consists of the active Verb form *zavřely* and includes the reflexive Pronoun *se*, which presumably eliminates the Accusative and forces deagentization.

- (44) a. *Dveře byly zavře-ny.* b. *Dveře se zavřely.*
door was closed door REFL close
a.' *The door was closed.* b.' *The door closed.*

22 SUBJECTS

Chapters 21 and 23 are going to provide the main diagnostics of English Subjects, taking the concept first and foremost syntactically, that of having a specific position (function) of a constituent in a clausal structure.⁹³

The Subject is a main sentence member (sentence function). It can be defined with respect to several diagnostics, and it shows a range of properties at all linguistic levels. We will consider the following:

- (1) a. **semantics** (interpretation) and **pragmatics** (sentence dynamism or use)
- b. **form** i. **morphology** and
- ii. **syntax** in terms of distribution and special operations

In the following sections, I will concentrate on the properties of English Subjects with respect to their semantics, morphology and pragmatics.

22.1 Semantic Roles of Subjects

Recall the concept of **semantic role frame**, from Section 13.1.1 and Chapter 19. The clausal function of a Subject is the canonical position for the top semantic role, usually the Agent or “doer”. The following repeats the formalisms of semantic selection and Complement selection (subcategorization). The schemes indicate that *hit* is a Verb, i.e. with respect to the N.I.C.E. properties; it is a lexical Verb that requires a *do*-Support. The semantic selection (s-selection) of *hit* contains two Arguments with the semantic (= thematic, theta, θ) Roles of A1=Agent and A2=Patient. The Complement selection (c-selection) states that, in syntax, the Verb *hit* must have a nominal Object, which canonically follows the Verb.

- | | | | |
|-----|--------------|-----------------------|-------------|
| (2) | <i>hit</i> : | V, < Agent, Patient > | s-selection |
| | | V, [---NP] | c-selection |

Notice that s-selection (**semantic** subcategorization) < Agent, Patient > of the above Verb lists two semantic Arguments: iA1, Agent and A2, Patient. The c-selection (**syntactic** subcategorization) V, [---NP], however, refers only to right hand complementation. This is because the A1 Argument is canonically realized as a Subject (of an active clause), and the form of a Subject depends on the type of the sentence, but not on the Verb. In fact, A1 does not have to be overtly realized at all, as the following examples of infinitives (in bold) demonstrate.

⁹³ A detailed description of specific characteristics of English subjects can be found in the main grammar manuals: Huddleston and Pullum (2002: 235-243), Huddleston and Pullum (2005: 12-13, 67-70), and Quirk et al. (2004: 724-767). For some comparison with Czech, see also Dušková (1994: 390-422).

- (3) a. [_{VP} To **read** letters] is irritating.
 b. I did not promise him [_{VP} to **go** home early].

In a finite active sentence, the function of Subject standardly realizes the highest semantic role, that of Agent. In a more developed conception of semantic roles, the concept of Agent includes two features: consciousness and activity. Only conscious and active doers are prototypical **Agents**. For a non-active but conscious semantic role, the label **Experiencer** is used, and unconscious Agents have the role of **Force**.

- (4) a. **Mary** heard **George** rattle the door with a broom.
 b. **Mary** heard **the wind** rattle the door.

In this example, *George* in (a) takes the role of the real Agent of the Predicate *rattle* as he performed the activity and he is a conscious human being. *Mary* takes the role of experiencer because hearing is not an activity. The *wind* in (b) is a force because it lacks consciousness.

In this study, however, I will not distinguish the various types of Agents illustrated above. I will label the semantic role of all of them Agent or A1.

The role of Agent is a canonical or typical role for Subjects, but the function of a Subject cannot be entirely conflated with this role. Although they often appear together, both Agent and Subject are **independent** concepts: Agent refers to a part of a semantic frame of specific Verbs, while Subject refers to a position in clausal structure. In the following paragraphs, I will give arguments for claiming the independence of the two terms: we will see that not every Agent is necessarily a Subject and, as above, not every Subject has to carry the role of Agent. Consider the roles of the following (bold) Subjects:

- (5) a. **Quido** [Agent] opened the door.
 b. **Zara** [Experiencer] could not hear the noise.
 c. **The hurricane** [Force] blew away many roofs in the neighbourhood.
 d. **The key** [Instrument] opened the door.
 e. **The door** [Patient] opened/ broke apart.

We can see that some clausal patterns in fact systematically fill the position of Subject with an Argument distinct from the Agent, e.g. in passivation.

On the other hand, the following example shows that some structures serve as typical realizations of the role of Agent, although they are not Subjects. For example, a *by*-phrase is almost exclusively limited to containing Agents.

- (6) *The room was cleaned by Zara.* *We tried to clear the room by Zara.

Recall also that not every Verb denotes an activity or event with Arguments, which can be labelled as Agents and Patients. When the semantic hierarchy is ambiguous; for a prototype, see example (8) on page 220 and the text in Section 19.1. A language can

select rather arbitrarily which role will be taken for higher and becomes Subject, and which will be taken as second and get realized as Object. The following example of a “psychological verb” *like* and its Czech translation *líbit se* illustrates language-specific choices. In English *Oscar* is A1 and Subject, while in Czech it is the *book*.

- (7) a. En.: *Oscar really likes that book.*
 b. Cz.: *Ta kniha se Oscarovi opravdu líbí.*
 that book_{NOM} REFL Oscar_{DAT} really likes_{3S}

The examples (5)-(7) above prove that the semantic role and sentence function are not one concept, but two independent entities, which nonetheless may tend to correlate. This claim is further supported by English specific examples of expletive Subjects, i.e. Subjects that have no independent reference at all. They show that even when there is no semantic role available, as with weather Verbs, the position of Subject can still be obligatory. Such purely formal Subjects also appear in impersonal constructions and with extraposed clausal Subjects, where the formal pre-verbal position of Subject is occupied by the so-called linking, anticipatory *it*, as in in (8). Other languages such as Czech do not allow overt pronominal Subjects when no semantic role is available, as illustrated in (9).

- (8) a. *It is raining/ snowing.* weather Verbs (NO Agent)
 b. *It is late.*
 c. *It seems that Oscar arrived late.* NO Agent
 d. *It is outrageous that nobody helped you.* linking/ anticipatory *it*
 e. *It is easy for me to go.*
- (9) a. *Prší. / ?? To/Ono prší.*
 rains it rains
 b. *It rains. / *Rains.*

To conclude: The foregoing examples show that a Subject is a formal concept related to the structure of a clause, and typically can carry some semantic role. The position is a necessary part of each English sentence, although:

- i. the semantic role of the function of Subject can vary cross-linguistically, and
- ii. a semantic role is neither necessary nor sufficient in the function of Subject.

22.2 Morphological Properties of Subjects

English Subjects can be defined using both morphological and syntactic (distributional) criteria. In morphologically rich languages like Czech, the **morphological criteria**, i.e. Nominative Case and Subject-Predicate agreement, provide the primary diagnostics for subjecthood, while distribution is used only in cases where morphology is ambiguous, and even then, it is considered only within specific contexts. In English, the situation is the opposite; the distribution (i.e. structural position) of the constituent provides the

primary information for the structure, and the morphology, a rather poor repertory of Case and agreement inflections, serves only as surface markers of position.⁹⁴

(10) Morphological signals of subjecthood in English:

- a. Nominative **Subject Case** on pronominals,
- b. **Subject-Predicate Agreement.**

The following example shows the morphology related to subjecthood: The Subject or Nominative Case is a configurational feature morphologically realized on Pronouns in the Subject-Predicate configuration. When the Subject and the Verb carry the three unmarked features of [3rd Person], [singular] and [present], the English predicate reflects them in the form of the Subject-Predicate agreement inflection –s.

- (11) a. ***He**_{NOM} see-s_{3SPres} her_{ACC}.*
 b. **Him sees her. *He see her.*

22.2.1 Subject Case

Nominative is the paradigmatic form of nominal categories in languages that have a special (distinguishable, regular, frequent, obligatory) form used for the function of Subject. In English, a special form exists only with pronominals, and it is labelled as **Subject Case**, or Nominative. There is no special Case marking visible on Nouns or Adjectives, or Determiners other than Pronouns.

Moreover, in contrast to morphologically rich languages, the Nominative/Subject Case is highly **marked** in English, and it is overt only in contexts where the structure is that of a subject and not blurred by any other factors. For example, it does not appear spontaneously in **separation** (a), in **coordinated subjects** (b), when the finite Predicate is **covert** (c), or other complex structures (d-e) where there is more than one candidate for the Case. In all those contexts, English, especially in non-standard dialects, uses the **Object form**.

- (12) a. *Who did it? **Me**. Do you know who did that? **Him/ *He**.*
 b. *William and also **him** are good students.*
 c. *John can swim faster than **me**.*
 d. *It was **him/ ?he** that Mary brought the present.*
 e. *Nobody but **he/ him** can help you.*

In some contexts, Nominative Case does not appear even in the most prescriptive descriptions, e.g. in non-2nd Person **imperatives**, the particle *let* is followed by a Pronoun in the Object Case, and with **infinitive predicates**, where an overt Subject/Agent must be assigned a Case by some other element such as the Preposition *for*.

- (13) Imperatives a. *Let's (**us**) go home, shall **we**?*

⁹⁴ In the same framework as this monograph, the concepts of English and Czech subjects are contrasted in Veselovská (2013) with respect to their form, function and pragmatic use.

- b. *Let **me** help you, shall **I**?*
- (14) Infinitive Predicate a. *For **him** to go home seems very complex.*
 b. *After **his**/***he**/***him** saying goodbye, I left.*
 c. ***His** reading of the article is really irritating.*

The strictly defined configuration, in which the pronoun has a unique relation to an overt finite Predicate, is also required in Copula structures, where only the canonical structural Subject preceding the Copula can be marked as Nominative. A post-nominal subject can be contrasted with the Czech Nominatives in this position.

- (15) After a Copula a. *It is **me**.*
 b. *To jsem **já**.*
 it_{NOM} am I_{NOM}

Prescriptive grammars, especially older grammar books used for educational purposes, also require the use of Nominative in coordinated or Copula contexts. However, there seems to be no place for those prescriptive forms in the Modern English grammar system, and speakers therefore tend to use the non-Nominative paradigm in their speech, as seen above in (12).

22.2.2 Subject – Predicate agreement

The other morphological signal of subjecthood is the configurational morphology of the Subject-Predicate agreement.

In many languages, finite Predicates **agree** with their structural Subjects, i.e. the Predicate reflects the relevant features of the Subject nominal phrase. For this Subject-Predicate agreement morphology in English, see Section 13.7. Recall that this agreement morphology is rather special because it appears in the context of three features: [3rd Person], [singular] and [present], and all these features are unmarked and have no morphology when they appear separately.

- (16) a. 3rd Person: *they call(*s)*
 b. Singular Number: *I read(*s)*
 c. Present Tense: *he wa-s vs. he kept(*s)*

Subject-Predicate agreement is richer with the present form of the Verb *be*, and given the multiple functions of this Verb as Auxiliary and Copula, such agreement appears rather frequently.

On the other hand, Subject-Predicate agreement in Person/Number can also be idiosyncratic, especially when the head of the Subject is not unambiguous. The following examples demonstrate structures with complex Subjects (coordinated Subjects, Subjects containing a Quantifier or a complex NP with several heads).

- (17) a. *His only success **was** his short stories.*

- b. *His short stories **were** his only success.*
- c. *What we need most **is/are** sufficient funds.*
- d. *Two years **is/*are** a long time to wait.*
- e. *Bread and olive oil **is/*are** a nice breakfast.*
- f. *A large number of students **are/*is** granted scholarships.*
- g. *Every year, a group of excellent students **is/are** granted scholarships.*
- h. *Either he or you **are/*is** mistaken.*
- i. *Either you or he **is/*are** mistaken.*
- j. *For a birthday, flowers or a book **is/*are** a good present.*
- k. *For a birthday, a book or flowers ***is/are** good presents.*
- l. *The police **is/are** looking for the criminal.*

In these examples, we can see that agreement in English sometimes allows several options and not always reflects reality. To provide labels for those cases, traditional frameworks distinguished between ‘**semantic**’ agreement and ‘**formal**’ agreement. The nature of the phenomena depends on the definition of the element that enters agreement, and the structure can provide more than one option.⁹⁵

22.2.3 Pro-drop languages

Languages with rich verbal inflection for agreement, (Czech but not English) can leave the position of the Subject empty, i.e. a minimal Subject Pronoun is dropped and the Subject features are realized only as a bound morpheme on the Predicate. These languages are called **pro-drop languages** or **null Subject languages**, and there are several types of those languages.⁹⁶ Czech is a consistent **pro-drop language** because it allows null Subjects in all contexts. English is not a pro-drop language, and it can have zero Subjects only in specific constructions, such as imperatives.

- (18)
- | | | |
|-----|---|--------------------------|
| a. | <i>Odešel jsem včera.</i> | |
| | left _{SM} Aux _{1S} yesterday. | |
| a.’ | <i>I left yesterday.</i> | <i>*Left yesterday.</i> |
| b. | <i>Pomáhali nám.</i> | |
| | help _{3PM} us _{DAT} | |
| b.’ | <i>They were helping us.</i> | <i>*Were helping us.</i> |
| c. | <i>Pomoz si sám! (=2sg)</i> | “ |
| c.’ | <i>Help yourself!</i> | |

In Section 5.3, we saw that languages can realize grammaticalized features in the form of free or bound grammatical morphemes. Synthetic languages prefer the bound forms, analytic the free ones. In some cases, the bound and free forms co-occur. Consider the

⁹⁵ The analytic nature of agreement is described in detail in Chapter 8 of Veselovská (2018).

⁹⁶ The so-called “pro-drop (null subject) parameter” has been a subject of cross-linguistic studies. Jaeggli and Safir (1989) is a representative collection of articles on the topic.

following examples where the same feature is expressed by a free morpheme or a bound variant.

(19)			bound	free
a.	<i><u>nice</u>r</i>	<i><u>more</u> famous</i>	<i>-er</i>	<i>/ more</i>
b.	<i>vykláda-<u>t</u></i>	<i><u>to</u> talk</i>	<i>-t</i>	<i>/ to</i>
c.	<i>(<u>my</u>) chodí-<u>me</u></i>	<i><u>we</u> go</i>	<i>-me</i>	<i>/ we</i>
	(we) go-1Pl			

If we take the agreement morphology *-me* in (19)(c) for the equivalent of the free Pronoun *we*,⁹⁷ the assumption that pro-drop languages do not have Subjects appears to be false. The Subject is not missing or “dropped”, but it is realized using the bound agreement morpheme or some other means. (There are languages like Japanese with minimal or no agreement morphology where the interpretation of unexpressed Subjects is based on discourse characteristics.)

However, not every type of overt agreement morphology allows dropping the Subject. In (20)(a), we can see that in German, which has at least four agreement inflections, one cannot drop the Subject. Nor can French drop Pronoun Subjects, although its close grammatical neighbour Spanish is pro-drop like Czech. The (b) example shows that when the language is not a pro-drop language, like English, even in contexts where agreement is unambiguous, the Subject cannot be dropped.

- (20) a. **(Du) gehst oft nach Paris!*
 ‘You go often to Paris!’
 b. **Am a Spanish speaker.*

There are only a few contexts in English with no overt Subject; the most systematic one is the imperative. I assume that the Subject in an English imperative is realized by a 2nd Person morpheme, because the presence of such a Subject is reflected in (18)(c) and (21)(a) by the use of the anaphoric Pronoun *yourself* (recall that bound anaphors require antecedents!). In (21)(a) we can also see a tag question with *you*; recall that these questions make copy the main clause Subject, which must then be 2nd Person.

- (21) a. **Imperative:** *Help yourself!*
Open the window, will you?

In English, unexpressed Subjects can be found also in idiosyncratic idiomatic constructions and in the so-called diary style used in diaries and today perhaps also in mobile phone text messages.

- b. **Idiosyncratic:** *Thank you. Bless you. Wait a minute.*

⁹⁷ One way to do this is by using the “Alternative Realization” of Emonds (1987, 2000).

- c. **Diary style:** *Came back as soon as possible.
Made a dinner and watched TV....*

The approach based on alternative morphemes, as in (19), introduces other research questions: which kind of bound morphemes are able to replace an overt Subject Pronoun? Why do overt Subjects co-occur at all with overt agreement morphology? It is clear that a language is pro-drop not only by its morphology but because of a whole complex system of characteristics. The research of the null Subject phenomena therefore still continues, and parallels the development of the theoretical framework.⁹⁸

22.3 Pragmatic Roles of Subjects related to Linearity

Every constituent in a clause can be defined with respect to several individual levels. We can provide a constituent with its categorial label, e.g. *my little grandson* is a determined nominal complex DP. At the same time, we can classify its function in this specific clausal context, e.g. *my little grandson* can be a Subject of the Predicate *loves to ride a bicycle*. As for its semantic role, *my little grandson* is a top Argument (Agent or perhaps Experiencer) of the event *love*.

- (22) [*My little grandson*] *loves to ride a bicycle*.

Apart from the classification in terms of (a) category, (b) sentence function, (c) semantic role, we can consider also a constituent's pragmatic role with respect to the sentence dynamism of a discourse.

The pragmatic aspects of discourse refer to **Theme/ Topic** (information old/ known to the participants of a specific discourse) and **Rheme/ Focus** (information new in the discourse). The concepts of Theme and Rheme, i.e. of the least dynamic and most dynamic parts of the clause, can be expressed by **constituent order**, their linearity. The Theme tends in unmarked contexts to be preverbal, and the Rheme postverbal. The more toward the end of the clause the constituent appears, the more rhematic (new, dynamic, stressed) it is.

- (23) **Discourse order**

Theme / Topic / old ←← VERB →→ **Rheme / Focus / new**

In English, because its constituent order is grammaticalized, the correlation between pragmatic factors and word order is not as strong as in Czech, but it still exists. Given that the position of Subject is usually clause initial, it follows that Subjects have a strong tendency to be the 'Topic/ Theme' of a proposition.

⁹⁸ For some alternative present-day formal analyses, see Huang (1984), Gilligan (1987), Biberauer et al. (2010) or Krivochen and Kosta (2013, Chapter 4). The pro-drop parameter with respect to Czech data is discussed in Kučerová (2014), and Veselovská (2019).

There is a preference in all languages to identify Subject with the Agent Role and the Topic, but this tendency is weaker in English than in Czech. There is also a strong tendency to repeat parallel structures, when Subjects “tend” to remain Subjects unless marked otherwise.

(24) *Piers saw Paul and then he(=PETER) greeted him(=PAUL).*

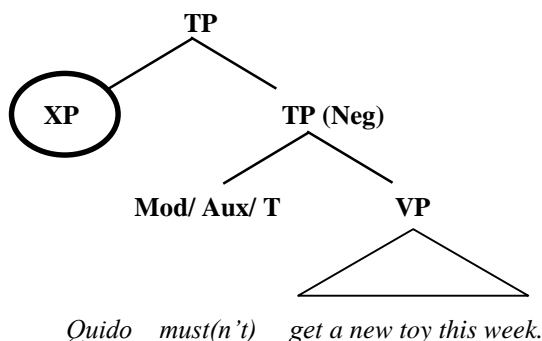
The pragmatic aspects of discourse, which include sentence dynamism and functional sentence perspective, are related to the distinction between “old” and “new” information and to the speaker’s emphasis or stress. I will discuss these phenomena in detail in Chapters 30 and 31. I will show there that, apart from linearity, it is also the principle of **markedness** that substantially contributes to sentence dynamism in languages with grammaticalized constituent order, like English.

23 SYNTAX OF ENGLISH SUBJECTS

The label Subject is a functional label, i.e. it refers to the function of a given constituent in a specific structure. In a schematic tree as a symbolic representation of a clause, Subject is a **position**. The constituent located in the position of Subject has specific morphological characteristics, and it is interpreted: it carries a semantic role and a pragmatic discourse role.

The following scheme situates the Subject as the circled constituent XP, which combines with a Predicate, a finite tensed Verb in TP, to form a clause. In English, where the linearity of constituents often overtly signals the structure, we can say that the Subject is the constituent which, in declarative sentences, precedes the Ω position (the first Modal/Auxiliary). Notice that the Subject is not a part of the VP; it is thus called an **external Argument**.

(1) Subject



As for the categorial label of the constituent XP, which can take the function of Subject, a nominal phrase including its Pronoun substitutes is the most frequent. However, not every NP is a Subject, and not every Subject is an NP. The following examples show that the Subject position is often taken by a non-finite VP (an **infinitive** or **gerund**), a *wh*- or *that*-clause, or an expletive/ linking *it*. The use of an expletive further demonstrates that, in standard Modern English, the position of a Subject must be overtly present.⁹⁹

- (2)
- a. [DP *My older brother who is married*] *is at home.*
 - b. [DP *Adam / He / One/ Nobody else/ Who*] *never feels really safe.*
 - c. [VP_{gerund} *Putting it off*] *won't make it any easier.*
 - d. [VP_{inf} *To leave so early*] *would be impolite.*

⁹⁹ For less frequent categorial variants, see the detailed description of English subjects in Huddleston and Pullum (2002: 235-243), Quirk et al. (2004: 755-766), and Huddleston and Pullum (2005: 12-13, 67-70). English subjects are described from a Czech perspective in Dušková (1994: 390-422).

- e. [clause **Whoever stole my purse**] *didn't get much.*
- f. [clause **That the ship was wrecked**] *was widely feared.*
- g. [DP **It**] *is feared that the ship was widely wrecked.*
- h. [DP **It**] *is not determined who should be sent.*

The scheme in (1) illustrates the position of Subject as the one preceding the first Modal Auxiliary (Ω/T). This structure, however, represents an unmarked declarative clause. In interrogative or other marked patterns including some declaratives, the Subject obligatorily surfaces in a different position, as we will see below.

In these structures as well, the Subject position is best defined by its relation to the Predicate, more specifically **with respect to the T (Ω) position**: it either precedes it or follows it. As a result, notice that the Subject need not be the first NP in a clause.

- (3) a. *Last month/ In the afternoon **little Oscar** did not go to school.*
- b. *Will **Ethel and Zara** see their grandma tomorrow?*
- c. *How many cars does **Bill Gates** have?*
- d. *Never will **Donald Trump** say that!*
- e. *Let **it** be!*

23.1 Syntactic Processes Targeting the Subject Position

In discussing the concept of an English verbal Object in Chapters 20 and 20, I presented its ability to passivize as one of the diagnostics for the Object function/ position. A similar diagnostic can be used for the function of Subject. The interrogative patterns in the examples above suggest that the position of syntactic Subject plays a role in specific syntactic processes. The main processes are listed below with corresponding examples in (5):

(4) Syntactic processes targeting the position of Subject

- a. Syntactic Subjects invert with the first Mod/Aux in questions.
 - b. Short answers and questions of surprise repeat Subjects as pronouns.
 - c. Question tags repeat the Subject as a pronoun.
 - d. English **bound anaphors in adjuncts**, including emphatic reflexives, take only Subjects/ Agents for their antecedents.
-
- (5) a. *Did **Mary** see Adam?* *Can **that book** be understood?*
 - b. *Yes, **she** did.* *Did **she** really?*
 - c. *Mary saw Adam, didn't **she**/*he?*
 - d. *Mary gave Adam some new books **herself**/*himself.*
*My parents_i always visit their cousins_j with **each other**_{i/j}.*

In (12) on page 229, I summarized the diagnostic properties of the canonical/ standard/ unmarked Verb Complement, the syntactic/ structural Object. I now provide the same for the function of Subject.

(6) **Characteristics of canonical/ standard syntactic Subjects**

- (a) **semantic role** → **A1, i.e. Agent** (some variety, including none)
- (b) **morphology** → **Subject Case / Nominative**, if Case is visible
→ **agreement** on Predicates, in 3sg, Present
- (c) **syntax** → **NP**, including pro-forms; PPs and clauses also appear.
→ **immediately precede a declarative Predicate**,
→ invert in questions,
→ appear in question tags and short answers,
→ are typically an antecedent to a bound anaphor.

The various Subject characteristics apply at all linguistic levels. Taken together, they allow us to identify the relevant function in cases in which some of the properties are blurred or missing. For example, we saw already in Chapter 21 that semantic roles and morphology cannot be used as unambiguous characteristics; both can have a number of exceptions. The grammatical concept of Subject is a syntactic, combinatorial function, and therefore the **syntactic characteristics** should be taken as primary. I will demonstrate this claim in the following sections, where its formal and semantic properties are systematically separate.

23.2 Dissociating Form and Meaning

A Subject is a formal concept not directly related to interpretation. In English, an overt Subject is a necessary part of each sentence. After we define the Subject with regard to (a) meaning, (b) morphology and (c) position, some sentences seem to have more than one candidate for the role of Subject. In this section, I am going to present two structures: **expletive Subjects** and **Raising**. I will show how the syntactic process of Raising leads to the dissociation of the semantic role from syntactic function.

23.2.1 Expletive Subjects *IT* and *THERE*

There are two standard structures in English where the position of Subject is occupied by an element that does not express the semantic role typically assigned to this position. There are sentences with the so-called ‘linking *it*’ and existential structures with the expletive *there* in *there is/ there are*.

23.2.1.1 Linking *IT*

In (2)(g-h) on page 254, repeated below for convenience, we saw that a clausal Subject tends to be extraposed to the right edge of the clause, which is a position often occupied by heavy constituents. In these cases, the position of clausal Subject cannot be left empty, but it is filled by a substitute of “place holder, the Pronoun *it*.”

- (7) a. [DP **It**] *is feared that the ship was wrecked.*
- b. [DP **It**] *is not determined who should be sent.*

In these examples, the interpretation is purely anaphoric; the expletive *it* refers to the only to the extraposed and underlined associate clause. The following examples show, however, that it is the Pronoun *it* which occupies the Subject position, because it takes part in all syntactic processes targeting Subjects. Moreover, it cannot be dropped, while the associate (semi-)clause can be, when the context provides the interpretation.

- (8) a. *Did **it** seem obvious that Mary left?*
 b. ***It** seemed obvious that Mary left, didn't **it**?*
 c. **Seemed obvious that Mary left.*
 d. *Mary must have left. **It** seemed obvious.*
- (9) a. *Was **it** the best idea to go home?*
 b. ***It** was not the best idea to go home, was **it**?*
 c. **Was not the best idea to go home.*
 d. *Mary decided to go home. It was not the best idea.*

To summarize the characteristics of the linking *it* structures, we say that

(10) **Linking *it* + associate TP or VP**

- i. the associate is a **(semi-)clause**,
- ii. the associate is at the **right edge** of the containing clause,
- iii. the expletive *it* can occur without the associate (in a salient context).

23.2.1.2 Existential structures based on *THERE IS/ ARE*

In the following sentence (11)(a), the standard position of the Subject preceding the Ω/T position is occupied by the constituent *there*. The Predicate Verb *be* is followed by an **indefinite NP**, which is interpreted as its main Argument, i.e. this NP takes the semantic role assigned in the (b) example to the Subject.

- (11) a. ***There** is a/*the paper on the desk.*
 b. ***A paper/ The paper** is on the desk.*

Shall we analyze the (a) and (b) examples above in the same way? Namely, is *paper* the Subject in both of them? The semantics suggest this. Moreover, regarding morphology, the following examples show that the indefinite NP in fact standardly determines the Subject-Predicate agreement. On the other hand, the Pronoun after the Copula does not take Subject Case. Since existential structures introduce new referents, Pronouns are always ungrammatical because they are definite, i.e. they refer to something whose reference is already known.

- (12) a. ***There** is / *are a paper on the desk.*
 b. ***There** are / *is several papers on the desk.*
 c. ***There** is *they/*them on the desk.*

Testing the syntactic characteristics of the structure yields quite clear results: it is the Pronoun *there* that serves as a syntactic Subject. The examples also demonstrate that although originally *there* was an Adverb, in today's existential structures it is better analysed as a Pronoun. Notice that an existential can contain a true adverbial *there*:

- (13) a. ***There*** is a book on the table/ over there, isn't there/*it?
 b. Is ***there*** a book on the table/ over there?

The last example demonstrates that, contrary to associate VPs/ TPs with the linking *it*, neither the expletive *there* nor the associate NP can be omitted. If we omit the expletive, we get a non-existential interrogative structure. Omitting the associate results in ungrammaticality.

- (14) a. *Is a paper on the desk?* (Yes, a paper is on the desk)
 b. *No, there is on the table.

To sum up, the following are the defining characteristics of existential structures:

(15) **Expletive *there* + associate NP**

- i. the associate is an indefinite NP (because it is rhematic!),
- ii. the associate is immediately after the Copula,
- ii. the expletive *there* is not able to occur without the associate.

These existential structures developed from locative and directional structures. (Recall that Old English had a relatively free constituent order). With intransitive Verbs, with the adverbial PP preceding the Ω /T position and the NP in the final position, these structures survive as marked options in Modern English, especially in songs and literature.

- (16) **Locative PPs** a. *In that house can be found a famous painting.*
 b. *In that house is hanging a famous painting.*

- (17) **Directional PPs** a. *Into the house ran Jessica.*
 b. *Up came our number.*

The diachronically intermediate variant retains the older word order but inserts the element *there* in the position of Subject. Crucially, however, neither (18)(a) nor (b) are pragmatically equivalent to the standard word order in (18)(c).

- (18) a. *Below the hill (there) is a village.*
 b. *There is a village below the hill.*
 c. *A/ The village is below the hill.*

The existential structures in (18)(a/b) are possible answers to the question *what is below the hill?*, meaning that the associate Subject is rhematic and so must be indefinite. The standard word order in (c) is an answer to *Where is the village?* Here the Rheme is the location, and the Subject is a Theme/ Topic. Therefore, it can appear with any Determiner, preferring a definite one.

In languages with more free word order, the same pragmatic distinction may be marked only by word order. For more details about pragmatics, see Section 31.2.

- (19) a. *Támhle je Eliška.* b. *Eliška je támhle.*
 over there is Eliška_{NOM} Eliška_{NOM} is over there
 ‘There is Elisabeth there.’ ‘Elisabeth is there.’

23.2.2 Raising to Subject

We saw that in English, position is the main signal of subjecthood, and the Subject function in fact correlates with syntactic position. The usual semantic role of the Subject, Agent, is neither a necessary nor a sufficient condition.

Because of the loose correlation in English between semantic role and sentence function, the Subject of a finite Verb that does not require a position for its Agent can even realize a semantic role related to another Verb. Consider the following example. The bold NP *Oscar* is clearly a Subject of the Predicate *is said*: it precedes it, and it agrees with it. However, the semantic role of *Oscar* is not related to the event of *saying*. Instead, *Oscar* is the Agent of the infinitive Verb *arrive*, which is in the embedded semi-clause. Similarly, in (b) and (c) *Oscar* (a Subject of the matrix Verb) is an Argument of the embedded Infinitive.

- (20) a. ***Oscar*** *is said to always arrive first.*
 b. *Oscar was seen to run to the park.*
 c. *Oscar is said to be introduced to Robert.*

When the semantic Argument of the infinitive Verb appears in the main clause, we assume that it gets there by some movement/ transformation. This process is called **Raising to Subject** because it moves an NP constituent to a Subject position that is higher than its original position. The assumed Raising is illustrated here:

- (21) a. ***It*** *seems that **Oscar** stays at home.*
 b. ***Oscar*** *seems to stay at home.*

Notice that Raising is possible only when the position of the Subject in the main Predicate is empty, i.e. does not carry any semantic role. In addition, when some Argument (Agent, Patient or Experiencer) raises from an embedded clause, the embedded Predicate becomes infinitive.

In (22)(a), *seem* is an agentless verb, in (b) the main clause is an impersonal construction whose Subject is a linking *it*, and in (c) the Agent of *say* has been removed

by passivization. An Argument from the lower clause can thus move into the higher position, which other factors have made semantically empty.

- (22) a. *It seems that **Oscar** has arrived first.* → ***Oscar** seems to have arrived first.*
 b. *It isn't likely that **Oscar** attends.* → ***Oscar** isn't likely to attend.*
*It is easy (for her) to please **Oscar**.* → ***Oscar** is easy (for her) to please.*
 c. *People say that Mary admires **Oscar**.*
 → *It is said that **Oscar** is admired (by Mary).*
 → ***Oscar** is said to be admired (by Mary).*

The (c) examples demonstrate the reason for the raising: it allows the speaker to violate the standard correlation of semantic roles, which in English results in a fixed ordering (*Mary admires Oscar*). Notice that all the (c) examples express the same meaning, but in the different syntactic options, *Oscar* can appear at the very end, in the middle, or at the very beginning of the sentence. We will return to the raising structures again in section 27.3.1.

23.3 Comparing Czech and English Subjects

In Czech, where the order of main clausal functions is not fixed and semi-clauses do not represent a barrier for re-orderings, raising structures are rare. A formal and pragmatic comparison of English and Czech Subjects can be found in Veselovská (2013), and the following list provides the main distinctions.

(23) Czech Subjects

- a. Subjects can be realized as bound morphemes (in a pro-drop language),
- b. Subjects are defined morphologically, and they can appear postverbally,
- c. The preferred Subject is the element carrying the Agent semantic role, i.e. Agents have a strong tendency to become and remain Subjects.

(24) English Subjects

- a. Subjects must be overt free morphemes (it is not a pro-drop language),
- b. The distribution of Subjects is strictly grammaticalized: they have a fixed position with the unmarked interpretation of Topic,
- c. The semantic role is often ignored, and the Subject is often a purely syntactic place-holder.

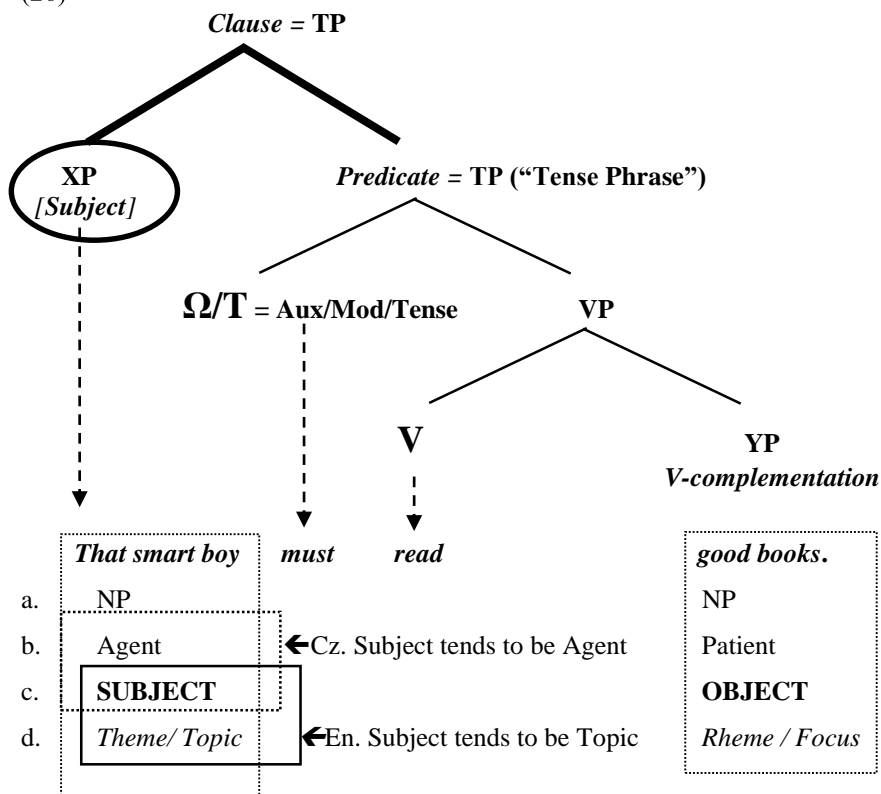
The scheme in (26) illustrates the multilevel analysis of clause structure as it is presented in this monograph. Concentrating on the positions of Subject and Object, it shows that each constituent in a sentence can be defined with regard to several criteria. It includes an indication of how English and Czech utilize somewhat differently the same basic common structure.

(25) Multilevel analysis of clausal structure

- a. **Categorial label** of the constituent (NP, VP, etc. – the parts of speech);
- b. **Semantic role** (Agent, Patient, Goal, Experiencer, Instrument, etc.);
- c. **Syntactic (sentence) function** (Subject, Object, Attribute, Adjunct, etc.);
- d. **Pragmatic (discourse) role** (Theme/Topic, Rheme/ Focus).

The following tree also demonstrates a universal correlation for Subject as it tends to be realized in a language specific way: the Subject function (position) tends to correlate with the pragmatic role of Topic in English, with the semantic role often ignored, while the function of a Czech Subject tends to correlate with the semantic role of Agent, with pragmatics expressed by other means, mainly by word order.

(26)



24 ENGLISH NEGATION

In Chapter 15, while discussing the taxonomy of English Verbs, I proposed that the clausal structure must contain a specific projection to host clausal negation; see scheme (29) on page 187. This chapter is going to discuss in greater detail the phenomenon of negation in English, considering it from the perspectives of its **scope** and levels of **grammaticalization**. Some other topics related to the syntax of negation are going to be mentioned, too, such as the transfer of negation in Section 24.7.2 and negative Adverbs in Section 24.8, in as much as these phenomena reflect the logic of the language system as it is described here.¹⁰⁰

24.1 Kinds of Negation

The logical basis for grammatical negation is rooted in some psychological property of the human brain: the ability to see facts as contrastive or in binary opposition.

24.1.1 Semantic negation

Opposites are pairs of lexical entries that are distinct in at least one feature. Notice that the examples in (1)(a) do not represent opposites, although they denote completely distinct concepts. On the other hand, the examples (b-e) represent opposites, although the couples share in fact all features with the exception of one.

- | | | | | | | | | |
|-----|----|---------------|-----|----------------|----|---------------|-----|---------------|
| (1) | a. | <i>stone</i> | vs. | <i>justice</i> | b. | <i>mother</i> | vs. | <i>father</i> |
| | c. | <i>good</i> | vs. | <i>bad</i> | d. | <i>day</i> | vs. | <i>night</i> |
| | e. | <i>friend</i> | vs. | <i>enemy</i> | e. | <i>nice</i> | vs. | <i>ugly</i> |

Lexical entries representing opposites are a natural part of each natural language. The fact that they work with a feature system suggests that they are part of the language's conceptual structure. However, the existence of opposites is not yet taken for grammatical negation. Grammatical negation requires the existence of a grammaticalized morpheme, which is specialized for the role of negation.

Such a morpheme can negate constituents of a wide range of type and complexity. According to the scope of negation attested in Indo-European languages, we can divide negation into lexical, phrasal and clausal categories.

24.1.2 Constituent negation: lexical and phrasal

Lexical negation is a negation of the content of a lexical item. Some specialized grammatical morpheme, usually an affix, is used to negate a single lexical unit. In

¹⁰⁰ For some discussion and a large number of examples concerning English Negation, see also Huddleston and Pullum (2002: 785-850), Quirk et al. (2004: 775-799), and Biber et al. (2002: 239). A Czech perspective is provided in Dušková (1994: 336-348).

English, several prefixes and suffixes can play this role: *un-*, *in-*, *de-*, *dis-*, *-less*, *-free*. Notice that the presence of a negative lexical entry does not make the clause negative.

(2) Lexical negation

- a. *im*+possible, *un*+easy, *de*+regular, *dis*+proportionate, *non*+sense, *caffein*+**free**, *speech*+**less**
- b. *It is il*-logical. *Mary is un*-repentent. These are not negative clauses.

A language can have three member scales consisting of (a) a lexical entry, (b) its grammatical negated counterpart, and (c) the entry's **opposite**. In these scales, the opposite denotes the presence of a property opposite to (i.e. 'stronger than') the negated word, which denotes only the lack of the property. This can be seen in the following triplets:

- (3) a. *healthy – unhealthy – ill*
- b. *true – untrue – false*
- c. *easy – uneasy – difficult*

The **scope of the negative** morpheme can be larger than only a lexical unit; it can cover the whole phrase. In English, there is a phrasal negator in the form of *not*. The next example demonstrates that this particle *not* can negate a whole phrase, which in fact usually functions independently as an existing sentence member.

(4) Phrasal negation

- a. *He prepared the dinner [_{PP} in the dining room], **not** [_{PP} in the kitchen].*
- b. *[_{NP} Mary], **not** [_{NP} her little sister], *will drive the car today.**
- c. *My wish is [_{VP} to read novels] **not** [_{VP} to study vocabulary].*

The (c) example shows that the negated phrase can also be a VP. In (c), the clause is positive in spite of the fact that it contains a negated VP. To negate the whole clause, we must negate the sentence modality of the Predicate, namely the Ω /T projection.

24.2 Sentence Negation

Clausal negation (also known as propositional or 'grammatical' negation) applies to the clause, i.e. the whole proposition. In English, it is expressed by the particle *not* being added to the Mod/Aux together with a **negative polarity item**, or alternatively, a **negative operator** such as a Determiner can take scope over the Predicate.

The position of the clausal negation particle *not* is fixed and represents an important anchor point in clause structure, so it is to be stated precisely. For the diagnostics, see again Section 15.5.2. We saw that the formation of clausal negation in English can be generally described as putting the **NEG morpheme *n't* after the Ω position**. Keep in mind that the particle *not* has a wider distribution and therefore its

varying position is not a reliable test for the clausal negation in Ω /T. The scheme is repeated for convenience here:

- (5) **Clausal negation:** Negative particle immediately follows the Ω position.

<i>Oscar</i>	<i>can</i>	<i>not/-n't</i>	<i>be reading a lot.</i>
	<i>will</i>	<i>never</i>	
	<i>might</i>	<i>just</i>	
<i>His brother</i>	<i>is</i>	<i>still</i>	<i>reading a lot.</i>
<i>His cousins</i>	<i>do/ Ø</i>	<i>so</i>	<i>read a lot.</i>
SUBJECT	Ω	NEG	VP

Constituent negations, both lexical and phrasal, can combine with clausal negation, resulting in a positive interpretation. Quite salient are the combinations with two negations. More than three becomes too complex to process. The clausal negation combined with the lexical one creates the same kind of three way scales as in (3).

- (6) a. *It is impossible.* positive clause
b. *It is not possible.* negative clause
c. *It is not impossible.* negative clause with positive meaning
- (7) a. *I was allowed not to come.* positive main clause
b. *I was not allowed to come.* negative main clause
c. *I wasn't allowed not to come.* negative clause with positive meaning
- (8) Scalar reading of lexical negation vs. opposites
- a. *It is true.* *It is not true.* \neq *It is false.*
b. *It is easy.* *It is not easy.* \neq *It is difficult.*
c. *He is tall.* *He is not tall.* \neq *He is short.*
d. *She is beautiful.* *She is not beautiful.* \neq *She is ugly.*

24.3 The Form and Number of Negative Operators

Consider the morpho-phonetic contraction of the particle **-n't** as illustrated in the following grammaticality judgments. These show that **-n't** is a bound morpheme, while *not* is a free particle: it requires Ω , but it is not morphologically unified with it.

- (9) a. *David won't be reading.* a.' *David will not be reading.*
b. *Won't David be reading?* b.' * *Will not David be reading?*
c. *David doesn't read.* c.' *David does not read.*
d. *Doesn't David read?* d.' * *Does not David read?*

The examples in (10) show (a) *not* negating the Ω /T position, (b) the negative quantifier/ Adverb *never* in the position of negation, and (c) the negative operator

nobody in the position of Subject, i.e. taking scope over the Predicate. English **negative operators** (negative Pronouns and Adverbs) can also appear inside the VP, especially in the position of structural direct Object, where they then take scope over the following part of the proposition. Further to the right, however, the more likely is an interpretation restricted to only constituent negation.

- (10)
- | | | |
|----|--|-------------------------------------|
| a. | <i>Mary will not help you.</i> | particle <i>not</i> |
| b. | <i>Mary will never help you.</i> | negative Quantifier in ADV position |
| c. | <i>Nobody can do it for you.</i> | negative Quantifier in the SUBJECT |
| d. | <i>I met nobody in the park.</i> | negative Quantifier in the OBJECT |
| e. | <i>?? I gave the book to nobody.</i> | constituent negation? |
| f. | <i>??? I met Jessica never / nowhere.</i> | constituent negation? |

A negative sentence can also contain several logically negative operators, that is, several constituents denoting empty sets. In fact, any sentence member, outside of some idioms, can be a negative operator. Compare the following examples.

- (11)
- | | |
|----|---|
| a. | <i>Piers did not give the book to Helen.</i> |
| b. | <i>Piers gave nothing to Helen.</i>
<i>Piers did not give any-/*no-thing to Helen.</i> |
| c. | <i>Piers gave that to nobody.</i>
<i>Piers did not give an-y/*no-thing to any-/*no-body.</i> |
| d. | <i>No-body gave any-/*no-thing to any/*no-body.</i> |
| e. | <i>*No-body did not give that.</i> |

The next example demonstrates that in some languages, like Czech in (a), each constituent bound by a negative operator must contain a negative morpheme. The overt clausal negation on the verb in the Predicate triggers **negative agreement/ negative concord**, sometimes incorrectly called ‘multiple negation’, with all the operators. In English, clausal negation stays unique, marked in only one position.

- (12)
- | | |
|----|--|
| a. | <i>Nikdo nikdy nikomu nic nedal</i>
nobody _{NOM} never nobody _{DAT} nothing _{ACC} not-gave |
| b. | <i>‘Nobody ever gave anything to anybody.’</i> |

The unique position of clausal negation in English tends to appear as early as possible and to produce a structure as short as possible. These two requirements are tendencies rather than being strictly obligatory. The only grammatical restriction concerns negative polarity items. The operator *any* must be **in the scope of negation** to be interpreted as negative; the same holds for *ever*, *yet*, *at all*, etc.

- (13)
- | | | |
|----|--------------------------------------|---|
| a. | <i>I don’t know anybody else.</i> | = <i>I know nobody else.</i> |
| b. | <i>Nobody came.</i> | ≠ <i>*Anybody did not come.</i> |
| c. | <i>Boys never bring any flowers.</i> | ≠ <i>*Any boys ever bring no flowers.</i> |

(19) **English polarity items**

Both NEG and Q	only NEG: NPI	Only Q	Positive Polarity
<i>any, any-</i>	<i>a single N (US)</i>		
<i>yet, ever, long</i>	<i>either</i>	<i>whether, how</i>	<i>already, too</i>
Modals <i>need, dare</i>			
<i>at all (UK)</i>	<i>at all (US)</i>		<i>sort of, kind of</i>
<i>give a damn</i> <i>move an inch,</i> <i>budge</i>	<i>lift a finger,</i> <i>spend a red cent,</i> <i>spend a penny</i>	<i>what the hell,</i> <i>what on earth</i>	<i>get a boost from</i> <i>something</i>

24.5 Comparing *not* and *never*

The distinctions between *not* and *never* can be stated as a distinction between a grammatical morpheme *not* and lexical morpheme *never*. In a sentence, this distinction is signalled by distinct behaviour.¹⁰¹

A. Sentence function and interpretation

- (20) a. *He will **not** arrive tomorrow.* (*tomorrow* = adverbial of time)
 b. *?? He will **never** arrive tomorrow.* (two contrasting time adverbials?)
 c. *I **never** said that yesterday!* (one adverbial with emphasis)

Sentences like (c) appear only in colloquial language in a defensive style.

B. Position adjacent to the first Mod/Aux

- (21) a. *He will not / won't read that again.*
 b. **He not will read that again.*
 c. *He will never read that again.*
 d. *He never will read that again.*

C. DO-support and corresponding position

- (22) a. *He just does not read / doesn't read.*
 b. **He just not / n't reads.*
He just never reads.
 c. **He just does never read.*
He just never does read. (pragmatically special)

D. Question formation: Ω inversion in front of the Subject

- (23) a. *Does HE **not** read?*
 b. **Does **not** HE read?*

¹⁰¹ For more data concerning the topic of this and the next section, see Huddleston and Pullum (2002:785-850) and Quirk et al. (2004:775-799). A Czech perspective on this material can be found in Dušková (1994:336-348).

- c. *Does **HE n't** read?
- d. Does**n't** **HE** read?
- e. Does **HE never** read?
- f. *Does **never** **HE** read?

Recall that examples b and f are similar; both structures are ungrammatical because more than one word is inverted with the Subject: *Does often he read such books?

E. Fronting in Topicalization and Wh-questions

- (24) a. To Mary Josephine never has written.
- b. That letter Joe did not receive.
- c. Yesterday William did not arrive.
- d. When did Barbara arrive? (with inversion)
- (25) a. Never will he read this.
- b. ?Never he will read this.
- c. *Not will he read this.
- d. *Not he will read this.

F. Usage in separation

- (26) Will he read this? a. Never!
- b. *Not. / *N't. / No.

G. Interfering with inflection

- (27) a. *He do not read-s. ***He** did not walk-**ed** a lot.
- b. He never reads. He never walked a lot.

The categorial status of the English **never**, **not** and **-n't** can be expressed in terms of **grammaticalization**. This shows the distinction between the following:

- (28) grammatical elements lexical elements
- bound morphemes** - **particles** - **free morphemes**
- n't** **not** **never**

24.6 Tests for Polarity

The formal characteristics of a polarity item cannot be derived by referring only to the semantics of the proposition. They require the help of formal signals.¹⁰²

- (29) a. related polarity items, e.g. interpretation of *any* and possibility of *at all*
- b. the polarity of a standard **question tag** asking for confirmation

¹⁰² English grammar manuals such as Huddleston and Pullum (2002: 785) illustrate in detail the standardly accepted relevance of these four tests for English clausal negation.

- c. a possible *neither*-tag,, and conjoining with *either*
 - d. **inversion** when a negative Adverb is fronted
- (30) a. *She did not give him anything at all, not even on his birthday.*
 b. *Oscar married an Italian, didn't he /*did he?*
 c. *He didn't show any mercy, neither was he sorry for what he has done.*
 d. *He will never accept your help, and never will his sister accept it either.*

These tests do not just “translate” across languages. For example, question tags are not a reliable diagnostic in Czech, and English NPIs are usually not NPIs in Czech either. For instance, Czech *vůbec* ‘at all’ is *not* an NPI. For Czech, what seem relevant tests for clausal negation are the following signals:

- (31) a. *ne-/ni-*, an obligatory prefix on verbal Predicate and related operators,
 b. the Negative Polarity item *ani* ‘not even’.

24.7 The Scope of Negation

The scope of a constituent is the domain in which it gets interpreted. The scope of the English polarity item *any* is usually **a simple clause**. The following examples show that the scope is not enlarged to other clauses in complex or compound sentences. In these examples, note the interpretation of *any*: is it negative or free choice? Free choice interpretation signals a positive scope, negative interpretation implies a negative scope.

- (32) a. *Bonnie cannot see anything [when anything covers her eyes].*
 b. *Though we did not ask anybody [any students can come].*
 c. *I did not bring anything but [you can take any of these].*

Given that in these examples *any* is interpreted as free choice in the subordinate clauses, not as a negative in these clauses that lack *not*, they signal that the negative operator has a scope over **one** simple clause.

24.7.1 Shortening the scope of NEG

Though negation takes scope over the whole simple clause, sometimes it is necessary to restrict it, for instance to produce a general, non-negative interpretation of the element *any*.

- (33) *To my party, Mary will not invite anybody/ * somebody.*

The scope of negation here can be blocked by the Adverb *just*.

- (34) a. *He cannot choose just anything. (=free choice reading!)*
 b. *Mary will not invite just anybody. (=free choice reading!)*

24.7.2 Enlarging the scope of NEG: NEG-transportation or transfer

In complex sentences containing “non-factive” Verbs of the ‘*think*’ type in the main clause, embedded clausal negation can be transported/ transferred to the initial main clause. The phenomenon is called **NEG transportation**.

Notice that after the shift of NEG from the embedded clause to the main clause, the interpretation does not change in (a) and (b), but after it, formally, the scope of the negation covers both the main and subordinate clauses in (b).

- (35) a. I think [[that Mary will **NOT** help *anybody*/ **somebody* / **nobody* **at all**.
*I think at all that Mary will not help anybody.
b. I do NOT think at all [[that Mary will help *anybody*/ **somebody* / **nobody*.

In (a), the underlined main clause is positive. The negative particle *not* is in the subordinate clause, and the subordinate clause is therefore negative: its negative polarity is signalled by the negative interpretation of *anybody* and the possible presence of an NPI *at all*.

In (35)(b), the main clause contains the negative particle *not*. Although it is probably not interpreted as negative, it still is formally marked as negative, and *at all* becomes possible in the main clause. The subordinate clause no longer contains any negative particle, but the negative interpretation of *anybody* and the possibility of *at all* signal that the subordinate clause keeps its negative polarity. The scope of the particle *not* in the main clause thus enlarges the negative scope to cover both clauses.

24.8 Negative Adverbs and Partial Negation

Apart from the negative Adverb ***never***, which creates “full” clausal negation, there are English Adverbs and Quantifiers which bring about what is called “**partial**” clausal negation: *hardly*, *scarcely*, *barely*, *rarely*, *seldom*, *little*, *few*, and perhaps others.

Recalling the formal characteristics of an English negative clause as listed in Section 24.6, compare the behaviours of the Adverbs *often*, *never* and *rarely* with respect to their positive or negative meanings and scopal properties. Looking at the result of the diagnostics listed above, we can see that they have different polarities.

- (36) a. *He often/ sometimes says something stupid, doesn't he? / *does he?*
b. *He often/ sometimes says something stupid/ *anything stupid.*
c. **Often/ *Sometimes does he say something stupid.*

The examples above with the Adverbs *often/ sometimes* illustrate patterns typical for **positive Adverbs**. The same tests applied to the adverbial *never* show that *never* is a **negative Adverb** or adverbial negative operator.

- (37) a. *He never says anything stupid, does he? / *doesn't he?*
b. *He never says anything stupid/? something stupid.*
c. *Never does he say anything stupid.*

In the next examples, we see that the so-called **partial negative Adverbs** like *rarely* and *hardly ever* usually behave syntactically exactly like *never*. We call these Adverbs “partially negative” because, even though their syntax is formally negative, their meaning is only partially negative. The same applies to the Adverbs *scarcely*, *seldom*, and *barely*. They negate a clause syntactically in the same way as *never* does.

- (38) a. *He rarely/hardly ever says anything stupid, does he? /*doesn't he?*
 b. *He rarely/hardly ever says anything stupid/?something stupid.*
 c. *Rarely/Hardly ever does he say anything stupid.*

In Czech, there are no reliable tests using tag questions, and NEG polarity is signalled by different means than in English. In Czech, the negative sentence contains obligatorily the *ne-* prefix on the finite Verb, and negative operator Pronouns take the *ně-/ni-* prefix, with the required reading. Polarity can also be indicated by the NPI *ani* ‘not even’.

- (39) a. *Ona nikdy **nepomohla** ani jednomu kamarádovi.*
She never NEG-helped NPI (not even one) friend.
‘She never helped a single friend.’
 b. *Ona často pomáhala (*ani) jednomu kamarádovi.*
*She never helped (*NPI) one friend.*
‘She was often helping a friend.’

The Czech equivalents of the English partially negative Adverbs, as we see below, appear in the same formal context as the context of the positive Adverbs.

- (40) *Ona stěží pomohla (*ani) jednomu kamarádovi.*
*She hardly helped (*NPI) one friend.*
‘She hardly helped a single friend.’

These examples demonstrate that, in spite of identical interpretations, the Czech partially negative Adverbs *stěží* ‘hardly’, *zřídka* ‘rarely’, and *málokdy* ‘not often’ do not trigger negative polarity like their English translation, but are formally instead positive.

25 DISCOURSE AND CLAUSAL PATTERNS

The **clausal pattern**, i.e. the characteristics and order of the constituents, depends on two factors.

- a. the VP type, in particular the **subcategorization** of the Predicate V,
- b. the clausal **modality**, determined by constituents preceding the VP.

The former determines the presence of obligatory Complements and optional Adjuncts, which are canonically post-V modification. The latter decides about the presence and order of the constituents making up the **clausal modality pattern**, that is the ordering of Subject and parts of the Predicate in the pre-V field.

25.1 Clausal Taxonomy According to the Type of VP

The content of a Predicate VP depends on the characteristics of the lexical head Verb of the VP. In Section 13.1, we saw that the Verb's event structure includes information about its participants or **Arguments**, i.e. their **semantic or thematic roles**. This thematic frame is relevant for both interpretation and formal classification of the VP, and consequently also for the whole clause. For general taxonomy, the clausal pattern is defined in terms of the **obligatory** constituents in the post-verbal part of the V:

- (1)
 - (a) **intransitive Verbs** have no obligatory Complement,
 - (b) **(mono-) transitive Verbs** have one obligatory Complement,
 - (c) **ditransitive Verbs** have two obligatory Complements,
 - (d) **complex transitive Verbs** have two obligatory Complements, of which the second is a secondary Predicate.

In Section 14.2 and Chapter 19, I described in detail the formal structure of a Verb in terms of how it selects Complements. Recall the concept of **subcategorization**:

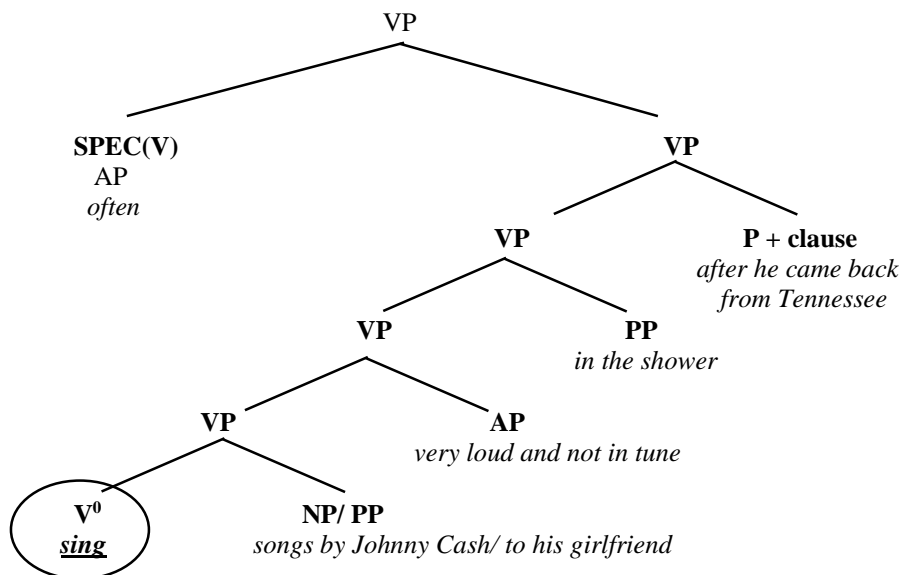
- (2) **s-selection** refers to the selection of semantic/ thematic/ Theta/ θ Roles.
e.g. *send*, V, <Agent, Patient, (Recipient)>
look, V, <Agent, Patient/ Theme>
- (3) **c-selection** refers to the selection of V-Complements in terms of the categories of their phrasal sisters.
e.g. *send*, V, [__ NP (PP)]
look, V, [__ PP/ AP]

A taxonomy of Verbs based on subcategorization is given in Table (8) on page 172.

Apart from selected constituents, a clause can contain a number of optional, potentially recursive phrasal modifiers, usually adverbial Adjuncts in the form of AdvP or PP. These optional elements can be present with a wide range of Verbs, and they are

usually not considered part of the basic sentence pattern. The simplified VP projection (10) on page 173 is repeated here for convenience.

(4) Complex VP with Complements and Adjuncts



Notice that a Subject is an ‘**external**’ Argument and is not contained in the VP. Moreover, any optional right hand Complements and Adjuncts (NP, AP, PP, or clauses) are usually assumed to not be defining characteristics of a specific clausal pattern.

25.2 Sentence Patterns: Modality

25.2.1 Narrow modality

Narrow modality reflects the speaker/writer’s attitude towards conveyed information, such as probability, ability, volition, permission, obligation, etc.

- (5) a. **deontic modality** related to an external authority: ability (*can*), volition (*will*), permission (*may*), obligation (*must*).
- b. **epistemic modality**, related to the validity of the information: *perhaps*, *maybe*, etc. as well as the Modals in (a) when they indicate only the likelihood of a clause being true:
- (6) a. *Ellen may be home, but she need not be; she could also be at work.*
- b. *Ellen must be near home; perhaps she is already there.*

25.2.2 *Broad modality; functions and forms of English discourse*

Broad or intentional modality reflects the intention of a speaker/writer. This intention is the discourse function and is encoded in English in the formal clausal pattern.

- (7) (a) to convey information = to make a **statement**,
- (b) to require information = to ask **question**,
- (c) to make a command = to give an **order**,
- (d) to have a **wish**.

The above discourse functions can each correspond to a special sentence pattern – the parallelism is supposed to be unmarked:

- (8) (a) to make a statement = **declarative** sentence
- (b) to question = **interrogative** sentence
- (c) to order = **imperative** sentence
- (d) to wish = **desiderative** sentence

A distinction between the **use or function** and the **formal sentence pattern** is needed, because in real discourse in a context, the speaker can pick some non-canonical sentence pattern to express a given discourse function. We speak about

- (9) (a) The primary function of a given form, the formal **clausal pattern**,
- (b) The secondary function of a given form, often rather conventionalized,
- (c) ‘Special’ functions in pragmatic usage, which require a wider context.

25.2.3 *Clause patterns in English*

A discourse function or sentence modality can be encoded in

- i. **morphology**, e.g. many languages have a special morphology for imperatives,
- ii. **phonetics**, as questions usually have special intonation patterns,
- iii. grammaticalized **word order**, including special sentence patterns.

In English, there is no morphology related to sentence modality, apart from the infrequent present subjunctive, a kind of desiderative. Phonetics plays a role mainly in spoken language. The main means to express clause modality in English is the word order and lexical choices in the preverbal field.

To be able to describe the variety of linear word orders, we have to choose relevant labels for individual constituents. In the following linear scheme, M–P–T refers to the order manner-place-time and is a useful way to refer to the unmarked postverbal ordering of phrasal Adjuncts of manner, place and time, as follows:

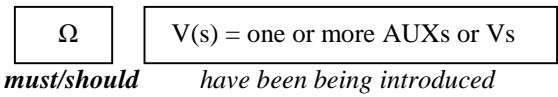
- (10) S – V – O – **M – P – T**

Emma could (not) see her father [very well] [in front of the house] [after the sunset].

There is no doubt that this clause pattern, SVOMPT, can be useful for practical or pedagogic purposes. However, this is not the pattern that allows us to construct a taxonomy of patterns based on discourse functions. The reasons are two.

First, the pattern refers to Adjuncts, which are neither necessary nor sufficient parts of specific functions; no declarative sentence requires a temporal Adjunct, nor does every one need to have an Object. Pattern (11) thus provides superfluous irrelevant information. Second, the Predicate in (11) is represented by a single symbol ‘V’, yet we saw in Section 15.6 that the usual English Predicates are more complex. The syntactic model of English Predicates in (27) on page 186, is as follows:

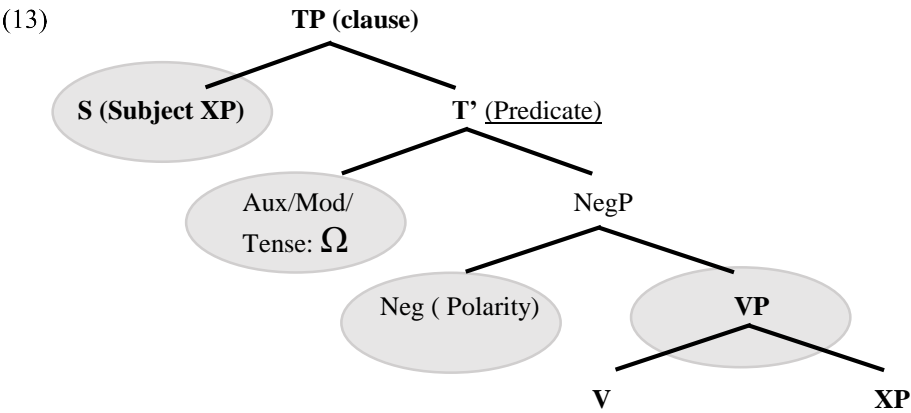
(11) The 2-slot syntactic Predicate model



Therefore, to describe the discourse patterns in English sentences, I am not going to use the formula (11) but instead the following one:

(12) **S – Ω – (Neg) – VP**

The schematic linear order in (12) refers to both functional (S) and categorial (VP) labels, but in spite of this it is able to capture the variety of clause patterns in a systematic way. I will use the labels to represent constituents in the highest domain of a clausal projection as tree (23) on page 225 or (13) here. Recall that the internal structure of the VP depends on the subcategorization of the Verb.



In the following table, the left column provides the traditional labels for the discourse functions, i.e. for intended pragmatic uses. The right column gives the labels for the canonical formal patterns that English uses to express required discourse functions.

(14) Functional and formal classification of clausal patterns:

	Communicative function or speaker's intention	Formal structure in standardized form
I.	STATEMENTS	DECLARATIVES
a.	affirm a proposition	unmarked word order as in (12)
b.	negate a proposition	
II.	QUESTIONS	INTERROGATIVES
a.	request for truth value	positive polar question
b.	request for agreement	negative polar question
c.	request for confirmation	question tags
d.	information question	direct question with <i>wh</i> -fronting
		indirect question with <i>wh</i> -fronting
e.	request to confirm an answer	echo-question
III.	ORDERS, APPELLATIVES	IMPERATIVES
a.	2 nd Person addressee	2 nd singular or plural
b.	1 st Person plural exhortation	periphrastic 1 st plural with <i>let's</i>
c.	indirect order or request	embedded indirect questions
IV.	EXCLAMATIONS	EXCLAMATIVES
	emphatic statements	<i>wh</i> -fronting without Ω inversion
		sentences with <i>so</i> and <i>such</i>
V.	WISHES	OPTATIVES
a.	wish consistent with reality	inverted Ω <i>may</i>
b.	wish inconsistent with reality	<i>if only</i> + past subjunctive

25.2.4 Examples of English sentence patterns

The types of sentence patterns are provided in the following boxed frames. The examples following them illustrate the given type using tokens of representative types:

- (a) **the canonical pattern, with both Modals and lexical Verbs,**
- (b) the pattern with only a lexical Verb, with a null allomorph of Ω ,
- (c) the pattern with a Copula,
- (d) a random example of some special pattern under each heading.

The linear pattern using labels S, Ω etc., is given in the frame after the respective term.

(15) Declaratives:	S – Ω – (Neg) – VP
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The declarative clause pattern is taken for the basic one. All the other patterns in fact represent a reordered variant of the declarative pattern schematized in (12) and repeated in frame (15). For the negative pattern, see also Section 15.5.2.

A. affirmative

- (a) *Joe can/ will/ may read this book himself.*
- (b) *Joe reads many American novels.*
- (c) *Joe is busy/ a student/ at home.*
- (d) *There are some books on the table.*

B. negative

- (a) *Joe cannot read this book himself.*
- (b) *Joe isn't at home.*
- (c) *Joe doesn't read many American novels.*
- (d) *Never have I seen such a man.*

(16) Interrogative polar questions:	Ω – S – (Neg) – VP
--	---

For more discussion of Ω fronting/inversion in polar yes-no questions, see Section 15.5.1. Notice when the negative morpheme *n't* is bound, it fronts together with Ω .

A. affirmative

- (a) *Can Joe read this book himself?*
- (b) *Does Joe read many English novels?*
- (c) *Is Joe at home? Is Joe not at home?*
- (d) *Why leave the country now?*

B. negative

- (a) *Can't he read this book himself?*
- (b) *Does he not read many English novels?*
- (c) *Isn't he at home? Is he not at home?*

- (d) *Why not leave the country now?*

(17) Question tag:	after the main clause, $\Omega - S_{\text{pron}} - [\pm\text{Neg}]$
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For more on question tags, short answers and questions of surprise, see Section 15.5.3.

- (a) *Joe can read this book, can't he?*
Joe cannot read this book, can he?
- (b) *Joe reads many English novels, doesn't he?*
Joe doesn't read novels, does he?
- (c) *Joe is at home, isn't he?*
Joe isn't at home, is he?
- (d) *Do help us out, would you?*

I will describe the syntax of interrogative *wh*-questions in detail in the Sections 25.3 and 25.4. In (18), we can see only the simplified English examples.

(18) Direct <i>wh</i> -questions:	[<i>wh</i> -phrase] - $\Omega - S - (\text{Neg}) - \text{VP}$
-----------------------------------	--

- (a) *What can Bill read himself? Who can read this book?*
- (b) *What does Bill read on weekends? Who reads on weekends?*
- (c) *What is Bill reading these days? Who is reading more than Bill?*
- (d) *How come Bill stays so long in the library?*

(19) Indirect <i>wh</i> -questions:	..., [<i>wh</i> -phrase] - $S - \Omega - (\text{Neg}) - \text{VP}$
-------------------------------------	---

- (a) *I asked/ forgot what he can read himself/ who can read this book.*
- (b) *I asked/ forgot what Susan cooks for dinner.*
- (c) *I asked/ forgot whether he was at home.*
- (d) *She asked me, would I visit her parents?*

(20) Echo-questions:	$S - \Omega - (\text{Neg}) - \text{VP}$, including a <i>wh</i> -phrase
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- (a) *Joe can read what?*
- (b) *Joe reads which novels? He reads English novels how often?*
- (c) *Joe is where?*
- (d) *His name is Joe what?*

(21) Imperatives:	(<i>[Don't]</i>) (<i>[you]</i>) V ... / <i>Let's</i> (Pronoun _{ACC}) V...
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a. 2nd Person, direct

Open the window, will you?
You put away the clothes for a change!
Don't take him so seriously!

Don't (you) ever talk to me like that again!

b. periphrastic

Let's go now.

Let's you and me try that!

Let's all three of us go to the movies!

Note: polite imperatives: polar questions

Will you open the window?

Couldn't you help me for once?

c. indirect questions

She asked me to give this to him.

I wonder if you could help me with this.

(22) Exclamations:

[*NP What (a)...* / *.../[How A...]* + *S - Ω - V...*

- (a) *What a nice life he will have!*
- (b) *How beautiful a girl she seems!*
- (c) *How long that lecture was!*
- (d) *What a shame [that she left him]!*
- (e) *She envies you so! She thinks you are so rich!*
- (f) *I so want to see that movie!*

(23) Optatives:

If only + *S* + *past subjunctive...* / *May* – *S* – *V...*

- (a) *If only we could live together!*
- (b) *If only we knew the right people! May you catch ever more fish!*
- (c) *If only he were here! May the Force be with you!*
- (d) *I wish he were here. Joe wishes you loved him.*

25.3 Variety and Further Properties of *Wh*-questions

We need to specify which constituents (parts of speech, phrases, sentence members) can be questioned, and what the right morphological form of the *wh*-Pronoun is. This partly depends on the position of the “**trace**” *t_{wh}*: a covert element in the underlying position of the *wh*-element prior to its being **moved** or fronted.¹⁰³

(24) *Wh*-question formation: *Who(m) does Mary love very much?*

¹⁰³ A formal analysis of *wh*-movement in English, which is compatible with the presentation in this section, can be found in Chomsky (1977a). Van Riemsdijk (1978) discusses the cross-linguistic diagnostics for this rule, and Veselovská (2011) makes a comparison with Czech.

WHO-M	<i>does</i>	<i>Mary</i>	<i>t_{AUX}</i>	<i>love</i>	<i>t_{WH}</i>	<i>very much?</i>
Pronoun						

In forming direct *wh*-questions, two kinds of transformation movement take place.

- a. **Wh-movement:** the **phrasal movement** of the *wh*-constituent.
- b. **AUX Inversion:** the fronting of the Ω operator, a case of **head movement**.

These two kinds of movement do not take place in every *wh*-question, as stated below and illustrated in (26).¹⁰⁴

(25) Presence vs. absence of movements

- (a) **direct** *wh*-questions - fronting of Ω and a *wh*-constituent
- (b) **indirect** *wh*-questions - fronting of only a *wh*-constituent
- (c) **echo** *wh*-questions - no movement
- (d) **exclamations** with *wh* - fronting of Ω or a *wh*-constituent

- (26) a. Who(m) must you love *t_{WH}* most?
Which people does he think *t_{WH}* were more dangerous?
- b. She asked who you love *t_{WH}* most.
They explained to me where I should put them *t_{WH}*.
- c. You are in love with whom? He said he met Mary who?
- d. What nice children she has *t_{WH}*! Aren't they cute!
*What nice children does she have *t_{WH}*!
(Exclamatives only one inversion in.)

When the Subject is questioned in a *wh*-question, however, the distinctions among direct, indirect and echo questions are blurred.

- (27) a. *Who(*m)* will arrive first? *She wonders who(*m) will arrive.*
- b. *Which friend of his arrived?* *I asked which friend of his arrived.*

To choose the **form of *wh*-Pronouns**, we have to refer to its original pre-movement position, or its trace. The *wh*-Pronoun can acquire Case from this position, or agreement with an embedded Verb. The Case on the *wh*-Pronoun, however, tends to disappear if the Case assigner is separated from the Pronoun.

¹⁰⁴ The two operations are described in detail as separate processes in Veselovská (2011a). For more cross-linguistic examples, see also Haegemann (2000).

- (28) a. *Who / ?Whom do you love **t_{WH}** ?*
 b. *Who / ?Whom are you looking at **t_{WH}** ?*
 c. *Cf: At whom / ?At who are you looking **t_{WH}** ?*

Which constituents can be *wh*-questioned? How many *wh*-questions can we make? Consider the possible questioned constituents in the following examples. You can see that each phrasal sentence member can be questioned.

- (29) *Her big brother met her/ my sister very briefly twice by their school last week.*
- a. ***Who** met her twice last week by their school?*
 b. ***Whom/ Who** did he meet **t_{WH}** twice last week by their school?*
 c. ***When** did he meet her by their school **t_{WH}**?*
 d. ***Where** did he meet her twice **t_{WH}** last week?*
 e. *By **which** school did he meet her **t_{WH}** last week? By the old school.*
 f. *By **whose** school did he meet her **t_{WH}** last week? By their school.*
 g. ***How many times/ often** did he meet her **t_{WH}** last week by their school?*
 h. ***How** did he meet her **t_{WH}** last week by their school?*

Although each sentence member can be questioned in English, not every such constituent can be fronted alone, with no other material. The following section will show some limits on these extractions.

25.4 Comparing English and Czech *Wh*-Questions

There are some obvious distinctions between *wh*-questions in English and Czech. They concern three main areas:

- (a) Questioning an initial **part of NP** in Czech. It is impossible to separate or divide certain NPs in English.
 (b) Constructing **multiple** *wh*-questions. More than one *wh*-phrase can be fronted in a Czech clause, but not in English.
 (c) Constructing **long distance** *wh*-questions. These are natural in English, but rare in Czech.

The three phenomena are demonstrated in separate sub-sections.

25.4.1 Extraction domains

The following examples illustrate that the Czech NP allows extraction from its left branch. Prenominal *wh*-Adjectives can be fronted, and the Noun stays stranded. In English these extractions are allowed only with (some) postnominal modifiers.

- (30) a. *Jaké auto si koupil Piers?*
 a.' *Which car did Piers buy?*
 b. *Jaké si Piers koupil auto?*

- b.' *Which did Piers buy (a) car?
- (31) a. Whose jacket is this? This is Piers's jacket.
 b. Whose is this jacket? This jacket is Piers's.
 c. By whom did you read a novel? I read a novel by Hemingway.

This example shows that Czech can extract a prenominal *wh*-word from an NP, while English cannot. On the other hand, in (31), English can extract an NP from a PP because it allows Preposition stranding; this is not allowed in Czech, where it is impossible to extract an NP Complement from within a PP.¹⁰⁵

- (32) Na co se Zara dívá t_{WH} ?
 | *Co se Tara dívá na t_{WH} ?
 at what REFL Zara looks at
 'What is Zara looking at?'

We can conclude that the extent of extraction from various specific domains must be a language specific characteristic. In English, the left branch of a nominal complex is an island that prohibits any extraction, while in Czech, it is rather the PP that is "an island" (it is not transparent for external activities including extraction).

25.4.2 Multiple *wh*-questions

If there are two or more *wh*-Pronouns in a clause, this is called a **multiple question**, and only the **hierarchically higher NP** is fronted in standard English. The other(s) remain in the underlying positions of the sentence member(s) they represent, i.e. they remain 'in situ'. The order among the *wh*-Pronouns is therefore quite constrained.

- (33) [_{SUBJ.NP} Emily] bought [_{OBJ.NP} several books] [_{ADV.PP} in the new shop].
- a. Who bought what where? *What did who buy where?
 b. What did Emily buy where? *Where did Emily buy what?
 c. Who bought what on the square? *What did who buy on the square?
 d. What did Mary buy why? *Why did Mary buy what?

¹⁰⁵ In Czech, the closest equivalent of preposition stranding may be colloquial relative clauses with a default relativizer *co* (what) which combines with a clitic pronoun or pronominal PP (the clitic or PP stay in the middle field). The similarity, however, is only superficial, because the relativizer is plausibly generated directly in the clause initial position, i.e. it is not extracted from the PP.

- i. To je chlap co se o něm mluví všude
 it is guy what REFL about him talks everywhere
 'This is the guy who is talked about everywhere.'

In Czech, more than one *wh*-element can be extracted, and the order among the fronted *wh*-Pronouns is free: *Komu kdy co Maruška koupila? Kam kdy kdo šel?*

25.4.3 Long-distance *wh*-movement

In English, an interrogative phrase can appear outside the clause of which it is a sentence member. It often moves from a subordinate clause to the initial position in the main clause. In the following examples, consider the position of the bold *wh*-Pronoun with respect to the underlined Verb or Preposition that governs it.

- (34) a. **When** do you think that Emily arrived?
 b. **Who** did Emily tell you (that) Zara met at the railway station?
 c. **Which coat** did he persuade Emily (that) she should wear tomorrow?
 d. **Who** did Emily say (that) Zara thought would arrive late?
 e. **Where** did Mary tell you she plans to bury her husband?

We can see that the *wh*-Pronoun is fronted to the initial main clause position, although it syntactically belongs to some embedded clause. The distance a Pronoun can move in English is not limited by a fixed number of clausal boundaries that can be crossed, and so is called **long distance movement**. The fronting proceeds from clause to clause, and is called **successive cyclic**.¹⁰⁶

While long distance *wh*-questions are common in English, as seen in (35), this kind of *wh*-question in Czech is ‘non-standard’ or simply unacceptable. Those that are found have a higher frequency when they are adverbials.

- (35) a. ?*Kdo si myslíš že pomohl Marušce?*
 who_{NOM} REFL think_{2S} that helped Mary_{DAT}
 ‘Who do you think helped Mary?’
 b. ?*Kam si myslíš že to Maruška dala?*
 where REFL think_{2S} that it_{ACC} Mary_{NOM} put?
 ‘Where do you think Mary put it?’

According to Czech grammars, long distance movement sometimes found with Adjuncts is not tolerated for Complements, nor acceptable in standard Czech. The colloquial language is more tolerant, however, and Veselovská (1993) shows that the restrictions of long distance *wh*-movement correlates with the similar restrictions on contrastively stressed focused constituents.

¹⁰⁶ A transformational analysis of *wh*-movement in a compatible framework was introduced in Chomsky (1977a). Haegemann (2000) provides a salient analysis in a more present-day framework, and for an influential analysis of Slavic languages, see Bošković (2002).

26 EMBEDDED SUBORDINATE CLAUSES

A **simple sentence** equals one clause. The taxonomy of complex sentences (non-simple sentences) reflects the hierarchy among their parts.

- (a) **Complex sentences** consist of one main and at least one subordinate clause.
- (b) **Compound sentence** contain more than one main and no subordinate clause.
- (c) **Complex compound sentences** consist of more than one main and some subordinate clause(s).

All these structures are illustrated below.

- (1) a. *Yesterday Ethel saw William in the living room.*
- b. *Ethel said that Adam loves her.*
- c. *Ethel arrived yesterday and she saw Adam in the living room.*
- d. *Ethel saw Adam in the living room when she arrived yesterday.*
- e. *As soon as Ethel arrived, she saw Adam in the kitchen, which was full of steam, and she heard the sound of the running dishwasher.*

When a Predicate is non-finite, i.e. an Infinitive or participle, the structure is labelled as a **semi-clause**.

- (2) a. *She arranged for [nobody to be at home].*
- b. *I saw [Joe leaving the house at 5 o'clock].*

The next example is a clause that contains phrases that serve as (A) Subject, (B) Attribute, (C) direct Object, (D) prepositional Object, and (E) adverbial. Following it, we see that each of these sentence members can be realized as a subordinate clause.¹⁰⁷

- | | A | B | C | D | E |
|-----|--|--------------------|-----------------|-------------------------|-------------------|
| (3) | <i>Evelyn made</i> | <i>a fantastic</i> | <i>proposal</i> | <i>to the committee</i> | <i>yesterday.</i> |
| A. | <u>Whoever wanted</u> <i>could make a proposal to the committee yesterday.</i> | | | | |
| B. | <i>Evelyn made a proposal</i> <u>which was fantastic</u> <i>to the committee..</i> | | | | |
| C. | <i>Evelyn gave them</i> <u>what they wanted.</u> | | | | |
| D. | <i>Yesterday, Evelyn gave the proposal</i> <u>to who(ever) asked for it.</u> | | | | |
| E. | <i>Evelyn gave a proposal to the committee</i> <u>after she introduced herself.</u> | | | | |

Consider the **sentence functions** of the bold elements. Each subordinate clause realizes a sentence member of the main clause, i.e. it is a part of the main clause. When the sentence member realized by an embedded clause is obligatory, e.g. when it is a Subject

¹⁰⁷ Some schemes and examples in Chapters 26-32 are adopted from the teaching materials used in grammar seminars and published as a part of Veselovská (2017d).

or Object, the embedded clause cannot be omitted without some kind of resumptive Pronoun substitution.

Traditional taxonomy labels subordinate clauses according to the function of these constituents in the main clause. The only exception is the relative clause, which is the traditional term for a type of clause with the function of an Attribute.

- | | | | |
|-----|----|----------------------|--|
| (4) | A. | Subject | → Subordinate Subject clause |
| | B. | Attribute | → Relative or attributive clause |
| | C. | Object | → Subordinate Object clause |
| | D. | Prepositional Object | → Subord. prepositional Object clause |
| | E. | Adverbial | → Subordinate adverbial clause |

In more recent literature, especially when analyzing languages like English, a different taxonomy is used. This labels the subordinate clauses according to the (canonical) categorial label of the constituent the clause represents. This alternative taxonomy retains the term relative clause.

- | | | |
|-----|------|--|
| (5) | i. | Nominal content clauses replace obligatory NP sentence members. |
| | ii. | Adverbial clauses replace adverbials. |
| | iii. | Attributive (content) and relative clauses replace Attributes. |

We can easily combine the two taxonomies to get the following:

- | | | | | |
|-----|----|----------------------|-------------|--------------------------|
| (6) | A. | Subject | → Noun | → Nominal Content Clause |
| | B. | Object | → Noun | → Nominal Content Clause |
| | C. | Prepositional Object | → Noun | → Nominal Content Clause |
| | D. | Adverbial | → Adverb | → Adverbial Clause |
| | E. | Attribute | → Adjective | → Relative Clause |

The next section will illustrate some aspects of English subordinate clauses, which are of interest to the theme of this monograph in that they argue for an interesting morphosyntactic principle of more general validity. We will see how nominal content clauses, because of the use of resumptive expletive Subjects, confirm the claim that the obligatory clause structure must be overt in English. I will also describe relative clauses in more detail because of the morphosyntax of their *wh*-Pronouns, which have parallel behaviour with interrogative *wh*-Pronouns.¹⁰⁸

¹⁰⁸ The interested reader can consult the standard grammar manuals, which provide detailed descriptions of all kinds of subordinate clauses and provide a wide range of examples. See Huddleston and Pullum (2002: 51-106); Quirk et al. (2004: 49-50, 985-1146); Dušková (1994: 588-647).

26.1 Nominal Content Clauses

Nominal content clauses are used in the function of nominal phrases, mainly as Subjects, or Objects of Verbs or Prepositions. They are integrated into the main clause with a connecting element: *that*, *for* (introducing Infinitives), a *wh*-element, or an optional \emptyset . In the following examples, the clausal constituents in bold are called a Subject or Object clause, or alternatively a nominal content clause with a function of Subject or Object.

- (7) a. *He told us **a joke**.*
b. *He's told us (**THAT**) **he couldn't come**.* Object Clause
c. *He hated **her long trips to Asia**.*
d. *He hated (**FOR**) **her to travel so much**.* Object Clause
e. ***This story** is interesting.*
f. ***WHAT you say** is interesting.* Subject Clause

Subject clauses are often **extraposed** to the clause-final position, and then a structure with the **expletive** *it* surfaces, in Subject position, as described in detail in Section 23.2.1.2. When (and only when) the associate clausal Subject is extraposed, this expletive or “**linking**” *it* is obligatory in English in the syntactic Subject position.

- (8) a. **(**It**) is interesting **what you say**.*
(/It/*That) What you say, is interesting.*
b. **(**It**) bothers us **that** he's late.*
(/It) That he's late bothers us.*

Other languages like Czech do not use linking Pronouns with Subject clauses irrespective of their position. However, Czech can use a resumptive Pronoun with Object clauses in the position when English does not allow any, even when the Object clause is topicalized in clause-initial position.

- (9) a. *On se zajímal jen o to co ho bavilo.*
he REFL interested only in it what him entertained
a.' *'He was interested only in (*/it) what he enjoyed.'*
b. *He explained (*/it) what you asked about well.*
c. *What you asked about he explained (*/it) well.*

26.1.1 Finite clause reductions

I will analyze semi-clauses in more detail in the following chapters, but here I briefly show how English sometimes reduces subordinate finite clauses. It often uses **semi-clauses** where Czech exhibits finite equivalents.

- (10) a. *I don't mind **his doing it**.*
b. *I want **him to do it**.*

In English, there is also a **pro-form** *so* for replacing a whole proposition, used especially with some Verbs of speech and belief.

- (11) *Can we get there in time?*
a. *I hope (that) we can get there in time.*
b. *I hope (*that) so*
- (12) *Will that candidate lose by a lot?*
a. *Few would say that she will lose by a lot.*
b. *Few would say (*that) so.*

26.1.2 Mood and other characteristics of a finite subordinate clause

The distinction between main and subordinate clauses can also be seen in the level of their separate ways of referring to especially **irrealis** or **conditional Mood**. Some subordinate clauses lose their independence, and so their form is influenced by modifying the Ω position of the main clause and/or by an introductory item.

- (13) Direct question: *Can she come along?*

Inversion is not used in subordinate clauses:

- (14) **Indirect speech:** *He said he would do it if/when she came along.*
(15) **Indirect question:** *He asked if/whether **she could** come along.*
(16) **Subjunctive:** *It is preferable/important that she should (not) attend.
It isn't necessary/fitting for her to (not) come along.*

In Modern English, the Modal *should* is often omitted in this context, especially in colloquial and American English:

- (17) a. *It's essential that he (*should) not be late.*
b. *That Helen (*should) complain about this is really important.*

26.2 Relative Clauses

The referential quality of a nominal element can be **restricted** in many ways. As we could see in Sections 18.4.2 and 18.4.3, the complexity of a constituent having the sentence function of an Attribute, an element modifying the meaning of the Noun, can range from a minimal Determiner to a complex clause.

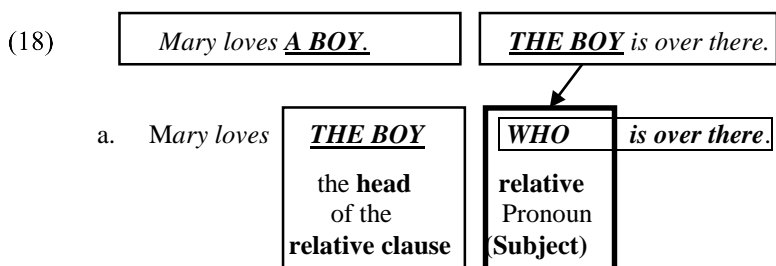
The Attributes with the most grammatical complexity are relative clauses. They **modify a nominal element**, which is in the main clause. They are connected to the

main clause by any of the introductory items mentioned previously: *that*, *for*, a *wh*-element, or an optional \emptyset .¹⁰⁹

26.2.1 Relativization

Relativization is the term used for the process of modification of a Noun by a relative clause. We say that such a Noun is relativized.

Relativization represents a kind of ‘fusion’ of two propositions. In the following examples, we can compare the content of two independent propositions, and a complex sentence with one Noun relativized in a relative clause. As for the terminology to describe this process: the Noun which is relativized, i.e. modified, is in the **superordinate clause**; it is *not* part of the relative clause. We call it the **head** of the relative clause. The relative clause is introduced by a **relative Pronoun**, a *wh*-Pronoun, which has the function of some sentence member inside the relative clause.



In example (a), we relativized the Noun *boy* in the first clause *Mary loves a boy*. The second clause became an embedded subordinate relative clause in which the Subject *boy* was replaced by a relative Pronoun *who*, located at the beginning of the clause: *who is over there*.

In example (b), we relativized the Noun *boy* in the second clause *The boy is over there*. The first clause became a subordinate relative clause in which the Object *boy* was replaced by a relative Pronoun *who(m)*, and this Pronoun was moved to the beginning of the relative clause: *who(m) Mary loves*. The movement suggested in the scheme by an arrow is fully comparable to the interrogative **wh-movement** discussed in the preceding chapter. In (a), the movement was “**vacuous**” because the position of both the Subject and the *wh*-Pronoun must be initial.

The next example (c) illustrates a relativization of Nouns in the Possessive positions. First we relativize the Noun *girl* in the first sentence *William showed me a girl*. The second clause becomes a relative clause; the NP *girl’s* becomes *whose*, and the NP containing this *wh*-Pronoun is moved to the initial position. Recall that in

¹⁰⁹ For more discussion about English relative clauses, see Greenbaum and Quirk (1990: 262-335). Some comparison with Czech can be found in Dušková (1994: 88-647). More data and examples are also provided in Quirk et al. (2004: 1085-1146).

English, the left side of an NP is an island from which constituents can't be moved (Ross 1986). Thus we get the relative clause [_{NP} *whose mother*] *I met*.

THE BOY

the head
of the
relative clause

WHO-M

elative
Pronoun
(Object)

Mary loves

t_{WH}

trace = original position

is over there.

wh-movement: the “movement of the *wh* constituent”

William showed me A GIRL.

I met THE GIRL'S mother.

William showed me

THE GIRL

the head
of the
relative clause

WHO-SE mother

NP with the
relative Pronoun
(Possessive)

I met **t_{WH}**.

The Possessive Noun can be relativized as well, but the structure is too heavy for the left branch of the nominal complex. It is more acceptable to relativize the *of*-phrase alternative of the Possessive.

- (19)
- a.

?? I met [_{NP} *the girl whom William showed me*]'s mother
- b.

I met the mother of the girl whom William showed me.

26.2.2 Relative Pronoun deletion

English relative Pronouns can be deleted if the deletion does not render the relative clause structurally incomplete. The result must still contain a Subject and a Predicate.

- (20)
- a.

Give me the letter (that) Hillary sent you.
- b.

Show me the address (that) the letter was sent to.
- c.

*Give me the book *(that) was sent to you by Hillary.*

Omitting *that* in (20)(c) would violate the English rule requiring obligatory Subjects.

For probably the same reason, we cannot omit *who* in (21)(b), because this would stand a P outside the clause where its Object is interpreted. The Attributes *whose* and *of which* in (c/d) are optional and hence “non-recoverable.” Therefore, they must

be overt. However, a unified formal account of these several restrictions has not yet been worked out.

- (21) a. *I met the man (who) we were talking about.*
 b. *I met the man about *(who) we were talking.*
 c. *I met the girl *(whose) mother we were talking about.*
 d. *I can now buy that book the name *(of which) I heard on TV.*

The relative clauses in (21)(a) and (c) also demonstrate examples of Preposition stranding. Relative clauses, together with *wh*-questions and passive sentences, are contexts in which English allows NPs to move away from the Preposition that selects them. The phenomena was discussed in Section 21.4.2 on page 240, and the main principle is schematically repeated below.

The next examples show that, in subcategorized Complement PPs, the NP can be separated from the selecting P.

- (22) *Piers talked [_{PP} about] [_{NP} the girl].*

Separating P from the fronted NP, by passivization of the *wh*-movement, gives rise to **Preposition stranding**:

- (23) a. [_{NP} Who] did Piers talk [_{PP} about]?
 b. [_{NP} That girl] was frequently talked [_{PP} about] by Piers.
 c. You are the girl [_{NP} who] is frequently talked [_{P(P)} about].

Preposition stranding influences Case-marking. Case in English is overt, especially if the Case-marked Noun phrase appears **immediately adjacent** to its Case assigner. If the distance is further, Case morphology often disappears.

- (24) a. *the man about **WHOM**/ ??**WHO** you learned quite a bit*
 b. *the man **WHO**/ ??**WHOM** you learned quite a bit about*
 c. *In order to see **WHOM**/ ??**WHO** did you travel to New York?*
 d. ***WHO**/ ??**WHOM** did you travel to New York to see?*

26.2.3 *Attributive nominal content clauses vs. relative clauses*

Relative clauses take the function of Noun modifiers, i.e. they are Attributes. One grammar manual (Quirk et al. 2004) defines a special kind of subordinate clause, which they call an **attributive content** clause and which is distinct from relative clauses. Consider the the following embedded clauses and the elements introducing them.

- (25) a. *I understood (*that/ *it) what you meant/ whether to leave or not.*
 b. *He asked (*that/*it) what you meant/ whether to leave or not.*

In (a)-(b), I exemplify typical **nominal content** clauses. They have here the function of Object of the Verbs *understand* and *ask*. These Verbs subcategorize for an Object, which is expressed by an Object clause. In Czech, such a clause may contain a linking or resumptive ‘*it*’, but in English, as seen earlier, the link can be present only with extraposed Subject clauses.

The next example shows similar sentences, but in the case of (a), the Object of *understand* is expressed by a lexical NP *the article*. This NP is relativized, i.e. postmodified, by a typical relative clause.

- (26) a. *I understood **the article** that Oscar gave me.*
 b. *I understand the fact that Oscar is ill.*
*He asked **the question** whether to leave or not.*

The examples in (b) are different. Here the Objects of *understand* and *ask* are realized as the Nouns *fact* and *question*. According to the analysis proposing the existence of attributive content clauses, the expressions *fact* and *question*, in combination with the preceding Verbs, are not contentful enough to be independent Objects. They are semantically weak or redundant, and the following embedded clause in fact provides the needed meaning. It is these subordinate clauses that can be called attributive content clauses. Notice that, in this context, the weak Nouns can be omitted, and the clause can be analyzed as a nominal content clause as well.

- (27) a. *I understand **(the fact)** (that) Oscar is ill.*
 b. *He asked **(the question)** whether to leave or not.*

These examples show that, to adequately determine a function of some constituent, we do not only examine the constituent itself but instead look for its grammatical relation and the other member of the relation. The distinction between the previous subordinate clauses was not based on the properties of the embedded clauses. They were classified in different ways because the elements to which they are related are distinct:

- The nominal content clauses in (25) are related to the Verb and form a part of the VP.
- The relative clause in (26) is part of a complex and usually definite NP, which is a full-fledged phrasal constituent. The relative clause adds, restricts, or further specifies the meaning but is not syntactically obligatory.
- The attributive content clauses in (27) are related to weak nominal expressions, which moreover can be deleted, and their meaning is already expressed in combining the Verb and the subordinate clause.

27 STRUCTURE OF INFINITIVES

The English category of Verb was introduced in Chapters 13-16. In Section 13.2, we saw that English verbal forms can be divided according to several criteria. The first taxonomic division I discuss in this chapter is the distinction between finite and non-finite forms.¹¹⁰

I will concentrate on the following points: first, I show that Infinitives are Predicates with their own logical and formal structures. Then, I will turn to the realization of the Agent Argument of Infinitives. This will lead to the taxonomy of Infinitives introduced in the final sections of this chapter.

27.1 Features of a (Non-)Finite Verb

English verbal forms are traditionally divided into finite and non-finite. The **non-finite forms** are assumed to lack some of the features that are present with the finite forms. Which kind of features can these be?

Section 13.2 introduced the following categorial features of Verbs:

- (1) i. Aspects: \pm Perfect and \pm Progressive
- ii. Tense: \pm Past
- iii. Voice: \pm Passive
- iv. Nominal features: Person, Gender, Number
- v. Mood

Aspects, Tense and Voice are **optional** features realized morphologically by a set of Auxiliaries and suffixes. The nominal features are reflected in a rather minimal Subject-Predicate agreement in morphology; this is a **configurational** morphology. Modality or Mood is expressed in sentence patterns and intonation.

First let us discuss the optional features. The following examples show that the Verb form called Infinitive can standardly express all the optional verbal features in morphology: both Aspects, Voice and a type of Tense morphemes are present in (2).

- | | | | |
|-----|----|---|----------------------------|
| (2) | a. | <i>He can <u>stop</u> the car.</i> | bare Infinitive |
| | b. | <i>He wants <u>to stop</u> the car.</i> | <i>to</i> -Infinitive |
| | c. | <i>He must <u>have stopped</u> the car.</i> | past bare Infinitive |
| | d. | <i>It was better <u>to have stopped</u>.</i> | past <i>to</i> -Infinitive |
| | e. | <i><u>To be stopping</u> at every corner is stupid.</i> | progressive Aspect |
| | f. | <i>The book must <u>have been written</u> later.</i> | past Tense, passover voice |
| | g. | <i>I do not want <u>to be stopped</u>.</i> | Passive voice |

¹¹⁰ This general topic is described in more detail in the main English grammar manuals with a wider range of examples (Huddleston and Pullum 2002: 173-1271; Quirk et al. 2004: 1353-1420, and Huddleston and Pullum 2005: 204-224). A Czech perspective on English Infinitives can be found in Dušková (1994: 349-389, 542-587).

These examples demonstrate that English Infinitives can carry the standard morphology of both Aspects, *be* + *V-ing* and *have* + *V-en*.

The Tense on Infinitives is realized morphologically, even though it is not the same as with the finite Verbs: it is not an **absolute Tense**, calculated with respect to the speech act, but a **relative Tense**: either the same as in the main clause, or using *have*+*V-en* to refer to a time before that of the main clause.

- (3) a. *My friend seemed yesterday to be ready to help you.*
Time of *be ready* = *yesterday*
- b. *But today he seems to have changed his mind.*
Time of *change his mind* = before *today*
- c. *My friend will help you while staying at your house.*
Time of *staying* = *will*, the future

As for the modality or Mood of Infinitives, example (4) shows that Infinitives can appear in structures that reflect an **irrealis modality**: They either (i) reinforce the **interrogative Mood** signalled by a question mark and rising intonation or a *wh*-word, or (ii) express the **optative Mood** of wishes.

- (4) a. *What to do? Where to go? Why suddenly do something different now?*
- b. *Oh, to have just one day to myself! Wow, to be able to finish so quickly!*

Thus, it appears that Infinitives are not defined as forms lacking Aspect, Tense or Mood. All these morphological forms can be present with Infinitives.

This leaves us with the agreement morphology that makes a Verb ‘finite’. Agreement morphology reflects and therefore signals the presence of a Subject. The presence of an overt Subject turns the Verb phrase into a Predicate. In other words, agreeing Verbs are typical Predicates of finite clauses. No matter how scarce is English Subject Predicate agreement, it signals some crucial structural relation, which allows a clause to make independent reference to an event framed as a speech act. Besides this, as we will see next, the semantic distinction between a finite and infinitival structure is minimal.

27.1.1 The Sentence function of finiteness

In discussing verbal morphology, we saw that the agreement morpheme is related to the Ω /T position. This is also the position of the English Modals, which have no Infinitive, and the position of what is called absolute Tense. Consider the full list of items that can appear in the Ω position:

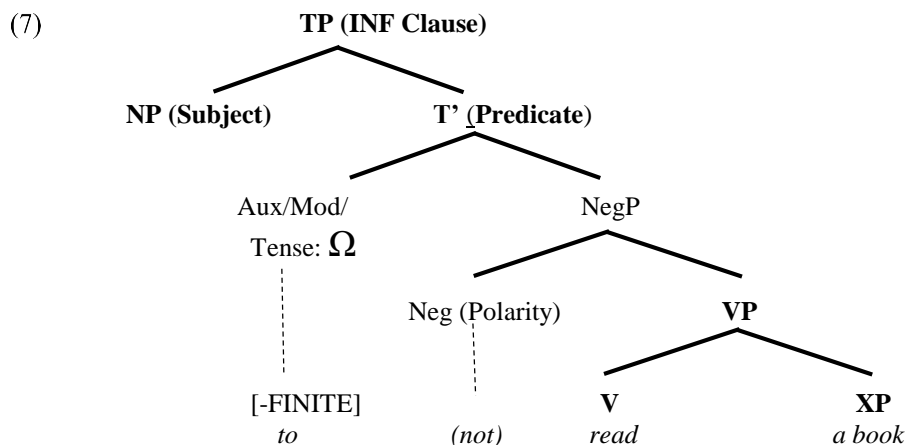
- (5) i. Modals,
- ii. the negative contraction *n't*,
- iii. the finite forms of *be*,
- iv. the Auxiliary Verbs *do* and in *have got/had better*

- (not the main Verbs *do* and *have*),
- v. Tense with an absolute interpretation, and
- vi. agreement in Person and Number.

No Infinitive has any of these Ω properties. On the other hand, every combination of a head Verb and its Complements and modifiers that can occur in a finite clause, including Aspect, passive voice and adverbials, can also occur in Infinitives. Therefore, the following is a quite uncontroversial definition of an infinitival structure:

- (6) **Definition of an Infinitive.** An infinitival structure is a VP, or a TP, the T of which is replaced by the invariant marker *to*. The symbol INF refers to these structures.

In Section 25.2.3, I illustrated a general clausal structure including the Subject and Predicate positions, repeated here for convenience.



The lack of a finite variant of Ω /T with Infinitives has a specific formal consequence: the [-FINITE] T is not able to assign Nominative Case to a Subject in Subject position.

The theory of Case was briefly discussed in Section 8.3. The source of Subject Case is illustrated again now. Assuming that a Case assigner is only able to assign one Case, the lexical Verb *see* is the assigner for Object/Accusative Case on a right hand sister, the Object *him*. The configuration for assigning Subject Case to the Nominative *we* is provided by the position of Ω /T .

- (8) a. *We certainly will soon see even him.*
 b. [NOM we] [+FINITE will] [VERB see] [ACC him]
-

This analysis of Case and Infinitives predicts that if the T position is missing or deficient, i.e. ‘non-finite’ and marked by *to*, the Subject Case is unavailable, and the Subject position is not structurally licensed. In other words, because Case is a necessary condition for an NP constituent to appear in given positions, Infinitives cannot realize their Subjects in the same way as finite Predicates.

27.1.2 *Agents of Infinitives*

Semantic selection of a lexical Verb includes its Arguments, and the top Argument (Agent) is realized in a finite structure as a Subject. The Subject relation or function is marked by morphology on both parts of the syntagmatic couple: licensed Subjects get Subject Case and Predicates get agreement. If this relation is not possible with Infinitives, what happens with the role of Agent?

A semantic frame is part of the semantics of a Verb, and the system of language is built to allow realization of a Predicate’s Arguments. The semantic roles are therefore, under normal conditions, **obligatorily** realized. (Exceptions like **deagentization** in passives require a special construction.) Moreover, semantic roles are **unique**, in that a constituent cannot carry more than one semantic role.

There are two general strategies that apply to realize the Agent of an Infinitive. First, the Agent of an Infinitive can be realized in the Subject position of the Infinitive, but it must remain phonetically empty (because it has no Case). The phonetically empty semantic Subject of an Infinitive in formal grammar is traditionally labelled as PRO, sometimes read as “**big PRO**.” The interpretation or reference of such a PRO is provided by the rest of the structure. There will be a structurally determined antecedent, which provides an interpretation for PRO; it is said to ‘**control**’ the PRO. I will show examples of control structures in Section 27.2.

The other strategy for realizing the Agent of an Infinitive is based on the process of movement. If the Agent cannot be realized in the position of the Subject position of the Infinitive by control, the Subject can move to some higher position. We say it ‘raises’ to some other position where there is a Case available. We will see such structures in Section 27.3. The two strategies for realizing infinitival Agents/Subjects are the source of their formal classification:

(9) Classification of Infinitives

- i. **Control.** The Agent of INF is realized as a phonetically empty element PRO, which is controlled by some other NP in the structure.
- ii. **Raising.** The Agent of INF is overtly present, but it is not in its canonical position as the Subject of the INF. It raises and receives Case from some alternative and higher Case assigner.

27.2 Control Structures with PRO

Control structures can be described generally as follows: The embedded infinitival structure in the semi-clause contains a Subject; it is a phonetically empty PRO, an NP expressing the animate Agent of the INF. This PRO can be co-indexed (co-referential) with an NP Argument of the matrix Verb, a ‘**controller**’ of the null PRO.

(10) The controller of a PRO can be:

- (a) the Subject of the main clause,
- (b) the Object of the main clause,
- (c) Arbitrary, interpreted only in the pragmatic context.

27.2.1 Subject control of the Agent of an Infinitive

Many Infinitives are selected by the so-called **Subject control Verbs**, as demonstrated below. The presence of a PRO is proved by the grammaticality of syntactic bound anaphors, reflexives or reciprocals, inside the semi-clause. Recall that syntactic anaphors require an antecedent in some minimal domain determined by binding theory; this minimal domain is the semi-clause, including its PRO Subject, so the PRO is therefore the antecedent. Notice the subscript of the PRO is the way to mark its controller.

(11)

- a. *Is_J started/ wanted [PRO_{SJ} to write letters / wash **myself**/ *wash himself].*
- b. *She_{SJ} promised him [PRO_{SJ} to write letters./ wash **herself**/ *wash himself].*

Notice that this analysis of Subject control Infinitives depends on the requirement of NPs having **unique semantic roles**: the Verbs *start/want/promise* in these examples have their own Agents/experiencers realized as their Subjects. Therefore, the same Subjects cannot be interpreted at the same time as Agents of the activities of *writing* and *washing*; these infinitives require separate NPs for their own Agents. These NPs are represented by a co-indexed PRO in the embedded Subject positions.

The following subcategorization schemes suggest that the control of a selected Infinitive is part of verbal valency; it is the subcategorization of the main Verbs *start/want/promise* that determines the control properties of their infinitival Complements.

(12) Mono- and ditransitive **Subject control Verbs**

- a. *start* : V, [_NP/ Vinf_{Subject control}] <Agent, Patient>
- b. *want*: V, [_NP/Vinf_{Subject control}] <Experiencer, Theme>
- c. *promise*: V, [_NP, Vinf_{Subject control}] <Agent, Goal, Theme>

27.2.2 Object control of the Agent of an Infinitive

In these structures, the phonetically empty element PRO, interpreted as the Agent of the INF, is co-indexed (co-referential) with a Patient or goal Object of the matrix Verb; i.e. a PRO_{SUBJ} is controlled by a higher Object. These are so-called Object control structures. The Infinitives are thus selected by so-called **Object control Verbs**, the *persuade* type of Verbs, as illustrated below. The presence of a PRO is proved by the grammaticality of anaphors such as reflexives inside the semi-clause.

- (13) a. *I helped him* [PRO_{OBJ} come home / wash **himself** /*wash myself].
 b. *I persuaded/ ordered him* [PRO_{OBJ} to come home/ to wash **himself** /* to wash myself].
 c. *Donutil/ Přiměl/ Poručil ho/mu* [PRO_{OBJ} přijít domů / umýt **se**].

The analysis of Object control Infinitives again depends on the requirement of uniqueness of the semantic role of an NP. The following schemes show that the subcategorization of Object control Verbs require or allow two Complements: one is their own Object, and the other needs to be expressed in a semi-clause in a VP_{INF}.

(14) Ditransitive Object control Verbs

- a. *make:* V, [_NP, NP/ Vinf], <Agent, Patient, Theme>
 b. *persuade:* V, [_NP, NP/ Vinf], <Agent, Patient, Theme>
 c. *order:* V, [_NP, NP/ Vinf] <Agent, Goal, Theme>

Because the Verbs *help/persuade/order* require their own Patients to be realized as their Objects, here the Pronoun *him*_{ACC} cannot be at the same time the Agent of the activity of *coming/washing*. The infinitives require another NP for their own Agents, those represented by a co-indexed PRO.

27.2.3 Arbitrary control of the Agent of an Infinitive

The phonetically empty element PRO expressing the Agent of an Infinitive can fail to be co-indexed (co-referential) with any Argument of the matrix Verb: when this happens, we say that the PRO is ‘**not controlled**’ and use the notation PRO_{ARB}, meaning that it has arbitrary or general reference; the Agent can be anyone whosoever. In this regard, consider the interpretation and the form of reflexive anaphors related to such an Infinitive. The structures with an arbitrary PRO Subject are usually Complements of impersonal constructions, Copula or light Verbs with unspecified matrix goals.

(15) Impersonal structures with INF

- a. *It is unclear what* [PRO_{ARB} to do next].
What PRO_{ARB} to do next *is unclear*.
[PRO_{ARB} To be] or [PRO_{ARB} not to be], that is the question.

- b. *It is necessary* [*PRO*_{ARB} *to wash oneself*/ **wash myself*].

(16) INF Complements with light Verbs and Nouns

- a. *He gave an order* [*PRO*_{ARB} *to write letters*/ *wash oneself*/ **wash themselves*].
Mary made a promise to John [*PRO* *to behave herself*/ **himself*/ **oneself*].
- b. *This is a book* [*PRO*_{ARB} *to read to oneself*/ **themselves*].
We value the ability [*PRO*_{ARB} *to take of oneself*/ **ourselves*].

27.3 Alternative Case Assignment for Subjects of Infinitives

A position in a matrix clause can sometimes be unable to express any relevant semantic Argument of the main Verb. But, it still has the potential to assign a Case.

27.3.1 Raising

Raising is the process when the Subject of an Infinitive moves to the Subject position in the main clause. It gets marked for Subject Case by the matrix finite Predicate, but it does not have any semantic role with respect to this Predicate. We introduced this concept already in section 23.2.2. Here we are going to discuss the phenomena in more detail.

The raising structures are in fact standard with Modals and Auxiliaries. They are formally the finite (agreeing) parts of the Predicate, but the Subject that precedes them is not their Agent. Auxiliaries and Modals do not have Agents; it is rather the lexical Verb that has a semantic frame.

(17) Auxiliaries and Modals

- | | | |
|----|--------------------------|---|
| a. | <i>be</i> (progressive): | Aux, [__ V - <i>ing</i>], <Ø, Ø> |
| b. | <i>must</i> : | Modal, [__ bare V _{inf}], <Ø, Ø> |
| c. | <i>write/wash</i> : | V, [__ NP], <Agent, Patient> |

In the examples in (18), the lexical Verb is underlined and the Auxiliary/ Modal is in bold. The arrows mark the assumed raising of the Agent of the Verb to the position of the Subject of the Auxiliary Modal.

(18) Raising movement over Auxiliaries and Modals

- | | |
|----|--|
| a. | <i>He is/has been</i> { <i>SUBJ</i> } <u>writing</u> a book / <u>washing</u> himself. |
| b. | <i>He can /must/ may</i> { <i>SUBJ</i> } <u>write</u> me a letter / <u>wash</u> himself. |
-

In contrast to the PRO structures, Auxiliaries and Modals do not have their own Agents, and the NOM position of their Subjects is thus **free** to host an element that semantically belongs to another Verb. In the examples above, the Subject of the lexical Verb

occupies the position of the NOM Subject of the Aux/Mod elements *is/can/must/may*. But the Verbs themselves, either the bare Infinitive or the participle (*writing/ washing, write/wash*) are non-finite.

There are also lexical Verbs in English that do not select Agents and therefore can allow raising; see also Section 23.2.2. Consider their subcategorization:

(19) **Raising Verbs**

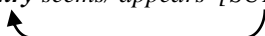
- | | | | |
|----|---------------|---------------------------------------|------------|
| a. | <i>seem</i> | V, [V _{inf}], | <Ø, Theme> |
| b. | <i>happen</i> | V, [V _{inf}], | <Ø, Theme> |

The agentless characteristic of raising Verbs is proved by the fact that their Subjects can be the empty expletive (place holder) *it*, which does not take any semantic role. The following example demonstrates that the raising process indeed targets the NP in the position of the Subject of the Infinitive, not the role of Agent itself.

- (20) a. *It seems that **Mary** criticizes Henry.* → ***Mary** seems to criticize Henry*
 b. *It seems that **Henry** is criticized.* → *→**Henry** seems to be criticized.*

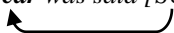
(21) **Raising structures**

- a. *It seems that **Henry** writes letters/washes himself.*
 a. ***Henry** seems/ appears ~~{SUBJ}~~ to write letter./ *wash myself/ wash himself.*

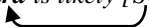


The process of passivization is another process that results in the deagentivization of the Subject position and allows raising. The same is possible with impersonal structures.

- (22) a. *Lots of people said that **Oscar** would introduce Zara to everybody.*
 b. ***It** was said that **Oscar** would introduce Zara to everybody.*
 c. ***Oscar** was said ~~{SUBJ}~~ to introduce Zara to everybody.*



- (23) a. ***It** is likely that Zara will be introduced by Oscar to everybody.*
 b. ***Zara** is likely ~~{SUBJ}~~ to be introduced by Oscar to everybody.*



In all these examples of raising, the Agent Argument is moved from the Subject domain of the Infinitive to the Subject domain of the superordinate finite Verb. The resulting structure thus contains a constituent, which formally belongs to one Verb (it is the Subject of the matrix finite Verb) and semantically to another Verb (it is the Agent or Patient of the Infinitive).

27.3.2 Exceptional Case marking (ECM)

In this kind of infinitival structure, the Argument of the Infinitive is Case-marked as the Object of a matrix Verb. These constructions are often called “**exceptional Case marking**” (ECM) constructions. They are frequent with **Verbs of perception**. Consider the NP *Mary/the car* in the examples in (24):

- (24) a. *I saw **Mary** leaving.* → *Mary was seen leaving.*
 b. *I hear **the car** going up the hill.* → *The car was heard goING up the hill.*

The NPs *Mary* and *the car* in (a) occupy the position of structural Objects of the Verb *see/hear*: they immediately follow it, are marked with Object Case, and can passivize. They are, however, not the semantic Arguments of those Verbs.

In the following examples, I have no reason to assume that the Verbs *see/hear* have different semantic impact in any of the three Complements.

- (25) a. *He saw/ heard [_{NP} **a kitty**].*
 b. *He saw/ heard [_{VPinf} **a kitty run**].*
 c. *He saw/ heard [_{clause} **how the kitty was running**].*

In contrast to the control Verbs illustrated in (14) on page 297, the subcategorization of the Verbs of perception requires only one internal Theme Argument, and this Argument is realized in (25)(a) by an NP, in (b) by a semi-clause, and in (c) by a finite clause. This shows that the subcategorization of the Verbs of perception is as follows:

- (26) a. *see,* V. [__ NP/ clause/ VP_{INF/-ing}] <Experiencer, Theme>
 b. *hear,* V. [__NP/ clause/ VP_{INF/-ing}] <Experiencer, Theme>

Because of this subcategorization as a mono-transitive, we have to conclude that *a kitty* in (25)(b) cannot be the Theme of the Verbs *see/hear*. This role is expressed by the whole infinitival construction [_{VPinf} *a kitty run*]. On the other hand, *a kitty* is an ideal candidate for the semantic role of the Agent of the Infinitive *run*.

This ECM analysis is superior to the idea that *a kitty* is a Patient or Theme of *see/hear*. Such an analysis would make *a kitty* carry two roles: The Theme of the matrix *see/hear* and at the same time the role of Agent of the Infinitive *run*. Moreover, it would leave the Infinitive stranded, expressing no role at all. On the other hand, the ECM analysis allows the Verb *run* to have an overt and unique Agent, avoids a dual role for *a kitty*, and integrates the Infinitive into the whole structure as a part of the Complement of the perception Verbs.¹¹¹

¹¹¹ The standard theory of semantic role assignment and interpretation requires one Role for one argument only. There are, however, alternative theories that allow an argument to carry more than one semantic role – see, e.g. Hornstein (2003). In such a theoretical framework, the distinction between Object control and ECM would be blurred.

The ECM analysis assumes a dissociation of a semantic role of an NP from its surface sentence function, but this separation is attested to in English in many places; see Section 23.2 for English Subjects and Agents.

27.3.3 *The Preposition ‘for’ with infinitival Subjects*

Up to this point in this chapter, I have been discussing Infinitives, which are Complements to (selected by) a superordinate Verb. If instead an English Verb has an Infinitive as a **Subject or adverbial Adjunct**, whether it precedes or follows the Verb, this Infinitive can almost always have an **overt lexical Subject**, which gets its Case from the clause-introducing Preposition *for*. The Subject of the Infinitive is then formally realized and Case-marked as the **Object of the Preposition**.

- (27) a. *It is easy **for him_i** to write a letter to them/wash himself_i/*wash myself.
For them to write a letter to Oscar was impossible.*
- b. *We moved in order **for them** to have a babysitter.
For us to have time to finish, the preceding meeting shouldn’t drag on.*

Some, but by no means all, **Infinitive objects** of Vs in English can also be expressed as such ‘*for-to* clauses’. Among the Verbs that allow this are

- (28) (a) Verbs of like and dislike take Infinitives with *for* + NP.
 (b) Verbs of planning and wishing also take Infinitives with *for* + NP.
- (29) a. *Mary will **prefer (for them_k)** to get themselves_k a separate house.*
 b. *Mary will **love (for us_k)** to get ourselves_k a separate house.*
 c. *Mary would **hate (for him_k)** to get himself_k a separate house.*
 d. **Mary would **enjoy for him_k** to get himself_k a separate house.*
- (30) a. *We **hoped/ waited/ planned/ arranged** for their visit.*
 b. *We **hoped/ waited/ intended (for her)** to visit you.*
 c. **We **wanted/ tried/ decided for her** to visit you.*

Selection of specific kinds of infinitival structures is clearly a part of the idiosyncratic characteristics of individual lexical entries. Macháček (1969) provides a historical perspective on the diachronic development of the selection of Accusative + Infinitive and *-ing* Complement clauses, focusing on specific classes of Verbs. He explains the process in terms of ‘**condensation**’ phenomena, which resulted in replacing the content clauses with infinitival forms.

The language specific nature of formal subcategorization is demonstrated by the fact that lexical entries with exactly the same interpretation can have distinct selection requirements. The following examples suggest that the Czech and English Verbs *slibit* ‘promise’ and *nutit* ‘order’ seem to have selection frames identical to English, while *chtít* ‘want’ does not. Although there is no distinction in the meanings of *chtít* and *want*,

the English Verb accepts both Subject control and ECM, while the Czech Verb allows only the Subject control Complements, as shown in (31)(c).

- (31)

a.

Quido

slíbil

Zaře

holit

se

Quido_{NOM/i}

promised

Zara_{DAT/k}

PRO_{SUBJ/i}

shave_{INF}

self_{i/*k}

a.’

‘Quido promised to Zara PRO_{SUBJ} to shave himself/*herself.’
- b.

Quido

nutil

Zaru

holit

se

Quido_{NOM/i}

made

Zara_{ACC/k}

PRO_{OBJ/k}

shave_{INF}

self_{k/*i}
- b.’

‘Quido made Zara PRO_{OBJ} to shave herself/*himself.’

c.

Quido

chtěl

(*mě)

přijít

Quido_{NOM}

wanted

(*me_{ACC})

PRO_{SUBJ/*OBJ}

arrive_{INF}

c.’

‘Quido wanted PRO_{SUBJ} to arrive.’

‘Quido wanted me PRO_{OBJ} to arrive.’

d.

Quido

viděl

/ *slyšel*

koťátko

utíkat pryč.

Quido_{NOM}

saw

/ heard

kitty_{ACC}

run_{INF} away

d.’

‘Quido saw/heard a kitty run away.’

In contrast, ECM with perception Verbs in (31)(d) is the same in Czech and English.
 Another difference in individual Verbs, seen in (32), is that raising is rare in Czech, which tries to avoid the dissociation of the semantic role and syntactic function.

- (32)

a

**Quido*

se zdá

přijít pozdě.

**Quido_{NOM}*

seemed

arrive_{INF} late

a.’

‘Quido seemed to arrive late.’

27.4 Taxonomy of English Infinitives

The following tables summarize the classification of Infinitives with the more detailed specifications that were introduced in the previous sections.

- i.

The Agent of INF is realized as a phonetically empty element PRO, the interpretation of which is derived from the rest of the structure. This PRO is controlled.

a	Subject control INF	Agent of the Infinitive (=PRO) is coreferential with the <u>Subject</u> of the matrix Verb	See (11)/(12)
b	Object control INF	Agent of the Infinitive (=PRO) is coreferential with an <u>Object</u> of the matrix Verb	See (13)/(14)

c	Arbitrary control INF	Agent of the Infinitive (=PRO) has ' <u>arbitrary</u> reference'. Like the NP <i>one</i> , it is Animate.	See (15)/(16)
---	-----------------------	---	---------------

- ii. **The Agent or other Subject of INF is overtly present.** However, it is not in its canonical position, and it is Case-marked by some alternative Case assigner.

a	Raising to Subject	Subject of the Infinitive is in the position of the <u>Subject</u> of the matrix Verb. Though it is not its Agent, the matrix Verb Case-marks it with NOM.	See (17) (19)/(21)
b	Exceptional Case marking (ECM)	Subject of the Infinitive is in the position of the <u>Object</u> of the matrix Verb. Though it is not its Patient, the matrix Verb Case-marks it with ACC.	See (24)
c	Preposition <i>for</i>	Subject of the Infinitive follows a <u>Preposition</u> , usually <i>for</i> . Though it is not a semantic Complement of the P, it is Case-marked by the P.	See (27)

28 DISTRIBUTION OF INFINITIVES

Almost any positions available for finite clauses also exhibit Infinitives or sometimes non-finite VPs with *-ing* forms called “participles.” For more details on the latter, see Chapter 29.

- (1) a. *To read a book/ That we read some books was a requirement.*
b. *I prefer this book / to read this book/ that we read a different book.*
c. *Josephine left after the sunset / after arriving in Prague.*
- (2) a. *That Zara arrived on time / To arrive on time seems impossible.*
b. *Can you remember whether he helped Ann / to help Ann/ helping Ann?*
c. *Julie left Prague before she could meet him / before meeting him.*

These examples present Infinitives with the grammatical particle *to*, the so-called *to*-Infinitives. The *to*-Infinitive is the unmarked form of the English Infinitive. There are special contexts, however, where this particle is missing.

In the previous chapter, we have seen that typical English Infinitives, those introduced by the particle *to*, must have structurally represented Subject NPs **just as do finite clauses**, even though the Subject of many *to*-Infinitives is not lexicalized, i.e. they are “**null Subjects**.” But there are some special Infinitives and also participles built around *V-ing*, that do not have separate structural Subjects.

28.1 Bare Infinitives in English

Some Infinitives are not introduced by *to*. Traditionally, these are called **bare Infinitives**.

- (3) Characteristics of English bare Infinitives:
 - a. Their distribution in English is limited.
 - b. Since the Verbs that select them are frequent and basic, bare Infinitives are frequent in use even though they are limited in distribution.
 - c. Bare Infinitives are interpreted as the Predicates of the first (lowest) NP that precedes them.

Perhaps the best way to understand English bare Infinitives is to understand that most syntactic contexts completely exclude them.

- (4) Excluded positions of bare Infinitives
 - a. Bare Infinitives never occur in any adverbial or relative clause Adjuncts.
 - b. Bare Infinitives are never Complements of head Nouns, Adjectives, or Prepositions.
 - c. Bare Infinitives never occur as preposed or topicalized constructions.

Verbs can select every type of Complement. If a V selects a VP, the latter can be the following:

- (5) a. Finite clauses or *to*-Infinitives, namely TPs,
- b. Bare Infinitive VPs, or
- c. Participial *-ing* forms (VPs in structural positions of APs).

Selection and other lexical properties of Verbs cannot be fully predicted from a Verb’s meaning. They are properties of the lexical entries of individual Verbs. This chapter focuses on bare Infinitives, while participial forms are included in the next chapter.¹¹²

Bare Infinitives are the structurally most economical, since they use only the plain (bare) verbal form. In English, they appear in the following contexts:

- (6) a. following Modals,
- b. following some lexical Verbs, those with the most general meanings.
- c. in idioms and special constructions.

The following table lists all these contexts in detail. The terms in the second column reproduce the traditional terminology (see Chapter 15). Notice that some Verbs (*dare*, *need*, *ought*) appear in two forms: once they are listed as Modals (with negative polarity), and a second time as standard lexical Verbs.¹¹³

(7) List of **bare INF contexts**

	Term	List of verbal elements	Examples
non-lexical WITHOUT DO- SUPPORT	Central Modals	<i>can, could, may, might, shall, should, (wi) ‘ll, (woul) ‘d, must</i>	<i>The sun will (*to) rise soon. Quido must (*to) sleep.</i>
	Marginal Modals (NPI)	<i>dare_{NPI}, need_{NPI}, ought_{NPI?}</i>	<i>He dare not/ needn’t/ oughtn’t (*to) come late. He ought (*to) come late.</i>

¹¹² Macháček (2009) discusses the dual complementation of the Verb *help*, comparing its *to*-Infinitive complements with bare Infinitives. He argues that the bare Infinitive signals a weakening of the Verb *help*, which has become a lexicalized characteristic of the construction using the bare Infinitive.

¹¹³ The so-called “marginal Modal” appears systematically in two forms: as a regular lexical Verb followed usually by a *to*-Infinitive (*He dares to speak out, doesn’t he?*) and as a Modal, with no inflection and followed always by a bare Infinitive: *He daren’t speak out, dare he?* As Modals, they are strictly negative polarity items.

	Modal idioms	<i>(ha) 'd better/ best (woul) 'd rather/ sooner/as soon as</i>	<i>You 'd better/ best (*to) go. I 'd rather/ sooner/as soon as (*to) do it.</i>
		<i>can(no) 't (help) but</i>	<i>The weather can 't but (*to) get better. David can 't help but (*to) laugh.</i>
lexical V + V _{INF}	‘Marginal Modals’	<i>dare, need, ought</i>	<i>Ethel didn 't dare (to) come late. We ought not smoke.</i>
	<i>come/ go + Infinitives</i>	<i>come, go</i>	<i>Go get me some money! He will come clean our house.</i>
lexical V + NP + V _{INF}	Causatives (± to)	<i>have, let, make, bid, help, force, oblige, persuade</i>	<i>I have/ let my son (*to) clean up. We made/ bid him (*to) leave. Let 's (*to) go now! I help him (to) clean..</i>
	V of sensory perception	<i>see, watch, feel, notice, (over)hear, observe, know (BrE), find (BrE),</i>	<i>I saw/ watched/ heard him go. Oscar noticed/ observed Mary (to) leave. We know /found her (to) be smart.</i>
??	Composites incorporating to	<i>gonna, gotta, hafta, usta, oughta, supposta, wanna</i>	<i>It 's gonna/ supposta (*to) rain.</i>

There is a poorly understood restriction on the Auxiliary use of *go* and *come*. These Auxiliary Verbs followed by a bare Infinitive cannot themselves carry any inflection:

- (8) a. *My friend can come/ wants to come/ *came/ *comes watch TV.*
b. *Those guys go/ may go/ *have gone/ *are coming eat out often.*

The same does not hold for *help*: *He helped carry the TV; they have helped cook.*

28.2 Sentence Functions of Infinitives

Which sentence members can be realized as Infinitive? Any sentence member, including adverbials, can be expressed by Infinitives. The following examples show that both Infinitive and Gerund can serve in all sentence functions:

- (9) Subject a. *To read books is a pleasure.*
 b. *Reading books is a pleasure.*
Object c. *I want (him) to go away.*

- | | | |
|-----------|----|--|
| | d. | <i>I saw <u>him go(ing)</u> away.</i> |
| Attribute | e. | <i>He is a man <u>to bring home to mother</u>.</i> |
| | f. | <i>A woman <u>reading on the train</u> refused to leave.</i> |
| | g. | <i>Relaxing books <u>to read in hotels</u> are hard to find.</i> |
| Adverbial | h. | <i>He came to the lecture (<u>in order/so as</u>) <u>to please me</u>.</i> |
| | i. | <i>Say good bye <u>before leaving the room</u>.</i> |
| | j. | <i>His friends seem <u>too quiet (for me)</u> to invite to your party.</i> |

However, it is a mistake to think that having the same sentence function implies that Infinitives and Gerunds are in the same positions. Infinitives indeed have a wide range of sentence functions, but they are in distinct positions from Gerunds, which are studied in the next chapter.

Infinitival positions should be characterized differently. Rather, **infinitival TPs** are in **PP positions**. Clauses containing *to*-Infinitive VPs have the same positions as embedded finite clause TPs. In addition,

- (a) Both finite and infinitival TPs appear as **Complements** at the end of VPs, NPs, APs and PPs.
- (b) Both types of TP can also appear in sentence-initial '**topicalized**' position in main clauses.

The following sets of examples show that English Infinitives, in contrast to Gerunds, do not appear in NP positions. I will return to the topic in Section 29.6.

- (10) Infinitives in **Subject** position, in embedded clauses or after *wh*-phrases

- a. **Days that to eat in the garden is possible are rare.*
- b. **I don't understand your proposal that to move to Prague would help.*
- c. **Where would for us to take a holiday now be cheaper?*

- (11) NPs in **Object** position, i.e. possibly preceding Complement PPs

- a. **Mary preferred to visit Egypt to a long stay in Italy.*
- b. **We took to paint the whole apartment on ourselves.*
- c. **He proposed to move out soon to Mary.*

- (12) NP objects of **Prepositions**

- a. *My cousin is happy (*with) to stay with us.*
- b. *She was prepared (*for) to find a new apartment.*
- c. *I was amazed (*at) to hear you say that.*

Thus, there is a distinction between fulfilling a Subject or Object sentence function (Infinitives do this) and appearing in a Subject or Object NP position (Gerunds but not Infinitives do this).

28.3 Communicative and Pragmatic Function of Infinitives

Why do we use Infinitives? Why are they more frequent in some languages? The reason is some kind of **economy principle**. This principle, however, does not refer to the number of syllables or words; it is better explained in terms of features and structure.

In this study, I work with the concept of English Predicates, which systematically separates (a) the functional level from (b) the lexical level. The functional and grammaticalized part of the Predicate is the leftmost part; this is the part of the Predicate template that contains many grammaticalized words and the inflectional morphemes. The lexical level is on the right side of where the lexical Verb is located. Compared with, e.g. Czech, the verbal complex in English is overtly and systematically **analytic**, with special positions for Modals/Auxiliaries, idiomatic particles, verbo-nominal complexes, free prepositions as opposed to bound Case inflections, etc. We saw some of those in Section 21.4.2.

- (13) a. *Oscar will be looking forward to seeing Zara.*
 b. *Oscar and Zara may well have been having fun with each other.*

In the following schematic picture of the English analytic Predicate, we see that the lexical postmodification field on the right can be realized in many different ways, depending on the selectional properties of the main Verb. The lexical Verb occupies the initial part and is preceded by other verbal elements, which show all the behaviour of the T and V heads, determined according to the N.I.C.E. properties. Nonetheless, for full interpretation, the lexical elements require further complementation.

(14) Complex Predicates in English

<i>will be</i> <i>had been</i> <i>are not</i>	<i>arguing</i> <i>looking</i> <i>having</i>	<i>(about/ over/ with +NP)</i> <i>around/ forward to NP/ back to NP</i> <i>fun /trouble/ a good time</i>
---	---	--

Modal	+ lexical Verb	+ prepositional phrase or particle
Tense	+ phrasal Verb	+ prepositional phrase or particle
Agreement	+ light Verb	+ nominal part of the Predicate

The fact that, in an English clause, lexical information tends to be shifted to the right of the Predicate to non-verbal elements, is sometimes called the **deverbalization tendency** of English. An alternative term, a **nominalization tendency**, is not correct because it is not only Nouns that Complement the light or weak Verbs.

The overt and systematic analyticity of the Predicate is an underlying reason that allows English speakers to treat separate parts of the Predicate as independent. This independence of the functional grammatical level in turn leads to the possibility of omitting parts of it, such as the elliptic structures, which separate T from VP and omit

VP. The semi-clauses are more economical because they do not overtly express a complete **independent functional level**. English Infinitives are structurally ‘smaller’ than finite clauses.

They, moreover, do not make independent reference to reality (they are usually embedded) but are anaphoric. Their resulting reference to relative time seems to be more economical than independent reference to absolute Tense.

- (15) a. *Having said good bye, Oscar left.*
 b. *Oscar said good bye and he left.*

In Czech, the verbal functional level is not so easy to separate from the lexical Verb, because the verbal Predicate is **synthetic**. The frequency of semi-clause Infinitives is therefore much smaller. Czech often expresses English Infinitives as a finite clause TP or PP, or as an NP or some other constituent.

(16) **Syntactic economy vs. lexical condensation**

(Possibly) because English lexical entries are not condensed into single words, English syntax is more easily divided up, and then partly omitted.¹¹⁴

That is, Czech lexical entries are more often condensed into single words, and Czech has fewer syntactic deletions, while English clausal structures are “less wordy” for a different reason; English has more syntactic ellipses.

28.4 General Distribution of Infinitives

We have seen that *to*-Infinitive VPs can appear in any sentence function in English. As for distribution, clauses containing *to*-Infinitive VPs have the same positions as finite clauses (TPs). But, they do not appear in NP positions. Both finite and infinitival TPs are generated as **Complements** to the right of VPs, NPs, and APs.

- (17) a. *The boss said to Ellen to carry in some boxes.*
 b. *The decision to leave home wasn't easy.*
 c. *The girls seem happy to finish their work.*

In addition, both types of TP can also appear in sentence-initial ‘**topicalized**’ position in main clauses.

- (18) a. *For us to finish on time (Oscar decided) is not possible.*
 b. *(*Oscar decided that) for us to finish on time is not possible.*
 c. *To be or not to be, (that) is the question.*

¹¹⁴ For a theoretical discussion and more examples, see Hendrick (2007).

29 ENGLISH V-ING FORMS

A bare form V-*ing* is often **categorially ambiguous**. A closer look at its properties, however, usually reveals characteristics that allow its unambiguous classification. Most of the arguments for such conclusions are from distribution: co-occurring elements and sentence function.

A formal categorial classification as N, A, or V is typically accompanied by a specific interpretation as more verbal (active) or more nominal (stative).¹¹⁵

(1) V-ING forms:

- i. Derived **Adjectives**: *dancing bears, a moving scene, the rising sun*
- ii. Derived **nominals**: *the planting of crops, spring cleaning, sport fishing*
- iii. **Verbs**
 - (a) Progressive participle
 - (b) Other participle uses
 - (c) Gerunds

The suffix -*ing* combines with Verbs. When it gives rise to a Noun or Adjective, it is **derivational**; with Verbs it is to be analyzed as **inflectional**. The inflectional tests are clear with both participles and Gerunds. Though the morpheme is categorially ambiguous, distributional characteristics reveal the category of its phrasal projection.

(2) **Participles**: ambiguous between Adjectives and Verbs

- a. *Sam is entertaining.* (*entertaining guests...very entertaining*)
- b. *We found that family moving.* (*moving to a new camp...quite moving*)

(3) **Gerunds**: ambiguous between Nouns and Verbs

- a. *Reading takes time.* (*To read... Careful reading*)
- b. *I like dancing.* (*to dance... folk dancing, this dancing*)

To decide about the categorial label of the -*ing* form, we must observe its wider formal characteristics. The diagnostics for these are the same as with any categorial labels:

- a. characteristics of the phrasal projection; types of pre-/ and postmodification
- b. distribution and function in a sentence

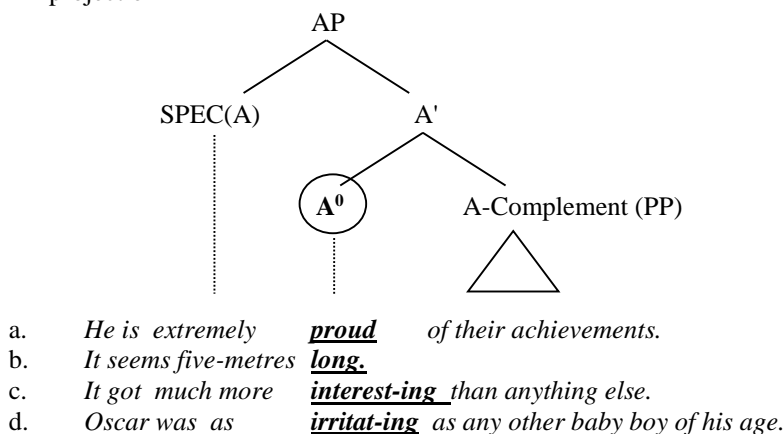
In the following sections, I first show the least problematic properties of derived de-verbal Adjectives and the progressive V participles taking the -*ing* suffix. Then I will compare the nominal and verbal characteristics contrasting derived nominals with verbal Gerunds.

¹¹⁵ See also Huddleston and Pullum (2002: 173-1271); Quirk, Greenbaum, Leech and Svartvik (2004: 1353-1420); Dušková (1994: 349-389, 542-587).

29.1 Derived Adjectives from V-ing Predicates

In Section 11.3, I demonstrated a schematic tree of a standard projection of the category A (Adjectives and Adverbs). For convenience, it is repeated here together with a characteristic premodification and Complements.

(4) AP projection



The de-verbal Adjectives using the suffix *-ing* projects like any other AP. The above example sentences contain these APs in the sentence function of **adjectival Predicates**, selected as Complements by Copulas and linking Verbs.

The similarity of the combination of a Copula and an AP derived by V-*ing* with the progressive Aspect of the same Verb reflects the diachronic development of the aspectual morphology. In some contexts with bare forms, the structure can be still ambiguous. With most pre- and postmodification, however, the distinction is overt.

- (5) a. *He is irritating everybody.* V, [+PROG]
 b. *He is more irritating.* A, [+COMPARATIVE]

29.1.1 Derived Adjective Attributes from V-ing

The derived APs with the *-ing* suffix can also function as **Attributes**. Recall the positions of Attribute APs with respect to the head N.

- (6) a. *I know several extremely proud/ **hard-work-ing**_A students.*
 b. *I know some students very proud of/ work-**ing**_A hard on their projects.*
 c. **I know several work-**ing**_A hard on their projects students.*
 d. *That smil-**ing**_A handsome_A man is my brother.*
 e. *A movie more **interest-ing**_A than anything else is playing at the cinema.*
 f. **The professor gave a reveal-**ing**_A his weaknesses class.*

Derived de-verbal Adjectives can be more or less lexicalized. The more lexicalized derived Adjectives are even gradable: *more/ so/ very promising*, but ?*more/ ??quite/ *too smiling*. The less lexicalized derived Adjectives do not combine with the Grading morphemes.

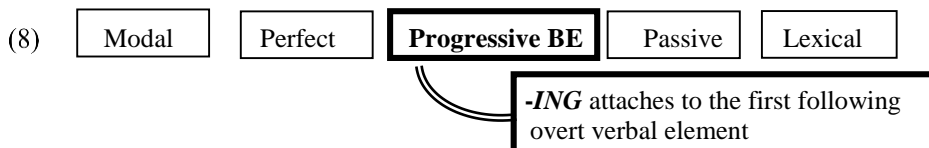
- (7) a. *Those three very smart/ screaming kids more clever/ amusing than you*
 b. *A new (*very) reading seminar is being offered.*
 c. *She knew the man (*so) reading a newspaper*
 d. *another proposal (*quite) leading to a good solution*

29.2 Active Verbal Participles

The inflectional suffix *-ing* is added to Verbs to create a participial Verb form. This morphological form is used in the progressive verbal paradigm or as a verbal participle. Both are examined here.

29.2.1 The Progressive verbal participle

The inflectional *-ing* is part of the of progressive Aspect **circumfix**: *be – Verb – ing*. The progressive is a central part of the English verbal paradigm. Verb-*ing* has the sentence function of Predicate.



In the following examples, we can see that the verbal characteristics of the participle are signalled by the selected Complement. The Auxiliary and the *-ing* forms of the Verb therefore clearly function as a Predicate.

- (9) a. *Zara may **be danc-ing_v** the tango.*
 b. *Zara **was be-ing_{aux}** introduced to her school-mates.*
 c. *Zara has **been read-ing_v** this book forever.*

Progressive Aspect expresses continuation or repetition of an action. For many more details, see Leech (1971) and Section 13.4.

Some English grammars give the impression that the progressive or continuous Aspect forms with *be* are a special unique construction. This is false. There is a whole class of **temporal Aspect Verbs** the Predicate Complements of which are present participles. They have the same syntax as the progressive Aspect formed with *be*.

(10) Temporal Aspect Verbs

be, start, begin, stop, finish, continue, go on, keep (on), resume, commence

The temporal Aspect Verbs select a VP Complement headed by V-ing. These Complements never have the behaviour of an NP; they cannot undergo passive, topicalization, or substitution by *it*. They always follow **perfect Aspect** and precede passive auxiliaries. Here are several examples; the progressive is just a special case.

- (11) a. *They have kept on/ resumed/ been working full time.*
- b. *The children have finished/ been being washed.*
- c. *The candidates may continue/ be being interviewed.*
- d. *You shouldn't start/ continue/ resume taking those pills.*
- e. **Taking those pills should not be started/ continued/ resumed.*
- f. **Examining her patients the doctor continued/ stopped/ was.*
- g. **We began examining people free, and you should continue / resume it.*

Just like Adjective phrases, other verbal participle VPs serve as secondary Predicates, adverbial Adjuncts and Noun-modifying Attributes.

(12) **Participial Object Complements** (underlined):

- a. *Helen found **Piers** studying in the library.*
- b. *I heard **the rain** hitting the roof.*
- c. ***Quido** was seen buying a hot dog.*

(13) **Participial adverbials** (underlined):

- a. ***She** drove across the country smoking cigarettes.*
- b. *Not knowing Italian, **I** was at a loss in Calabria.*
- c. ***I** saw him while doing my shopping.*

(14) **Participial Attributes** (underlined):

- a. *I met several almost starving students.*
- b. *I met some **office workers** studying Italian in their spare time.*
- c. ***People** sitting outside here are sure to get mosquito bites.*

Present participles have one syntactic property in English that sets them off from both *to*-Infinitives (studied in an earlier chapter) and Gerunds (studied in the next section):

- (15) **Participles are bare VPs.** Participles never have their own separate overt structural Subjects in English.

The understood Subject of a participle is always some nominal projection, N or NP, that has its own sentence function in a higher clause, besides being the understood Subject of the participle. These higher Subjects are in bold in examples (12)-(14).

29.3 **Derived Nominals and Gerunds**

Derived nominals and Gerunds are two types of **nominalizations** in English. A nominalization is a structure that combines most of the **verbal combinatorial properties** found inside clauses with a **nominal surface syntax** that looks more like a (possibly quite complex) Noun phrase. To understand nominalizations, we must therefore review both types of characteristics.

29.3.1 *Combinatorial characteristics of Nouns*

Recall the properties of Nouns with respect to their (a) **morphology** and (b) **syntax**.

(16)

DET/ POSS - (Q) - (A) -

N

- of - NP - (PP) ...

a.

my

many

beloved

book-s

of prayers

b.

the

four

tallest

build-ing-s

in the town

c.

those

beautiful

paint-ing-s

of mine

d.

Oscar's

slow

cook-ing

of eggs and rice

e.

any

careless

roast-ing

of meat

f.

your

writ-ing

to Oscar

The following list provides some of the diagnostics for the category of Noun. It refers to the way a nominal category distributes certain specific kinds of meaning among its pre- and postmodifiers. For example, we can see that some Argument interpretations are available inside the nominal projection, and that these Arguments are located in designated positions.

(17) **Noun modifiers and functions**

- i.

Agent

→POSS

main Determiner position
- ii.

Patient

→of-phrase

immediately following the Noun
- iii.

Manner

→ADJ form

prenominal
- iv.

Function

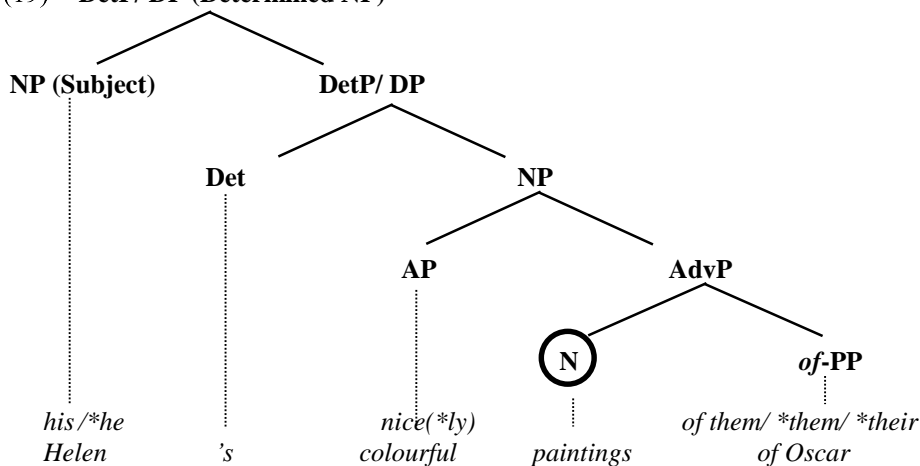
→Attributes

(18)

Possessive NP	Concrete/ Manner Adj	Noun	of-phrase
<i>Helen's</i>	<i>colourful</i>	<i>paint-ing+s</i>	<i>of Oscar</i>
<i>his/* him/ *he</i>	<i>nice</i>	<i>behav-iour</i>	<i>toward us/ *we/ * our</i>
<i>The debt's</i>	<i>quick</i>	<i>repay-ment</i>	<i>by our neighbour</i>

The *-ing* form *painting* in (18) fulfills the diagnostics in (17). It even takes the Number morphology *-s*. Therefore, it is of the category of Noun, and its projection is a Noun phrase, as schematically illustrated here.

(19) **DetP/ DP (Determined NP)**



In the following section, I am going to provide the contrasting diagnostics of the category of Verb. The difference between nominal and verbal characteristics will then allow me to characterize the specific syntax of English Gerunds.

29.3.2 Combinatorial characteristics of a Verb

Besides the **prototypical meaning** of Verbs (namely actions) and of Nouns (objects, acts), there is also a distinction in terms of the extent to which the activity features are lost. Some Nouns are more acts than others, i.e. they are more “verbal.” When parsing the meaning of a nominalization, the listener modifies their understanding based on its category: if the form is verbal, they adopt the “activity” interpretation. If it signals a Noun, the interpretation is forced to be more static, more like an Object.

Without the formal signals, the meaning remains ambiguous.

- (20) a. Reading takes time. (To read... Careful reading)
 b. I like dancing. (to dance... folk dancing, this dancing)

Consider now the standard realizations of a Verb’s thematic frame or valency, and compare it with the diagnostics for a Noun in (17). Similarly, compare the context of the *-ing* form *painting* in (18) and (22).

(21) **Verb modifiers and functions**

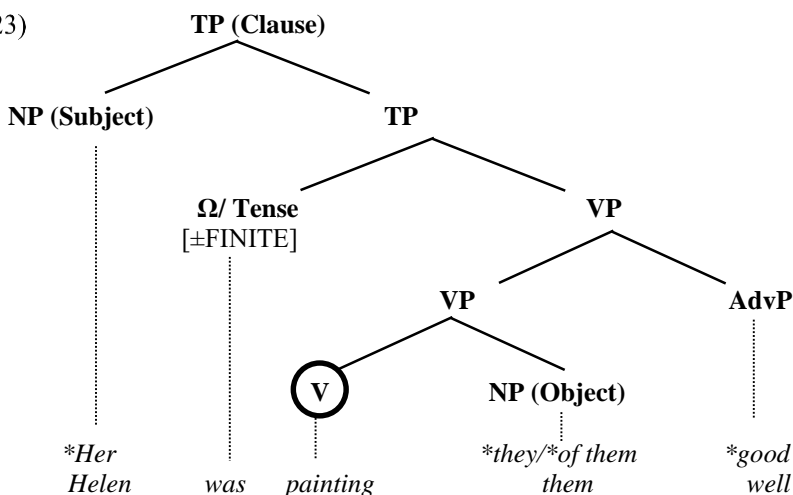
- | | | | |
|------|----------|---|---|
| i. | Agent | →Subject usually NOM | preceding the Predicate |
| ii. | Patient | →Object, ACC | structural Case on an NP
without P, directly after V |
| iii. | Manner | →ADV form | peripheral in the VP |
| iv. | Function | →Lexical head of Predicate, following Ω | in a TP |

(22)

SUBJ/NOM	Ω	*Adj	Verb	OBJ/ACC	Adverb
<i>Helen</i>	<i>is</i>	<i>*colourful</i>	<i>paint-ing(*s)</i>	<i>Oscar</i>	<i>so well</i>
<i>he/*his</i>	<i>has</i>	<i>*nice</i>	<i>behav-ed</i>	<i>towards us</i>	<i>nicely</i>
<i>The debt</i>	<i>was</i>	<i>*quick</i>	<i>repai-d</i>	<i>us/ *we/ *our</i>	<i>quickly</i>

The projections of the NP/DP in (19) and VP/TP in (23) are structurally similar - they follow the same principles of projection. The morphological form and kind of the co-occurring constituents differ, however, according to the categorial characteristic of the head.

(23)



29.4 Three Kinds of English Nominalizations

Nominalizations based on *-ing* forms are discussed repeatedly in any linguistic framework using extensive English data. The data in the table in Section 29.6.1 are a summary of *-ing* characteristics of the different *-ing* nominalizations taken from Chomsky (1968), Emonds (1985, 2000) and Grimshaw (1991).

In discussing types of English nominalizations, Grimshaw (1991) concentrates on the possible **event structures** of nominalizations.¹¹⁶ Based on the interpretation of their Arguments, she distinguishes three kinds of nominals.

- (24) a. **Result nominals**
 b. **Complex Event Nominals (with ‘mixed’ patterns)**
 c. **Gerundive nominals**

¹¹⁶ For a thorough discussion of Grimshaw’s typology, see Lieber (2016).

These three kinds of nominals are distinct not only with respect to their event structures but also with respect to their formal characteristics. These provide a range of properties, some of which can be attributed to Nouns and others to Verbs. In the following sections, I concentrate on morphosyntactic distinctions, so as to describe in more detail the properties of borderline types between full lexical Nouns and verbal Gerunds: the **result nominals** and **complex event nominals**.

29.4.1 Result nominals

The most “nominal” and “least verbal” V-*ing* forms are the result nominals (RN). As for their interpretation, they denote the **result** of an activity. E.g. the result of writing is a *letter* or its physical record: the *writing*.

The scheme below demonstrates that RN are **countable**, i.e. can take articles, countable Quantifiers and plural morphology. Their relation to their Possessive and *of*-phrase Attributes are rather vague and not directly linked to the Argument structure of the verbal Root.

(25) Result nominals

<i>a/ three</i>	<i>smudged</i>	<i>writ-ING(s)</i>	<i>*of a letter</i>
<i>the/ these</i>	<i>dark</i>		<i>of Monday</i>
	<i>ink</i>		
<i>my/ *me</i>	<i>*instant</i>		<i>*on Monday</i>
	<i>*already</i>		

- (26) a. *Ethel put both colourful [_N writ-**ing**+s] on the table.*
- b. *There are three tall [_N build-**ing**+s] at the edge of the town.*

The interpretation of RNs is close to a prototypical **nominal** interpretation; they are often physical objects. Their formal characteristics are also quite standard for the category of Nouns.

29.4.2 Complex Event Nominals

Complex Event Nominals (CEN) are -*ing* forms that are more ‘verbal’ but still can be analyzed as NPs headed by Nouns. CENs denote an **activity or process itself**. E.g. the event of writing is an activity: *the writing*. Grimshaw (1991) labelled them as CEN because these V-*ing* forms seem to have semantic event structures comparable to and as complex as those of Verbs. CENs select their Arguments with the same semantic roles as the corresponding Root Verbs. On the other hand, these same V-*ing* forms still keep some clearly nominal characteristics.

- (27) a. *Hilary was tired out from her constant writ-**ing**_N of letters to lawyers.*
- b. *Long walks and he watch-**ing**_N of birds are her favourite activities.*

The uncountable, abstract CENs with verbal interpretations have the characteristics illustrated in the following scheme. Among the nominal properties, we can count the availability of a Determiner (although with restricted choices), Adjectives, and *of*-phrase complementation. Such Adjectives, however, must describe events and cannot refer to concrete physical properties, in contrast to Adjectives with RNs.

(28) **Complex Event Nominals**

<i>*a/ *three</i>	<i>*dark</i>	<i>writ-ING(*s)</i>	<i>of a letter</i>
<i>the/ *these</i>	<i>quick</i>		<i>to Oscar</i>
<i>any/ no</i>	<i>*quickly</i>		<i>*of Monday</i>
<i>my/ *me</i>	<i>*already</i>		<i>on Monday</i>

On the ther hand, CEN are uncountable, abstract and optionally have a Verb-like event structure. When both a Possessive and *of*-phrase are present, the Possessive is interpreted as an Agent or Possessor, while the *of*-phrase is necessarily the Patient.

- (29) a. *Ethel’s constant watch-**ing**_N of her sister had some unexpected results.*
b. *His quick read-**ing**_N of all the recommended books surprised everybody.*

29.5 Gerundive Nominals

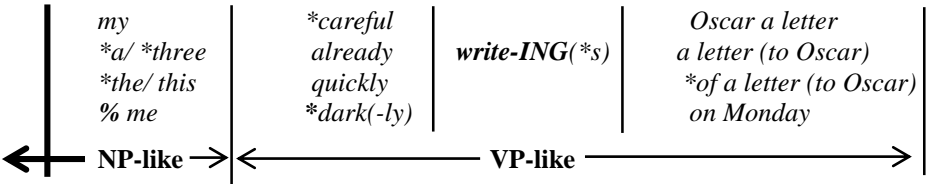
Having introduced the categorial characteristics of Nouns and Verbs, we can consider the *V-ing* form traditionally called the Gerund. Compare the properties of Nouns listed in (17) and Verbs in (21) and also with the following list (30).

(30) **Gerund modifiers and functions**

- i. Agent →POSS/ ACC Determiner position
(dialects differ in choice and frequency)
- ii. Patient →ACC structural Case on an NP without
P, directly after the Verb
- iii. Manner →ADV form peripheral in the VP
- iv. Function like NPs (Subject, Objects of V and P)

Scheme (31) exemplifies the typical co-occurring elements. Compare their repertory, form and function with Nouns in (18) and Verbs in (22). Gerunds have mixed properties: some point towards Noun, but most of them look verbal.

(31) **Gerundive nominals: POSS – ADV – GERUND – ACC – PP**



As for its **verbal properties**, we can see that the internal, right side of the Gerund phrase is 100% verbal. It has Objects, and it is modified by adverbials.

As for its **nominal properties**, the more external, left periphery of the projection is nominal: it allows a Possessive and demonstratives. Additionally, its distribution in a sentence is that of nominals: as stated in (30)(iv), Gerunds occur exactly in the positions of NPs.

29.5.1 Interpretation of Gerunds

The precise interpretation depends on individual lexical entries of the selecting Verbs and context. Generally we can say that a Gerund seems to be ‘more verbal’ than a Noun but ‘less verbal’ than an infinitival Verb.

As a Verb, a Gerund always has an **event structure** of a Verb: direct Objects with no Preposition, and double object structures for ditransitives. Moreover, a nominalizing ending *-ing* licenses Subjects in the form of **Saxon Genitives** (Possessives). Notice that the interpretation of such Saxon Genitives in Gerunds is not Possessor-like, as with RN and CEN NPs, but it is rather the Agent of the Verb.

- (32) a. *I love [_{NP} our Mary / his book].*
I admire [_{VP-Gerund} his reading novels before we go to bed].
 b. *[_{NP} Their cook] was a disaster.*
[_{VP-Gerund} Their cooking the meal] was a disaster.

The Case forms of Subjects of Gerunds are changing. In some dialects, Accusatives can replace these Genitive Subjects:

- (33) a. *I love him reading novels before we go to bed.*
 b. *Them cooking the meal was a disaster.*

PRO Subjects of Gerunds. Gerunds can have understood null Subjects, i.e. PRO Subjects, the controllers of which are in the matrix clause or which have arbitrary control.

- (34) a. *I love [_{VP} reading novels before we go to bed].*
 b. *[_{VP-Gerund} Cooking that meal] was a disaster.*

In many younger people’s speech in both the United States and the United Kingdom, Gerunds in fact accept only PRO Subjects. Overt Subjects of Gerunds, either Genitive or Accusative, seem to occur mainly in older speech and in written language.

29.6 Distributions of Participles, Gerunds and Infinitives

We have now studied the internal characteristics of all forms of English semi-clauses, that is, non-finite constituents based on VP Predicates. Chapter 28 demonstrated the distribution of English *to*- and bare Infinitives: they can be in extraposition or in main

clauses, topicalized and initial. In this section, I now compare the distribution of Infinitives with that of participles and Gerunds. The key to the distributional distinctions among Gerunds, participles and Infinitives lies in their categories and sentence functions. They are not arbitrary, counter to statements in many texts.

(35) **Gerunds** are VPs in **NP positions**.

As NPs, Gerunds can take on the functions of Subjects or Object NPs, and they are the only type of semi-clause that can follow Prepositions. Examples of Prepositions with Gerunds: *To, with, by, from, about, despite, without, because of, instead of*, etc.

- (36) a. *Customers are limited to buying two copies each.*
 b. *Despite her not knowing most of the answers, Pauline passed the test.*
 c. *With Paul being required to buy a new car, he took a new job.*

(37) **Participles** are VPs in **AP positions**.

- a. They can be Noun-modifying Attributes.
 b. They can be Predicate Complements of classes of (in)transitive Verbs.
 c. They can be adverbials of time, place, manner, etc.
- (38) a. *Some fast boiling water spilled.*
Three friends buying a house asked me for a loan.
 b. *Mary went on studying chemistry.*
They caught her stealing some books.
 c. *Mary drove off while waving good-bye.*
We got it there on time after using express mail.

Prepositions functioning like adverbial VPs as in (c) may seem to introduce Gerunds. But, such Ps (*while, after, before, until, since*) introduce participles. Unlike Gerunds, (i) the VP Complements of these temporal Ps never have overt Subject NPs, and (ii) they cannot move and strand the P: **It was waving good-bye that Mary drove off while; *Using express mail we got it there on time after*.

29.6.1 Nominal vs. verbal properties of nominalizations based on V-ing

The data in the following table are a condensed summary of the diverse characteristics of the different V-ing nominalizations. They have been assembled here from the detailed discussions in Chomsky (1968), Emonds (1985, 2000) and Grimshaw (1991).

RN:	Result nominal
CEN:	Complex Event Nominal
GER:	Gerundive nominal
PRT:	V-ing participle
INF:	Infinitive

I. INTERNAL PREMODIFIERS

Noun ←

→ Verb

	PROPERTY	RN	CEN	GER	PRT	INF
1	Indefinite article	+	-	-	-	-
2	Numerals and plural	+	-	-	-	-
3	ADJ is concrete, describing physical reality	+	-	-	-	-
4	ADJ form required, rather than <i>-ly</i> Adverbs	+	+	-	-	-
5	Definite article	+	+	-	-	-
6	Demonstratives	+	+	+	-	-
7	Possessive (NP- 's) including Subject reading	+	+	+	-	-
8	Possessive can have Object reading, with other CEN, but this is * with <i>V+ing</i> .	-	+/(*)	-	-	-
9	Adjective modifiers can express time, duration, frequency, and are Agent oriented.	-	+	-	-	-
10	Short temporal Adverbs	-	-	+	+	+
11	Aspectual AUX and passive Aux	-	-	+	+	+

II. INTERNAL POSTMODIFIERS

	PROPERTY	RN	CEN	GER	PRT	INF
1	<i>Wh</i> relative clauses with <i>which</i> (but * <i>how</i>)	+	+	+	-	-
2	<i>Of</i> -phrase	+	+	-	-	-
3	<i>Of</i> -phrase can have direct Object reading	-	+	-	-	-
4	<i>Por</i> -phrase for Subjects in Spanish	-	+	NA	+	+
5	Some Arguments may be obligatory	-	+	+	+	+
6	Purpose clause	-	?+	+	+	+
7	Accusative Objects with no Preposition	-	-	+	+	+
8	Indirect Objects with no Preposition	-	-	+	+	+
9	Adverbial forms for AP modifiers	-	-	+	+	+
10	Tolerates raising to Object	-	-	+	+	+
11	Result clause (<i>so...that</i>), conditional clauses	-	-	-	+	+

III. DISTRIBUTION, SENTENCE FUNCTIONS

	PROPERTY	RN	CEN	GER	PRT	INF
1	Objects of P, satisfying +__NP	+	+	+	-	-
2	Can be coordinated with NP with lexical heads	+	+	+	-	-
3	Can be a V-Object with a Complement PP	+	+	+	-	-
4	Can be followed by a post-verbal particle	+	+	+	-	-
5	Embedded Subject NP, following <i>the fact that...</i> and <i>the day when...</i>	+	+	+	NA	-

6	Subject after an inverted Mod/Aux	+	+	+	NA	-
7	Focus of a cleft sentence (a test for NP and PP)	+	+	+	-	-

29.6.2 Apparent categories; Fuzziness of the –ing morpheme

In this monograph, I argue in favour of a grammatical system that does not allow “**fuzzy categories**.” I assume that the categorial label of a constituent must be stated unambiguously so that its projection can follow the required pattern, and the phrase can combine with superordinate head categories according to their subcategorization. In this chapter, I have demonstrated that the categorial label can also be stated for the lexical entries, which seem to be at first sight fuzzy. Applying multiple criteria (not trusting only one diagnostic) is a way to define an item’s category with some certainty. The concept of complex projection contributes to the flexibility of the system too, because it allows the functional domain to combine in more varied ways.

In many contexts, the speaker has a choice of using either an NP or VP realization for a given lexical entry. However, once they choose, they have to keep the structure consistent. Some combinations are clearly ungrammatical because when individual parts of the structure are mutually exclusive, some would violate the categorial requirements of the head.

30 WORD ORDER

Linearity is a physical property of all human languages. The order of meaningful elements is always used as a relevant part of the code, i.e. the linear order always has its own specific function and interpretation. Languages, however, can be different with respect to **the kind of function (= role, interpretation) the word order takes**.

In order to analyze the word order in a theoretical framework, we have to decode which kind of **units** we are going to study. We can describe the order of **phonemes**, **morphemes**, or **words**, as well as the order of some larger, more complex constituents, e.g. of **phrases** and **clauses**. More generally, we can say that the smaller the unit, the more strict the ordering to which it is subject.

Another preliminary decision to be made before any generalizations can be deduced is the **domain** relevant for checking the order. The locality of such domains cannot be chosen randomly; the ordering of units can be described only with respect to the domain relevant for a specific unit. For example, it would not be meaningful to try to generalize the ordering of morphemes within a paragraph. Each unit seems to have its own domain with respect to which generalizations can be stated. In grammar, we usually talk about the following units and domains:

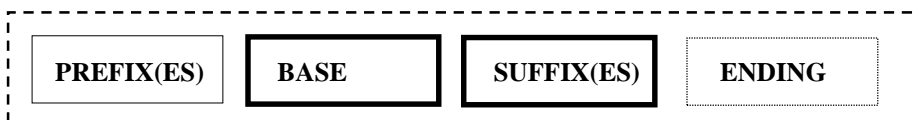
- (1) a. order of **morphemes** within a **word**,
- b. order of **words** inside a **phrase**, or “phrasal word order,”
- c. order of sentence members (**heads** and **phrases**) inside a **clause**, “clausal constituent order.”

We can furthermore discuss the ordering of clauses within a sentence and the order of sentences within a paragraph or some other units within even larger domains. As for complex sentences, these also seem to be of some interest to grammarians; such larger domains, however, belong to other fields of linguistics: **discourse analysis**, **text analysis** and **stylistics**. In the following sections, I am going to mention in more detail the orders mentioned in (1), concentrating mostly on (1)(c), the **clausal order**.

30.1 Order of Morphemes

The order of morphemes in a lexical word was discussed in the morphological chapters in the first part of this monograph, e.g. in Section 3.7. The morphemes are always subject to strict ordering, and their combination must conform to what is called a **morphological template**, illustrated in (23) on page 68 and repeated here.

- (2) **Standard Indo-European word structure, or word template:**



We saw in Chapter 5 that the realization of morphemes depends on the typology of a specific language. This is true especially with **grammatical morphemes**, as opposed to open class lexical morphemes. In synthetic languages, the ordering of bound morphemes is subject to a fixed template. In analytic languages, the grammatical free morphemes have more independence, but these grammaticalized formatives are also usually subject to rather strict ordering and appear only in designated positions. These generalizations about templates and ordering hold for English as well as languages with so-called free word order, like Slavic languages, including Czech.

30.2 Phrasal Word Order

The order and kind of constituents found inside NPs, VPs and APs were presented in detail in Chapters 8, 11 and 0. I described the ordering of pre- and postmodifying elements of phrasal nature with respect to the head of the phrase. We saw that the ordering of some constituents, for example among Determiners, Auxiliaries, and heads, is rather strict, while others can appear in relatively free sequences (AdjP premodifiers, Adjuncts, etc.). The examples in (4) encapsulate the canonical orderings in the extended projections of the lexical categories.

- (4) a. NP: [_{NP} *those three beautiful houses of yours with tall chimneys*]
 b. AP: (*a man*) [_{AP} *very proud of his son*]
 [_{AP} *three metres longer than the other one*]
 c. PP: [_{PP} *right on the table*] , [_{PP} *two feet from the table*]
 d. VP: [_{VP} *still not give his children any money*]
 [_{VP} *often put away the books quickly*]

Comparing English with languages with so-called free word order like Czech, the distinctions are in fact not as large as is often assumed. The ‘freedom’ is attested to only in the verbal domain, in the ordering of Complements and Adjuncts with respect to the Verbs, and in the possibility of extracting constituents from a larger containing phrase.

30.3 Clausal Word Order

In a clausal domain, we discuss the ordering of phrasal constituents, which always have specific sentence functions. We have seen the variety of English clausal patterns in Chapter 24. The number of different clausal patterns in English focus attention on a theoretical question of high importance: when we talk about word order, how do we classify structures that represent systematic reorderings, like the fronting of Ω in interrogative structures? Do they represent a **fixed ordering** or a **free ordering**? Is the fact that the declarative sentence and the *wh*-question have distinct orders in English a signal of some ‘free’ word order? Is topicalization/Object fronting in English a sign of its ‘free’ word order?

The traditional answer is, as long as the reorderings are regular and obligatory, i.e. predictable, their existence is taken for a ‘fixed’ order. If we accept this logic, then

the distinction between ‘free’ and ‘fixed’ depends in fact on the ability of linguistic research to find regularities and predictive generalizations. The concept of ‘freedom’ becomes irrelevant if we can specify the reason(s) for the reordering, such as inversion in questions, a movement to the Topic or Focus position, etc.

30.3.1 *The functions of clausal constituent order*

The reasons for reordering, i.e. the function of the variety of word order, can be many. Referring to the result achieved by the reordering, we say that word order can take the following kinds of functions:

- (5) a. Grammatical,
- b. Semantic, for example determining scope,
- c. Pragmatic, for rhythm, stress, or emphasis,
- d. Emotional or other.

We assume that all languages can have devices for the above functions. We also know that these functions are hierarchically ordered. First, any language conforms to the grammatical requirements on word order. Only then does it consider the semantic and pragmatic functions. The emotional aspect I leave aside as the most speaker specific.

The distinction between Czech and English word order should not be defined as a distinction between fixed and free, but better, as a **distinction in the prevailing roles or functions** that the word order plays in the language system. In the preceding section, we have seen that ordering is relatively fixed in the non-clausal phrasal domains in both English and Czech. The languages are even comparable in the clausal domain if we consider the **semantic role** of constituent order. In both languages, semantics is restricted to the interpretation of scope (see the scope of Adverbs in Section 12.2.1). The main distinction between English and Czech is more in the **proportion** taken by grammatical and pragmatic reorderings.

In English, the role of word order is primarily grammatical. Most of its word order variations result in some quite specific grammatical distinctions, and there is but little space left for the application of pragmatic reorderings. On the other hand, in Czech, the grammatical role of especially clausal word order is minimal. Therefore, Czech can choose among word orders to fulfill pragmatic functions. So it is wrong to say that “Czech word order is free” and “English word order is fixed.”

30.3.2 *Grammatical aspects of constituent order*

In English, word order is an integral part of the grammatical system. It helps in defining the basic units of the structure, and it provides the most relevant diagnostics for the sentence functions of the constituents. Using a variety of sentence patterns it also is a central factor in sentence modality. What is called its ‘grammatical’ function can thus be summarized as follows:¹¹⁷

¹¹⁷ See also Huddleston and Pullum (2002: 365-1447) and (2005: 238-263), Quirk et al. (2004: 1353-1420), and Dušková (1994: 518-541).

- (6) (a) **part of speech** recognition,
 (b) defining a **grammatical function**,
 (c) expressing **clausal modality**.

The above concepts represent **the core of every grammatical system**. I have discussed all these phenomena extensively in the preceding chapters. The reader can go back to the sections treating word order to see that its role in English grammar is indispensable.

30.4 Pragmatic Aspects of Word Order

I have argued that no word order is ever “free.” Every word order can be changed, and every reordering results in some more or less substantial change in meaning. English constituent order is ruled mostly (but by no means entirely) by grammatical factors, while Czech constituent order is determined also by pragmatic factors.

Since Roman times, word order has been studied as a part of **stylistics**. Latin constituent order in a clause was as ‘free’ as in Czech; to change the order of elements did not usually change the grammatical structure of a sentence nor its basic meaning, but given orders were more or less ‘appropriate’ in a given pragmatic context. Therefore, in the classic linguistic texts, a simplified generalization was made about the role of acceptable **word order variation**:

- (7) Word order variety can affect
- the general **discourse line** that proceeds from the left, which is interpreted as ‘**old**’, to the right, which is interpreted as ‘**new**’,
 - the highlighting of **marked orders**.

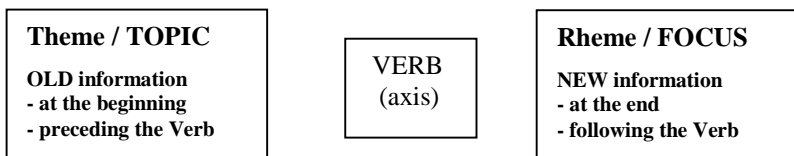
In the following sections, we will see that such general statements still hold true when we consider the pragmatic function of constituent orderings.

30.4.1 Discourse motivated linearity

The general principles of discourse were discussed in the Prague School linguistic framework, developed in the **Prague Linguistics Circle**; see e.g. Mathesius (1915). The participants tried to formalize the well-known fact that, in a discourse, the speakers tend to place the most relevant, new information, **at the end** of a proposition.

In looking for a more precise description, positions in a clause were defined with respect to the Verb. The universal **discourse order** of sentence members, their **unmarked order**, distinguishes the pre-verbal **Theme**, the old or known information, from the post-verbal **Rheme**, or new information.

(8)



The phenomenon was labelled as **Communicative Dynamism** and the framework as **Functional sentence perspective** (FSP).

The FSP framework was developed in the Czech linguistic field after World War II in two locations. In Brno (today’s Masaryk University), the research is associated with the name of Jan Firbas (1992); in Prague (Charles University), the leading figure was Petr Sgall. See the studies Sgall, Hajičová, and Buráňová (1980) and Sgall, Hajičová, and Panevová (1986). Both lines of research worked on solving two main problems related to the concept of discourse defined linearity, i.e. Communicative Dynamism:

- (9) a. Pragmatics does not work with black and white **bipolarity**.
- b. It is difficult to **evaluate** the real data with respect to Theme vs. Rheme; more exact testing and diagnostics are needed.

These two branches of linguistic research adopted and modified the system to avoid the bipolar characteristics of the Communicative Dynamism of FSP. I will introduce the modifications in the following sections.

30.4.2 Typology of multiple levels of dynamicity

Firbas followed and developed Mathesius (1915), changing the original bipolar system of old and new information into a **multi-polar system**. . The examples (10)-(12) are constructed according to Firbas (1992) and Svoboda (1989, 2004). We can see that the repertory of two terms, Theme and Rheme, was enlarged into a number of separate concepts, each defined and amply illustrated

- (10) Bipartition, tripartition, and pluripartition of the proposition

Thematic		Non-thematic			
THEMATIC		TRANSITIONAL		RHEMATIC	
THEME proper	Dia-Theme	TRANSITION proper	transition	Dia-Rheme	RHEME proper
<i>Yesterday he</i>		<i>was sleeping more than ten hours.</i>			
<i>Yesterday he</i>		<i>was sleeping</i>		<i>more than ten hours.</i>	
<i>Yesterday</i>	<i>he</i>	<i>was</i>	<i>sleeping</i>		<i>more than ten hours.</i>

- (11) **Presentation Scale**

Scene (Setting)	Existence (Appearance)	Phenomenon
Theme	Transition	Rheme
<i>A dog</i>	<i>barked</i>	<i>in the distance.</i>

(12) **Quality Scale**

Scene	Quality Bearer	Quality Transition	Specification(s)
Theme	Theme	Rheme	Rheme
<i>Yesterday</i>	<i>our dog</i>	<i>barked</i>	<i>at Elisabeth.</i>

Firbas (1992) and Svoboda (1989, 2004) use **a number of special terms** related to specific levels, kinds, or types of sentence dynamism. The distribution of each type is defined in terms of both interpretation and word order, and there is theoretically no limit to the number of terms. During this research, the number of **labels and scales** proliferated, and the system developed an increasingly detailed taxonomy.

30.4.3 Contextually bound vs. context free elements

The Prague School chose a different solution to the bipolarity problem of the sentence dynamism (FSP) introduced in Mathesius (1915) and developed by Firbas (1993). They defined the two concepts of Theme and Rheme as the borderline realizations of one concept: **contextual boundness**. The Theme is the non-dynamic element that is contextually bound, while the Rheme is dynamic and not contextually bound – it is the new information. The level of **dynamicity** is the extent to which the Rheme is or is not contextually bound and can be **measured**. For this purpose, a special individual numeric index can be separately assigned to each independent constituent.

The method is as follows. First, the range of dynamism is the number “n” of words in a sentence, which equals the highest possible level of dynamism. Then each constituent in the clause gets its label according to the level it is contextually bound: 1 indicates the most contextually bound, or the Theme. The constituent with the highest integer n is the least contextually bound and has the highest dynamicity; it is the Rheme. In unmarked constituent order, e.g. in Czech, the numeric indices rise approximately from left to right.

A simple example is now given, assuming an unmarked structure. There are 4 elements listed; therefore the maximal dynamicity will have the index 4.

- (13) *[Yesterday] [he] [was sleeping] [more than ten hours]*
 1 2 3 4

There can be any number of indices, i.e. any number of specific levels of dynamicity, or inversely, contextual boundedness, depending on the length of the clause and the detail of a given analysis into constituents. A numeric scale is infinite, and the number

is relative to specific contexts. In a short sentence, the index 4 can mark high dynamicity, perhaps even the highest, while in a long sentence, the index 4 can mark a relatively low dynamicity. There may be many other elements with a higher index and therefore higher dynamicity.

The concept of contextual boundness seems to be rather flexible and does not require an indefinitely enlarging taxonomy. Its problem lies in the definition of units that count as independent entities. Which kinds of constituents can carry their own level of dynamicity? Are they phrases, words or morphemes, or is there a choice? ¹¹⁸

The system also has to solve the problems of free grammatical formatives, which have to be treated in a special way. Moreover, the detailed scale for dynamicity is not that easy to assign. ¹¹⁹

Consequently, annotated Czech corpora such as the *Prague Dependency Treebank* use in fact only two marked labels for so-called **Topic Focus analysis**: (i) contextually bound Topic, and (ii) not contextually bound Focus. (see the studies in Hajičová 2017). Hajičová (2012) compares the Brno and Prague frameworks with the original Mathesius's proposals concerning the information structure of the sentence. She provides the following table to suggest the similarity/development of ideas (and terms) in the three approaches.

(14)	Mathesius	Brno FSP	Prague TFA
	from function to form	factors – not clear	function and form clearly distinguished
	basis x nucleus	yes, theme vs. rheme	yes, topic vs. focus semantic relevance
	„aboutness“	observed	emphasized, basic
	transition	explicit	implicit
	accompanying elements	Communicative Dynamism Svoboda: communicative importance	Communicative Dynamism in deep structure
	„all-rheme“	basic instance level	recognized, „topicless“
	subjective order	yes	yes
		dynamic semantic function contextual boundness: retrievability	systemic ordering basic primitive notion

¹¹⁸ To my knowledge (and surprise), there is no systematic study of the size of the element (constituent) that can be reordered due to FSP. Instinctively, lexical morphemes can be focalized, and inflectional morphemes cannot. How much material is pied-piped with the relevant morpheme remains to be investigated.

¹¹⁹ Both dynamicity and contextual boundness must be defined in terms of context, without simply using surface word order. If only the latter is used, the whole procedure is circular and without interest.

The discussion of pragmatically motivated aspects of the clause structure is a topic of much present-day research. The phenomena are labelled in many ways: the most traditional label is functional sentence perspective (FSP) and sentence dynamism. More up to date terminology refers to ‘**information structure**’ and discourse factors.

30.5 Testing Pragmatic Word Order

To be able to present some generalization in a scientific field, an author has to share data evaluation with an audience. Since discussions of pragmatic variation in word order have often presented it as subjective, individual, or stylistic reordering, as such it is often excluded from formal grammar. To become a part of a formal framework, certain tests have to be constructed, which yield evaluations shared by a majority of speakers. Several methods have been proposed to make the generalizations about pragmatic word order more objective and precise.

30.5.1 Question test for the Focus/new information

The question test evaluates the ordering of constituents in a clause that is not uttered in separation (“out of the blue”) but as part of a context. The best context seems to be the answer to a *wh*-question: the constituent that replaces the *wh*-word is a Focus/Rheme. In the following question and answer combinations, the capitalized constituent in the answer(s) is the Focus or Rheme. The words underlined in the question(s) are Themes.

- (15) a. What did Quido eat? He ate THE BEANS.
 b. What did he do with the beans? He ATE them.
 c. Whom did he give the book to? He gave it TO MARY.
 d. What did he give to Mary? He gave her A BOOK.
 ??He gave A BOOK to her.

We can see that English, because it uses its word order to express its grammatical functions, does not have much freedom to linearly signal the discourse functions. Czech is a better example of the latter. Notice that the constituent questioned (i.e. the Rheme/Focus) is at the end of the answer, and assumes no contrastive stress.

- (16) a. Co je na stole? → Na stole je KNIHA
 what_{NOM} is on table on table is book_{NOM}
 ‘What is there on the table?’ ‘There is a book on the table.’
 b. Kde je kniha? → Kniha je NA STOLE
 Where is book_{NOM} book_{NOM} is on table
 ‘Where is the book?’ ‘The book is on the table.’

30.5.2 Inherent dynamism

There are expressions, the presence of which signals that a complex constituent, either a word or a phrase, is either thematic or rhematic. For example, a complex constituent that includes a phrase ‘*but not*’ is inherently a Rheme/Focus. We can test whether such constituents or constructions tend to appear in some special position. (See the section on ‘heavy constituent shift’ at the end of the next chapter, which approaches the same phenomena from another perspective.)

The following “*but not test*” shows that even when both orderings are grammatically correct, the one that does not put the rhematic constituent at the very end is pragmatically deviant.¹²⁰

- (17) a. *Ethel wrote a letter to Quido. Ethel wrote Oscar a letter.*
b. *?? Ethel wrote **a letter not a postcard** to Quido.*
c. *Ethel wrote Quido **a letter not a postcard**.*
d. *?? Ethel wrote **Quido not Oscar** a letter.*
e. *Ethel wrote a letter to **Quido not Oscar**.*

Apart from *but not*, English has several special **Focus particles** or “**focalizers**,” which are expressions that signal that an adjacent constituent is focalized/rhematic. Generally, the phrases they accompany are contrastively stressed:

(18) **Focalizers**

- a. **only:** *The director spoke only to his secretary about the problem.*
b. **even:** *She said that even Oscar had embezzled funds*
I noticed that Oscar had even polished his shoes.
c. **too, also:** *A girl too/also might have been arrested.*
We put also some beer into the cart.
When in Belgium, they should buy some special beers too.
d. **even if:** *That beer tastes great, even if a bit warm*

We can see that as far as possible (i.e. if no grammatical principle is violated), the rhematic constituent tends to be at the end of a proposition. Thus, the following seem preferable to the examples in (c): *They might have arrested a girl too; we put into the cart also some beer.*

30.5.3 Topicality hierarchy

There are also lexical elements that carry some dynamicity in themselves, e.g. personal Pronouns are always thematic. They require antecedents and are therefore ‘old’ information, and indefinite articles are always rhematic or ‘new’. We say that those lexical elements carry an **inherent** degree of dynamism. The following **topicality**

¹²⁰ Pragmatic deviance is often marked as ?? . It is not ungrammaticality (*) as long as the clause is pragmatically non-salient, since no grammatical principle or rule is violated.

hierarchy orders nominal expressions on a scale. The first, zero anaphora, is the most thematic, while the last, indefinite NP, is least thematic.

(19) Topicality hierarchy

zero anaphora >> weak Pronouns >> strong Pronouns >> right-dislocation
>> definite NPs in neutral order >> left dislocation >> fronting (topicalization
and Focus preposing) >> cleft Focus position >> indefinite NPs.

Not every language has a full repertory of the expressions mentioned in the topicality hierarchy. English does not have zero anaphors for NPs, while Czech does: *pro* in the position of Subject. Czech has weak Pronouns (clitics), while in English only the Pronoun *it* behaves partially as a weak Pronoun, compared to the demonstratives *this* and *that*.

Inherent dynamism in English is verified in the following examples: the Pronouns in (a) and (b) violate the hierarchy, and in (c), definite NPs and Pronouns, because of their high level of topicality, are not acceptable in existential structures in the position of the associate Subject NP, which is a Rheme.

- (20) a. *Give the boy it.
 Give me that/??it.
 Give it/that to me.
- b. *Don't give a child that.
 Don't give that another thought.
- c. There is a man/*the men /*him next to the house.

30.6 More Aspects of Sentence Dynamism

Clause constituents can be reordered according to additional factors, such as stress. For a full discussion in a current perspective, see Svoboda (2004).

(21) Four factors of functional sentence perspective (FSP)

- a. Linearity. In a neutral stress pattern, Theme precedes Rheme.
- b. Semantics, in particular dynamic scales
- c. Context: known/context bound vs. unknown/context independent
 - Verbal context, namely the preceding text
 - Situational context, in which the sentence is uttered
 - Experiential context, including the relevant knowledge of the user
- d. Intonation: Marked vs. unmarked language specific patterns

I will not go into detail about all these aspects of sentence dynamism. But the next section does briefly mention the markedness theory, which is directly related to linearity.

30.7 **Markedness Theory**

Markedness Theory proposes that in the languages of the world certain linguistic elements are more basic, natural, and frequent (unmarked) than others which are referred to as marked. The concept of Markedness is first proposed by the Prague School scholars Trubetzkoy and Jakobson to explain phonemic contrasts.¹²¹

Today Markedness forms a theory and its application is widened and deepened. In linguistics, Markedness Theory is applied to phonetics, semantics, pragmatics, and psycholinguistics. The authors usually assume three types of markedness: **formal** markedness, **distributional** markedness, and **semantic** markedness. Greenberg (1961) applied the Markedness Theory to **typological** linguistics arguing that frequency is the primary factor of markedness in grammar.

Considering the word order, in each language the word orders required by grammatical structure do not carry any special additional pragmatic value because the speaker cannot choose them freely.¹²² These structures count as ‘**unmarked word orders**’. On the other hand, there are cases where some language specific constituent order can be modified and the order of constituents can be changed. This makes possible that some positions (of some constituents) count as **special**, or ‘**marked**’. Because they are marked, a constituent in these positions will gain prominence in the discourse. The more the position is special, the more it is ‘marked’, i.e. prominent in the discourse and thereby rhematized or focalized.

In example (22)(a), the final position of the Object indicates its rhematicity. But because the final position of Objects is unmarked in English, this rhematicity is in fact minimal. We can rhematize/focus the Object more strongly by putting it into the initial position, because this is an unusual and hence marked position for English Objects. As a result, an initial Object is focalized and also contrastively stressed.

- (22) *What did Piers send to David?* - *A bunch of roses.*
 a. stressed by order (FSP) - *Piers sent (to) David **a bunch of roses**.*
 b. stressed by marked position - ***A bunch of roses** Piers sent to David.*

This example shows how marked word order combines and competes with the FSP of normal word order. In evaluating constituent order, we need to always keep in mind that markedness is determined with respect to the grammar of a specific language.

To conclude: a theory of Markedness combines with discourse motivated linearity to produce some rather complex information structures. Because both the Communicative Dynamism and foregrounding via marked structures are determined by individual judgments of the participants of a specific speech act, the variety of clausal patterns and their interpretations are always speaker specific. Recall also that any pattern can be further influenced by a phonetic contrastive stress.

¹²¹ See Jakobson (1932), Trubetzkoy (1969) or a historical survey in Andersen (1989).

¹²² But see the discussion in Section 22.3.

31 SENTENCE DYNAMISM IN ENGLISH

Information structure patterns, i.e. ways of coding sentence dynamism, are a universal phenomenon. English recognizes and utilizes them too. The methods used in English to reflect **information structure (FSP)** are, however, not identical with those in Czech. While Czech uses to a large extent (but not only) word order, English, which exploits word order above all for grammatical purposes, mainly employs stress, Determiners and special syntactic structures.

- (1) The methods applied by English to reflect information structure (FSP)
 - I. **Stress.** This prevails in the spoken language.
 - II. **Articles** and demonstratives, a central part of determination
 - III. **Special syntactic structures**
 - a. passivization
 - b. existential constructions
 - c. cleft/pseudo-cleft sentences
 - IV. **Word and constituent order**
 - d. double object constructions
 - e. topicalization
 - f. Adjuncts
 - g. extraposition

As for stress and determination, I will not comment on those here. For the interpretations of Determiners, see Section 7.3.4.¹²³

In this chapter, I will concentrate on the English structures listed above in III-IV. Most of them have already been described in the preceding parts of this monograph. Here, I will point out the way they encode the information structure, i.e. how their form contributes to some specific pragmatic functioning of its parts.

31.1 Passivization and FSP

Passivization was described in detail in Chapter 20. We saw that the results of passivization are both semantic/pragmatic and formal (morphosyntactic). The pragmatic results are related to the realization of the semantic Role of Agent.

- (2) a. *The story was written.* **Deagentization**
b. *The story was written **by David**.* **Rhematization of Agent**

To review some of the facts in more detail, consider how passivization of the Verb influences the distribution of semantic roles and pragmatic functions. In the

¹²³ For more discussion and examples, see also Huddleston and Pullum (2002: 1365-1447); Quirk et al. (2004: 1353-1420); Dušková (1994: 518-541); Huddleston and Pullum (2005: 238-263); Greenbaum and Quirk (1991: 394-433); and Svoboda (2004: 86-95).

following examples, the Theme (Topic) and Rheme (Focus) are marked according to their linear order. Recall that Passivization does not change the main meaning of a proposition, in particular its **truth-value**. It is only a way to change the sequencing of semantic roles that leads to a different information structure: it allows rhematization of the Agent or of the Verb to replace the Patient being the Rheme.

(3)	a.	<i>Our neighbour</i> Subject, Agent = Theme	<i>watched</i>	<i>Bill Williams</i> Direct Object / Patient = Rheme
	b.	<i>Bill Williams</i> Subject Patient = Theme	<i>was watched</i>	<i>by our neighbour</i> Prepositional Object Agent = Rheme
	c.	<i>Bill Williams</i> Subject Patient = Theme	<i>was being watched.</i> Predicate/ Action (polarity) = Rheme	

The (c) example shows that with the Predicate in rhematic position, it can be both the action itself or the polarity of the Predicate that is in Focus. This suggests that the FSP can address a part of the lexical entry only. This is clear in the following Czech example, in which the Focus is the negative prefix (a part of the Predicate).

(4)	<i>Viděl</i>	<i>Pavel</i>	<i>Petra</i>	<i>anebo ne?</i>	--	<i>On</i>	<i>ho</i>	<i>neviděl.</i>
	saw	Paul _{NOM}	Peter _{ACC}	or not?		he _{NOM}	him _{ACC}	not-saw
	'Did Paul see Peter or not?'					'He did NOT see him.'		

31.2 FSP and Existential Structures: *There Is/Are*

Passivization requires a transitive Verb with a direct Object. Intransitive Verbs cannot be passive. With these, English uses a distinct strategy to rhematize the Subject: the existential structure *there is/are*. Section 23.2.1.2 treated its grammatical properties.

Recall that the lexical Verb of the Predicate is the axis of clausal dynamism. The Theme precedes the Verb, and the Rheme follows the Verb. Putting the Subject after the Verb would mean its rhematization by a change in linearity. However, post-verbal ‘subjects’ are highly marked in English and in most structures impossible. The existential structures thus mark their non-initial rhematic subjects by both linear order and the markedness principle. Notice, however, that the Subject associate of the expletive *there* is not at the very end of the existential structure; therefore, it is mainly the principle of markedness that makes it rhematic.

(5)	a.	<i>A man <u>was/ appeared</u> soon/ suddenly in the middle of the room.</i>
	b.	<i>There soon/ suddenly <u>was/ appeared</u> a man in the middle of the room.</i>
	c.	<i>*Soon/ Suddenly was/ appeared a man in the middle of the room.</i>

For more discussion of the form of existential structures, see again Section 23.2.1.2. A summary of its characteristics follows.

(6) **Existential structure**

- i. It has a formal/syntactic/expletive Subject *there*.
 - ii. Its morphological and semantic subject is the **indefinite NP** after *be*.
 - iii. Both the expletive and this associate NP are obligatory.
- (7) a. **There was the man ('s sister) in the middle of the room.*
 b. ?*And suddenly, there was James Bond in the middle of the room!*
 c. **And suddenly, there was he/him in the middle of the room!*

31.3 (Pseudo-) Cleft Structures

The **cleft sentence** allows one to Focus/rhematize an NP or PP in a clause. It creates a complex sentence consisting of two clauses. Its uniform structure is as follows:

- (8) Cleft sentence → *It is* NP / PP *who/what/where/when/that* TP (TP has a gap.)

I now give some examples of clefts made from the following declarative clause. Notice that only NP and PP constituents can be clefted. X represents the gap.

- (9) The young linguist will meet his friend in the local gallery after lunch
- a. *It is the young linguist [who will meet his friend in the gallery after lunch].*
 - b. *It is his friend [who the linguist will meet X in the gallery after lunch].*
 - c. *It is in the local gallery [that the linguist will meet his friend X after lunch].*
 - d. *It is after lunch [that the linguist will meet his friend in the gallery X].*

In **pseudo-cleft sentences**, the Focus or Rheme is the XP in the second part of the sentence following *be*. A pseudo-cleft is thus also a complex sentence consisting of two clauses. Their uniform structure is as follows:

- (10) Pseudo-cleft sentence → *What/ Where/ When/ *Who* TP *is* XP (TP has a gap.)
- a. *[What the linguist will do] is meet his friend in the gallery after lunch.*
 - b. *[Where the linguist will meet his friend] is in the local gallery.*
 - c. *[When the linguist will meet his friend in the gallery] is after lunch.*

In both constructions, an XP that follows the Copula is called the **Focus**, and with respect to sentence dynamism, these phrases are indeed the Focus/new information.

Notice that APs, VPs, and clausal constituents cannot be **clefted**. But, they can be **pseudo-clefted**:

- (11) a. **It is meet his friend that he (will) do in the gallery after lunch].*

- b. What he will do after lunch is [meet his friend in the local gallery].
- (12) a. *Josephine seemed* [_{AP} very smart].
- i. *It was very smart that *Josephine seemed*.
- ii. [*What Josephine seemed*] was very smart.
- b. *I noticed* [_{CL} that Joe left].
- i. *It was that Joe left that *I noticed*.
- ii. [*What I noticed*] was that Joe left.

Clefting and pseudo-clefting are strategies used frequently in colloquial language.

31.4 Double Object Constructions and Sentence Dynamism

Recall that with word order in English, its grammatical function is always primary. However, wherever the language has a choice between two grammatical structures, sentence dynamism can and does come into play. Therefore, in English also, if the Verb allows a choice of word order with two Objects, then their order is semantically and pragmatically significant.

The following examples illustrate the optional structures with true **ditransitive Verbs** like *give*, which select either [_ NP, NP] or [_ NP, PP]. When the Objects are equal with respect to their pragmatic salience, both orders are possible and natural.

- (13) a. *I brought the present to Zara not to David.*
- b. ?? *I brought Zara not David a present.*
- c. *I sent Zara chocolates not flowers.*
- d. ?? *I sent chocolates not flowers to Zara.*
- e. *Where could the DVD(s) be?* → * *I gave Zara it/them.*
- f. *Where could the DVDs be?* → *I gave Zara one/some.*

For more examples of English double Object structures and the influence of sentence dynamism on the ordering of the Objects, see also Chapters 19 and 20.

31.5 Topicalization

Topicalization is the reordering or movement operation that preposes (fronts) the Object in front of the Subject, to the clause-initial position. The original and standard position is marked as [–] in the next examples.

- (14) a. To Oscar/ ??a little type *mummy gave the cookie* [_{PP} --].
- b. The/ *A cookie *mummy gave* [_{NP} --] *to Oscar.*
-

- c. Our / *Another assignment she will meet with the teacher about [_{NP}--].
- d. That / *A new teacher we should meet with [_{NP}--] soon.

The label ‘topicalization’ is misleading because the transformation does not change the pragmatic function of the Object into a Topic or Theme, but rather makes it contrastively stressed. Thus, the Object becomes a contrastively stressed Rheme.

Next, we can see a variety of constituent orders in simple English clauses. Notice that the Object *cannot* exchange its position with the Subject; topicalization can only prepose it to the **initial position**, in front of the Subject.¹²⁴

- (15)
- | | | |
|----|--------|---|
| a. | S-V-O | <i>Most of all I hate <u>syntax</u>.</i> |
| b. | O-S-V | <i><u>Syntax</u> I hate most (of all).</i> |
| c. | *O-V-S | <i>*Syntax hate I most (of all).</i> |
| d. | S-V-O | <i>Oscar hasn't written <u>the letter</u>.</i> |
| e. | O-S-V | <i><u>The letter</u> Oscar hasn't written.</i> |
| f. | *O-V-S | <i>*The letter hasn't written Oscar</i>
<i>*The letter hasn't Oscar written.</i> |

The fronting strategy goes against the linear ordering “Theme → Rheme.” Instead, it is based on the **markedness** principle: English pre-verbal Objects are special and therefore very marked. With no comma, they do not become a Theme (contrasted stress reading).

31.6 Preposing Adverbial Adjuncts

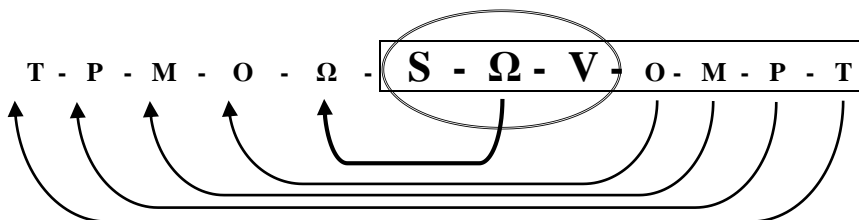
The structure and positions of the adverbial constituents were described in Sections 12.2.2 and 19.2.1. We saw that most AP and PP Adjuncts are located on the right side of a clause.

Fronting to the marked position, i.e. moving some constituent from its canonical position to the front, is a widely used and general strategy in English FSP. The standard unmarked constituent ordering distributes constituents, with respect to their closeness to the verbal Predicate, into central (close) and peripheral (more distant) sentence members. Almost all elements can move from the right periphery to the left periphery, retaining their distance from the ‘core’ of the clause before the S+Ω+V complex. Notable exceptions are indefinite direct and bare indirect Objects.

(16) **Marked vs. unmarked positions**

S: Subject, Ω-V: central parts of Predicate, O: Object, M: manner adverbial, P: place adverbial, T: time adverbial.

¹²⁴ Preposing or fronting is the label used for the movement of a constituent to the front or leftmost position in a clause, while extraposition is the movement of a constituent to the end or rightmost position, e.g. the heavy constituent shift discussed below.



To move an adverbial element from the very periphery results in their weak stress. To move elements close to the centre, e.g. the topicalization of Objects, is much more marked, as the rhematization is strong. The lexical Verb and an adjacent Subject are the most stable constituents in Modern English word order. Moving Ω in front of the Subject results in a grammatical change; this creates an interrogative pattern.

31.7 NP Extraposition, or Heavy NP Shift

Extraposition is a reordering to the **right edge** of a clause. This reordering process targets complex, longer ‘heavy’ direct Objects, which are thereby rhematic. They will thus appear even after the Adjuncts. **NP extraposition** is generally not syntactically obligatory, but results in any non-final PP or Adverb having fewer rhematic characteristics.

(17)

- a. *You should read to her this morning [those last pages of the original text].*
- b. *You should read [those last pages of the original text] to her RIGHT NOW.*
- c. *You should read to her (*not to him) those last pages of the original text.*

However, indirect Objects or Objects of P cannot shift:

(18)

- a. **She gave the candy the very youngest pupils.*
- b. **He talked about to the boss the newest marketing strategies.*

Note that heavy NP shift can take place even with direct Objects that are fairly short or not contrastively stressed. The minimal condition seems to be as follows:

(19)

Heavy NP shift. Any direct Object with **two primary stresses** can optionally move to the end of the Verb phrase.

(20)

- a. *Mary brought to our office her lunch and a magazine.*
- b. *Sam found on the street a book with no cover.*
- c. *No one knows better than me your OLD street address.*
- d. **You should read BEFORE NEXT FRIDAY this text.*
- e. **Mary wore to the office party a red dress.*

31.8 Grammar or Pragmatics?

The preceding sections have illustrated that a change of structural position can signal either a grammatical or ‘pragmatic’ change, or may additionally involve ‘stylistic reasons’, such as balancing the clause structure and equalizing the number of elements on both sides of the Verb.

Some more arguments showing the similarity between operations traditionally included to formal grammar and those labelled as pragmatic are given below. All the structures include fronting of some constituent and fronting of Ω . When we consider an individual instance of the fronting operation, is it a change belonging to what is called grammar? Or, is it a pragmatically motivated change? Is it a stylistic option only? I leave more extensive commentary on this kind of research to future study, perhaps along the lines of Kučerová (2007; 2012).

(21) *Wh*-constituent fronting changing clause modality; see Section 25.3.

- a. ***What*** did Ethel see?
- b. ***How (on earth)*** will Henry find that book?
- c. Tell me [***when/ where/ how*** Ethel met Oscar].
- d. The day [***when*** Ethel met Oscar].

(22) Negative Adverbs and NPs; See also Section 24.8.¹²⁵

- a. ***Never*** will Ethel help Oscar again.
- b. ***Scarcely/Hardly*** ever can Ethel help Oscar.
- c. ***Not one person*** did she help.

(23) Focus operators; see also Section 25.3.

- a. ***If only*** could he arrive in time!
- b. ***Only once*** did she help me. ***And then so*** did her husband.

The next examples contain no inversion/fronting of Ω , but only the preposing of phrases.

(24) *Wh*-constituent fronting. On modality and relativization, see Section 25.3.

- a. Tell me [***when/ where/ how*** Ethel met Oscar].
- b. I won't forget the day [***when*** Ethel met Oscar].

¹²⁵ A corpus based study (BNC data) of word order following the sentence initial English focalizer *only* can be found in Martinková (2011, 2012). The author demonstrates that Subject-operator inversion correlates with the type of fronted phrase. With fronted adverbials (AP/ PP) focused by *if only* the inversion was standard. On the other hand, the BNC data reveal a low frequency of fronted DP objects focused by *only* and no inversion was attested in these structures.

(25) Locative inversions; see Section 23.2.1.2.

- a. **Here** comes Oscar.
- b. **Down the hill** rolled the carriage.
- c. **On the cycling path** lay a dead horse.

(26) Thematic and rhematic adverbial Adjuncts

- a. (**From the same agent**) I rented the house (from the same agent).
- b. (**Late at night**) he woke up (late at night).

To sum up: the methods used in English to reflect information structure include phonetic stress, Determiners and special syntactic structures, some of which consist of fronting and extraposition, i.e. word order changes. Each English construction described in this chapter is Subject to specific conditions, e.g. passivization is possible only with Objects of transitive Verbs, and can target only certain constituents; thus, clefting permits focusing or rhematizing only the NP or PP. On the other hand, given the great variety of constructions, there are usually several ways to rhematize or focus a given constituent. For example, to rhematize an Agent NP, we can use passivization or (pseudo)clefting.

The fronting movements and extrapositions illustrated above appear to be subject to the same locality restrictions in spite of distinction in what triggers them. This similarity suggests that the traditional border between ‘grammatical’ and ‘pragmatic’ reordering can become fuzzy, and present-day linguistics is attempting to reformulate the phenomena in some more uniform way. The gradually emerging but systematic connection between grammatical and discourse functions is a strong argument in favour of one uniform system of syntax encompassing both grammatical and pragmatic phenomena.

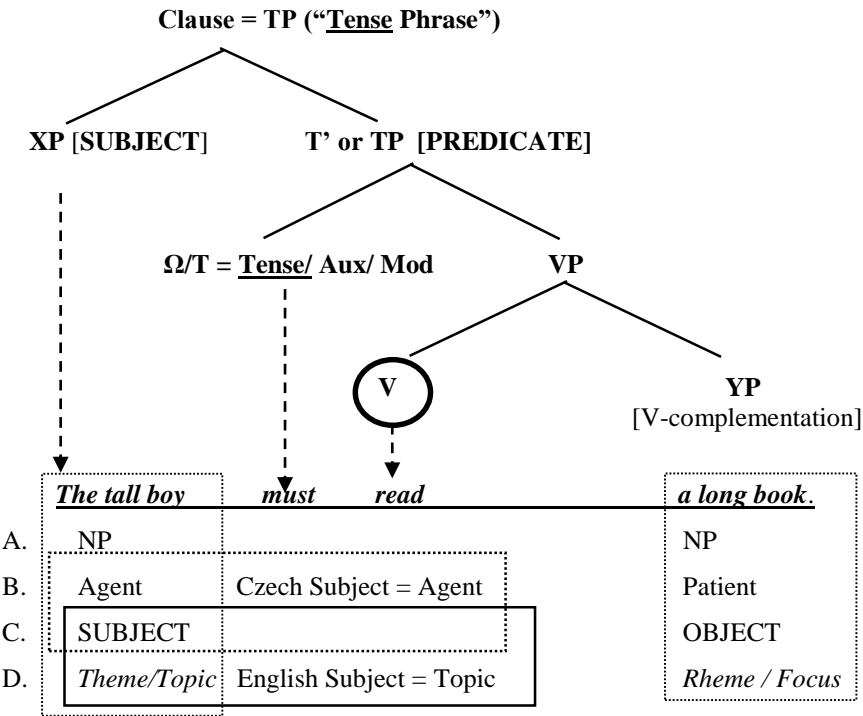
32 APPENDIX: TERMINOLOGICAL SUMMARY

This appendix lists the terms and taxonomies used in this monograph, and it repeats the schemes that represent the system described here.

I have tried to use a framework neutral terminology or at least provide a list of labels used in more frameworks, so as to allow the reader to concentrate on the logic in a classification and not the labels themselves. I have attempted to motivate and justify the labels as useful in a given theoretical framework, and to provide arguments for their logic.

Recall that each constituent in a clausal structure can be considered on several relatively autonomous levels.

- (1) Complex (multilevel) sentence analysis
 - A. Part of speech (paradigmatic or word categories)
 - B. Semantic Role
 - C. Sentence function (syntagmatic relations)
 - D. Pragmatic or discourse function



32.1 Parts of speech/word categories

<i>Part of speech, according to traditional taxonomy</i>	<i>Usual functions</i>
Nouns: common/proper, concrete/abstract, countable/mass...	Subject/ Object
Adjectives primary/secondary, central/peripheral	Attributes
Pronouns: demonstrative, personal, Possessive, reflexive, reciprocal, interrogative, relative, indefinite, negative	Subject/ Object / Attribute
Numerals: cardinals, ordinals, <i>once, twice, thrice</i>	Attribute/ adverbial
Verbs: lexical, Auxiliaries, Modals Among lexical V: causatives, sense perception, movement, temporal Aspect, stative, di-transitive, intransitive, ...	Predicate
Adverbs: <i>yet, already, now, never, hereby, thus, ...</i>	adverbial
Prepositions: time, place, ...	adverbial, Object
Conjunctions: subordinating, coordinate	---
Interjections, Particles, Articles	---

32.2 Functions/sentence members/syntagmatic relations

Sentence Function	Syntagma coupled with the Function	Example
Predicate	NP Subject	<i>Oscar was sleeping on the couch</i>
Attribute	Noun	<i>little girls hard at work</i>
Determination		<i>All the books about nature</i>
Quantification		<i>those three boys from Chicago</i>
Subject	VP Predicate	<i>Men and women fight for survival</i>
Object: Direct and Indirect	Verb	<i>to read the book to Oscar</i> <i>to read Oscar a book</i>
Adverbial or Adjunct	VP	<i>to go to school quickly, every day, at 5 o'clock, without fail</i>
Nominal or other XP Predicate	Verb or Copula*	<i>He is an idiot / handsome / at home</i> <i>She got/ became/ grew angry/ tired</i>
Secondary Predicate: Subject Complement	Verb + NP Subject	<i>Oscar came back/ drive tired</i>
Secondary Predicate: Object Complement	Verb + NP Object	<i>to paint/ consider the door green</i>
Grading Adverb / Conjunct	Adjective/Adverb	<i>very tired, so quickly, too clumsy, as big as him, much bigger than me</i>

*Copulas express: i. identity: *be, seem, appear, remain, stay feel, look, sound, taste*
 ii. change of state: *become, get, grow, turn, prove*

32.2.1 *The characteristics of prototypical, unmarked SUBJECTs*

- (a) **semantics** → Agent theta Role (some variation but not always)
- (b) **morphology** → Subject Case; NOM if Case is visible
→ agreement on the Predicate with 3rd Sg Verbs
- (c) **syntax** → NP and its Pro-forms. Can be PP or TP clauses
→ precedes the Predicate, inverts in questions
→ appears in question tags and short answers
→ is the usual antecedent of a bound anaphor

32.2.2 *The characteristics of prototypical unmarked OBJECTs*

- (a) **semantics** → Patient/Theme/affected Object roles (wide variation)
- (b) **morphology** → Object Case: ACC if Case is visible
- (c) **syntax** → NP and its Pro-forms. Can be PP, VP or TP clauses
→ immediately follows V, but also initial
→ structural Objects can be passivized

32.2.3 *The canonical, standard, unmarked ATTRIBUTEs*

- (a) **semantics** → no theta Role, or can be Agent, Patient, Possessive
- (b) **morphology** → none, or on NP, the Genitive Case (GEN)
- (c) **syntax** → inside the NP headed by the modified N
→ Genitive NP, AP, PP, TP clauses, Determiners
→ Attribute NPs usually stay within the NP

32.2.4 *Complements, Adjuncts and disjuncts*

The terminology for these units is defined according to their structural positions.

A. **COMPLEMENTS** are closest to the Verb and are internal to the **minimal VP**.

- i. *The students [_{VP} read books] on the train for pleasure.*
- ii. *I want to [_{VP} speak to Jill] in private.*

B. **ADJUNCTS** are adjoined inside the VP but external to the V and its Complements.

- i. *The students [_{VP} read books every day].*
- ii. *I want to [_{VP} speak to Jill on the bus].*

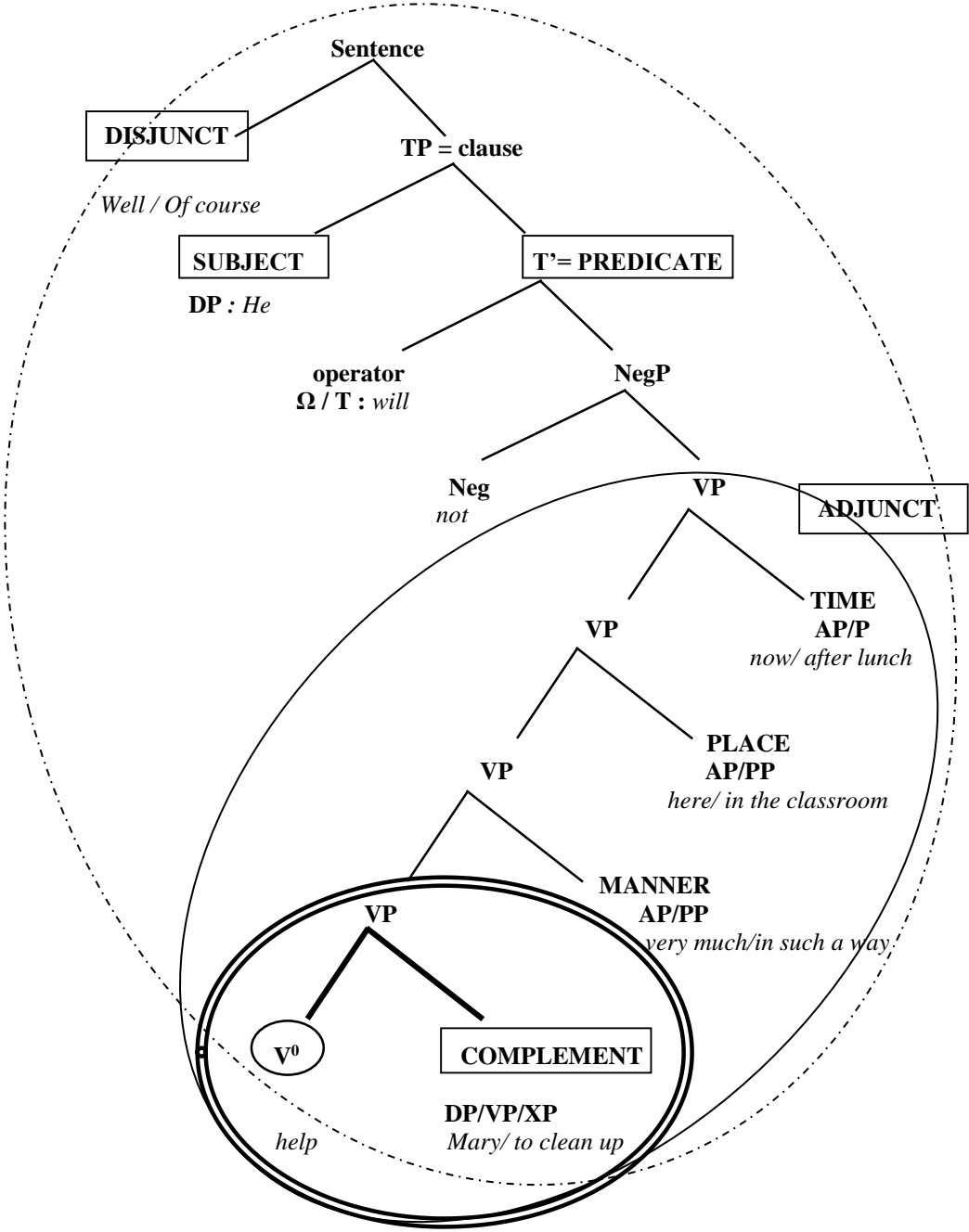
D. **DISJUNCTS** take scope over the whole proposition, more than a VP. They are typically separated from the clause by commas or comma intonation.

- i. *Of course/ Naturally he will help you.*

32.3 Semantic Roles/Argument roles/Thematic Roles

Semantic Role	Realization	Example
AGENT	Subject	<i>Oscar</i> killed a rabbit.
Experiencer		<i>Oscar</i> saw a rabbit. He liked the play
Force		The frost killed the rabbit.
Theme		The rock rolled away. The boat sunk.
PATIENT	Direct Object	Oscar killed the rabbit .
Affected Object		He overturned the chair .
Theme		I rolled the rocks away.
Result of action		He wrote a book .
Locative		Oscar climbed Mount Everest .
Possession		We have/got many letters .
Secondary Agent		The room dances two couples easily.
Instrument		They threw stones .
RECIPIENT / Beneficiary	PP Object	I read the book to/for Mary . I gave Mary the book.
SPACE	PP Adjunct, Adverbial	The rabbit ran into the forest . The rabbit ran pretty far .
TIME		I am driving until dark .
Manner		The job was done with an axe . The job was done by Oscar .
Circumstantial		I helped him with the rabbit .
Contingency: cause, reason, purpose, result, condition, concession		I did it because I wanted to . If he comes I will tell you. Oscar did it, although he was scared .
Modality	Adverbial	She certainly/probably did it.
Degree		I badly need it.
Modification	Attribute	Little Oscar is here.
Determination		The/this girl is Mary.
Grading and Comparison	Conjunct – (modify the category A)	This boy is more/the most handsome.
Intensification		He is very /extremely/ pretty big. He runs very/ extremely quickly.

(2) Structural bases of the main sentence functions



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