

Palacký University in Olomouc  
Faculty of Arts

Department of English and American Studies



**The Grammar of English Infinitives**

Doctoral Dissertation

Author: Michaela Čakányová  
Supervisor: Joseph E. Emonds

Olomouc, 2018

## **Dissertation details**

**Title:** The Grammar of English Infinitives

**Title in Czech:** Gramatika anglických infinitivů

**Type:** Doctoral Dissertation

**Author:** Mgr. Michaela Čakányová

**Supervisor:** Prof. Joseph Embley Emonds

**University:** Palacký University, Olomouc

**Study Programme:** P7310 / Philology – English Language

**Department:** Department of English and American Studies

**Year:** 2018

**Pages:** 213

**Standard pages of text:** 172

**Characters:** 312,127

## Declaration of Originality

I herewith declare that the material contained in my dissertation entitled *The Grammar of English Infinitives* is original work performed by me under the guidance and advice of my faculty supervisor. The literature and sources are all properly cited according to the Chicago Manual of Style 2017.

.....

date

.....

signature

## **Acknowledgments**

I would like to thank my supervisor prof. Joseph E. Emonds for his everlasting support and encouragement through the whole process of writing this dissertation. I am convinced that if it were not for him I would never have reached the point of writing this acknowledgment. A great deal of thanks belongs to my family and friends for their patience and support. Finally, I would like to thank my partner for his unfailing and unflagging encouragement through the hard times and the good.

## Anotace

Disertační práce se zaměřuje na gramatiku anglických infinitivů na pozadí češtiny a snaží se ukázat, že existuje základní struktura, která je společná všem typům infinitivu. Tyto podobnosti vyplývají z použití infinitivní částice *to* a absence slovesné flexe. Anglický infinitiv je v mnoha aspektech srovnatelný s ostatními způsoby, které vyjadřují neuskutečněný děj – subjunktiv, podmiňovací způsob a rozkazovací způsob – a často se objevuje na jejich místě. Rozdíly pocházejí z různých syntaktických vlastností anglických infinitivů a jejich velikostí: infinitivy se subjektovou nebo objektovou kontrolou jsou bi-klauzální, infinitivy s nadzvednutím jsou mono-klauzální a existují dva typy infinitivů ECM různé velikosti. Syntaktické rozdíly se odrážejí v sémantických odlišnostech infinitivů. Zatímco větší infinitivy tvoří nezávislejší celky a tzv. fáze, které vyjadřují neuskutečněný děj (*irrealis*) téměř ve všech jejich použitích, menší infinitivy jsou více závislé na maticovém slovese a v několika zvláštních případech mohou dokonce vyjádřit i uskutečněný děj (*realis*). Holé infinitivy jakožto nejmenší typ postrádají malé *v* a jako takové mnohem ochotněji vyjadřují uskutečněný děj, pokud nejsou doplňkem modálních sloves. Z pohledu struktury, jak ji předpokládá dnešní generativní popis jazyka, není infinitivní částice v pozici *I*, jak se předpokládá po mnoho desetiletí, ale je v pozici malého *v* a jako taková má svůj vlastní inherentní význam, kterým je neuskutečněný děj (*irrealis*).

## **Annotation**

This dissertation focuses on the grammar of English infinitives (with some comparison to Czech) and aims to show that there is an underlying structure common to all *to*-infinitives. The similarities are derivable from the infinitival marker *to* and the lack of (agreement) morphology. The English infinitive is in many aspects comparable to other irrealis moods (subjunctive, conditional and imperative) and frequently appears in their place. The differences come from different syntactic properties of English infinitives and their sizes: control infinitives are bi-clausal, raising infinitives are mono-clausal and there are two types of ECM infinitives of a different size. These syntactic differences are reflected in differences in their semantics. While the bigger infinitives are more independent and form phrases that express irrealis in almost all their instances, the smaller infinitives are more dependent on the matrix verb and in a few special cases may even express realis meaning. Bare infinitives as the smallest type lack the little *v* and as such are more likely to express realis meaning unless they are complementing modals. Assuming the clausal structure as it is used in present day standard generative framework, the infinitival marker *to* is not in the I position as it has been assumed for many decades, but it is in the little *v* position and as such it has its own force, which is irrealis.

# Table of Contents

|           |  |           |
|-----------|--|-----------|
| <b>1.</b> | <b>Introduction: Survey of Chapter Contents .....</b>                            | <b>1</b>  |
| <b>2.</b> | <b>Syntax of the Infinitival Particle <i>to</i> .....</b>                        | <b>4</b>  |
| 2.1       | Historical Development of Infinitives and the Infinitival Marker <i>to</i> ..... | 4         |
| 2.2       | Contemporary Treatments of <i>to</i> .....                                       | 8         |
| 2.3       | The N.I.C.E. Criteria and <i>to</i> .....  | 10        |
| 2.3.1     | Sentence Negation .....  | 12        |
| 2.3.2     | Constituent Negation .....   | 13        |
| 2.3.3     | Inversion .....  | 16        |
| 2.3.4     | Coda .....   | 17        |
| 2.3.5     | Ellipsis .....   | 17        |
| 2.3.6     | Contraction and Emphasis .....   | 19        |
| 2.4       | The Grammatical Position of <i>to</i> .....                                      | 20        |
| 2.5       | Quasi-Modal <i>be to</i> and <i>ought to</i> .....                               | 23        |
| 2.6       | Czech Infinitival Morphosyntax .....   | 27        |
| 2.7       | Chapter Summary .....  | 31        |
| <b>3.</b> | <b>Verbal Semantics &amp; the Form of the Clausal Complement.....</b>            | <b>33</b> |
| 3.1       | Finite Expressions .....   | 33        |
| 3.2       | Factive Verbs and Their Presupposed Finite Complements .....                     | 35        |
| 3.3       | Finiteness and the Factivity of Verbs .....                                      | 38        |
| 3.4       | Futurity and a Conditional Feature in the Main Clause .....                      | 40        |
| 3.5       | Non-finite Complementation and Factivity .....                                   | 43        |
| 3.6       | State / Event and Action Realization of an Argument.....                         | 44        |
| 3.7       | Givón's Classification of Verbs.....   | 46        |
| 3.8       | Classification of Verbs according to their Truth Value.....                      | 48        |
| 3.8.1     | That Omission.....   | 53        |
| 3.9       | Finiteness and Factivity in Czech .....  | 55        |
| 3.10      | State / Event and Action Realization of an Argument in Czech.....                | 60        |
| 3.11      | Chapter Summary .....  | 62        |

|           |   |            |
|-----------|---|------------|
| <b>4.</b> | <b>Structural Realizations of Infinitival Semantics .....</b> | <b>63</b>  |
| 4.1       | The Definition of Mood and Modality .....                     | 63         |
| 4.1.1     | Irrealis Mood in English .....                                | 65         |
| 4.1.2     | Modality.....   | 67         |
| 4.2       | Two Models of Auxiliary Structure.....                        | 68         |
| 4.3       | Split Infinitives .....                                       | 72         |
| 4.4       | Infinitive Alternatives to other Irrealis Moods .....         | 74         |
| 4.4.1     | Infinitive Alternatives to Imperatives .....                  | 74         |
| 4.4.2     | Infinitive Alternatives to Conditional .....                  | 79         |
| 4.5       | Infinitive in Main Clauses.....                               | 83         |
| 4.5.1     | Indirect Directives.....                                      | 84         |
| 4.5.2     | Optative Infinitives .....                                    | 84         |
| 4.5.3     | Polar Echo Constructions.....                                 | 85         |
| 4.5.4     | Prescriptive Infinitives.....                                 | 85         |
| 4.6       | Infinitives as Subjects .....                                 | 85         |
| 4.7       | Infinitives as Adjuncts .....                                 | 87         |
| 4.7.1     | Infinitive of Purpose .....                                   | 87         |
| 4.7.2     | Infinitival Relatives.....                                    | 90         |
| 4.7.3     | Infinitival Adjunct with Degree Adjectives.....               | 91         |
| 4.7.4     | Infinitives of Result .....                                   | 92         |
| 4.8       | Infinitives as Complements (Irrealis Meaning) .....           | 94         |
| 4.8.1     | Indirect questions.....                                       | 98         |
| 4.8.2     | Adjectives .....  | 99         |
| 4.9       | Infinitives as Complements (Realis Meaning).....              | 101        |
| 4.9.1     | Verbs.....  | 102        |
| 4.9.2     | Adjectives .....  | 103        |
| 4.10      | Chapter Summary .....   | 104        |
| <b>5.</b> | <b>Distribution and Sizes of Non-finite Clauses.....</b>      | <b>105</b> |
| 5.1       | Gerunds are DPs and Infinitives are CPs, IPs or vPs.....      | 108        |
| 5.2       | Raising Constructions .....                                   | 111        |



|           |   |            |
|-----------|---|------------|
| 5.3       | Control Constructions .....   | 113        |
| 5.4       | Mono-clausal and Bi-clausal Constructions .....                           | 115        |
| 5.5       | Infinitives and Tense.....  | 120        |
| 5.6       | Movement and Control Controversy .....                                    | 128        |
| 5.7       | Czech Counterparts of Raising, ECM and Control Infinitives .....          | 131        |
| 5.8       | Chapter Summary .....   | 136        |
| <b>6.</b> | <b>Bare Infinitives as Special Complements.....</b>                       | <b>138</b> |
| 6.1       | Modals and Intransitive Verbs with Bare Infinitives.....                  | 139        |
| 6.1.1     | Central Modals.....   | 141        |
| 6.1.2     | Verbs with Weaker Modality.....   | 145        |
| 6.1.3     | Verbs Expressing Initial Phase of Action .....                            | 148        |
| 6.2       | Transitive Verbs with Bare Infinitive Complements.....                    | 151        |
| 6.3       | Bare Infinitive as Predicates .....                                       | 154        |
| 6.3.1     | Bare Infinitive in Pseudoclefts.....                                      | 155        |
| 6.3.2     | Bare Infinitive after Prepositions .....                                  | 156        |
| 6.3.3     | Bare Infinitive in Wh-questions.....                                      | 157        |
| 6.4       | Bare Infinitive Limitations in Comparison with <i>to</i> -infinitive..... | 157        |
| 6.4.1     | Bare Infinitives and Realis Value .....                                   | 158        |
| 6.4.2     | Movement Constraints on Bare Infinitives .....                            | 159        |
| 6.4.3     | Bare Infinitives with Overt Subjects / Agents .....                       | 160        |
| 6.4.4     | Bare infinitives as Surprise Clauses.....                                 | 161        |
| 6.5       | Brief Comparison with Czech.....  | 161        |
| 6.6       | Chapter Summary .....   | 164        |
| <b>7.</b> | <b>Phasehood of Infinitives .....</b>                                     | <b>165</b> |
| 7.1       | Phasehood and Obligatory Control Infinitives .....                        | 170        |
| 7.2       | Non-phasal Raising Infinitives .....                                      | 172        |
| 7.3       | Two Types of ECM Infinitives.....   | 176        |
| 7.4       | <i>For to</i> Infinitives and their Status .....                          | 180        |
| 7.5       | Phasehood of Czech Infinitives .....                                      | 181        |
| 7.5.1     | Czech Obligatory Control Infinitives as Phases .....                      | 182        |

|   |            |
|---|------------|
| 7.5.2 Czech ECM Infinitives as Non-phases .....     | 184        |
| 7.5.3 Czech Raising Infinitives as Non-phases.....  | 187        |
| 7.6 Chapter Summary .....                           | 188        |
| <b>8. Conclusion .....</b>                          | <b>189</b> |
| <b>Bibliography.....</b>                            | <b>193</b> |
| <b>Appendices .....</b>                             | <b>202</b> |
| Appendix I: List of Object Control Verbs: .....     | 202        |
| Appendix II: List of Subject Control Verbs: .....   | 202        |
| Appendix III: List of ECM Verbs:.....               | 202        |
| Appendix IV: List of Raising to Subject Verbs:..... | 202        |

## List of Abbreviations

|      |                       |      |                      |
|------|-----------------------|------|----------------------|
| 1    | First person          | ME   | Middle English       |
| 2    | Second person         | MOD  | Modal                |
| 3    | Third person          | NEG  | Negation             |
| ACC  | Accusative            | NT   | Neuter               |
| ADV  | Adverbial             | NOM  | Nominative           |
| AP   | Adjectival Phrase     | NP   | Noun Phrase          |
| ARB  | Arbitrary Reference   | OE   | Old English          |
| ATEL | Atelic                | PDE  | Present Day English  |
| AUX  | Auxiliary             | PERF | Perfective           |
| CP   | Complementizer Phrase | PF   | Phonetic form        |
| DAT  | Dative                | PL   | Plural               |
| DP   | Determiner Phrase     | POSS | Possessive           |
| F    | Feminine              | PP   | Prepositional Phrase |
| FUT  | Future tense          | REFL | Reflexive            |
| GEN  | Genitive              | SG   | Singular             |
| INF  | Infinitive            | SBJ  | Subjunctive          |
| INT  | Intransitive          | TEL  | Telic                |
| IP   | Inflectional Phrase   | TR   | Transitive           |
| LF   | Logical Form          | V    | Verb                 |
| LOC  | Locative              | VP   | Verb Phrase          |
| M    | Masculine             | vP   | Little v Phrase      |

## 1. Introduction: Survey of Chapter Contents

This dissertation aims to clarify some puzzles that have been topical in formal linguistics for many decades now. Namely it concerns the status of English and for comparison Czech infinitives, as opposed to finite clauses and marginally also gerunds. Infinitives are of multiple kinds and sizes and we will try to systematically demonstrate their functional (meaning) and syntactic (form) properties. We will also try to grasp the essential properties common to all infinitives, their core structure in Logical Form (LF) and their relation to an irrealis feature. At the same time, we will investigate the particularities of the various infinitival constructions.

In this work we will use the standard functional and generative terminology and assume the structures as presented in literature cited in relevant sections. As for methodology, we will apply empirical approach referring to real language data and relate the generalizations to theoretical assumptions. Therefore, we aim at proposals and claims minimally descriptively adequate and systematic.

The infinitive is basically a reduced clausal form as opposed to finite clauses. Among other things, what the infinitive is lacking is an agreement with the subject. Their subject is typically not overt but it is covert and as such its reference is obligatorily “controlled” (Chomsky 1993, Ch. 3), usually by a noun phrase in a higher clause in either subject (1) or object position (2).

1.     a) *I promised Jim that **I** will call him soon.*  
       b) *I<sub>i</sub> promised Jim **PRO**<sub>i</sub> to call him soon.*
  
2.     a) *Jane persuaded Peter that **he** should give him his car.*  
       b) *Jane persuaded Peter<sub>i</sub> **PRO**<sub>i</sub> to give him his car.*

Under quite specific structural conditions, another option for an infinitival subject is movement out of the infinitival clause into a higher “matrix” clause, leaving just a trace. This is called an instance of raising to subject, where the subject of the infinitive is raised to the subject position of the main verb.

3. a) *John<sub>i</sub> seems t<sub>i</sub> to know the answer.*  
b) *John<sub>i</sub> is likely t<sub>i</sub> to be dead.*

There are, however, instances when the infinitive can have an overt subject; in case of structures like (4a) or in the *for to* constructions (4b) (Rosenbaum 1974, Chapter 5).

4. a) *I want [Jim to apologize to Jane].*  
b) *I would like [for him to join me].*

The English infinitive, therefore, sometimes gets very close to a full finite clause. This cannot be said about the gerund, which is truly just a short form of the finite clause, in particular the “verb phrase”, and which forms only a DP. It typically does not have an overt subject and it does not seem to have any added semantic value or a special property that the infinitive or at least the *to*-infinitive has.

There has been a lot written on the properties of the infinitival particle *to*, much of which we attempt to disprove and show that in fact it does not have the same properties as a modal (MOD) or auxiliary (AUX), but that it still has some semantic properties of the preposition *to* and that is “pointing to the future”. Also, if the *to* particle is not MOD / AUX, it is not in the I position. The only suitable position within the tree structure is a little *v* position which has an irrealis feature and is incompatible with other irrealis expressions like modals. This issue is discussed in detail in Chapter 2.

Since the inherent feature of the infinitive seems to be irrealis (Palmer 2001), this means that it reports clauses that are not part of reality. The event described by the infinitive is typically not happening now nor in the past, but it may happen in the future. For this reason, the infinitive is incompatible with truth values and as such is not suitable for the complementation of the much discussed “factive verbs”. This is demonstrated in Chapter 3.

The infinitival clauses can also be very often transformed into finite clauses, using MOD / AUX. For a similar reason, the infinitive can appear in all types of conditional sentences instead of finite subordinate conditional clauses and it can also express orders, regulations and advice, i.e. unrealized states of affairs instead of the imperative, in both English and Czech. In the majority of cases the infinitive functions as irrealis mood. All these instances are described in Chapter 4.

Regarding the form or syntax of the infinitives, some of them can have overt subjects and some cannot, and there is also a difference as to their sizes. Some infinitives can be as big as full clauses (CPs), some are only IPs, but all infinitives incorporate a vP and that is as small as they can get in some cases (e.g.: raising infinitives).<sup>1</sup> The syntax of different kinds of infinitives is discussed in Chapter 5.

Whether it is truly the particle *to* which is responsible for the semantic future pointing and the syntactic behavior of infinitives can be best seen in the comparison of *to*-infinitives with bare infinitives which are the smallest of them all. They do not have the particle *to* in the v position and as a consequence they cannot appear in similar places and constructions as their counterparts *to*-infinitives. We can see a detailed analysis in Chapter 6.

In connection to Chapters 5 and 6, Chapter 7 attempts to follow up on this idea of different sizes of infinitives. In this chapter, we use Chomsky's (2001) theory of phases and try to determine the phasehood of infinitives. We try to delimit the necessary conditions on the phasal boundaries and decide whether some of the bigger infinitives can qualify as phases. It turns out that some infinitives that are CPs do qualify as phases and are therefore again very close to finite clauses.

Since the author of this dissertation is not a native speaker of English, some claims are based not only on theoretical findings but also verified by empirical data found in language corpora; *Corpus of Contemporary American English (COCA)* and *British National Corpus (BNC)*. All the chapters include a brief comparison with the situation in Czech because it is the author's mother tongue, and it is always interesting to compare some phenomena cross-linguistically in order to uncover some common patterns. There is, however, no claim of universality across languages of the discussed phenomena since the dissertation operates with only these two languages.

---

<sup>1</sup> In this dissertation, the abbreviation IP as “inflectional phrase” is used instead of TP indicating a “tensed phrase”. It is the label for the functional phrase that is a daughter of C, a complementizer, in a “complementizer phrase” (CP). The term “inflection” is superordinate to the term “tense” and the tree position the T is supposed to represent does not always express tense. It, however, always expresses either some kind of inflection (agreement), which can be null, or there is a modal.

## 2. Syntax of the Infinitival Particle *to*

In this chapter we are going to challenge the idea that the infinitival marker *to* is in the same position as MOD / AUX.

### 2.1 Historical Development of Infinitives and the Infinitival Marker *to*

The English infinitival particle *to* is traditionally believed to have originated from the homonymous preposition *to*, and that is why it frequently appears in a purpose adjunct or goal argument even today.

5. a) *He called to check on her health.*  
b) *She opened the door to let him in.*

In Old English the infinitival *to* always introduced an NP and was followed by a word which was in dative case. This would also support its origin as a preposition with dative that was originally complemented by a nominal phrase but as can be seen in Miller's (2002, 196) example from *Beowulf* (Beo 1940f.) it started to appear with an inflected infinitive.

6. *Nebið swylc cwēnlīc þēaw | idese tō efnanne*  
Not is so queenly custom lady<sub>DAT</sub> to perform<sub>INF.DAT</sub>  
“(taking men’s lives) is not so queenly a custom for a lady to engage in”

For this reason, several (Kageyama 1992; Lightfoot 1979), have claimed that the particle *to* changed from nominal to more verbal between Old English (OE) and Middle English (ME). This would point to grammaticalization of one of the usages of the original preposition.<sup>2</sup>

In OE the infinitive signaled by *to* could be also inflected for case, first the genitive and later only the dative. “The dat. *to berenne* generally became *-anne* through the influence of the inf. ending *-an*” (Wright and Wright 1925, 260). Etymologically the *to*-infinitival is derived from a nominal construction but otherwise it retained no other nominal feature. Jespersen (2006) regarded the original infinitive as an object of verbs and prepositions, which would be applicable to prepositions like *for to* in archaic and dialectal usage.

7. *Having only put off its present glory for to rise finally to a more happy state.*<sup>3</sup>

Miller (2002, 187) argues that the infinitival clause had three alternative forms already in ME. They were *-e(n)*, *to -e(n)*, and the pattern Subject-*for-to*-Verb where *to* and the verb were inseparable, so the split infinitive was not yet possible. Split infinitives began to appear in the thirteenth and fourteenth century and according to Miller this marks the origin of *to* as the infinitival marker.

8. *Hwa ne mei luue þi luueli leor,*  
who not may **love** your lovely countenance,  
‘Who may not love your lovely countenance’ (Woh 5-6)

---

<sup>2</sup> The term grammaticalization is a process of language change when a previously lexical word gains a grammatical function. The term was coined by Antoine Meillet in *L'évolution des formes grammaticales* (1912). A more contemporary view can be found in Hopper and Traugott (2003, 1) who define grammaticalization as “part of the study of language change that is concerned with such questions as how lexical items and constructions come in certain linguistic contexts to serve grammatical functions or how grammatical items develop new grammatical functions”.

<sup>3</sup> From *Oxford English Dictionary* (OED), originally in 1774 written by A. Adams, published in J. Q. Adams *Familiar Letters*. (1876, 41).



9. *al engles lif is ti neb to bihalden*  
all angels life is thy face **to behold**  
'All angels' life is your face to behold' (Woh 37-38)

10. *A nu is mi lefmon demd for to deien,*  
oh now is my lover judged **for to die**,  
'Oh now is my lover judged to die'<sup>4</sup> (Woh 491-492)

*For* began to serve as a case assigner which resulted in the change of the constituent order, and the subject moved after the preposition: *for*-Subject-*to*-Verb. Today it is only the preposition *about* that is complemented by the infinitive (11).

11. a) *Peter seems about to leave.*  
b) *Jane was about to go home.*  
c) *They appear about to call it a night.*

However, in this case the “*about to*” phrase is acting like an AP and not a PP (12b).

12. a) *What Jane was interested **in** was seeing him suffer.*  
b) \**What Jane was **about** was to go home.*

Los (2007, 189), also argues that although the infinitive was originally an NP, already in OE it is possible to find both nominal and verbal features of infinitives. Nominal features include case markings following the preposition, and coordination with another PP. The verbal properties like the ability to assign a structural case took over in ME. She adds that already in OE “its dative inflection has fossilized and does not behave like the dative inflection found on true N-heads, and it takes accusative objects rather than the genitive objects one would expect if it was still nominal” (2007, 153). To illustrate one of the verbal

---

<sup>4</sup> The examples are taken from Van Gelderen (1993, 87–89) and they are all from the same text *Wohunge* dating to the early 13<sup>th</sup> century.

properties of OE infinitive, Los gives an example from Gregory's *Dialogues*, where the infinitive takes accusative case complementation (2007, 165).

13. *eall swa hwæt swa mihton beon gesewene lustfullice þone lichaman mid to gereordianne*

all whatever might be seen desirable **the**<sub>ACC</sub> body with **to nourish**<sub>INF</sub>

'everything which might appear desirable to nourish the body with'

(GD 13.129.5, H)

According to her, it was already in OE that the *to*-infinitive was more verbal, and more importantly the infinitive was able to compete with finite subjunctive clauses. The main competitor of the *to*-infinitive was not the bare infinitive, but subjunctive, which was slowly substituted for by it. We can see this in Los's contrastive examples from OE (2007, 172).<sup>5</sup>

14. *ic eom sona gearo þæt ic gange to minum disciplum*

I am at-once ready **that I go**<sub>SBJ</sub> to my disciples

'I am now ready to go to my disciples'

(LS 1.1. (Andrew Bright) 306)

15. *ic beo sona gearu to adreoganne þæt ðu [...] deamn wille*

I am at-once ready **to bear** what you [...] decide will

'I am now ready to bear what you will decide'

(And 70)

According to Los the *to*-infinitive was already then a form of a non-finite subjunctive, a CP-like structure.

This shows that the infinitive has been used as an alternative to finite verbal clauses for centuries. It was probably not a PP in OE, and it is definitely not a PP in Present Day English (PDE), which has been supported by many contemporary linguists (Los 2007; Emonds and Faarlund 2014).

---

<sup>5</sup> The two examples are from *Lives of Saints* by Aelfric and from a poem *Andreas*.

## 2.2 Contemporary Treatments of *to*

The inherent semantic meaning of the infinitival particle seems most often to refer to an event subsequent in time to the time of the main clause VP, which parallels the space / time meaning of the preposition *to*, i.e. a goal not yet reached.

16. a) *John decided (today) to buy a house (next year).*

b) *Jane then wanted to leave the room soon.*

It is also the case that in both OE and PDE the infinitive frequently complements the verb *begin*, in OE and ME it was a verb from the *ginnan* class that also expresses initial temporal aspect (Čakányová 2012). Similar conclusions regarding the relation to some kind of temporal feature have been drawn by many linguists in slightly varying ways. The following table, which displays the PDE temporal description of the infinitive, as opposed to the gerund, is adapted from Egan (2008). We introduce this table here because we want to compare the most influential sources from the contemporary perspective and we hope to simplify the table by integrating the previous approaches and presenting a clearer and simpler solution. For the sake of better illustration, we will use the example (17) with some sample verbs that allow both infinitival and gerundial complementation.

17. a) *John tried / remembered / stopped to open the window.*

b) *John tried / remembered / stopped opening the window.*

**Table 1: PDE Temporal Description of Infinitives and Gerunds**

| <b>Authors</b>               | <b>to infinitive</b>                              | <b>-ing</b>  |
|------------------------------|---|--|
| Kiparsky and Kiparsky (1970) | non-factive                                       | factive  |
| Quirk et al. (1985)          | potentiality                                      | performance  |
| Chuquet (1986)               | choice of one value p or p'                       | presupposition                                     |
| Wierzbicka (1988)            | vague futurity                                    | vague simultaneity                                 |
| Dixon (1992)                 | potentiality                                      | activity extended in time                          |
| Duffley (1992)               | subsequent<br>potentiality/actualization          | interiority  |
| Smith and Escobedo (2001)    | conceptual distance                               | conceptual overlap                                 |
| Duffley (2006)               | possible movement leading to<br>the actualization | conceptualization of an<br>event as an interiority |
| Egan (2008)                  | targeted alternative                              | situation profiled as<br>extended                  |

From the table, it seems evident that all linguists agree that infinitives represent some kind of unrealized potentiality, pointing towards the future, while gerunds / participles suggest that something is in some way taking place at the moment of the utterance. This can be clearly observed in examples (17).

These approaches, however, seem to be inconclusive. They do not account for such examples like (18), which clearly contain an infinitival phrase that indicates that the event actually took place or there is the feeling of simultaneity of the matrix verb and the non-finite complement.

18. a) *He managed to escape.*  
 b) *Mary seems to know the answer.*  
 c) *He saw John cross the street.*  
 d) *I made him repair my car.*

Each of these examples is slightly different as to its interpretation. The approaches reviewed above mostly do not address the issue of the internal structure of the infinitival constructions at all or of their selection, and thus they cannot account for various types of infinitivals. We will attempt to address the weaknesses that we find in the table as a first step to an overall analysis.

### 2.3 The N.I.C.E. Criteria and *to*

Table 1 shows that even if we consider the complementational function of the non-finite clauses, it is not possible to conclusively decide about the exact semantic potential of infinitives or even of the particle *to*, suggesting that there is no use trying to do so. Semantics is without doubt worth considering as an aid, but it is syntax that can perhaps tell us more about the position of infinitival structures within the grammatical system. For this reason, it can be a good start to investigate the position of the *to*-particle in a tree structure and its role within a given VP, IP or CP.

Traditionally it is believed that VPs are headed by a finite verb and if they are non-finite by a non-finite verb. In case of CPs their head is the complementizer (C) and in case of IPs the head is the constituent in I position (Chomsky 1986). Gerunds are DPs and it is their morpheme *-ing* which functions also as their head (Reuland 1983; Emonds 1991).

19. a) *John **BOUGHT** a new pair of shoes.*
- b) *John wanted **TO BUY** a new pair of shoes.*
- c) *John admitted **THAT** he bought a new pair of shoes.*
- d) *John regretted **buyING** a new pair of shoes.*

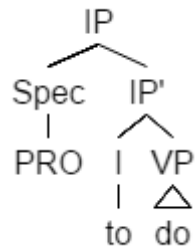
The infinitival *to* has been placed in the position of I or T within an IP or TP. This approach can be found with many contemporary linguists including Radford (2004, 59) and Sportiche (2014). The I projection in finite clauses typically involves the overt subject DP in nominative case; however, this is not so with *to* clauses. This I / T position is reserved for “inflection”, therefore I, or alternately for “tense”, therefore T.

The particle *to* does not show any morphological inflection expressing aspect, tense or agreement. Infinitives are, however, capable of expressing perfective and progressive aspect because they allow for the perfective auxiliary *have* and the progressive *be*.

20. a) *He wished to have passed the test.*  
 b) *He seemed to be laughing.*

This means that the *to* particle should be higher in the tree than these auxiliaries. The common conclusion then that this particle must stand in the position usually occupied by the highest MOD / AUX offers itself because there is no other candidate, and it thus operates as the head of a non-finite phrase.

21. The usual position of the particle *to* in tree structure



The I position is typically occupied by modals which are in complementary distribution with *to* and they do not show much morphological inflection either. However, all modals comply with the so called “N.I.C.E. criteria” (Denison 1993).

- **N** stands for sentence negation *not/n't* and it means that negation can immediately follow the MOD / AUX (22a).
- **I** stands for the ability of the MOD / AUX to invert with Subject in questions (22b).
- **C** stands for coda, that is MOD / AUX appear in question tags (22c).
- **E** is for ellipsis, the ability of MOD / AUX to stand alone instead of the full verb phrases in elliptic expressions (22d).

22. a) *I cannot go home.*  
 b) *Can I go home?*  
 c) *I can go home, can't I?*  
 d) *I can go home and so can he.*

We are now going to examine these four properties in greater detail and show that the infinitival particle *to* does not behave in a similar way to MOD /AUX that usually occupy the I position.

### 2.3.1 Sentence Negation

As for negation, the infinitival particle *to* sometimes precedes NEG like a MOD / AUX and sometimes not, thus it would be a marginal modal at best.<sup>6</sup>

23. a) *Not to leave now is a bad idea.*  
 b) *To not leave now is a bad idea.*

However, if *to* is I, *to* should occupy the same position as MOD / AUX, and it should share other similar behavior. We can see that the particle *to* is capable of taking negation as in (24a), which is an example of a split infinitive, even though (24b), which would be a taboo with all MOD / AUX, is more natural and preferred.

24. a) *John promised to not do it.*  
 b) *John promised not to do it.*  
 c) *\*John not must /can / does do it.*

The position of negation with infinitives can sometimes change the meaning of the embedded clause. If the negation precedes the infinitive, impossible with modals, as is the case in most instances, the scope of it is semantically wider than if it is inside the infinitival phrase.

---

<sup>6</sup> According to Newman (2018) and her corpus research *not to* is used much more widely than *to not*. The numbers she gives suggest the ratio of 87% for *not to* and 13% for *to not*.

25. a) *Jane is moving to Canada not to drink wine but to get rich.*  
 b) *Jane is moving to Canada to not drink wine.*

The reason for going to Canada in example (25a) is, however, to emphasize that what Jane wants is not to drink wine as someone might have assumed but to get rich. In other words, “not in order to drink wine”. This is thus clausal negation of *in order to drink wine*. In this example (25b) the reason for moving to Canada is to avoid drinking wine, in other words “in order to not drink wine”. This is therefore constituent negation of the verb phrase *drink wine*.

Even though sentence or clausal negation is possible with infinitives, it is not their typical feature. Thus, before looking at the other N.I.C.E. criteria of MOD / AUX (the potential for inversion, coda and ellipsis) we will consider the difference between the sentence and constituent negation of infinitives.

### 2.3.2 Constituent Negation

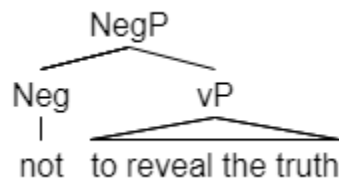
Negative infinitives can also be ellipled under certain conditions. We have seen that such infinitives can be negated in two ways, either the negative particle precedes *to* or is part of the non-finite verb phrase and follows *to*.

These are in general two kinds of negation, which differ in their scope. They are sentential negation (26a) and constituent negation (26b).

26. a) *I want [VP not to reveal the truth].*  
 b) *I want [VP to not reveal the truth].*

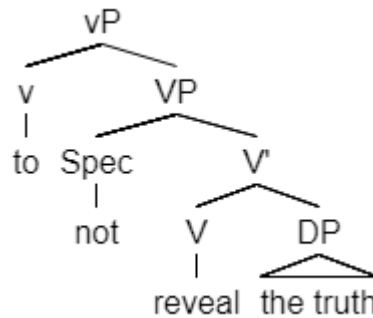
The position of negation is different in the following sentences; in sentential negation *not* heads NegP (27) and in constituent negation it is part of a VP, a specifier of V (28).

27. Sentential negation of the infinitive as a head





28. Constituent negation of the infinitive in a specifier



Since in constituent negation the NEG is in SPEC, it cannot head-govern an empty VP as in (29b).

29. a) *I would like to talk to Jim, but he would prefer me **not to**.*  
 b) *\*I would like to talk to Jim, but he would prefer me **to not**.*

If this VP cannot be ‘properly governed’, it is a violation of the Empty Category Principle (ECP) (Chomsky 1993, Ch. 3) and this means that the resulting sentence is ungrammatical. The ECP, introduced by Chomsky as a universal syntactic constraint, requires certain empty categories, namely traces, to be “properly governed”.<sup>7</sup> This means that traces must be visible in surface structure as empty positions governed by a lexical category with which they are co-indexed. *To* is a head but only in PF, it is not contentful enough to govern (or block government) in LF. *To* in itself does not license ellipses but facilitates it when it is a complement.

VP ellipsis is possible with or without the negative element if the infinitive is a verbal complement (30) because “only infinitivals that are complements (theta marked) can inherit from the main verb the ability to theta-mark the elliptical VP” (Zagona 1988).

---

<sup>7</sup> This idea comes from Chomsky (1993) and concerns traces. He states that: “A properly governs B iff A theta-governs B or A-antecedent governs B, A theta-governs B iff A governs B and A theta-marks B, and A-antecedent governs B iff A governs B and A is coindexed with B”. The notion of antecedent government has been much debated, but here we are concerned only with head government.

30. a) *Jim wants to sleep in on Sundays, and Jane wants to as well.*  
 b) *Jim wants to sleep in on Sundays, but Jane does not want to.*

An adjunct (31a-b) cannot do this, nor can only a subpart of a complement (31c).

31. a) *\*Peter called Jim to settle their disagreement, but Jim refused to discuss it to.*  
 b) *\*She is a woman to talk to, isn't she not to / to not?*  
 c) *\*I consider Jim to be a liar, but I do not consider John to not / not to.*

If the infinitive is in the position of the subject in the main clause, only the negative particle *to* can stand alone without the ellipted infinitival verb.

32. a) *To use guns is illegal but it would be unwise not to.*  
 b) *To use guns is illegal but not to is unwise.*
33. a) *\*Not to use guns would be unwise but it is legal to.*  
 b) *\*Not to use guns would be unwise but to is illegal.*

There is a special case with one type of infinitival adjunct, the infinitive of result, which can be sometimes introduced by the word *only*, which seems to require constituent negation.

34. a) *[...] a couple who meet daily and fall in love again each time, **only not to have** any idea who the other is the next morning, [...]*  
[COCA:2016:NEWS\_cleveland.com]  
 b) *?[...] a couple who meet daily and fall in love again each time, **only not to have** any idea who the other is the next morning, [...]*

With other types of infinitival adjuncts, infinitive of purpose (35) and infinitival relative (36) both types of negation seem to be possible and examples of both can be found in *COCA*.

35. a) *Michelle called Jack (in order) not to be considered heartless.*  
 b) *Michelle called Jack (in order) to not be considered heartless.*
36. a) *She is the worst woman for you to not invite.*  
 b) *She is the worst woman for you not to invite.*

So far then, it seems that the order of typical infinitival negation is the one where *not* precedes the particle *to* unlike what is the case with all the MOD /AUX.<sup>8</sup> The split infinitive order of *to* preceding *not* is an example of constituent negation and is used less frequently. It is not a parallel of the order MOD / AUX + *n't*, which is sentence negation.

### 2.3.3 Inversion

Inversion of MOD / AUX and the subject is not attainable with *to*-infinitives. One reason is that they usually do not have their own overt subjects so there is nothing to invert (37c-d).

37. a) *Bill asked if John would leave.*  
b) *Bill asked, would John leave?*  
c) *Bill persuaded John PRO to leave.*  
d) *?Bill persuaded John to PRO leave.*

When the subject of the infinitive is overt, like for example in the phrase where a preposition *for* introduces the subject (38), the inversion is ungrammatical. The main reason is that *to* is not in I position, as we will see later in this chapter. Also, *for* serves as a complementizer here and the whole infinitival phrase is embedded just like the finite embedded clause in (39).

38. a) *Jane preferred [<sub>CP</sub> (for) Jim to leave].*  
b) *\*Jane preferred [<sub>CP</sub> (for) to Jim leave].*
39. a) *Jane preferred [<sub>CP</sub> that John would leave].*  
b) *\*Jane preferred [<sub>CP</sub> that would John leave].*

In these two examples the inversion is attempted within another C and that is not possible because the I (supposedly *to* and *would*) cannot move to a C position (*for* and *that*) which is already occupied.

---

<sup>8</sup> The traditional grammar arrives at the same conclusion; it is the reason why traditional grammarians do not like split infinitives.

### 2.3.4 Coda

Another N.I.C.E. property of MOD / AUX is the ability to appear in a coda where the main verb is omitted, and MOD / AUX may then form question tags.

40. a) *John never sings but Mary does.*  
b) *John never sings, does he?*  
c) *I do not expect John will sing, will he?*

It is sometimes permissible to add a question tag referring back to the subordinate clause at the end of a compound sentence. This is usually the case with the matrix clause subject being the first person singular and a verb expressing an opinion (Huddleston and Pullum 2002, 893). The tag in (41a) is not reversed polarity with regard to the subordinate verb but to the main verb. This shows that there is a discrepancy between the syntactic structure and semantic meaning of the sentence.

41. a) *I do not think that John is a nice guy, is he?*  
b) *\*I believe John not to be a nice guy, to he?*  
c) *I believe John not to be a nice guy, don't I?*

The example (41b) is wrong because the particle *to* is not in the I position. There is only one IP in this example and the only MOD / AUX that can appear in the question tag is *do* related to the matrix verb *believe* as in (41c). In the respect of question tags, the infinitival *to* does not behave like MOD / AUX at all.

### 2.3.5 Ellipsis

When we attempt deleting an infinitive VP under identity with another VP, what we get are instances of ellipsis, which are also one of the key characteristics of MOD / AUX.

42. a) *John does not want **to sing** but Mary wants **to** \_\_\_\_.*  
 b) *?Mary does not prefer **to sing** but John prefers **to** \_\_\_\_.*  
 c) *John wants **to sing** but Mary doesn't want **to** \_\_\_\_.*  
 d) *Mary prefers **to sing** but John prefers not **to** \_\_\_\_.*

The ellipses of a VP after *to* works, however, only under certain specific conditions, for instance when the negative particle *not* is involved.

43. a) *It would be horrible to win, but it would be even worse **not to**.*  
 b) *\*It would be horrible **not to** win, but it would be even worse to.*

Ellipsis with infinitives is very frequent, though there are certain constraints that limit its applicability. Lobeck (1995, 165) claims that “empty VP in tensed clauses is licensed by a lexically filled head at S-structure, and identified by the strong agreement feature [ $\pm$ Past].” She proposes that *to* can function as the licenser of infinitives because it fills the position of tense. However, she adds that as such it should have the feature [ $\pm$ Past] which it does not have, and it should not be able to work as a licenser. This is in accord with our proposal that infinitives do not have a tense feature in I similar to finite clauses. Therefore, the ellipsis property is not fully licensed by *to*. In example (44a) the ellipsed *to* phrase stands for a complement and the sentence is grammatical, but in example (44b) it stands for an adjunct and the ellipsis does not work.

44. a) *She needed to spend less so she convinced her partner to.*  
 b) *\*She needed to spend less so she rented a smaller place to.*

There are other cases when ellipsis after *to* is not possible, namely when the infinitive is the infinitive of ‘rationale’ or purpose in *in order to* clauses (45) and also when it is in the position of a subject (46).

45. *\*Even though he could sell his house to [e], John didn't do much to **avoid debts**.*
46. *\*I want to **go home** but to [e] would be a mistake.*

The rationale, extraposed and complement infinitives can be ellipsed only when they are included in another VP finite phrase that undergoes ellipsis.

47. a) *John would [like to leave] and Mary would [e] too.*  
 b) *Mary [thinks it is difficult [to study linguistics]] and John does [e] too.*  
 c) *Jim would [climb the stairs every day [to avoid the elevator]] and Jane would [e] too.*<sup>9</sup>

These are not of the same nature though. Rationale infinitives are dominated by a higher constituent since they can appear outside the ellipted verbal projection. This is caused by the necessity of the ellipted infinitive to be “head governed” by V. “Infinitives immediately dominated by V’ allow ellipsis [48], as only such infinitives are properly head-governed by V. Infinitival subjects [46] and adjuncts [45], both of which are outside of V’, are not properly head governed by V, and ellipsis is ruled out” (Lobeck 1995, 168).

48. *Jim would steal money to feed his family, but Jane would [e] just to feel the thrill.*

Therefore, ellipses of infinitival phrases is possible but under specific conditions.

### 2.3.6 Contraction and Emphasis

There are two other correlates of N.I.C.E. properties that can be applied to infinitives, the full contraction to a final consonant (for example *will* into *'ll* or *have* into *'ve*) as seen in example (49a), and the ability to occur with emphatic *do* (Emonds 1976; Ch. 6) to emphasize the lexical verb (50a). Notice first that neither of them is applicable to infinitival *to*.

49. a) *John 'll come to the party.*  
 b) *He 's decided to learn Chinese.*  
 c) *\*I persuaded John 'o come with us.*

50. a) *I do want / like to help you.*  
 b) *\*I want / like do to help you.*

---

<sup>9</sup> The examples (44-47) are adapted from Lobeck (1995, 165–66).

The infinitival marker *to* is always overtly present in the clause. It can never take *do* support.

51. a) *They don't think he saw it but he **did** see it.*  
b) *They don't think I want to leave but I want **to**.*  
c) *\*They don't think I want to leave but I want **do (to)**.*

From the arguments presented so far it is clear that the infinitival particle does not have the same characteristics as other MOD / AUX. There are a few similarities at best (with ellipsis in negative clauses) and so its status as an I within the sentence structure must be reconsidered. We will attempt a better solution that will confirm its unique status and at the same time distinguish it from lexical verbs and MOD / AUX.

#### **2.4 The Grammatical Position of *to***

By the preceding analysis in section 2.3, the I position for *to* has been ruled out, the next logical option is the C in a CP. If we take the following example where the *to*-infinitive phrase is in the subject position, we can see that the infinitival phrase is also a CP.

52. *cp[To sunbathe on the beach] was her dream.*

In a CP, the function of *to* might be the one of a complementizer. A complementizer “encodes particular sets of grammatical properties” (Radford 2004, 44). They introduce a subordinate clause, indicate if it is finite or non-finite and also mark its force as interrogative (in case of *if*), declarative (in case of *that*) or irrealis (in case of *for*). It is a syntactic head of the phrase and the heads are typically found in the initial position within the phrase in head-initial languages such as English.

The infinitival *to* seems to comply with the above criteria; it introduces a non-finite subordinate clause and the force of it is irrealis. However, there is one crucial shortcoming

that *to* includes. Complementizers always precede an overt subject of the subordinate clause and that is not the case with *to*.<sup>10</sup>

53. a) *John decided [PRO to go for a walk].*  
b) *John persuaded Jim [PRO to come to the party].*

The complementizer associated with non-finiteness is the preposition *for* that is followed by a *to*-infinitive. The complementizer *for* triggers ACC case and crucially, precedes an overt subject of the subordinate infinitival clause. Not only is there already a complementizer in front of *to* that fulfills all the relevant criteria, but the subject precedes the infinitival particle.

54. *It is easy for the rich **for the poor** to do the hard work.*

An important distinguishing feature that speaks in favor of *to* being in lower position than I is its inability to assign an overt case to its agent / subject as it is [-Tense]. The PRO subject of the infinitive is covert and has a null case (55). Otherwise every NP in a subject position has to have an overt case (NOM) which is triggered by [+Tense] (56) or by a preposition (ACC) in case of infinitives (54).

55. *John<sub>i</sub> decided [**PRO**<sub>i</sub> to<sub>v</sub> shave himself].*

56. *John decided [that **he** will<sub>I</sub> shave himself].*

From the above argumentation, it follows that *to* should occupy some lower position than C in a CP or even I in an IP. It should be placed below MOD /AUX but above the lexical verb within the tree structure. For that purpose, we will borrow the already existing label for auxiliaries, little *v*, which will enable the infinitival phrase to retain its own head *to*, but at the same time be possibly a part of a greater structure an IP or a CP. Little *v* has assumed many functions since its origin in Larson (1988) and his treatment of double object

---

<sup>10</sup> According to Chomsky (1993), there must be, however, a null complementizer within the CP to check the null case of the PRO.

- i) *John decided [<sub>CP</sub>  $\emptyset_{NULL}$  [<sub>IP</sub> PRO to go for a walk]].*  
ii) *John persuaded Jim [<sub>CP</sub>  $\emptyset_{NULL}$  [<sub>IP</sub> PRO to come to the party]].*



constructions, and its many later reformulations as a transitivity head (Chomsky and Lasnik 2015), or v-Voice with the specifier that can host an external argument (Kratzer 1996).

Marantz (1997) considers little *v* as a “verbalizer” that combines with the lexical root of the verb. In sum, most recently “*v* has been taken [...] to be a universal functional category and phase head, directly involved in the building of predicates” (González-Vilbazo and López 2012, 34). The specifier of the *v* type hosts the external argument of the verb, as opposed to the specifier of *V* that hosts the internal argument. It is a verb-like element similar to *V* but it frequently does not have any lexical content. It seems that the position of the little *v* is ideal for the infinitival marker *to*, since it is lower than an *I* but higher than a *V* and has the ability to take the external argument position of the infinitive.

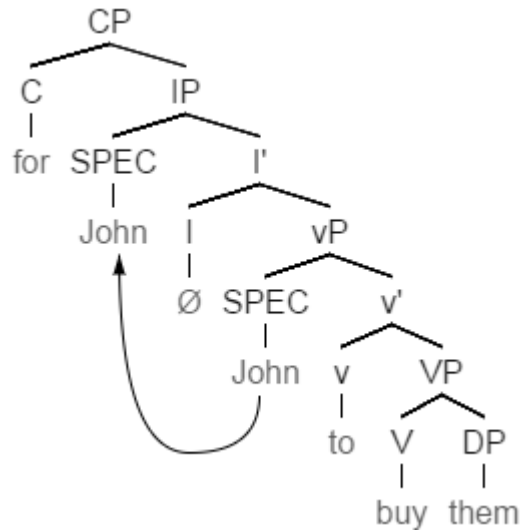
So, we propose that all infinitives that contain the infinitival particle *to* have the same internal structure of a *vP*.

57. [vP [SPEC<sub>vP</sub> Ø] [v' [v to [vP ...]]]]

But depending on the type of the governing / selecting  $X^0$ , they may be in CPs, in case of constructions introduced by the complementizer *for*, or IPs, or they may be just *vPs* as we will see in Chapter 5, 6 and 7.

The ideal position for the infinitival particle *to* thus seems to be the little *v* which can be but does not have to be a part of a bigger structure like an IP or a CP. As we will argue at length in chapters 6 and 7 this little *v* also seems to have inherent quality of being irrealis. There are, however, cases when this irrealis feature might be overridden. More on this will be said in Chapter 4.

58. Tree representation of the *for to* infinitive:



As regards the functioning of the particle *to* it can be best appreciated on infinitives which do not have it, the so called bare infinitives.

59. a) \**We saw Mary have run in.*  
 b) \**We saw Mary be running outside.*

These bare infinitives do not have a little *v* occupied by *to*, and thus they for example do not allow for aspectual auxiliaries. Bare infinitives are discussed in detail in Chapter 6.

## 2.5 Quasi-Modal *be to* and *ought to*

A special case of the *to*-infinitive is the combination with the so called ‘quasi-modal’ *be* (Huddleston and Pullum 2002, 113). The label, quasi-modal, originates from the properties that this verb displays when combined with the infinitival marker *to*. It has both modal and verbal properties and is thus difficult to categorize. Syntactically it behaves like a lexical verb; it has morphological agreement forms. Like other copulas it does not take the auxiliary verb for negation and questions. But semantically it expresses a degree of modality, i.e., a kind of obligation. The modality it can express can be both deontic (60) and epistemic (61), but the latter only in passive forms. Linguistic modality usually distinguishes epistemic modality which deals with the speaker’s degree of certainty about the reality (e.g.: *He must*

*be telling the truth*), and deontic modality which describes the degree of obligation or permission (e.g.: *He must leave at once*).

60. *I am to go there = I should / must go there.*

61. *The key is to be found on the top shelf. = The key can be found on the top shelf.*

The verb *to be* with infinitive also expresses a relative future tense and this futurity can even appear in past tense.

62. a) *The party is to take place next month.*

b) *The party was to take place the following month.*

Together with the modal idiom *ought to, be to* is an exception among modals because no other MOD / AUX is followed by the *to*-infinitive. The quasi-modal *be* conforms perfectly to all N.I.C.E. criteria.

63. a) *You are not to leave this room.*

b) *Am I to leave this room?*

c) *He is to apologize, isn't he?*

d) *She is to come home early and so is her brother.*

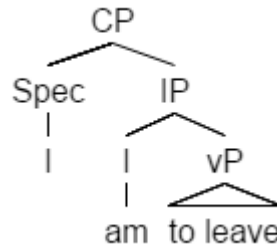
It can also contract, and it appears in expressions with contracted negation quite freely. This further demonstrates its syntactic modal features.

64. a) *You're to leave this room.*

b) *You aren't to leave this room.*

As for its position within the tree structure it clearly occupies the I position, as the finite copula always does, even as does an AUX in progressive tense or passive voice. Its sister is the infinitival phrase which is a vP.

65. Tree representation of the quasi-modal copula:



If the particle *to* were also in the I position it would mean that there would be two I positions immediately adjacent within one clause, and that is not possible because each clause has exactly one IP and one I position (Chomsky 1986).

The quasi-modal *be* also appears in conditional clauses, both present and past, and here it does not express obligation but rather an unrealized possibility. The examples below are taken from Huddleston and Pullum (2002, 206) and they gloss them as “in order to get there” and “If she came home now, we'd be in real trouble” respectively.<sup>11</sup>

66. a) *If we are to get there on time we must leave immediately.*  
b) *If she was / were to come home now, we'd be in real trouble.*

*Ought to* behaves in a similar way as *be to*, and as an item in I, it also follows the N.I.C.E. criteria. Contrary to *be to* it does not have any inflectional morphology. Its modality is usually deontic (67a) but occasionally can also be epistemic (67b).

67. a) *You ought to finish your vegetables. = You should finish them.*  
b) *He ought to be at home. = I think he is.*

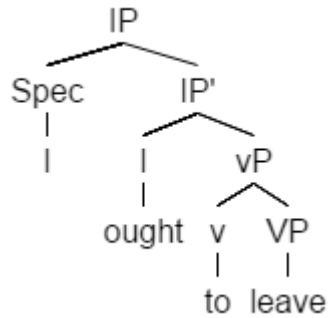
---

<sup>11</sup> Maybe the common meaning of the *be to* in each sentence could be just that of *should* (esp. in British English).

*Ought to* does not have any reduced form nor does it have a preterite counterpart because it actually is a preterite-present form deriving from the ME preterite form *aught* (Machová 2016, 91).<sup>12</sup>

Despite the differences between the two quasi-modals, the tree structure of *ought to* copies the tree structure of *be to*.

68. Tree representation of *ought to*:



Both *be to* and *ought to* are examples of raising to subject constructions where the subject and the agent of the lexical verb V is raised to the Spec IP. Raising will be discussed in detail in chapter 5. We may therefore conclude that since these two verbs or modals are demonstrably in I position the particle *to* cannot possibly be there as well and has to occupy some lower position, ideally the little v position.

---

<sup>12</sup> It can also marginally appear with the bare infinitive or *do* support, but these are dialectical exceptions. According to Huddleston and Pullum (2002, 109) there is even a “growing tendency” for the bare infinitive complementing the modal idiom.

- i) % *I oughtn't take any notice.*
- ii) % *Ought we invite them both?*

## 2.6 Czech Infinitival Morphosyntax

In this subsection we will present a brief comparison with Czech infinitives. Even though, the Czech infinitive is only of one type, it might be interesting to see if it is also inherently irrealis and whether it should be categorized as I, V or v.

First, let us have a look at a little bit of history and development of the Czech infinitive. Czech infinitives are survivors of an older supine form, which was a verbal noun that originally appeared after the verbs of movement. It vanished from the language between the 14th and 18th century and left only some residual examples in the language e.g. in the Bible (Koupil 1947, 78–79). Originally, the complements of such supine forms and early infinitival forms were in the genitive case (69a), which points to their nominal characteristics but they were continuously substituted for by the infinitive, which takes accusative complements (69b), and this was a turn to more verbal characteristics. This is reminiscent of the early development of the infinitive in English discussed in section 2.1.

69. *Soudit živých i mrtvých.*  
judge<sub>INF</sub> living<sub>GEN.PL</sub> and dead<sub>GEN.PL</sub>  
'To judge the living and the dead.'

70. *Soudit živé i mrtvé.*  
judge<sub>INF</sub> living<sub>ACC.PL</sub> and dead<sub>ACC.PL</sub>  
'To judge the living and the dead.'

Both are understandable today, however, only (70) is an unmarked contemporary way of expression, while (69) is archaic.

Czech infinitives took the supine suffix *-t* added to their word stem. Alternatively, there is a more archaic version still used in special expressions *-ti*, which appears nearly exclusively in proverbs and sayings

71. *Mluvíti stříbro mlčeti zlato.*  
speak<sub>INF</sub> silver keep-silent<sub>INF</sub> gold  
'Speech is silver, silence is golden.'

There is also an alternative to this suffix, and that is the suffix *-ci* if the word stem ends with *-k* like the stem *pek* of the infinitive *péci* “bake” or *-h* as in the stem *moh* of the infinitive *moci* “can”. However, even with these verbs there is a tendency to add the suffix *-t* at the end and delete the vowel, the result being *moct* and *péct*. Currently both variants *-ci* and *-ct* are considered grammatical. So finally, it seems there basically is a single form of the Czech infinitive, that is the *-t* suffix on a verbal stem.

In general, Czech verbs are divided into telic (sometimes called perfective) and atelic (imperfective). Telicity is a property of a verb in Czech which indicates whether the activity has an end point or not.<sup>13</sup> Telic verbs have the end point (from Greek *telos*) and atelic verbs do not. Telic verbs in Czech are inflected for person and number and they do not need an auxiliary to form past or future (72). In case of atelic verbs, their future form requires the verb *be* inflected for person number and future tense while they remain in infinitival form (73).

72. *Petr zahraje.*  
 Peter play<sub>3.SG.FUT.TEL</sub>  
 ‘Peter will play.’

73. *Petr bude hrát.*  
 Peter be<sub>3.SG.FUT.ATEL</sub> play<sub>INF</sub>  
 ‘Peter will play.’

There seems to be at least one example of true realis meaning with the Czech infinitive and that is with past tense of certain verbs like *být* “be” or *stihnout* “manage”. This is especially apparent with telic verbs used with reflexive pronoun in constructions like (74).

---

<sup>13</sup> There seems to be a difference between telicity and perfectivity of verbs and verbal phrases, mainly that telicity is associated with morphological (in Czech) and semantic change of the verb while perfectivity with morpho-syntactic change (in English) of the verbal phrase. These two systems seem to be independent of each other. Compare these English sentences:

- i) *John built a house in a month.* (telic)
- ii) *John built houses for a month.* (atelic)

With the verb *být* (inflected for tense, person, gender and number) and reflexive pronoun, they express one single event that happened in the past.

74. *Byl si zahrát tenis.*  
Was<sub>3.SG.M</sub> REFL play<sub>INF.TEL</sub> tennis  
'He went to play tennis.'

As opposed to English, Czech modals can also have the infinitival suffix *-t* (75-77), and they are also complemented by verbs in *-t* infinitive. There is no more basic form of a verb in Czech than the affixed infinitive.

75. *muset pracovat*  
must<sub>INF</sub> work<sub>INF</sub>

76. *nesmět mluvit*  
cannot<sub>INF</sub> speak<sub>INF</sub>

77. *moci odejít*  
may<sub>INF</sub> leave<sub>INF</sub>

The characteristics of the Czech infinitive will vary depending on the structure it appears in. It seems that the infinitival suffix *-t* is in complementary distribution with the past morpheme *-l*, and they both realize the same position within the tree structure, the little *v* position. The *I* position in Czech is reserved for AUX, i.e. the conditional auxiliaries for various person and number: *bych, bys, by, bychom, byste* and the past tense auxiliaries for various person and number: *jsem, jsi, jsem, jste* (Emonds and Veselovská 2015b). The lexical *V* position then is reserved for verbal stems. These auxiliaries are incompatible with the Czech infinitive and require verbal complementation with the *-l* morpheme and particular inflection for person and number.

78. *Plakala jsem.*  
cried<sub>1.SG.F</sub> am<sub>1.SG</sub>  
'I cried.'



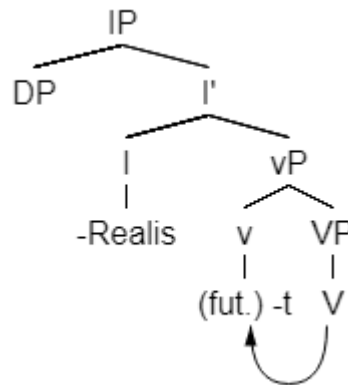
79. *Plakaly by.*  
 cry<sub>3.PL.F</sub> would<sub>3</sub>  
 ‘They would cry.’

Another Czech auxiliary *bud-* used for future tense with atelic verbs is compatible with the infinitive (80b) and incompatible with finite verbs. Emonds and Veselovská (2015b) demonstrate that it is not of the same kind as the other two Czech AUX and is not in the I position but instead, it is in V.

80. a) *Lucie bude hrát na klavír.*  
 Lucie be<sub>3.SG</sub>play<sub>INF</sub> on piano  
 ‘Lucy will play the piano.’

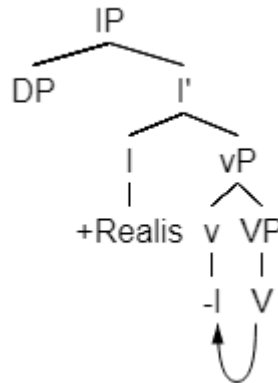
- b) \**Lucie bude hrála / hraje na klavír.*  
 Lucie be<sub>3.SG</sub>play<sub>3.SG.F.PAST</sub> / play<sub>3.SG.PRES</sub> on piano

81. Tree representation of the Czech infinitive:



The little v position is either tense or infinitive because with finite phrases little v is the position past or non-past in Czech.

82. Tree representation of the Czech finite verb in past tense:



In English, past and non-past can be realized in the I position as MOD or AUX (*did, was, is, will*). With non-finite phrases v is the position for infinitive.

In Czech, the infinitive is associated with irrealis and combines with the future auxiliary. In this writing we have come across only one case of it being truly realis (74), which seems to be quite exceptional. There is only one form of the infinitive in Czech, the one with the affixation *-t*. It seems that the position of the infinitival phrase in Czech and its affix *-t* is inside the biggest verbal projection and in little v position.

There are thus bigger and smaller infinitival constructions in Czech (as well as in English), and the infinitive can potentially become a part of a CP or an IP. This will be discussed in more detail in Chapters 5, 6 and 7.

## 2.7 Chapter Summary

The English infinitive has the same form as present subjunctive and historically these two were in competition from the times of Old English. The function or irrealis semantic meaning of this form also seems to be compatible with some element of modality. The infinitive is, after all, in complementary distribution with subjunctive and other moods and as such serves as a particular type of irrealis mood.

It can be concluded that the ideal position in English for the infinitival marker *to* is the little v and not the I position, counter to what has been believed for some decades. This has

been clearly illustrated in section 2.5 on the examples of *ought to* and *be to* which are MOD / AUX in I position requiring the infinitival particle *to*.

Even though it is undeniable that the infinitive and mainly the particle *to* has some semantical modal pointing towards the future, depending on the governing verb it complements, *to* clearly does not fulfil the N.I.C.E. criteria, as was verified in section 2.3. The property of the *to*-infinitive is not modality per se but rather an irrealis feature (this will be demonstrated in greater detail in Chapters 5, 6 and 7). This also enables the governing verb to project its properties on the non-finite complement. As we will see, the extent of this dependence on the matrix verb is subject to the type of constructions, the infinitival happens to be in.

### 3. Verbal Semantics & the Form of the Clausal Complement

In the preceding chapter we have discussed a plausible structure for the English infinitive, which includes a novel syntactic position for its marker *to*. This special position, as we have seen, is a functional head of the whole predicate of vP as this constituent contains no modal. In this chapter we will investigate the correlation of verbal semantics and the syntax of the clausal complement.

#### 3.1 Finite Expressions

Traditional and generative studies of infinitives have mostly concentrated on the semantics that results from a higher predicate (verbs especially) combining with infinitives. In fact, study of the literature reveals two approaches, usually not clearly distinguished. In one approach, the meaning of verb plus complement constructions is fundamentally attributed to lexical semantic analyses, ‘decomposition’ of the verb and its rich semantic structure. In another approach inherent properties of V are less complex and much of meaning derives from the structure of the clausal complementation they combine with.

In this thesis, we argue for and develop the second more syntactic approach because the infinitive has its own autonomous inherent structure that contributes to these semantic combinations, and the first approach does not recognize this. But in this chapter, we will start with many works of the more semantic or verb-based approach, which we try to show, have serious inadequacies. Therefore, this chapter will necessarily introduce a lot of semantic terms and concepts, which probably we cannot do full justice to. Nonetheless, our purpose is to show that these concepts are, while interesting, in the long run inaccurate and insufficient. We will also see that a basic notion in both approaches concerns what it “means” for a verb to be finite.

In traditional terms, both finite expressions and non-finite expressions can be complements of certain verbs. “Finiteness of complements” means that they have the form of a full clause, usually a *that*-clause. They contain an expressed subject, and a finite verb can stand as the head of an independent clause. In English, a finite verb carries the morphemes expressing the grammatical categories of tense, person and number, i.e. the

concord between the subject and the finite verb phrase. In (83) the verb *sleeps* or rather the -s morpheme refers to present tense, indicative mood, third person singular.

83. *Jane usually sleeps eight hours.*

In (84) there is a finite clause complement and we can identify all the same verbal categories except for the person number concord, which is apparent in English only with the third person singular in present tenses or with the verb *be*. Thus, we can only say that (84) is a future tense expressed by the auxiliary *will*, and perhaps indicative mood.<sup>14</sup>

84. *Stella promises that she will study harder.*

With non-finite verb phrases there are no grammatical categories overtly expressed in morphology.

Infinitival complements frequently alternate with finite complements. Koster and May (1982) argue that “all infinitives are clausal” meaning that all infinitives are NP + VP units, Emonds (2015) also groups infinitives together with finite clauses under the label “verbal clauses” because as opposed to gerunds he argues that they never occur in noun phrase positions.<sup>15</sup> Consequently, the boundary between infinitives and finite clauses as complements of another finite verb poses an interesting subject matter for further investigation here.

---

<sup>14</sup> The category of mood poses a problem because “[t]he imperative and subjunctive have in some respects more in common with the infinitive (a non-finite form which like them consists of the base form, and typically expresses nonfactual meaning). There is, indeed, a tradition of regarding the infinitive as a mood of the verb” (Quirk 1985, 150).

<sup>15</sup> Rather, he integrates infinitives as subject or object by means of expletives (which can be null) in an NP position.

i) *It is important to study linguistics.*

### 3.2 Factive Verbs and Their Presupposed Finite Complements

There have been attempts to construct an artificial language that would be able to notate and express propositions in some ideal way, first for purposes of logic and entailment. The first important attempt appeared in Frege's *Begriffsschrift* (1872) "concept notation" first published in 1879 in which he endeavored to construct an ideal "formula language" as he called it. His legacy was further developed by Russell and Whitehead in their three volumes of *Principia Mathematica* (1910) first published in 1910-1913, where they developed axioms and inference rules in symbolic logic.<sup>16</sup>

The dream about the new ideal language was never successfully fulfilled, however, W. V. Quine realized in 1960 in his *Word and Object* (2013) that such language had already been at hand, i.e. the formal logic notation which can be to a certain extent applied to a natural language using a system of "regimentation". This system or rather method involves, according to Quine, a paraphrase into the notation of first-order logic, operating with physical objects and sets. As a result, all sentences have an assignable truth value, i.e. they are either true or false (Hylton 2010).

No matter how imperfect natural language seems to be for the purposes of assigning truth value to propositions, there is an area that exhibits this true or false distinction. With regard to logical properties of natural language some verbs have the ability to imply or presuppose the truth of their embedded complements. These verbs were called "factive verbs" by Kiparsky and Kiparsky (1970). They were interested in the semantics of these verbs or more accurately of the predicates they appear in, and in the complementation of these verbs. Because factivity is also a semantic quality, it can be related to presupposition, which is expressed by the embedded subordinate clause referred to as "fact". Factivity in general can be defined as follows: "One sentence is a presupposition for another if its truth is the necessary condition of its being used meaningfully" (Poldauf 1972, 65).

---

<sup>16</sup> Later Wittgenstein in *Tractatus Logico-Philosophicus* (2007) used their work to identify the relationship between language and reality and to define the limits of science.

To determine if a predicate is or is not factive Kiparsky and Kiparsky (1970) came up with a definition that includes several syntactic tests.

85. a) **Factivity** is the preservation of entailment [of the complement] under negation, questioning and projection.<sup>17</sup>  
b) A predicate (a verb) is **factive** if its complement is true under negation, questioning and projection.

By projection the Kiparskys mean for example the insertion of the verb *seem*. Thus, instead of saying: *He regrets that he is alone*. They say: *He seems to regret that he is alone*.

An example of a factive verb is *regret* (86). If we run it through the above-mentioned tests it passes all of them, as we can see in the examples (86b-d). It reports a fact that Hugo came to the party even when the sentence (86a) is negated, questioned or follows the verb *seem*.

86. a) Hugo **regrets** that he came to the party.  
b) Hugo **doesn't regret** that he came to the party.  
c) Does Hugo **regret** that he came to the party?  
d) Hugo **seems to regret** that he came to the party.

All the examples of the verb *regret* here are complemented by a *that*-clause. Other such factive predicates include *learn, know, realize, be sorry ...* All of them must be complemented by a finite complement in order to be factive and for the complement to maintain its truth value.

If factive verbs can be complemented by a non-finite clause at all, the factivity value is lost or at least obscured because the meaning is different. To illustrate this, we see that in (87) and (88) the readings are factive.

87. I regret **that** I insulted you by saying that you were a gold-digger.

---

<sup>17</sup> Even though factive verbs are usually categorized as “presupposition triggers” (Karttunen 2016) we are going to use the term *entailment* to express that the clausal complement of the main factive verb is a fact.

88. *Jim has just learnt **that** he won in a lottery.*

However, in (89) the reading is not factive, it refers to a future event which can always not happen, and in (90) we speak about a general skill rather than some fact that somebody just found out.

89. *I regret **to** insult you, but you are a gold-digger.*

90. *Jim has learnt **to** speak English fluently in two years.*

When infinitival complements of otherwise factive verbs appear in an embedded clause with a negated matrix clause, any traces of truth implication that are present in finite complements (91a-b), are lost in (92a-b).

91. a) *I did not know **that** she is very tall.*

b) *Jack did not learn **that** he impressed the judges.*

92. a) *I did not know her **to** be very tall.*

b) *Jack did not learn **to** impress the judges.*

Similar problems remain with the “*seem* projection”. While finite complements conserve truth values even under this projection (93a-b) the non-finite complements do not (94a-b).

93. a) *He seems to regret **that** he told you that.*

b) *Jack seems to have learnt **that** he impressed the judges.*

94. a) *He seems to regret **to** tell you that.*

b) *Jack seems to have learnt **to** impress the judges.*

In case of (94a) the speaker regrets something, she is about to say and in (94b) Jack learnt a certain skill how to impress the judges, he did not receive any information that would be a fact.

When infinitives in English complement factive verbs, they are some kind of extension of the basic standard use with finite complements. Some of these verbs like *learn* and *know*



show this polysemous nature clearly. Even when the infinitival complementation of factive verbs is possible, we will see that it does not systematically imply (presuppose) any truth value of the embedded clause.

### 3.3 Finiteness and the Factivity of Verbs

There are many questions about verbs that entail the truth value of their finite complements. The factivity of verbs has been difficult to define and therefore there is not one canonical definition within linguistics that would satisfactorily cover all the semantic and syntactic properties of such verbs (compare Kiparsky and Kiparsky 1970; Givón 1980; Karttunen 1971; Nicholas 1998). However, there are certain minimal properties that a verb must have in order to be called factive (85), and these properties hold for specific criteria. We claim that one of the main criteria is that the presupposed complement in the following subordinate clause *must be finite*.

The English infinitive stands for the meaning “irrealis” in most cases, and as such hardly ever appears in constructions that have a realis or factive meaning. We thus believe that factivity of a sentence or an expression is connected to finiteness of a complement of verbs.

Sometimes the complement clause of a finite verb (95a) can be realized as another main clause and thus the complex sentence consists of two main clauses, however, the semantic dependence is still apparent. This parenthetical use in (95b) is an alternative to *that*-clause complementation of factive verbs which also preserves the presupposition of the complement but this does not hold when the clause is negated (95d).

95. a) *He learnt that Sarah had disappeared.*  
b) *Sarah had disappeared, he learnt.*  
c) *He did not learn that Sarah had disappeared.*  
d) *\*Sarah had disappeared, he did not learn.*

There is a category of verbs that have traits in common with factive verbs but do not comply with the above-mentioned tests in (85). These verbs are mostly verbs of perception and knowing and because of their ambivalent nature they have been called “semi-factive”

verbs (Karttunen 1971). Hooper (1975, 117) notices the difference in meaning between the factives and semi-factives and states that the former “express a subjective attitude about the complement proposition” while the latter “describe processes of knowing or coming to know”. In the case of *reveal*, for example, processes of “letting someone else ‘come to know’”. The semi-factive verbs, however, “do not preserve entailment of their complements when their epistemic modality is downgraded” (Nicholas 1998, 117).

96. “It is possible that I will regret later that I have not told the truth. >> I have not told the truth. [True factive; presupposition preserved.]”

97. “It is possible that I will realise later that I have not told the truth. >/> I have not told the truth. [Semi-factive; presupposition not preserved.]”<sup>18</sup> (Nicholas 1998, 117)

Other verbs like *manage*, for example, seem to presuppose their complement only in a declarative positive phrase. Their complements lose their truth value once they appear in a negative phrase.

98. a) *He managed to catch the train*  
b) *He did not manage to catch the train.*

The verb *manage* belongs according to Karttunen (1971) to a group of verbs called “implicative” verbs. They also involve entailment but in a different way than factive verbs. We can see this best if we compare *manage* with the verb *try*. In (99a) there is definitely an intention to catch the train, but the verb does not imply that the train was caught. In (99b) the negation is even more hypothetical and thus the truth value of the complement is lost entirely.

99. a) *He tried to catch the train.*  
b) *He did not try to catch the train.*

Other verbs like *persuade* or *want* also seem to presuppose factivity of their complement but only to a certain degree. In (100a) the result of the persuasion actually is Bill joining the

---

<sup>18</sup> The >> symbol stands for “presupposes” and the >/> symbol stands for “does not necessarily presuppose”.

army. There is a causer; a patient and the underlying sentence here would be: *Bill joined the army*.

100. a) *Adam persuaded Bill to join the army.*  
b) *Adam did not persuade Bill to join the army.*  
c) *Adam wanted Bill to join the army.*  
d) *Adam did not want Bill to join the army.*

However, with the verb *want* it is not necessarily the case that Bill joined the army. Neither *manage*, *persuade* nor *want* pass the factivity tests from (85), therefore even though they might and do express certain truth implications of their complements they cannot be considered factive verbs.

A definition of factivity of verbs or predicates is thus problematic not only because of the category of the aforementioned “semi-factives” and “implicatives” but also because of the fact, that natural language cannot easily be, if at all, converted to a set of rules of logic, contra the project of Frege and Russell. Even if we do not operate with such linguistic means as irony, sarcasm or figurative language, there are also other factors that influence factivity and these are futurity conditionals.

### **3.4 Futurity and a Conditional Feature in the Main Clause**

Other factors that can downgrade entailment potential of otherwise factive verbs are tense and modality. If the factive verb is in the future tense it may weaken the presupposition. In (101) Peter may change his mind in the future and decide against joining the army. But most likely he still will join the army.

101. *Peter will regret that he joined the army.*

Clause modality can influence the factivity of a given proposition as in the following example where the truth of the complement is not clearly implied.

102. *Peter might regret that he joined the army.*

Schueler proposes that “not all *that*-clauses are presuppositional. ... [T]here are at least two *thats*, one introducing propositional clauses and another introducing factive clauses” (2013, 3). This distinction is according to him dependent not only on the governing verb but also on the type of clause it appears in. More specifically he distinguishes between implicit conditionals (IC) (103a-c) and non-IC constructions (104a-b). “Implicit conditionals are sentences which contain a subjunctive mood marker (*would* in the cases considered here, but also *could*, etc.), but no *if*-clauses in the normal structural position for conditional antecedents” (Schueler 2013, 1).

103. a) *Mary would regret selling her car.*  
b) *Mary would regret (for him) to sell her car.*  
c) ***Mary would regret that she sold her car.***
104. a) *Mary regretted selling her car.*  
b) *Mary regretted that she sold her car.*

While in case of non-IC constructions the presupposition holds for both finite and gerundive complements, in the case of IC presupposition holds only with the finite complement (103c). This is in accord with our findings so far, the factivity entailment is only ensured through the combination of a factive verb and the finite +Realis complement.

There are further examples of verbs which seem to be factive, but they actually express an opinion of the speaker (Wierzbicka 1988). One of these examples is the verb *know* complemented by an infinitive.

105. *I know Stella to be a good dancer.*

For the same reason any other “fact” that would appear in the place of an opinion would not, according to Wierzbicka, seem completely grammatical, like for example (106).

106. *\*I know Stella to weigh 55 kg.*

Nevertheless, the ungrammaticality of this expression is not clear. A possible explanation for its infelicity may be that Stella weighing 55 kg is a fact and as such cannot appear in a non-

finite infinitival phrase because, as we have seen (89-90) non-finite complements are not easily compatible with factivity.

Another problematic verb appears to be the verb *hate* because it can be complemented by an infinitive, gerund or *that*-clause and in all three cases have a factive reading but in case of the infinitive the presupposition can be cancelled (107a).

107. a) *Jane hated to win the match, (so she lost on purpose).*  
b) *Jane hated winning the match, (\*so she lost on purpose).*  
c) *Jane hated that she won the match, (\* so she lost on purpose).*

The verb *hate* also passes the Kiparskys' factivity tests from (85) and in all of them it implies the truth value of its embedded complement.

108. a) *Stella does not hate winning / to win / that she wins the matches.*  
b) *Does Stella hate winning / to win / that she wins the matches.*  
c) *Stella seems to hate winning / to win / that she wins the matches.*

This problem is solved when we change the tense of the verb *hate*. If it is in the past tense as in (107a-c) the clausal reading could be indeed factive even for the infinitival complement. If it is, however, in present tense (109a-c) the entailment remains only in the finite option.

109. a) *Stella hates winning the matches, so she loses on purpose.*  
b) *Stella hates to win matches, so she loses on purpose.*  
c) *Stella hates that she wins the matches, \*so she loses on purpose.*

From the above-mentioned facts and for the purpose of simplicity it is possible to conclude that:

110. **Factive verb:** A main verb in the present tense is factive when it presupposes its complement, that has a form of a finite (realis) clause complement. This complement keeps its truth value even if the whole phrase is negated or has a form of a question.

Non-finite complements and factivity entailment are incompatible in most cases because they always seem to fulfill only some of the prerequisites of factivity entailment.

We are now going to investigate in detail the infinitival complements and their relation to the factivity of the whole proposition.

### 3.5 Non-finite Complementation and Factivity

There is a category of verbs that can be complemented only by a non-finite expression. Among these verbs there are “temporal aspectual” verbs, i.e. verbs that express aspect which can be initial, progressive or terminative. These verbs include *start*, *begin*, *continue*, *stop* and the like and require either an infinitive or a gerund, or they can be complemented by either, with or without a change in meaning. With those that express the initial aspect of an activity, whatever follows the infinitival particle *to* is almost sure to happen as in (111) and (112).

111. *I began to read a new book.*

112. *The professor stopped talking and continued to write the formula on the board.*

However, the infinitive with *to* can assume different functions. In the case of the verbs *start* and *begin* it expresses mere activity that happens to be in a certain stage of progress or is just about to happen or is already happening. With the verb *stop* its function changes and the infinitive expresses a kind of purpose and is no longer a complement but an adjunct.

113. *He stopped to have a cigarette.*

114. *He stopped his lecture to explain the difficult terminology that would follow.*

In both (113) and (114) he stopped his activity in order to do something else. In this case, it is not certain that the activity took place because the agent could just as well change his mind at the last moment.

If we negate any of the verbs from this category the truth value entailment does not hold like in the cases of (115) and (116).

115. *He didn't start to read a new book.*

116. *He didn't stop his lecture to explain the difficult terminology that would follow.*

There are some other verbs that could appear in this category, i.e. a category of verbs requiring non-finite complementation, like *help* or *try*. The same applies to them as to aspectual verbs, i.e. they do not fulfill the conditions from (85). Therefore, principle (110) is still true, that factive verbs must be complemented exclusively by a *that*-clause.

### 3.6 State / Event and Action Realization of an Argument

Jackendoff (1985) describes a class of verbs that can be complemented by a finite clause or the infinitive, with the alternation having a distinct effect on meaning. These verbs include *convince*, *persuade*, *agree*, *decide*... He is basically interested in the verbs of “propositional attitude” and verbs of “intention” (1985, 445). Sometimes one verb can imply two different shades of meaning depending on the complementation as indicated here above in section (3.2). For example, when the complementation of these verbs is finite we speak about state / event (117a). However, when the verb is followed by an infinitive complement we can speak about action (117b).

117. a) *B convinced A that the sky is green.*  
b) *B convinced A to give up linguistics.* (Jackendoff 1985, 445)

Sometimes not only the sense of the sentence changes, but also the verbs seem to be rather polysemous themselves. With the verb *convince* the two possible readings are either to make somebody do something (action) or to prove to somebody that something is true (event). However, according to Jackendoff, it is not the polysemy which causes different interpretation of the verbs but the constructions themselves. To be more precise it is the combination of the specific verbs that display this dichotomy and the complement selection. The *that*-clauses with specific verbs fall under *belief*-contexts and are thus associated with states and events. The clauses complemented with infinitival phrases tend to express actions. Jackendoff introduces the following universal:

118. **State / Event argument realization:** “The unmarked realization of a State/Event argument is as a tensed complement. The unmarked realization of an Action argument is as an untensed complement.” (1985, 457)

Since we have been discussing semantics and factivity, we may consider the truth value of such constructions as well. It indeed varies, quite unsurprisingly, according to the form of the complement. With *that*-clause complements the truth value can be assigned depending on whether the proposition turns out to be true, but with infinitival complements we are more interested in whether the proposition is implemented or not. Still, there are some inconsistencies in this theory mainly arising from the inherent semantics of the verbs as such. The two close verbs *force* and *convince* do not imply one and the same thing. In (119a) B presumably gave up but in (119b) we can only expect that B intended to give up but the outcome itself is uncertain.

119. a) *A forced B to give up linguistics.*  
b) *A convinced B to give up linguistics.*

According to Jackendoff there are three classes of verbs that take either *that*-clause or infinitival complements. In the “convince” class the *that*-clause expresses state / event (120a) and the infinitival expresses action (120b), in the “promise” class both complements express action (c-d) and finally in the “claim” class – both express state / event (120e-f).

120. a) *He convinced him that the sky is green. (state/event)*  
b) *He convinced him to give up linguistics. (action)*  
c) *He promised him to study harder. (action)*  
d) *He promised him that he will study harder. (action)*  
e) *He claimed that he studied hard. (state/event)*  
f) *He claimed to have studied hard. (state/event)*

From the above-mentioned cases, a couple of interesting conclusions can now be drawn.

Firstly, the factivity of a proposition depends on the verb but also on the type of complementation combined with the type of a clause. As we have seen in section (3.2), one and the same verb e.g.: *regret* can be factive (121a-b), or non-factive (121c-d) when combined with conditional *would*.



121. a) *Stella regrets selling her car.*  
b) *Stella regrets that she sold her car.*  
c) *Stella would regret that she sold her car.*  
d) *Stella would regret selling her car.*

If we try a similar thing with *convince*, which would belong to the same category as *regret* and which can be complemented by an infinitive we can observe the polysemy of the verb in the examples (122). Though (122d) can be considered factive, the other examples are not.

122. a) *Jane would convince him to sell his car.*  
b) *Jane convinced him to sell his car.*  
c) *Jane would convince him that he sold his car.*  
d) *Jane convinced him that he sold his car.*

Again, we see that state / event realization of an argument through a finite clause has the potential of being able to imply the truth value of the proposition. However, the governing verb itself has to be a true factive as in (85). With the action realization of an argument through a non-finite clause it can never happen that the proposition would imply truth value, no matter if the verb itself is factive or not.

### 3.7 Givón's Classification of Verbs

Givón (1980) had divided verbs into cognition verbs (C-verbs) and modality verbs (M-verbs). Both groups include three subgroups. C-verbs further divide into factive (*regret*), negative-factive (*pretend*) and non-factive (*believe*), and M-verbs further split into implicative (*manage*), negative-implicative (*forget*) and non-implicative (*want*). Factive and implicative verbs imply the truth value of the complement clause; in (123) and (124) Jane actually sold her car.

123. *Jane regretted that she sold her car.*

124. *Jane managed to sell her car.*

Negative-factive and negative-implicative verbs imply that the truth value of the embedded clause is the opposite as in (125) and (126): Jane definitely did not sell her car to anybody.

125. *Jane pretended to have sold the car.*

126. *Jane forgot to sell the car.*

As regards non-factive verbs (127) it is not possible to tell whether the proposition has any relation to reality and is therefore true. The verb *believe* is thus called non-factive because it is not related to anything true.

127. *Jane believed that her car was sold.*

With non-implicative verbs the truth value of the clause is also not determinable as in (128), where there is a clear intention to sell the car but without any necessary action.

128. *Jane wanted to sell her car.*

Givón's well-organized division complements Jackendoff's verb classes system, and it considers the verbal entailment properties as well. On the other hand, Givón does not take into account different types of complements and their distinct meanings. Jackendoff chose classes of verbs that were neither associated with factivity nor implication, but the "promise", "convince" and "claim" classes would be classified under Givón's non-implicative label.

For an accurate overview of the verb types, complementation meanings and factivity relation, it is best to combine approaches to show that there is a correlation between factivity, implication and finiteness but also that factivity is connected with verb types as well as complements. Finite complements of factive verbs have the ability to express facts in all grammatical variations except for modality. When there is any implicit or explicit modality present in the matrix clause the presupposition of the truth value of the embedded clause is undermined or canceled. Infinitive complements of factive verbs never display any implied truth value.

### **3.8 Classification of Verbs according to their Truth Value**

For a better overview of all the so far discussed types and sub-types of verbs we propose a preliminary descriptive table which categorizes verbs into several groups according to their degree of presupposition properties in connection with the type of complementation. We are working with the division of verbs according to Givón as well as Karttunen, Kiparsky and Nicholas. This will leave us with seven different labels for verbs that seem to share similar properties, i.e. they show certain degree of factivity – presupposition of their complement truth value.

**Table 2: Truth Value of the Complement Proposition**

| Verbal categories      | Semi-factive                            | Factive                     | Negative-factive               | Non-factive           | Implicative                  | Negative-implicative     | Non-implicative     |
|------------------------|---|-----------------------------|--------------------------------|-----------------------|------------------------------|--------------------------|---------------------|
| Example verbs          | <i>find out, discover</i>               | <i>regret, know, forget</i> | <i>pretend, lie</i>            | <i>believe, think</i> | <i>manage, remember (to)</i> | <i>forget (to), fail</i> | <i>want, decide</i> |
| Main clause property ↓ | Finite clause complement entailment     |                             |                                |                       |                              |                          |                     |
| Declarative            | <b>T</b> <sup>19</sup>                  | <b>T</b>                    | ¬compl= <b>T</b> <sup>20</sup> | 0                     | *                            | *                        | 0                   |
| <i>Seem</i> projection | 0 <sup>21</sup>                         | <b>T</b>                    | 0                              | 0                     | *                            | *                        | 0                   |
| Question               | 0                                       | <b>T</b>                    | 0                              | 0                     | *                            | *                        | 0                   |
| Negation               | 0                                       | <b>T</b>                    | 0                              | 0                     | *                            | *                        | 0                   |
| Modality               | 0                                       | <b>0</b>                    | 0                              | 0                     | *                            | *                        | 0                   |
| Futurity               | 0                                       | <b>T</b>                    | 0                              | 0                     | *                            | *                        | 0                   |
| Main clause property ↓ | Non-finite clause complement entailment |                             |                                |                       |                              |                          |                     |
| Declarative            | * <sup>22</sup>                         | 0                           | ¬compl= <b>T</b>               | *                     | <b>T</b>                     | ¬compl= <b>T</b>         | 0                   |
| <i>Seem</i> projection | *                                       | 0                           | 0                              | *                     | 0                            | 0                        | 0                   |
| Question               | *                                       | 0                           | 0                              | *                     | 0                            | 0                        | 0                   |
| Negation               | *                                       | 0                           | 0                              | *                     | 0                            | <b>T</b>                 | 0                   |
| Modality               | *                                       | 0                           | 0                              | *                     | 0                            | 0                        | 0                   |
| Futurity               | *                                       | 0                           | 0                              | *                     | 0                            | 0                        | 0                   |

We hope that by means of this table to clarify the different points and tests discussed above. There are many ways of categorizing the verbs into groups according to their ability to express the truth value of their complement. There are also many labels that have been used to classify them. Sometimes it is not clear whether a verb belongs to one or the other because “[a]ssertivity is underlyingly a semantic, rather than a syntactic factor. As a consequence, the

<sup>19</sup> Implies the truth value of the complement.

<sup>20</sup> The opposite of the complement is true. In the sentence “He pretended that he is a doctor.” it is true that he is not a doctor.

<sup>21</sup> No implication of the truth value of the complement is present.

<sup>22</sup> The given type of complementation is not possible for the given type of verb.

boundaries between predicate classes are not clear-cut, and certain predicates behave exceptionally or inconsistently both semantically and syntactically” (Nicholas 1998, 120). As we have pointed out the classification that we propose here is partly based on previous research and partly on our findings, and even though it is far from being clear and complete, it presents an overview of the various possible combinations of verbs and syntactic operations and shows clearly that a finite complement is the only option if full factivity is to be expressed. Thus, what seems at first like a semantic property turns out to be simply a co-occurrence property: A factive verb is one which takes a realis complement where realis feature is interpreted at LF.

Especially with semi-factive and negative-implicative labels the properties of the verbs seem to be very similar. Some linguists such as Karttunen (1971) do not even distinguish between the latter two. Other categories from Table 2 which show similar behavior are non-implicative and non-factive and negative-factive. Since their complement simply never implies truth value there is no need distinguishing between them from the semantic-syntactic point of view.

To put all the data in one revised table we have merged non-factive with non-implicative verbs and implicative with semi-factive verbs. Even though negative-factive verbs show certain implication about the truth value of the complement, it is, however, negative and therefore represented with a *0* in the table everywhere except for negation.

**Table 3: Truth Value of the Complement Proposition – Revised**

| Verbal categories         | Factive  | Implicative                         |  | Negative-implicative               | Non-factive   |
|---------------------------|--|-------------------------------------|--|------------------------------------|---|
| Example verbs             | <i>regret,</i><br><i>know,</i><br><i>forget</i><br><i>(that)</i> | <i>discover,</i><br><i>find out</i> | <i>manage,</i><br><i>remember</i><br><i>(to)</i> | <i>forget (to),</i><br><i>fail</i> | <i>believe,</i><br><i>think,</i><br><i>pretend, lie</i> |
| Main clause property<br>↓ | Finite clause complement   |                                     |  |                                    |   |
| Declarative               | <b>T</b>   | <b>T</b>                            | *  | *                                  | 0   |
| <i>Seem</i> projection    | <b>T</b>   | 0                                   | *  | *                                  | 0   |
| Question                  | <b>T</b>   | 0                                   | *  | *                                  | 0   |
| Negation                  | <b>T</b>   | 0                                   | *  | *                                  | 0   |
| Would / could             | <b>0</b>   | 0                                   | *  | *                                  | 0   |
| Will / can                | <b>T</b>   | 0                                   | *  | *                                  | 0   |
| Main clause property<br>↓ | Non-finite clause complement                                     |                                     |  |                                    |   |
| Declarative               | 0  | *                                   | <b>T</b>   | 0                                  | 0   |
| Projection                | 0  | *                                   | 0  | 0                                  | 0   |
| Question                  | 0  | *                                   | 0  | 0                                  | 0   |
| Negation                  | 0  | *                                   | 0  | <b>T</b>                           | 0   |
| Modality                  | 0  | *                                   | 0  | 0                                  | 0   |
| Futurity                  | 0  | *                                   | 0  | 0                                  | 0   |

The only instances with the implied truth value of the embedded clauses apart from the factive verbs would be implicative verbs (129 and 130) and negative implicative verbs (131).

129. a) *I discovered / found out that he is a spy.*

b) *I didn't discover / find out that he is a spy, so he is free to go.*

130. a) *I managed / remembered to write him a letter.*  
 b) *I didn't manage / remember to write him a letter, so he didn't get any.*
131. a) *I didn't forget / fail to lock the door.*  
 b) *I forgot / failed to lock the door.*

In all cases the complement truth value is preserved but the verbs cannot be considered factive because the entailment holds only if the main sentence is positive (129a) and (130a) or only when it is negated (131a).

There is one more “puzzle” as Jackendoff puts it, and that is the following examples.

132. a) *A didn't remember to wipe his feet at the door.*  
 b) *A didn't forget to wipe his feet at the door.*  
 c) *A didn't know to wipe his feet at the door.*  
 d) *B didn't remind A to wipe his feet at the door.* (Jackendoff 1985, 459)

Even though these examples are not factive, they contain a presupposition of a kind. Wiping one's feet at the door is something that should be done. “The puzzle here is why, under this substitution, a simple fact should turn into a fact about some sort of obligation” (Jackendoff 1985, 459). We believe that the answer is that one of these verbs, the verb *remember*, is simply not factive and that is why it can be complemented by non-finite phrase and still give the impression of factivity. Even if this verb is followed by a finite complement in (133), it does not presuppose the truth value of its complement when negated.

133. a) *I don't remember that you have done anything for me.*  
 b) *I don't remember that I borrowed money from you, so I am not paying any back.*

The other verbs, although factive when complemented by a finite phrase, show distinct meaning when complemented by a non-finite complement, and they do not fulfill the necessary features of factivity. In (132b) A maybe did wipe his feet and maybe not, all we know is that he did not forget to do it and maybe he did not do it on purpose to spite someone. In (134a) without negation it is obvious that the polarity is changed, and A most definitely did not wipe his feet.

134. a) *A forgot to wipe his feet at the door.*  
b) *A knew that he wiped his feet at the door.*  
c) *B reminded A to wipe his feet at the door.*  
d) *B reminded A that he should wipe his feet at the door.*  
e) *B reminded A that he (had) wiped his feet at the door.*

*Forget* complemented by a non-finite phrase can entail a complement only in a negative sentence but not in a positive one. The verb *know* in (132c) speaks about bad manners and has a totally different meaning form (134b) which is purely factive. And finally (132d), when transformed into an affirmative clause loses any potential traces of factivity in (134c) because the meaning is equivalent to the sentence in (134d), while the only truly factive option is a finite complement without any modality (134e).

The data bears on that the category of verbs / predicates that can be labelled factive is very limited and is always complemented by a finite complement. Infinitival complements sometimes appear in construction where their truth value is entailed. This is the case with some implicative and negative implicative verbs. It never happens, however, that a factive verb would be complemented by an infinitive and entail the truth value of this infinitival complement.

### 3.8.1 That Omission

A very clever discovery is made by Zubizarreta when she notices that the difference between the factive and non-factive predicates is as follows: “factive predicates [...] contain an Ass(ertion) operator in its CP. This operator is lexicalized by the complementizer, which explains why it must be obligatorily present (135). Complements of propositional attitude verbs lack an Ass operator, therefore, their complementizer may be absent in some languages” (2001, 201).<sup>23</sup>

---

<sup>23</sup> Haegeman (2006, 15) in contrast with Zubizarreta’s analysis proposes that: “*that*-clauses introduced by *that* and embedded under factive predicates be considered as reduced finite structures, characterised by the lack of speaker deixis.”



135. a) *John regrets that Mary is bald.*  
 b) \**John regrets Mary is bald.*

136. a) *John thinks that Mary is bald.*  
 b) *John thinks Mary is bald.*

Yet however plausible this may seem, it is not always the case. For instance, it does not hold for the otherwise factive verb *know*.

137. a) *John knows that Mary is bald.*  
 b) *John knows Mary is bald.*

The verb *know* is different than other factive verbs because it has a feature of grammaticality. This grammatical feature ensures that it does not need *that* because it is already inherently present.<sup>24</sup> Zubizarreta’s claim can thus be adjusted in the following way:

138. If we cannot omit that then the verb is factive. If we can omit it, then we do not know, because it can be either factive or non-factive. We can see this special feature of the factive verbs clearly in the Table 4.

**Table 4: *That* Omission Possibility**

| Verbal categories      | Semi-factive             | Factive             | Negative factive | Non-factive           | Implicative             | Negative-implicative | Non-implicative     |
|------------------------|--------------------------|---------------------|------------------|-----------------------|-------------------------|----------------------|---------------------|
| Example verbs          | <i>realize, find out</i> | <i>regret, know</i> | <i>pretend</i>   | <i>believe, think</i> | <i>manage, remember</i> | <i>forget</i>        | <i>want, decide</i> |
| Possible that omission | Yes                      | No                  | Yes              | Yes                   | Yes                     | Yes                  | Yes                 |

<sup>24</sup> The idea of grammatical words comes from Emonds (2000, 9). Here certain groups of words are deemed to have a syntactic features F and are lacking semantic feature f. It is a closed subset of open categories, in this case grammatical verbs.

It is important to distinguish between the factivity of a verb and the truth (value) of a complement. Even with non-finite complements it may seem at times that the proposition somehow expresses truth value, but on a closer look we have seen that if the verb itself is not truly factive the phrase containing it and the complement cannot be considered factive either. We have witnessed the possible features of factive verbs and of their finite and non-finite complements. Finiteness is a feature that diminishes uncertainty and modality and as such is suited for bearing the truth value unlike non-finite expressions. Non-finite complements are simply never to be found in a factive clause that would pass all the necessary factivity tests.

### 3.9 Finiteness and Factivity in Czech

Since factivity should be a universal cross-linguistic feature, factive verbs in Czech should follow the same rules as those in English. As opposed to English in Czech it is possible to distinguish with certain verbs between the perfective and imperfective form (telic or atelic verbs) and it is thus more apparent whether the proposition was really implemented or not. For example, the verb *force* in Czech can be realized as *nutil* meaning “was forcing” and *donutil* “succeeded in forcing”. In (139) we encounter a non-factive variation of the verb while in (140) it has a factive reading.

139. *Nutil ji, aby pracovala.*  
 forced<sub>3,IMPF</sub> her to work  
 'He was forcing her to work.'

140. *Donutil ji, aby pracovala.*  
 forced<sub>3,PF</sub> her to work  
 'He forced her to work.'

Nevertheless, even though the verb has factive reading in (140) it still would not pass the necessary tests in order to be categorized among factive verbs.

141. *Nutil ji pracovat.*  
 forced<sub>3,IMPF</sub> her work<sub>INF</sub>  
 'He forced her to work.'

142. *Donutil ji pracovat.*  
 forced<sub>3,PF</sub> her work<sub>INF</sub>  
 'He forced her to work.'

The verb “to force” in Czech can be alternatively complemented by a non-finite clause and quite surprisingly in both its forms telic and atelic with the same result as with the finite complements. In (141) there is no certainty that she did work but in (142) we are certain that she did work. As strange as it may seem there is definitely some kind of implication, but the verb is not factive per se which is apparent from (143) where it is negated and the factivity entailment of the complement is lost.

143. *Nedonutil ji pracovat.*  
 not-forced<sub>3,PF</sub> her work<sub>INF</sub>  
 'He did not force her to work.'

The verbs *litovat* (regret), *dozvědět se* (learn), *vědět* (know), *být líto* (be sorry) should pass the above-mentioned test of factivity if factivity and truth value entailment of their complement of certain predicates is to be a universal rule. In (144-146) we can see that all three verbs can be complemented by a finite clause and that they entail the truth value of the complement.

144. *Lituji, že jsem tam šel*  
 regret<sub>1,SG</sub> that am there go  
 'I regret / am sorry that I went there.'

145. *Dozvěděl se, že přišel příliš pozdě.*  
 learnt<sub>3,SG,M</sub> REFL that arrived<sub>3,SG,M</sub> too late  
 'He learnt that he arrived late.'

146. *Věděl, že přišel pozdě.*  
 knew<sub>3,SG,M</sub> that arrived<sub>3,SG,M</sub> late  
 'He knew that he arrived late.'

The first factivity test is maintaining the truth value in questions (147-149). We can see that the truth value is preserved under interrogative.

147. *Lituješ, že jsi tam šel?*  
regret<sub>2.SG</sub> that are there went  
'Do you regret that you went there?'

148. *Dozvěděl se, že přišel pozdě?*  
learnt<sub>3.SG</sub> REFL that arrive<sub>3.SG</sub> late  
'Did he learn that he arrived late?'

149. *Věděl, že přišel pozdě?*  
knew<sub>3.SG</sub> that arrive<sub>3.SG</sub> late  
'Did he know that he arrived late?'

The second test is maintaining the truth value entailment under negation as in (150-152); also, here the truth value of the complement is preserved.

150. *Nelituji, že jsem tam šel.*  
not-regret<sub>1.SG</sub> that am there went  
'I do not regret that I went there.'

151. *Nedozvěděl se, že přišel příliš pozdě.*  
not-learn<sub>3.SG</sub> REFL that arrive too late  
'He did not learn that he arrived too late.'

152. *Nevěděl, že přišel příliš pozdě.*  
not-know<sub>3.SG</sub> that arrive too late  
'He did not know that he arrived too late.'

The last test is projection using the verb *seem* in Czech *zdát se* (153-155), and this one as well is passed by the Czech factive counterparts.

153. *Zdá se, že lituje, že tam šel.*  
 seems REFL that regrets<sub>3.SG</sub> that there went<sub>3.SG</sub>  
 'It seems that he regrets that he went there.'
154. *Zdá se, že se dozvěděl, že přišel pozdě.*  
 seems REFL that REFL learnt<sub>3.SG</sub> that arrived<sub>3.SG</sub> late  
 'It seems that he learnt that he arrived late.'
155. *Zdá se, že ví, že přišel pozdě.*  
 seems REFL that knows that arrived<sub>3.SG</sub> late  
 'It seems that he knows that he arrived late.'

Also, in Czech, all the factive verbs if complemented by a *that*-clause fulfill all the conditions necessary to consider them factive. In Czech, there is no way of omitting the word *že* “that” after these verbs or any other verb. It is a compulsory element, a conjunction introducing the subordinate clause.

A non-finite complementation is not possible; the infinitive cannot be used with any of these verbs in any possible meaning as we can see in (156-158).

156. \**Litoval tam chodit.*  
 regreted<sub>3.SG</sub> there go<sub>INF</sub>
157. \**Věděl přijít pozdě.*  
 knew<sub>3.SG</sub> come<sub>INF</sub> late
158. \**Dozvěděl se přijít příliš pozdě.*  
 learnt<sub>3.SG</sub> REFL come<sub>INF</sub> too late

But what about some other verbs that seem to have some degree of factivity and truth value entailment of the complement in English but do not fulfill all the tests (85) but only some of them. The first group, the semi-factive verbs (159), are also complemented by *that*-clause or through a juxtaposition (160) of two main clauses in Czech.

159. *Zjistila, že Peter odjel.*  
found<sub>3.SG</sub> that Peter left<sub>3.SG</sub>  
'She found out that Peter left.'

160. *Peter odjel, zjistila.*  
Peter left<sub>3.SG</sub> found<sub>3.SG</sub>  
'Peter left, she found out.'

The same applies to the group of implicative verbs (161-162). The only option here is a finite clause.

161. a) *Vzpomněla si, že ten dopis poslala.*  
remembered<sub>3.SG.F</sub> REFL that that letter sent<sub>3.SG.F</sub>  
'She remembered that she had sent the letter.'

b) *\*Vzpomněla si ten dopis poslat.*  
remembered<sub>3.SG.F</sub> REFL that letter sent<sub>INF</sub>

162. a) *Bylo jí jedno, že prodal dům.*  
was her one that sold<sub>3.SG</sub> house  
'She didn't care that he had sold the house.'

b) *\*Bylo jí jedno prodat dům.*  
was her one sell<sub>INF</sub> house

Thus, the same seems to hold in English and in Czech, that certain verbs that fulfill the conditions of being called factive can be complemented only by a finite *that*-clause in order to keep their factivity. Infinitives on the other hand can never serve as complements of factive verbs in neither English nor Czech.

### 3.10 State / Event and Action Realization of an Argument in Czech

In Czech, there are also verbs that can have different types of complementation. They can be complemented by a finite or non-finite clause and there is also a shift in meaning. While in (163) the finite complement stands for state / event, the non-finite complement (164) points to action. This Czech verb *rozhodnout se* parallels its English counterpart *decide*. It can be complemented by a finite clause (163) or by an infinitive (164) with the change of meaning. Observed by Jackendoff (1985) the former expressing State / Event and the latter an action.

163. *Rozhodl se, že je to nejlepší řešení.*  
decided<sub>3.SG</sub> REFL that is it best solution  
'He decided that it is the best solution.'

164. *Rozhodl se odejít.*  
decided<sub>3.SG</sub> REFL leave<sub>INF</sub>  
'He decided to do leave.'

With the verbs *convince* and *persuade* the situation is different because these two, having one and the same Czech counterpart *přesvědčit*, cannot be complemented by a non-finite complement. This verb can, however, be complemented by a phrase introduced by the content conjunction *aby* “in order to”.<sup>25</sup> This type of finite complement has the same impact as an infinitive in English; it also implies action.

---

<sup>25</sup> Conjunction *aby* serves several purposes in Czech and according to an online “Slovník současného jazyka českého” (Dictionary of Contemporary Czech Language) one of them is introduction of a subordinate content clause. It specifies what the content of the main clause concerns. Another and more typical usage of this conjunction that would be translated by infinitive into English is purpose. Notice that this conjunction / complementizer is “inflected”, i.e.: it incorporates a subject-predicate agreement morphology and therefore the structure of these subordinate clauses may be distinct than the structure of finite clauses introduced by the neutral conjunction *že* “that”. We are not going to deal with this distinction here and now.

165. *Přesvědčil ji, že přijde pozdě.*  
persuaded<sub>3.SG</sub> her that come<sub>3.SG.FUT</sub> late  
'He persuaded / convinced her that he would come late.'

166. *Přesvědčil ji, aby přišla pozdě.*  
persuaded<sub>3.SG</sub> her to came<sub>3.SG</sub> late  
'He persuaded / convinced her to come late.'

167. *\*Přesvědčil ji přijít pozdě.*  
Persuaded<sub>3.SG</sub> her come<sub>INF</sub> late  
'He persuaded her to come late.'

The second of Jackendoff's classes is the "claim" class, which allows only a *that*-clause as a complement with state / event reading.

168. *Tvrdil, že to udělal.*  
claimed<sub>3.SG</sub> that it did<sub>3.SG</sub>  
'He claimed that he had done it.'

169. *\*Tvrdil to udělat.*  
claimed<sub>3.SG</sub> it do<sub>INF</sub>  
'He claimed to have done it.'

Similarly to the "claim" class, the last class "promise" can be complemented also only by a finite *that*-clause in Czech (170). The non-finite complement in (171) is rather colloquial. Nonetheless, both types of complements imply an action.

170. *Slíbil, že vymaluje byt.*  
promised<sub>3.SG</sub> that paint<sub>3.FUT</sub> flat  
'He promised to paint the flat.'





## 4. Structural Realizations of Infinitival Semantics

In this chapter, we are going to focus on the semantic potential of infinitival constructions and also on their mood-like properties.

### 4.1 The Definition of Mood and Modality

In Czech traditional functional linguistics (see e.g. Poldauf (1954)) that we accepted as a starting point for the analysis of infinitives already in Chapter 2 of this dissertation, there has been a claim that the infinitival construction can and does express a degree of irrealis modality. It was suggested that it should be considered one of the grammatical moods. We have also seen (Chapter 2) that in OE the infinitive successfully competed with the subjunctive and took over in ME and nearly obliterated the subjunctive entirely. Today's usage of the subjunctive is reserved for special phrases (172a), the past subjunctive appears in conditional sentences (172b). In other instances, the present subjunctive seems to be an archaic version (172c) of an infinitive (172d).<sup>26</sup>

172. a) *Until death do us part*  
b) *If I were rich, I would buy a new Chanel dress.*  
c) *I demand that I be released.*  
d) *I demand to be released.*

To examine this idea of the infinitive being one of the moods, let us first explore the distinction between the two terms mood and modality, and let us compare the behavior of

---

<sup>26</sup> The subjunctive was already diminishing at the beginning of the 20th century. “While the number of tenses has been increased, the number of moods has tended to diminish, the subjunctive having now very little vital power left.” (Jespersen 1905, 205). In more contemporary findings about the subjunctive Tottie (2001, 163) notices that “in English its use is extremely restricted. Apart from formulaic uses like, *God save the Queen, God bless you, Long live the King, Heaven help us*, et cetera, and a few constructions with *were*, as in *I wish I were rich, If I were you*, the subjunctive almost seemed to be disappearing”.

infinitival constructions as opposed to finite expressions with regard to their ability to express modal meaning.

Regarding the form of mood in English we can say that “[m]ood is traditionally restricted to a category expressed in verbal morphology” (Palmer 2001, 21). It is a grammatical category that is close to aspect and tense. While it is relatively easy to define the latter two, mood is more complex than that.<sup>27</sup> Tense is related to time and as such it can be past, present or future. Aspect describes how an event relates to the flow of time. Events can be perfective or imperfective, or continuous versus simple. Some languages do not distinguish between tense and aspect morphologically, for example German does not distinguish between the progressive and simple aspect.<sup>28</sup>

Regarding the meaning or usage of mood, “its semantic function [...] relates to the contents of the whole sentence” (Palmer 2001, 21). In English, every clause is expressed in a certain mood which through grammatical means expresses what the relation between the proposition and reality is. It can express the attitude of the speaker as for example: a statement of fact, of desire, of command, etc. Grammatical mood can be divided into “realis” and “irrealis” depending on what is being expressed. Realis mood of the main unembedded clause commits speakers to the real-world status of a clause. It is basically equivalent to indicative or declarative mood in English.

---

<sup>27</sup> The term “mood” dates back to antiquity; it first appeared in Greek and then it was taken over by Latin linguists (e.g.: Quintilian). Though there is no definition of mood given at this time it can be inferred from its sub classification into: indicative, optative, imperative, subjunctive and infinitive. This corresponds to the contemporary notion of “mood” (Nuyts and Auwera 2016, 10–16).

<sup>28</sup> German, with the exception of some regional varieties, does not have any progressive aspect that would be expressed on verbs. The meaning depends on context, the one and the same sentence or verb form can mean two different things. *Die Kinder spielen* can either mean *The children are playing* or *The children play* (Comrie 1985).

#### 4.1.1 Irrealis Mood in English

Mood is a general structural property of many languages, especially of Indo-European origin. Traditionally in many Indo-European languages, irrealis mood includes: subjunctive, conditional and imperative. The term “irrealis” is relatively new and its importance is apparent especially towards the end of the 20<sup>th</sup> century. Today with its meaning “non-factual” it is in direct opposition to the term “realis” (Nuyts and Auwera 2016, 22).

The subjunctive is mostly found in subordinate clauses and it typically expresses the attitude of the speaker as a wish, obligation, or possibility, as we have seen (172 a-c). The present subjunctive is the base form of the verb, the same for all persons and numbers in English, and its past subjunctive looks like the past tense form of the corresponding verb. The present subjunctive does not allow for auxiliaries but instead the negation goes immediately before the lexical verb (173a). With the past subjunctive of the verb *be* the negation follows the lexical verb (173b).

173. a) *I wish that I not be*  
b) *I wish that I were not.*

The last vestiges of the English present subjunctive mood have thus changed into a “null” auxiliary of modality. In British English, all examples can be translated with *should* (174).

174. a) *It is important that Jane be here.*  
b) *It is important that Jane should be here.*

As is apparent from the examples above, the present subjunctive is a null allomorph of the British English *should*.

The conditional mood expresses a hypothetical state that can become true depending on whether the condition is fulfilled. In English, it is typically represented by the word *would* or alternately *could* and *should*, which function as the MOD / AUX operator. In English conditional clauses, it is only the counterfactual type (when the condition in the subordinate clause cannot be fulfilled) that triggers the conditional mood. The conditional mood can be combined with either present (175a) or past tense (175b) and either simple or progressive aspect (175c).

175. a) *I would buy a new house if I had enough money.*  
b) *I would have bought a new house if I had had enough money*  
c) *I would be buying a new house if I had enough money.*

The conditional mood is thus realized through a free operator and not through inflectional morphology. Even though there is an overt subject expressed, there is no agreement involved. This feature (zero agreement) is typical for the whole category of English unrealis mood (for Catalan cf. Picallo 1984).

The imperative mood is used for commands and requests. With imperative mood, the implied subject is “you” either singular or plural and is usually omitted. However, it can be added for emphasis. The imperative uses the auxiliary for negation even with the verb *be*, which normally does not allow for auxiliary support.

176. a) *(You) go home!*  
b) *Don't be shy!*

There are also imperatives for the first and third person in English, but they have a different form; they use the morpheme *let* and a pronoun in object case for subject. In case of the first-person plural it is preferred to leave out the auxiliary *do* in case of negation (177b), which suggests grammaticalization of the verb *let*. However, looking into the corpus *COCA* we can find examples like (177c) where the AUX with negation follows the marker *let*. There are 112 such occurrences in *COCA*. We could also encounter examples such as (177d) where the negated AUX precedes *let*; there are only 30 occurrences found in *COCA*, which would suggest a more lexical characteristic of the verb.

177. a) *Let's go!*  
b) *Let's not go!*  
c) *So, let's don't go there.*  
d) *Don't let's talk about her.*

The imperative can be used to express an order for the third person as well, in both positive and negative sentences. Examples (178a-b) are more common in spoken English. Altogether in *COCA*, there are 29 occurrences of the type as in example (178a) and only 1 occurrence

of the imperative verb *let* with the third person pronoun as its subject, which is cited in (178b).

178. a) *Don't anybody move!*

b) *?Let's somebody else do it.* [COCA:2014:SPOK\_NBC]

Structural mood and the distinction between realis and irrealis mood is central for expressing ideas as factual or hypothetical. Mood is a syntactic concept and in English, irrealis mood is not marked by morphology, but by the lack of it. We will try to show that infinitive shares all of these features and belongs to this category (of irrealis mood) as well.

#### 4.1.2 Modality

Mood is linked with modality; mood is only (one of the few) means of expressing modality in a given language. Modality as opposed to mood is a semantic-grammatical category which is expressed in English through modal auxiliaries.<sup>29</sup> In other languages, it can be expressed through modal particles which may be separate from verbs. “Modality is concerned with the status of the proposition that describes the event” (Palmer 2001, 1). Modality is to be found across all languages even though not always within the verb, but it does not have a consistent structural system across languages. The category of mood on the other hand is to be found only “in some, but not all languages” (Lyons 1977, 848) but it is structural. Overall, it would seem that modality is either expressed structurally by the means of mood or by modal particles.

All modal auxiliaries in English are complemented solely by a bare infinitive, i.e. the infinitive without *to*. These traditional views on mood and modality do not provide us with sufficient criteria when it comes to the range and properties of non-finite expressions.

---

<sup>29</sup> Modality as a term originates or rather begins to thrive partly due to logic with Kant (2009) as one of human judgements together with quantity, quality and relation. Grice (1975) later developed these four categories and changed “modality” into “manner”.

The infinitive with *to* seems to be in complementary distribution with other moods or modal auxiliaries. Within one clause, there can be either the particle *to* or a modal verb. Mood used to be an indicator of a finite clause and its absence consequently suggests a non-finite clause. This means that the infinitive would appear only when there is an absence of a specified traditional mood. Even by this logic, the infinitive with *to* is on the same level as the other moods because they are in complementary distribution. This was the general view, and this is what we challenge. We propose that clauses always have mood and that the infinitive is one of them.

In connection with the previous chapter it will suffice to say that as a means of modality, the infinitive always lacks factivity, i.e. it never asserts realis, and it is thus in the category of irrealis moods. Rather than meaning nothing, the infinitival particle *to* appears to have an actual meaning and that is irrealis modality.

We have seen in Chapter 3 that as far as factivity is concerned, the infinitive cannot be the complementation choice for otherwise factive verbs. These require finite complementation and only with that can they satisfy factivity testing. Among other features that obscure the truth value of the complement of otherwise factive verbs are also modal auxiliaries, and as we will see also futurity. It is thus clear why the infinitive, which according to our claim is another modality means (irrealis), falls into the same category, i.e. obscuring or even blocking factivity.

## **4.2 Two Models of Auxiliary Structure**

Before we have a look at a detailed analysis of different roles of infinitives and their features, we will first contrast infinitives with their finite counterparts in order to comprehend the formal and functional differences and similarities between them.

A finite verb agrees with a subject and we can typically identify its tense, aspect, and voice. Non-finite constructions are gerunds, participles and infinitives and in English they

lack agreement with their subject.<sup>30</sup> However, especially infinitives have some of the properties typical of finite verbs.

There are two types of English infinitival constructions; *to*-infinitives and bare infinitives. The former, like finite verbs, may be associated with perfective or non-perfective aspect. Both types appear with progressive or simple aspect and active and passive voice and altogether appear in eight different grammatical forms.<sup>31</sup>

**Table 5: English Infinitives with Voice and Aspect**

| Infinitive          | - Perfective (present) | + Perfective (past)          |
|---------------------|------------------------|------------------------------|
| Simple Active       | (to) write             | (to) have written            |
| Progressive Active  | (to) be writing        | (to) have been writing       |
| Simple Passive      | (to) be written        | (to) have been written       |
| Progressive Passive | (to) be being written  | (to) have been being written |

In comparing the finite predicate with *to*-infinitival predicate, the main difference seems to be that in case of the infinitive the first slot of the predicate cannot be occupied by any MOD / AUX. These are incompatible with the infinitival marker *to*. The morphological template of any English verbal predicate consists of up to 5 elements (179) according to Quirk (1985, 121). This seems to be applicable to non-finite predicates as well (180); however instead of the category of MOD / AUX there is the irrealis infinitival marker *to* as a little *v*.

---

<sup>30</sup> There are, however, languages that exhibit some level of agreement between the infinitive and its subject, but they are exceptions. To name some well-known examples, they are Portuguese, Hungarian and Welsh (see Miller 2002, Ch. 4).

<sup>31</sup> The perfective and progressive bare infinitive can be found only after modals. It is not found after verbs of perception or causatives:

- i) \**I saw Mary have stolen my bracelet.*
- ii) \**I saw Mary be stealing my bracelet.*
- ii) \**I made John have worked.*
- iv) \**I made John be working.*



179. *He might have been being questioned by her.*

**SBJ MOD PRF PROG PASS LEX**

1 2 3 4 5

180. *To have been being questioned by her*

**v PRF PROG PASS LEX**

1 2 3 4 5

The well-known and much discussed complexities of the English auxiliary system mainly concern how this sequence behaves in realis uses of finite clauses, i.e. the distribution of the finite “auxiliaries” *be*, *have* and *do*, when the item MOD is missing. Each AUX is spelled out as two morphemes, the second being a suffix on the following item. For example, in (179) PROG is spelled out *be* and *-ing* is then a suffix on the second *be* PASS, which makes *being*.

In the finite irrealis sequences with MOD (181), a clausal negation *not* / *n't* (here in bold) must immediately follow MOD, and another constituent negation *not* (underlined below) can separately or in combination occur further to the right after the clausal negation.

181. a) *She could (**not**) have not visited her sick friend.*

b) *She could (**not**) have been not drinking all week.*

c) *All those deposits could (**not**) have been being not recorded.*

The marker *to* of infinitivals is uniformly irrealis and follows MOD and the clausal negation and they unusually appear together.

182. a) *She is not **to** be given so many painkillers*

b) *Bill ought not **to** be drinking so much.*

Because the MOD often alternates with the realis auxiliaries, many linguists replace MOD with a more abstract symbol like I or  $\Omega$ . This  $\Omega$  symbol is used by Veselovská (2009, 2017a), and it stands for the operator which represents the slot with the first modal or auxiliary preceding negation. Other auxiliaries that follow are just lexical verbs. The  $\Omega$  position represents either explicit modality (MOD) or realis tense (AUX), and neither is compatible

with non-finite constructions. Applying this two-slot model with the  $\Omega$  operator seems more economical than the five-slot model in (179-180).

183. *He might have been being questioned by her.*

SBJ  $\Omega$  non-operator / LEX  
 1 2

For infinitives, a similar model is possible with two modifications. Firstly, there will be no overt subject in nominative case, and secondly the position of MOD / AUX remains empty and is immediately followed by the particle *to*. Put differently, the presence of a preceding modal usually blocks the particle *to*.

184.  $\emptyset$   $\emptyset$  *to have been being questioned*

SBJ  $\Omega$  to (PRF PROG PASS LEX) = non-operators

Today, this predicate sequence less the  $\Omega$  position is called “little vP” (e.g.: Chomsky 2001; Legate 2003). The classical VP, which is the main verb, and its complements and adjuncts, is in the position of LEX. This type of analysis is supported by negation placement (185), because there still remains the slot for negation following the empty  $\Omega$  position.

185.  $\emptyset$   $\emptyset$  *not to have been being questioned*

SBJ  $\Omega$  NEG to (PRF PROG PASS LEX) = non-operators

Unlike many languages, including Czech, certain English infinitival clauses with a null MOD /  $\Omega$  position can sometimes have an overt subject. Rosenbaum (1974) named these “*for to* clauses”, and we treat them in detail in Chapter 7.

186. *It is possible for him  $\emptyset$  to have been being questioned by her.*

SUB  $\Omega$  to non-operator / LEX

187. *It is possible for him  $\emptyset$  not to have been being questioned by her.*

SUB  $\Omega$  NEG to non-operator / LEX

The ability to be negated also applies to bare infinitives in constructions such as (188). In this case as well, even with the absence of the infinitival particle *to* there is still a slot for

negation. In their passive constructions *to*-infinitive is acceptable (189) for both affirmative and negated sentences.

188. a) *John made him go.*  
b) *John made him not go.*

189. a) *John was made to go*  
b) *John was made not to go.*

Bare infinitives also enable the two types of negations within one sentence. In both examples (190), we can see a constituent negation of the infinitive as opposed to clausal negation of the main verb.

190. a) *John didn't make him not attend.*  
b) *?John wasn't made not to attend.*

The  $\Omega$  operator fulfills the function of the first MOD / AUX in taking the negation as in (187). The reason the  $\Omega$  operator must remain empty with infinitives is that there is some feature of the infinitive that is incompatible with most modals; plausibly it is a case of redundancy of two irrealis markers in one clause. This feature is the irrealis mood that does not allow for any other kind of modality or tense.

### 4.3 Split Infinitives

Speaking about negation, it is worth noticing that the infinitive in English, realized through a free morpheme particle *to*, also has the ability to be split. Even though this is not a typical realization it has been for many decades a grammatically correct alternative.<sup>32</sup> Huddleston and Pullum (2002, 581) use the terms pre-marker as in (191a) and a post-marker as in (191b).

---

<sup>32</sup> In the *BNC* there are 18,710 instances of the word sequence *not to* compared to only 190 examples of *to not* (where *to* is mostly a preposition).

The *Economist* magazine, issue of April 28, 2018, states that after many centuries of doubt, split infinitives are now officially part of its style guide (Greene 2018, 77).

However, we claim that in the case of the split infinitive example (191a) it is a constituent negation and can appear together with clausal negation (192). We have already seen this distinction in section 2.3.1.

191. a) *People should learn to not care about other people's opinion.*  
b) *People should learn not to care about other people's opinion.*

192. *I moved to Paris, **NOT** to not get fat, but to not get bored.*

We claim here that the “split infinitive” as in (191a) is not some special construction with an ad hoc analysis, but rather a predictable instance of constituent negation, and in fact it can appear together with clausal negation (181) and (192).

The split infinitive can also appear in a declarative positive clause. The motto of *Star Trek* television series (193) shows that a modifier, typically an adverb, can intervene between the particle and the infinitive.

193. *To **boldly** go where no man has gone before.*

If there is more than just one word separating the particle *to* and the bare infinitive we talk about the so called “compound split infinitive” (194). The words separating the two parts of the infinitive are usually multi-word adverbials.

194. *I expect him to **completely and utterly** fail.*

According to Huddleston and Pullum “[a] modifier placed between *to* and a following verb will always be interpreted as modifying that verb, but one located before the *to* can in principle be interpreted as modifying either the following verb or a preceding verb in a matrix clause” (2002, 581–82). The example (195) can be ambiguous, we do not know if the voting was immediate or if it is the approval that should be done immediately.

195. a) *The board voted [to immediately approve building it].*  
b) *[The board voted immediately] to approve building it.*

(Huddleston and Pullum 2002, 582)

Thus, in English the *to*-infinitive is not an inseparable unit; on the contrary, the particle *to* and the verb are separate syntactic units frequently modified by degree modifiers like *completely*, *somewhat*, *slightly* and other adverbs in both spoken and written form.<sup>33</sup> This is in accord with the results of our Chapter 2 where we established the independence of *to* (the carrier of irrealis) and the base form of a verb.

In the following sections, we will analyze the distinct usages of infinitives and their modality and claim irrealis features. As we shall see, there is always some degree of modality or futurity present no matter what syntactic function the infinitive has. These include their use in the functions of subject, extraposed subject and topic. As complements they assume grammatical roles of direct object and object predicative, and they can be used as a complement to an N or an A. They also frequently appear in the functions of adjuncts as adverbials. An infinitival phrase serving as an adjunct can express purpose; result or it can have the function of a relative clause (Biber and Quirk 2012, 198).

#### **4.4 Infinitive Alternatives to other Irrealis Moods**

The English infinitive may serve as an alternative to other irrealis moods, namely the imperative and the conditional mood in special constructions and contexts.

##### **4.4.1 Infinitive Alternatives to Imperatives**

One of the functions of English infinitives is their ability to express orders, regulations and advice. This is most often done in English through passive infinitival forms. Nonetheless, the orders, directions and instructions can be in both positive and negative form.

196. *(This is) To be used twice a day.*

---

<sup>33</sup> However, the initial or even end position of the modifiers is favored in written form as to avoid any unnecessary ambiguity as in: *The board voted to approve building it immediately.*

197. *(This is) Not to be touched without gloves.*

Infinitival imperatives are predicative complements of the subject which is usually an understood dummy subject *this*, and because they are in passive voice, they follow the auxiliary verb *be*. These infinitival imperatives are examples of ellipsis, because the dummy subject *this* is often omitted.

The infinitive can express a directive, or advice and it is equivalent to the sentences with *should* rather than with imperative mood, though this is possible too.

198. a) *You should use this twice a day.*

b) *Use this twice a day!*

199. a) *You shouldn't touch this without gloves.*

b) *Do not touch this without gloves!*

The overall ability of the infinitive to stand alone without any other finite verb and overt subject depends on its deictic properties. It has to be clear what the speaker is referring to in order for the subject to be ellipted. In the case of (196) it is clear that we are talking about medicine and we can find similar directives as part of prescriptions. There is clearly a modal reading in the above examples, and none of the infinitival clauses are “facts”, they are all irrealis. The ellipsis of the finite parts works only when the subject is inanimate. When the subject is animate, it cannot be omitted.

200. *\*(He is) not to be trusted.*

There is some similarity between imperative and infinitive that makes these two moods comparable; neither of them typically expresses the subject overtly. Zwicky (1988, 438) even uses the term “bare imperative” instead of the imperative “because they lack visible subjects – have an ‘understood *you*’ subject”. In English, the subject is understood second person singular or plural.

A comparison of the imperative with the infinitive appears already in Jespersen (2006, 472), who noticed their similarity: “As the imperative is formally identical with the infinitive,

it may by the actual speech instinct be felt as such". This claim is supported also by the fact that embedded imperatives become infinitives (cf. Emonds 2000).

201. a) *Go to school!*  
b) *My mother told me **to go to school**.*

202. a) *Don't trust that man.*  
b) *My mother told me **not to trust that man**.*

There are, of course, formal differences between these two moods. The imperative as opposed to infinitive uses *do* support for example when negated (203a) or for an emphasis (203b).<sup>34</sup>

203. a) *Don't touch this!*  
b) *Do fill these in!*  
c) *\*Don't to be touched!*  
d) *\*Do to be filled in!*

The imperative can express the subject overtly especially if there is need for emphasis and the so called *you* deletion is only optional (204a), and we can frequently see an example with a general addressee like *anybody* as the overt subject (204b). In case of the infinitival imperative the agent can be added in a *by* phrase as it is in the passive voice. Example (204c) seems a bit strange while (204d) seems more natural. The infinitival imperative is typically used for orders and bans intended for the general public rather than individuals.

204. a) *You use these twice a day!*  
b) *Don't anybody move! This is a robbery.*  
c) *?To be used twice a day by you.*  
d) *Not to be touched by anybody.*

---

<sup>34</sup> There has been a competition between two placements of negation with the first person plural imperative, one using *do* support *Don't let's go!* but the other placing the negation after the pronoun *Let's not go!*

For the sake of comparison, we will look at the situation in Czech. The main clause infinitive is traditionally also “modally neutral or amodal, indicating a hypothetical event that acquires its concrete modal meaning, also imperative, only in the given context” (Flídrová 1995, 33).

205. *Nenahýbat se z oken.*  
not to lean RFLX from windows  
'Do not lean out of the windows.'

When the infinitive has the function of imperative, it is in most cases because it has a generic addressee and it is less direct. Avoiding the second person may be considered more polite, and also a possible interpretation is that it is a mere suggestion of what should be done. This type of collective addressee infinitive is preferred to the imperative in Czech, especially in certain contexts where there are many people concerned, like the army, sports, and public space (public signs). In these cases, the Czech infinitive is undoubtedly irrealis.

206. *Prosíme uvolnit místo pro zdravotně postižené, starší a těhotné ženy.*  
ASK<sub>1.PL</sub> free<sub>INF</sub> space for healthily disabled, elderly and pregnant women.  
'We ask you to give up your seat for the disabled, the elderly and pregnant women.'

If the infinitive is, however, used for an order in interpersonal conversation the meaning would be different. It would not sound natural and it would be highly marked as more emphatic. “This way of expressing modality in the absolute tense using the form intended for the relative tense (subsequence) is a contradiction that gives this usage a special expressivity: infinitive used as imperative is stronger if not more expressive compared to imperative” (Němec 1977, 277).

207. *Mlčet!*  
be-silent<sub>INF</sub>  
'Be silent!'

There are thus two types of imperatives according to their syntactic properties, morphological imperatives, which are IPs in both English and Czech and infinitival imperatives which are vPs.



The infinitives here express what people are or are not supposed to do and they do not say anything about reality as opposed to other signs that people can come across (208). Infinitival directives never express facts and are incompatible with them (209).

208. a) *The road is closed ahead.*  
 b) *The footpaths require caution.*

209. a) *\*The road to be closed ahead.*  
 b) *\*The footpaths to require caution.*

Contrasting the Czech infinitival imperatives with morphological imperatives, there are three possible inflectional forms of morphological imperative (210). One of them is for the second person singular, then the second person singular polite form of address, which is the same as the second person plural form. And finally, the form for first person plural. All of them can take negation and can have an overt subject (211).

210. *Pojď!*      *Pojďte!*      *Pojďme!*  
 come<sub>2.SG</sub>    come<sub>2.SG.PL</sub>    come<sub>1.PL</sub>  
 ‘Come!    Come!    Let’s go!’

211. *Nesahej    na to! Ty    mi    to řekni!*  
 not-touch<sub>2.SG</sub> on it    you    me    it tell  
 ‘Do not touch that! You tell me that!’

From the above it is clear that imperative and infinitive in both English and Czech express hypothetical action, something that should or will be, i.e. irrealis mood. Morphologically they both use plain forms of the verb in English and they may seem to be the same, however; they differ in some syntactic qualities, mainly in their ability (IPs) or inability (VPs) to cooccur with *do* support and to have overt subjects. In Czech, the situation is similar, in that the distinction is apparent on the morphological level because Czech imperative shows person and number agreement. In both Czech and English, imperatives are no smaller than full IPs while infinitives can be as small as VPs.

#### 4.4.2 Infinitive Alternatives to Conditional

Infinitives can appear as a part of a conditional sentence; that is as the part where the conditions are stated. The conditional clause is grammatical as long as the infinitive is the topic of the main clause. When extraposed to the final position of the finite sentence, the subject of the main clause is realized as dummy pronoun *it*.

212. a) *To tell him will be easy for me.*  
b) *It will be easy to tell him.*  
c) *If I tell him, it will be easy for me.*  
d) *It will be easy for me if I tell him.*

According to Emonds (2015) the infinitival subjects are possible only as CPs (“verbal clauses”) and never as DPs; they are actually in a topicalized, pre-subject position.

Haiman (1978) interestingly introduced conditional (*if*) clauses themselves as also topics in the sense of topic-comment or old-new information or, as he calls it, a “framework” for the discourse. His thorough logical-linguistic argument is based on cross linguistic comparison. He claims that “[c]onditionals, like topics, are givens which constitute the frame of reference with respect to which the main clause is either true (if a proposition), or felicitous (if not)” (Haiman 1978, 564). And since the infinitival clauses can take the place of conditional clauses in English, they are most likely topics as well. This fits in with Emonds’s claim that structurally they are topics.

They take the position of the subordinate clause either as a real (213) future, real (214) present or unreal (215) present condition or as real (216) or unreal past condition (217).

213. a) *To tell him will result in a disaster.*  
b) *If we tell him, it will result in a disaster.*

214. *If you don’t water the plants, they die.*

215. a) *Not to tell him would be wrong.*  
b) *If we didn’t tell him it would be wrong.*

216. *If you were thoughtful Susan was happy.*

217. a) *To have warned him would have been less cruel.*

b) *If I had warned him it would have been less cruel.*

The real present and past condition is sometimes also called a “zero conditional”. This type is not really a conditional sentence per se, hence the label “zero conditional”. This type of conditional in present tense typically expresses some general truths, rules or laws of nature as in (214), and the condition is always fulfilled. Infinitive is therefore not possible here.

218. *\*To not water the plants, they die.*

It can also be formed for the past situation, and here it will again express some general thing or rule that would happen repeatedly (216). This would mean that every time you were thoughtful, Susan was happy. It is not possible to use infinitive in this type of clause because the condition in this case is always fulfilled, i.e. it is realis.

219. a) *\*To have warned him was less cruel.*

This incompatibility of the infinitive and the real conditional is caused by the irrealis feature of the infinitive, i.e. the main hypothesis of this chapter, and the factive interpretation of this type of conditional which requires that the condition is fulfilled, and this leads to the real (realis) outcome.

Conditional clauses follow the rules of implication, for “if  $p$  then  $q$ ”. It does not really matter if the premise  $p$  (the condition) is false, the only time when the implication does not work is if  $p$  is true and  $q$  is false. It is, therefore, a good illustration of the topicality of conditional and infinitival clauses.

**Table 6: The Implication Truth Value**

| <b>p</b> | <b>q</b> | <b>p ⇒ q</b> |
|----------|----------|--------------|
| <b>T</b> | <b>T</b> | <b>T</b>     |
| <b>T</b> | <b>F</b> | <b>F</b>     |
| <b>F</b> | <b>T</b> | <b>T</b>     |
| <b>F</b> | <b>F</b> | <b>T</b>     |

This possible use of the infinitive as a condition in the implicative conditional sentences represented in the table again suggests its irrealis nature.

The topic properties of these two types of clauses (*if*-conditionals and infinitivals) can also be demonstrated with the dummy subject *it* and its ability to refer back to these clauses, as in (212). This is contrasted with other instances of subordinate clauses where the dummy *it* results in ungrammatical examples (220).

220. a) \***It** depressed John because his mother had died.  
b) \*Because John's mother had died **it** depressed him.

With infinitives and conditional clauses, the expletive *it* is possible because this dummy subject is always there either overtly (221) or covertly (222) in the main clause.

221. a) *If* John's mother had died **it** would depress him.  
b) **It** would depress John *if* his mother had died.
222. a) *To tell him his mother had died*  $\emptyset$  would depress him.  
b) **It** would depress him *to tell him his mother had died*.

Infinitives are not the only non-finite clauses capable of taking part in a conditional sentence. This is also possible with gerunds for obvious reasons, that they are DPs and thus easily take the subject position.

223. a) *Not telling him* would be wrong.  
b) *Having warned him* would have been less cruel.  
c) *Telling him* will be easy for me.

However, gerunds do not occur with expletive subjects easily because they are nominal and have a strong tendency to appear pre-verbally in the position of the prototypical subject. The extraposition in this case is “very uncommon outside informal speech” (Quirk 1985, 1393).

224. a) *\*It would be wrong not telling him.*  
 b) *\*It would have been less cruel having warned him.*  
 c) *\*It will be easy telling him.*

Infinitives can compete with finite conditional clauses as the subordinated element in conditional sentences due to their verbal nature, their ability to take up the position of the topic, and most importantly because the infinitives can express modal or “hypothetical” meaning. Precisely because they are irrealis, they can be used as the premise in a conditional.

In Czech, the infinitival usage for conditional sentences is also permitted. They express a circumstance under which something could or would happen. They also express something that is not real but only hypothetical (225 and 227). (226 and 228) are the finite counterparts expressing the same condition, equally unreal for the present situation.

225. *Bý-t tak doma, vědě-la bych co dělat.*  
 be<sub>INF</sub> SO home knew<sub>1.SG.F.PAST</sub> would what do<sub>INF</sub>  
 ‘If I were at home, I would know what to do.’

226. *Kdybych byla doma, vědě-la bych co dělat.*  
 if were home knew<sub>1.SG.F.PAST</sub> would what do<sub>INF</sub>  
 ‘If I were at home, I would know what to do.’

227. *Nachytat nás hlídač, to by bylo zle.*  
 catch<sub>INF</sub> us guard, it would was badly  
 ‘If a guard caught us, it would be bad.’

228. *Kdyby nás nachytal hlídač, tak by bylo zle.*  
 if us caught guard, so would was badly  
 ‘If a guard caught us, it would be bad.’

The infinitive is here a predicate of the subject that can be present overtly or covertly in the non-finite clause. The difference is that the relationship between the non-finite verb and the subject cannot be expressed by agreement.

According to Svoboda (1960) and Hansen (2010), an infinitive has a different role than a finite verb here; it only evokes the situation in the hearer's mind but it does not say anything about the relation of this situation or action to reality. It is possible to use the infinitive in conditional clauses of all types, those that would be labeled as first (229), second (230) and third (231) conditionals for real and unreal conditions for past and present.

229. *Mít tou dobou dost peněz, koupím si to.*  
 have<sub>INF</sub> that time enough money buy<sub>1.SG.FUT</sub> REFL it  
 'If I have enough money by that time, I will buy it.'

230. *Mít tak dost peněz, koupila bych si to.*  
 have<sub>INF</sub> so enough money buy<sub>1.SG.PAST</sub> would REFL it  
 'If she knew the answer, she would say it.'

231. *Mít tak dost peněz, byla bych si to bývala koupila.*  
 have<sub>INF</sub> so enough money was<sub>F</sub> would REFL it was<sub>ATEL</sub> buy<sub>1.SG.PAST</sub>  
 'If she had known the answer, she would have said it.'

Hence, in both English and Czech the infinitive can be used for all types of conditional clauses (with the exception of the so called "zero conditional", which we have seen is not a real conditional per se), because it does not refer to any specific event or action anchored in time. It expresses only a potential (conditional) reality because it is irrealis.

In all these cases of infinitives as conditionals, the infinitive itself makes no claim to being realis. Moreover, even infinitival subjects are inherently irrealis.

#### 4.5 Infinitive in Main Clauses

Even though infinitives are typically subordinate clauses, there are instances where they can be categorized as main clauses because there is no other (finite) predicate present or even

understood. This category includes indirect directives or titular use of *why* plus *to*-infinitive, exclamatory or optative clauses and infinitival interrogatives.

#### 4.5.1 Indirect Directives

In the case of what we propose to call indirect directives, there is always *wh*- plus negation present and the sentence can be interpreted using the word *should* which is typical for advice.

232. a) *Why not go to the beach?*  
b) *Why do it?*

Example (232) can be rephrased as *We / I / You should go to the beach*. Example (232b) can be also best rephrased using the word *should*; however, there is then no negation and the meaning is not a directive but is still a question: *Why should anybody do it?* The important thing is that the infinitive serves as irrealis mood here. It is an alternative to a direct directive with imperative (also irrealis) mood.

#### 4.5.2 Optative Infinitives

Optative infinitival clauses express some kind of wish or longing.

233. a) *Oh, to be in Paris again.*  
b) *Oh, to be rich.*  
c) *Not to worry.*

They can be rephrased by using the optative verb *wish*. The example (233a-b) would be *I wish I were in Paris* and *I want to be rich*. In case of the exclamatory idiom (233c) it is rarely found with a verb other than *worry*, and it can be rephrased by using the verb *should* or the imperative: *You shouldn't worry / Don't worry*. Both cases are irrealis as they do not express facts but rather hypothetical situations.

### 4.5.3 Polar Echo Constructions

Polar echo constructions (Huddleston and Pullum 2002, 1187) express a wonderment or disbelief over something that is supposedly going to happen. They are considerably accompanied by a rising intonation and frequently followed by an adjective expressing a further disbelief.

234. a) *Peter pass the test? Impossible.*  
b) *Jane steal a car? Surely not!*  
c) *\*Peter have passed the test?*

In case of example (234a) the alternative full version is *It is not likely that Peter passes the test*. This means that for the speaker the proposition is irrealis. They cannot appear with past infinitive (234c) relating to something that has already taken place as this would conflict with their irrealis feature of pointing towards the future.

### 4.5.4 Prescriptive Infinitives

Another example of a non-finite main clauses with no other finite verb overtly present are the “prescriptive infinitives”. We have seen a comparison of morphological imperatives and prescriptive infinitives in 4.4.1 where it was clearly shown that the infinitive can serve as an alternative to imperative mood.

The infinitive in main clauses in each of the above subsections expresses irrealis mood through a directive, wish, disbelief or order respectively.

## 4.6 Infinitives as Subjects

As a verb phrase an infinitival clause can be in the function of a subject just like a finite clause. The subjecthood typically entails pre-verbal position and “default agreement” with the verb. The infinitive can precede the predicate (235).

235. *To err is human.*  
236. *It is human to err.*



Because of the information structure the infinitive (focus) is often extraposed, and the subject position is filled by the expletive dummy subject *it* (236) (Rosenbaum, 1965). As a subject, the infinitive frequently co-occurs with other irrealis modality markers. “The situation described in the infinitival is often merely potential rather than actualized, and this is reflected in the frequent occurrence of the infinitival in construction with *would be*, where the corresponding non-mandative finite has *if*, not *that*” (Huddleston & Pullum 2002, 1254). Their examples illustrate the irrealis nature of the infinitive (237b) in contrast with finite realis subordinate clause (238b) that states a fact.

237. a) *It was good to invite them both.*  
b) *It would be good to invite them both.*
238. a) *It was good [that / \* if you invited them].*  
b) *It would be good [if / \*that you invited them both].*

The type of subject that the infinitive represents according to Duffley (2003) is: either a goal (239a), a condition (239b), notion of steps or way (239c), and finally a moral evaluation (239d).

239. a) *To reach the goal, press this button.*  
b) *To give him a wrong type of blood would kill him.*  
c) *To learn the procedure is the first step.*  
d) *To say that an ape should have human rights is problematic.*

A goal and condition are both implying non-realization. Notions of steps leading towards a certain goal and moral evaluation is basically a condition. We can see all of them paraphrased in (240 a-d) using conditional sentences and the verb *should* indicating their irrealis nature.

240. a) *If you want to reach the goal, press this button*  
b) *If we gave him a wrong type of blood it would kill him*  
c) *You should learn the procedure first*  
d) *If you said that an ape should have human rights it may be problematic.*

While it is grammatical to use the infinitive for both types of constructions it is impossible to use the finite complementizer *that* in hypothetical contexts, and at the same time it is impossible to use the hypothetical complementizer *if* for non-hypothetical or factive contexts (238). *If*-clauses do not express any kind of a goal but they definitely express “future pointing” just as the infinitives.

This can be summarized as follows: the infinitive as (topicalized) subject seems to always express a non-realization either with or without conditional coloring. It can be a goal, a pointing to the future or a condition. In all cases there is an implication of non-realization of the event expressed by the infinitive.

#### **4.7 Infinitives as Adjuncts**

The infinitive can have a function of a VP adjunct expressing various things like purpose or result or it can replace a relative clause. In all these cases it quite clearly preserves its inherent irrealis feature.

##### **4.7.1 Infinitive of Purpose**

The infinitive of purpose is always a *to*-infinitive because adjuncts must be maximal projections, i.e. vP, and it seems to be the particle *to* that is responsible for the futurity (irrealis) reading. The subject of the main clause is typically the agent of the non-finite clause and the clause can be rephrased using the phrase *in order to*. It would be an example of a an adjunct or a “higher” purpose clause. According to Emonds (2000, 427) the difference between the higher and lower purpose clauses is derived from the fact that: “[u]nlike the ‘lower’ purpose clauses [...], the ‘higher’ purpose clauses are sisters of a phrasal projection of V rather than complements of V.”

241. *John<sub>i</sub> did it PRO<sub>i</sub> to see what happens.*

But the subject of an infinitive of purpose can be coreferential with the object of the matrix clause (242). In this example it is a lower purpose clause and the infinitive can even have an overt subject introduced by the preposition *for* (243).

242. *We gave John<sub>i</sub> a number PRO<sub>i</sub> to call Mary at.*

243. *Jim bought a book for **Jane** to read t to the children.*

With the infinitives of purpose, it is clear that there is a pointing towards some future desired or planned goal or purpose. That is why we cannot use the perfect infinitive in such a construction but only the present infinitive.

244. a) *\*John skipped the last question to **have finished** the test in time.*

b) *\*Mary confessed to the crime to **have avoided** the capital punishment.*

So, the infinitive here expresses futurity or modality, since the boundary between these two notions is quite fuzzy. It seems that futurity is one of the basic properties of the *to*-infinitive. Such conclusions are drawn by Wierzbicka (1988), who claims that infinitive expresses vague futurity, or Duffley, who claims that:

The potential meaning of *to* before the infinitive [...] can be stated as follows: the possibility of a movement from a point in time conceived as a before-position to another point in time which marks the end-point of the movement and which represents an after-position with respect to the first. (1992, 16)

Since the term futurity is elusive and difficult to pin down it can be said that *to*-infinitive has the basic semantic features of irrealis mood.

The infinitive can also adverbially express higher purpose clauses with intransitive verbs. In this particular function, the infinitive is more frequent than a finite adverbial clause. (Quirk 1985, 1107). Infinitives of purpose can stand alone, or they can co-occur with a complementizer *so as* or *in order to*. These subordinators are advantageous because they often serve for an easier and faster comprehension of the sometimes complex sentences and consequently prevent misapprehensions.

245. a) *I<sub>i</sub> shouted PRO<sub>i</sub> to catch his attention.*

b) *I shouted because I wanted to catch his attention.*

c) *I shouted in order to / so as to catch his attention.*

The infinitive functions as an adjunct that modifies a VP. It also always exhibits some missing arguments, be it subject or object or both (this is applicable to lower infinitives only).

This type of infinitive is not an example of any kind of verbal complementation. However, there are two verbs in a subordinate complex sentence and only one subject, which is in the matrix clause. The subject is always the same for both clauses in case of the higher purpose clause type (241).

The question is by what means is the subject shared with the non-finite clause. The DP subject c-commands the null subject in the subordinate non-finite clause. Purpose infinitives can undergo a test with reflexives that require an antecedent within the same IP.

246. *I shouted to him [PRO<sub>i</sub> just to hear myself / \*himself].*

The infinitival can be fronted, which is quite typical in written form, when it serves for greater emphasis to the purpose.

247. *PRO<sub>i</sub> To get his attention I<sub>i</sub> shouted.*

A higher infinitive of purpose can be fronted (248b), because it is an adjunct, but fronting of an infinitive complement that does not express purpose is not grammatical (249c). In this example, the infinitives are selected complements and as such they cannot front.

248. a) *I stopped the car (in order) to listen to / hear the music.*

b) *To listen to / hear the music, I stopped the car.*

249. a) *I promised to arrive in time.*

b) *\*I promised in order to arrive in time.*

c) *\*To arrive in time, I promised.*

However, there is a case where it is not clear who the agent of the infinitive of purpose is, and it can be in fact multiple persons. In this case (250) it is a lower purpose clause with the VP c-commanded by the object of the main clause. “The inferred subject does not have to have the same reference as any NP mentioned in the sentence” (Green 1992, 97).

250. *John bought the book (for Bill) to read t to the children.* (Green 1992, 95)

Nonetheless, no matter who it is, the interpretation of futurity, i.e. irrealis, still holds.

To sum up, it seems that in case of the infinitives of purpose there is an obvious pointing to the future no matter whether the verb in the infinitival complement is active or stative. There is a different underlying structure in the infinitive of purpose; these infinitives do not function as complements here but as independent phrases. Through their implied subject that is projected from the matrix clause they are also full sentences in their deep structure.<sup>35</sup> For this reason, it does not matter if the matrix verb is factive or not, the infinitive of purpose has constant semantic properties, i.e. it is always irrealis referring to an unrealized event.

#### 4.7.2 Infinitival Relatives

An adjunct infinitive clause can replace a defining relative clause. There are two basic types of infinitival relative clauses because “integrated relatives may have infinitival form, with or without a relative phrase” (Huddleston and Pullum 2002, 1067). The former type has to comply with two conditions, firstly the relative phrase must consist of a preposition followed by an NP and secondly there can be no subject expressed.

251. *I am looking for an essay question **with** which \_ to challenge the brighter students.*

252. *She is the ideal person **in** whom \_ to confide.*

253. *The best place **from** which \_ to set out on the journey is Aberdeen.*

(Huddleston and Pullum 2002, 1067)

The second type are “non wh-relatives”, which are infinitival relatives without a relative phrase, and these form a wider group that allows variations of structures, especially with the ordinal numbers and superlatives. The subject of infinitival relatives can have a general

---

<sup>35</sup> Koster and May (1982, 116) argue for the sentential nature of infinitives with their “superficially absent subject and complementizer being represented by lexically empty categories”.

arbitrary reference, or in case of infinitival relatives they also allow overt subjects introduced by the subordinator *for* (256).

254. *The first to finish will get a cake.*

255. *He is the worst person to trust with money.*

256. *The dilemma for you to consider is going abroad or staying here.*

It is the case of both types of infinitival relatives that the role of the infinitive is the same as of a modal, *can*, *should* or of the auxiliary for future tense *will*, i.e. irrealis. All the above examples can be paraphrased using these modals or auxiliaries.

257. *I am looking for essay questions with which I will **be able to** challenge the brighter students.*

258. *She is the ideal person in whom you **can** confide.*

259. *The best place from which you **should** set out on the journey is Aberdeen.*

260. *The first, who **will** finish, will get a cake.*

261. *He is the last person whom you **can** trust with money.*

262. *The dilemma that you **should** consider is going abroad or staying here.*

These data support our claim that the usage of the infinitival relative is regularly and predictably irrealis.

### 4.7.3 Infinitival Adjunct with Degree Adjectives

Some adjectives need an adjunct modifier so that they can be complemented by an infinitival clause. This pre-modifier is the word *too* and can be combined with certain adjectives, that

can express a degree, like for example the adjective *young*. The finite clauses (263c-d) again suggest the counterfactual or modal meaning.

263. a) *You are too young to go there.*  
b) *Jane is too lazy to clean her room.*  
c) *You **can't** go there because you are too young.*  
d) *Jane **won't** clean her room because she is too lazy.*

All the infinitives in examples (263) are adjuncts and adjunct irrealis is never overwritten and never becomes realis.

Within this category there is a post-modifier, the word *enough*, which acts in a similar way.

264. a) *Paul is old enough to drive.*  
b) *Jessica is not rich enough to buy a new car.*  
b) *Paul **can** drive because he is old enough.*  
d) *Jessica **can't** buy a new car because she is not rich enough.*

All the infinitival adjuncts serve the similar purpose of expressing something that is about to happen or something that can (or cannot) happen. The modal reading is present in all three types of adjunct (the infinitive of purpose, infinitival relatives and adjectival adjunct). Uniformly, it seems that the infinitive here is a means of irrealis mood. There is one exception among adjuncts and that is the infinitive of result where the meaning is realis.

#### **4.7.4 Infinitives of Result**

Finally, there is a type of infinitive that expresses a result without intention; it is not desired nor known to the experiencer. It thus expresses only a temporal relation. Typically, the word *only* is associated with this type of infinitival usage.

265. *Peter awoke (only) to find that the fire had gone out.*

266. *She bought a carton of milk only to realize she had already bought one.*

It is obvious that the timeline of the infinitival phrase follows whatever happened in the main clause, that there is a temporal subsequence. The main verb of the finite clause is typically in the past tense and the infinitive of result always describes an event that happened afterwards. Both actions happened in the past and so the infinitive of result describes a resulting, that is realis, situation. If the main verb was in present tense the realis implication would be lost and the sentence would sound strange.

267. a) ?*She opens / is opening the box to find a mysterious letter inside.*  
b) *She opened the box to find a mysterious letter inside.*

The temporal order is crucial for the infinitive of result. The use of the perfect infinitive which would reverse this temporal order is, therefore, not acceptable.

268. a) \**Peter awoke to have found that the fire had gone out.*  
b) \**She bought a carton of milk only to have realized she had already bought one.*

This type of infinitive cannot be paraphrased using the expression *in order to*.

269. *Robin arrived home (only) to receive a letter from her bank. ≠ Robin arrived home in order to receive a letter from her bank.*

Also, as opposed to the higher infinitive of purpose it is not possible to front the infinitive of result. This inability of the infinitive to be fronted also preserves the temporal order of the clauses.

270. a) *Robin arrived home to find a letter waiting for her in her mailbox.*  
b) \**To find a letter waiting for her, Robin arrived home.*

This last distinction suggests that the infinitive of purpose is more like an independent clause than the infinitive of result which is also an adjunct, but due the non-volitional and almost non-agentive aspect the infinitive of result is less likely to be an independent phrase. The



realis is unexpected here and the explanation for it seems to dwell in pragmatic reasons. We do not claim to explain this exception to our general irrealis claim about infinitives.<sup>36</sup>

#### 4.8 Infinitives as Complements (Irrealis Meaning)

Infinitives serve as complements to heads of phrases, mainly verbs, nouns and adjectives. If an infinitive serves as a complement, then we will see that the infinitival marker *to* expresses its modal reading. The subordinate clause will express either epistemic (271a), futurate (271b) or deontic (271c) readings, which practically correspond to the usage of modal verbs.

271. a) *He is said to be brave. = He might well be brave.*  
b) *He decided to leave the country. = He was going to leave the country.*  
c) *He is to leave the room. = He must leave the room.*

Duffley (2003, 336) says that close to 90 percent of the occurrences of the infinitive in the corpora the infinitive “involves contexts denoting non-realized events” and only “in approximately 10 percent of its occurrences, the *to*-infinitive expresses an actually realized event”. The particle *to* suggests some kind of process leading to an end point, in the 10% of the cases there is simply a suggestion that the event was followed through. However, Duffley does not provide any convincing examples to support his claim. Though we accept that there are examples where the *to*-infinitive expresses a realized event (see 4.9), we are skeptical about the stated percentage.

---

<sup>36</sup> It is interesting to note by a quick comparison to Czech that this kind of adjunct, the infinitive of result, does not exist in Czech. The counterparts to English examples would be translated using finite complement clauses. However, notice that those subordinate structures are introduced by inflected complementizers *aby* “so that” mentioned in the footnote 25.

- i) *Petr se probudil, jen aby zjistil, že oheň vyhasl.*  
Petr REFL woke<sub>3.SG.M</sub> only so as realize that fire went out  
‘Peter awoke (only) to find that the fire had gone out.’
- ii) *Koupila karton mléka, jen aby zjistila, že už jeden koupila.*  
bought<sub>3.SG.F</sub> carton milk<sub>GEN</sub> only so as find out that already one bought<sub>3.SG.F</sub>  
‘She bought a carton of milk only to realize she had already bought one’

Let us investigate these cases of complements one by one to see if modality (irrealis feature) will surface in each of them. The verbs will be divided according to what they express semantically. Intransitive verbs taking the infinitive as their complement can be divided into four groups: “verbs of desire (*want* and *like*), verbs of effort (*try* and *attempt*), verbs of probability (*seem* and *tend*), and an aspectual verb (*begin*)” (Biber and Quirk 2012, 705).

Firstly, the “desire-type” verbs express certain desire or intention. The verbs in this group include: *intend*, *wish*, *hope*, *want*, *aspire*, *aim*, *propose*, *long for*.

272. a) *I want / intend / desire to go home.*  
b) *\*I want / intend / desire that I go home.*  
c) *\*I want / intend / desire going home.*

Some of them can take only infinitives as their complements but some can take more types of complements such as finite clauses.

273. a) *I wish to be at home.*  
b) *Peter proposes to wait for another year.*  
c) *I wish **that** I was at home.*  
d) *Peter proposes **that** we wait for another year.*

As it is apparent from the name of this category desire or intention is something that is at the time of the matrix verb non-existent, it exists only potentially and sometimes it will never come true. All the verbs from this group seem to share the characteristics that they are semantically weak, and their argument is rather an experiencer than an agent.<sup>37</sup>

274. a) *I hope to see you soon.*  
b) *I long for him to leave.*

---

<sup>37</sup> This is especially the case with the verb *want*, which is typical for this category and is even by some linguists considered a modal verb, see for example Verplaetse (2003), as it can form fused forms *wanna* and thus be complemented by a bare infinitive, and it is also lexically rather empty.

The category of the “desire-type” verbs confirms our hypothesis about infinitive expressing irrealis mood.

Secondly the category of “effort verbs” also expresses some kind of future activity. These verbs include: *try*, *attempt* and *promise* (cf. Jackendoff’s approach in 3.6).

275. a) *She tried / attempted to study English.*  
b) *She tried / attempted studying English.*  
c) *\*She tried / attempted that she studies English.*

276. a) *She promised to lock the door.*  
b) *\*She promised locking the door.*  
c) *She promised that she had locked the door.*

This group as well has an aspect of inherent futurity, since the object of an effort or attempt are yet to come. If verbs from this category can be complemented by the gerund, the meaning of the main verb changes from something which is “not easy but we try anyway” into something “we actually do in order to see what happens” as in (275b). The meaning of the complement changes accordingly to an actually realized event. If the finite complementation is possible the meaning also changes into a realized event (276c).

Thirdly the group of “temporal aspectual” verbs includes: *begin*, *continue*, *start*.

277. a) *He started / began to cook the dinner.*  
b) *He started / began cooking the dinner.*  
c) *\*He started / began that he cooks dinner.*

With the verbs expressing origin both non-finite types of complements are permissible with either no or small differences to the meaning. Lately, the gerund complementation seems to be preferred especially with the verb *start* while the verb *begin* is still more frequently

complemented by the infinitive. This can be deduced from the data in the *COCA* and *BNC*.<sup>38</sup> With verbs expressing continuation or termination of some action like *continue*, *stop* (for all verbs) and *finish* (not for state verbs), only the gerund is allowed if we want to express that it regards activity already in progress (278 a-b). If they are followed by an infinitive the meaning is completely changed. The particle *to* acquires the meaning of purpose and whatever follows is an adjunct, hence irrelevant for our concern in this section with complements.

278. a) *She was reading a book and she continued reading the book for another hour.*  
b) *She continued to read a book (after she finished the magazine).*

And finally, there are the transitive “epistemic type” of verbs which include: *believe*, *assume*, *suppose*, *think*, *regard*. These verbs express judgement about reality, and they range between bigger and smaller degrees of certainty. But the speaker does not report the complement as true.

They are typically complemented by a *that*-clause, however, in special constructions some of them may be also complemented by an infinitive. In (279b) there is an example of the accusative with infinitive, an ECM construction. In (281) there is an example of passivization where *He* is the subject of the matrix clause but also the agent of the embedded clause; the agent of the embedded clause is raised to the subject position of the finite clause.

279. a) *I believe / suppose / think that he is dead.*  
b) *I believe / \*suppose / \*think him to be dead.*

---

<sup>38</sup> According to Čakányová (2013) there is a high preference for the verb *begin* to be complemented by the infinitive in both written and spoken contexts, while with the verb *start* the numbers for the gerund and infinitival complementation are almost the same in the spoken corpora. In the written corpora, there is still a preference for the infinitive. The other factors influencing the choice of the complement of these verbs seem to be the animacy of the subject. In case the subject is animate the complement of the verb *start* or *begin* is more likely to be a gerund. Also, the stative / active character of the complementing verb influences the type of complementation. The stative verbs as complements are typically infinitival.

280. *I regard him to be my friend.*

281. *He is assumed to be the best actor of all time.*

All of these usages of infinitives as complements express something which is only about to happen or is not certain, and thus express a certain feature of futurity or put more generally, *irrealis modality*. The infinitive serves here the purpose of a semantically empty category that expresses pure potential for events and actions to come. The infinitival phrase attributes a proposition (a state of affairs) but doesn't imply its reality.

#### 4.8.1 Indirect questions

The distribution of interrogative finite and non-finite clauses is similar to other types of clauses. Both finite and infinitival complements of interrogatives are to be found in similar environments.

282. a) *We don't know **whether** to leave.*

b) *We don't know **whether** we should leave.*

283. a) *He decided **what** to eat.*

b) *He decided **what** he would eat.*

One of the constraints on the infinitival interrogative noun phrase is that the wh-element does not assume the role of the subject (agent) and no other overt subject can be within the infinitival clause either.

284. a) *We don't know [where to go first].*

b) *\*We don't know [where **who** to go first].*

285. a) *She didn't say [what to do].*

b) *\*She didn't say [what **for me** to do].*

Such wh-complementizers (e.g. with *decide*) always select an obligatory control infinitive (Chomsky 1993, Ch. 3). In this case the infinitival subject NP is null because [cWH ] can't assign it Case. The whole infinitival phrase is thus a CP.

The interrogative infinitival phrases can be paraphrased with finite clauses with a modal element in them and thus the infinitive fulfills the role of the modal auxiliary by expressing a level of uncertainty and futurity, namely they are always irrealis.

#### 4.8.2 Adjectives

Infinitival complementation of most adjectives needs the irrealis feature of the infinitive to persist, this group involves for example the ADJ *scared* which is not factive. We can see that it does not pass the factivity tests.

286. a) *Peter is scared that he is her father.*  
b) *Peter is not scared that he is her father.*  
c) *Is Peter scared that he is her father?*  
d) *Peter seems to be scared that he is her father.*

This is the reason why the adjective *scared* does not enter any factive contexts not even with gerund or past infinitive.

287. a) *I am scared of travelling in Africa.*  
b) *I am scared to have stayed in Africa.*

There is also one more way of distinguishing between the types of infinitival complements of ADJ. According to Rosenbaum (1974, 189) there is a distinction between a prepositional noun phrase and a verb phrase complement, the difference being that in the first case a pseudocleft is possible (288) while with the second type of adjectives it is not possible (289).

288. a) *I am scared to leave home.*  
b) *I am scared of leaving home.*  
c) *What I am scared of is to leave home.*

289. a) *We are likely to leave the country.*  
b) *\*What we are likely is to leave the country.*

This distinction is explicable through the means of syntactic properties of these two types of adjectives. Some adjectives have the ability to raise the agent of the infinitive into the position of the subject of the matrix clause (290). These adjectives behave differently from the other non-raising (subject control) adjectives (291) and should be therefore treated differently. Raising adjectives can use a dummy subject, which non-raising adjectives cannot.

290. a) *She was likely to succeed.*  
b) ***It** was likely that she will succeed.*

291. a) *She was determined to succeed.*  
b) *\***It** was determined that she will succeed.*

The complement of raising adjectives is always obligatory and can never be omitted while with non-raising adjectives it can be omitted easily.

292. a) *She was determined to succeed.*  
b) *She was determined.*

293. a) *He was certain to succeed.*  
b) *\***He** was certain.*

As opposed to non-raising (subject control) adjectives, when the raising adjectives are passivized the meaning of the active and passive sentence is the same.

294. a) *John is likely to kill the doctor.*  
b) *The doctor is likely to be killed by John.*
295. a) *John is determined to kill the doctor.*  
b) *The doctor is determined to be killed by John.*

The raising to subject adjectives are very few in number, and their syntactic behavior is similar to the raising verbs that will be analyzed in detail in section 5. Regarding factivity they do not express any and therefore the infinitival complement retains its irrealis feature, consistently with our hypothesis.

A special case concerns the adjectives *easy* and *difficult*. They are also examples of raising adjectives but this time the agent of the infinitival clause need not be overtly expressed anywhere in the sentence; it is a general, arbitrary agent. The finite version of this sentence is best expressed using a modal (296d).

296. a) *The man is difficult to understand.*  
b) *It is difficult to understand the man.*  
c) \**The man is difficult.*  
d) *I / we / you **can** understand the man with difficulty.*

It is the case that infinitival complements of most verbs and adjectives are irrealis and in most cases can be paraphrased using a finite clauses and modals. They thus conform to the theory that the infinitive is inherently irrealis.

#### **4.9 Infinitives as Complements (Realis Meaning)**

It is striking that up until now all the uses of infinitival clauses were in accord with our theory that infinitives have the inherent irrealis feature and is thus incompatible with factive meaning. This last subsection of the current chapter deals with some exceptions among adjectival and verbal complementation.<sup>39</sup>

---

<sup>39</sup> Other than with selected complements, the adjunct infinitive of result also proved to express realis.



### 4.9.1 Verbs<sup>40</sup>

There are certain verbs that have the inherent realis feature that overrides the infinitival irrealis in their complement. These verbs are few in number. An illustration is the phrasal verb *turn out* and the verb *happen*. Even though they are more typical with stative verbs, active verbal complements are also allowed.

297. a) *John turns out to be quite nice.*  
b) *John turns out to go to the same school.*

298. a) *Jim happens to know you.*  
b) *Jim happens to sing amazingly well.*

These verbs have some feature that requires the complement to be realis, possibly by causing the Ass(ertion) feature of the finite category head to override the irrealis feature of the infinitive.<sup>41</sup> The key point here is that with complements and infinitives in general when the infinitive gets to LF it gets interpreted as -Realis expressing future pointing, conditional or other non-factive meaning. There is no I position filled with any time specification. In the case of *turn out* and *happen* the infinitive is Realis in LF because the verbal feature is by stipulation imposed on the complement. In general, we propose that the only means to override the irrealis of the infinitive is via the selection of the matrix verb.

---

<sup>40</sup> We are not going to treat verbs of perception and causation in this chapter, but we treat them in detail in chapter on bare infinitives (Chapter 6), where we address their realis reading. The reason for this is that we believe that it is the infinitival marker *to*, which is the carrier of irrealis. We will argue that bare infinitives are neither inherently irrealis nor realis.

<sup>41</sup> The Assertion feature is similar to Zubizarreta's (2001) Assertion operator present in finite factive complements. Finite complements of these two verbs (*happen* and *turn out*) also have the complementizer *that* present.

## 4.9.2 Adjectives

When talking about adjectival complementation we can distinguish several kinds. There are adjectives that allow the irrealis of the infinitival complement, as we have seen in section 4.8.2. Yet, there are also adjectives (limited in number) that are *inherently factive* and their factivity feature overrides the irrealis for the infinitive. The latter type of adjectives, like the adjective *proud* can easily pass all four factivity tests:

299. a) *I am proud that he is my father.*  
b) *I am not proud that he is my father.*  
c) *Am I proud that he is my father?*  
d) *I seem to be proud that he is my father*

This type of adjectives is factive when it is combined with stative verbs. With activity verbs, the factivity feature is cancelled and the sentence is more likely to involve the future pointing (300a). However, if the verb is stative (300b) it will simply express the status quo.

300. a) *John is proud to go to Africa in June.*  
b) *John is proud to be in Africa now.*

The special property of the infinitive complementing these adjectives is best seen when the same adjectives are complemented by the gerund of the same verbs because in this case there is an implication of the event actually taking place. So, there is a condition imposed by the main predicate on the complement.

301. a) *John is proud of going to Africa.*  
b) *John is proud of being in Africa.*

In (302a) it is a mere possibility for Jane but in (302b) we already speak about her experience with living on the farm.

302. a) *Jane is happy living on the farm.*  
b) *Jane is happy to live on the farm.*

Any future pointing of the infinitive is most clearly cancelled with the past infinitive. It seems that the perfective aspect somehow anchors the infinitival event in time and ensures the realis reading. With this exceptional class of adjectives perfective aspect cancels the modality feature of the infinitive.

303. *John is proud to have gone to Africa in June.*

304. *John is happy to have lived on the farm.*

The infinitival complementation of adjectives is of various kinds and in most cases, it is irrealis. With a few adjectives just described, the resulting reading is factive because the irrealis feature of the complement is overridden by the factivity feature of the adjective. If the infinitive is changed into past infinitive through perfective AUX *have* any modal or future reading is lost fully, and the whole construction expresses a factive meaning of a realized event.

#### **4.10 Chapter Summary**

In this chapter, we have seen that infinitives throughout Old English to today serve a similar purpose, as irrealis or subjunctive mood. Even though they are non-finite clauses, meaning they do not show agreement with person, number or tense, their syntactic position is very similar to clauses with modals. All these characteristics contribute to the infinitival inability to form factive subordinate expressions as we have seen in Chapter 3.

Infinitives are irrealis as main clauses, in the position of subject or topic, as adjuncts and as most complements. There are some marginal cases (adjunct infinitive of result) when the irrealis feature of infinitives can be cancelled. In most of these cases the infinitives are selected complements of some special verbs and adjectives limited in number that have an inherent Assertive feature that can override the infinitival irrealis.

## 5. Distribution and Sizes of Non-finite Clauses

In this chapter, we are going to describe the internal structure of non-finite clauses and the distribution of their constituents. We are interested in infinitives primarily, but incidentally for contrast we will deal with the internal structure of gerunds too. While non-finite syntactic structure is formally well described it is far from understood.

There are many types of infinitives in English which seem to be formally similar, yet they have different functions and also different properties. Let us take for instance the infinitive in (305).

305. *to pick up my brother at the airport*

This infinitive can be in different contexts fixed (306) or movable (307), it can have its own overt subject / agent (308) or it can have an understood co-referential subject / agent (308b) from the matrix clause. It can have its independent tense reading (309a) or can be dependent on the tense of the matrix clause (309b). We are going to discuss these syntactic and also semantic variations with regard to gerunds and marginally also to finite clauses.

306. a) *I wanted to pick my brother up at the airport.*

b) *\*To pick my brother at the airport I wanted.*

307. a) *It was a good idea to pick my brother up at the airport.*

b) *To pick my brother up at the airport was a good idea.*

308. a) *It was easy for **Peter** to pick my brother up at the airport.*

b) *I<sub>i</sub> wanted [*PRO<sub>i</sub>* to pick my brother up at the airport].*

309. a) *Yesterday I decided to pick my brother up at the airport tomorrow.*

b) *Yesterday I wanted to pick my brother up at the airport \*tomorrow.*

Infinitives share many characteristic traits with finite clauses (for a detailed comparison see Koster and May 1982). For example, their ability to express tense or temporal sequence

through the auxiliary verb. The particular auxiliary enables them to express perfective aspect (310) and progressive aspect (311).

310. *He claims to have seen her before.*

311. *He appeared to be singing.*

The infinitives can also take negation (without auxiliary) with *not* (312a) which usually occurs immediately before the particle *to* but can also incidentally appear between the particle and the verb resulting in an instance of a split infinitive (312b).

312. a) *He begged him not to sing.*

b) *He begged him to not sing.*

There is, however, a greater number of characteristics that are different. Finite clauses can take *do* support for negation or emphasis, they must have overt subjects in nominative case and they express different moods. We are not going to devote any more detailed description to finite constructions (more about them can be found in Huddleston and Pullum 2002; Veselovská 2017a), since the main subject matter of this dissertation is the positioning and nature of infinitives.

Infinitives are therefore to a certain degree comparable to finite VPs but traditionally they have been compared in distribution with gerunds too. According to traditional grammar (Huddleston and Pullum 2002; Quirk 1985), infinitives may appear in similar positions as gerunds, that is subject or object position, and they can also be verbal complements.

As we have seen in Chapter 2, morphologically infinitives are associated with the infinitival marker *to*. This, however, is not present at all times, like for example with modals or with a group of verbs that do not allow the particle *to* for reasons that will be discussed in Chapter 6. “Bare” infinitives do not have this infinitival signal but are nonetheless non-finite bare verbal forms.

All gerunds have the *-ing* morpheme which is, however, found in other English constructions, like derived nominals (313a), adjectives (313b) and participles (313c-d). One use of the participles is as an inflectional morpheme that forms progressive aspect through the verb *be* and suffix *-ing* (313d):

313. a) *Regular running is good for your health.*  
b) *She bought a new pair of running shoes.*  
c) *Running marathons himself, he knows how demanding it is.*  
d) *She has been running all afternoon.*

This variety is due to the development of the English gerund from verbal to more nominal. Today gerunds share many characteristics of both verbs and nouns, but the result is always in some way nominal, “a verbal category first projects and then gets nominalized to become a DP” (Emonds and Veselovská 2015a, 10).

Gerunds and infinitives are to be found in many seemingly similar sentence member positions, they can be subjects, objects and complements of the same verbs with sometimes bigger and sometimes marginal differences. In (314) there is a difference in factivity of the given embedded clauses, in (315) it is the difference in habitualness and general approach to reading a newspaper and in (316) the difference is intuitive but almost impossible to exactly characterize.

314. a) *Jim remembers to lock the door.*  
b) *Jim remembers locking the door.*
315. a) *I like to read a newspaper before my breakfast.*  
b) *I like reading a newspaper before my breakfast.*
316. a) *John started to drink a beer.*  
b) *John started drinking a beer.*

This description of the distinction, however, seems rather unsatisfactory because it is based purely on the semantics of the main verb, and this does not explain why both types of complements are sometimes possible and sometimes not. It might help to analyze the internal structure of both gerunds and infinitives in order to decide on their inherent nature.

Emonds (2015) argues that the major difference between these two non-finite clauses is that while gerunds are more nominal and always have the positions of DPs, infinitives, on the other hand are more verbal and are never DPs. They are more likely to be a VP or a CP.

A CP here means that infinitives serve as subordinate clausal complements, while infinitival VPs being closer to finite clauses appear most typically in extraposed positions.

### 5.1 Gerunds are DPs and Infinitives are CPs, IPs or vPs

Gerunds can typically be in the position of a subject; that is, they occupy the position before the first verbal position, which is since Chomsky (1986) called the I position. They are NPs or they can be labelled by an equivalent distributional term here, DPs. “They occur in all and only the positions where noun phrases (“DPs”) can be freely generated” (Emonds 2015, 15). This applies not only to main clauses in example (317a) but also to embedded clauses in example (317b). This distinguishes gerunds from infinitives, which have this ability only within the main clause (318a).

317. a) *Going to the beach was all she wanted.*  
b) *She was not happy that arriving late meant a penalty.*

318. a) *To go to the beach was all she wanted.*  
b) *\*She was not happy that to arrive late meant a penalty.*

Gerunds can also appear in an object position as a DP; infinitives, being more verbal, must appear in VP-final position.

319. *She prefers drinking tea to coffee.*

320. *\*She prefers to drink tea to coffee.*

According to Emonds, with infinitives there are different possible interpretations, but it still holds that they are never DPs. He proposes the following generalization:

321. “English verbal clause “subjects”. A non-DP argument of a verb, such as a verbal clause, can occur sentence-initially only in a main / root clause” (Emonds 2015, 20).

When the infinitives are in an embedded clause in the function of a subject they are CPs as in (322a). “This topicalized, pre-subject CP is then co-indexed with an “empty expletive”

DP.” The structure of (322a) with a pre-subject constituent is ungrammatical in almost all types of subordinate clauses (322b).

322. a) [[<sub>CPi</sub> **For him to do it**] [<sub>DPI</sub>  $\emptyset$ ] [<sub>IP</sub> *would be a great success*]].  
b) \**John asked what for him to do it would cost.*

When such infinitives are embedded, they appear at the end of a VP as in (323).

323. *John prefers to ride his motorcycle.*

The nominal versus verbal qualities of gerunds and infinitives respectively can also be tested through cleft constructions that allow only DPs in the focus positions (324).

324. a) *It was travelling around the world that she desired the most.*  
b) \**It was to travel around the world that she desired the most.*

Another test of the nominal versus verbal properties is through coordination; only a DP can be coordinated with another, this time lexical, DP (325), which is not possible with the infinitive (325b). The coordination of gerunds (DPs) with infinitives (IPs or CPs) results naturally in an erroneous example (325c).

325. a) *Going to the beach and football is all he cares about.*  
b) \**To go to the beach and football is all he cares about.*  
c) \**Playing volleyball and to play basketball makes him happy.*

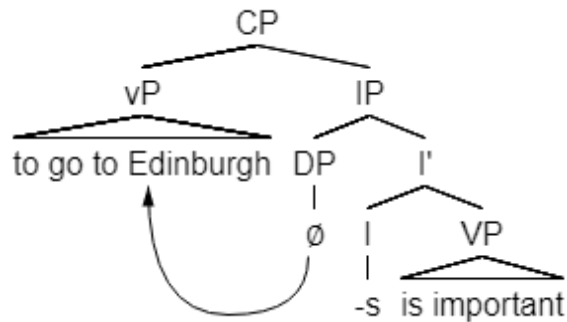
Another way of testing for the inherent properties of infinitives and gerunds is through expletive subjects. Both gerunds and infinitives can appear in the pre-verbal position as the subject, which would suggest their similarity. This position is typically occupied by DPs and thus it would seem reasonable to conclude that they are both of the same nature.

326. a) *My going to Edinburgh is / was important.*  
b) *For me to go to Edinburgh is / was important.*

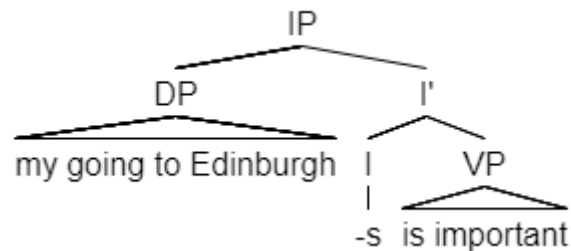
In case of infinitives this, however, is a mere illusion. Expletive subjects with dummy *it* that is a DP are possible with infinitival VPs but not with gerundial DPs because they occupy the same position.



327. Tree representation of infinitive in subject position:



328. Tree representation of gerund in subject position:



The above schemas show that an expletive is always potentially present with infinitives and that it always occupies an argument position, while infinitival vP associates never truly do; they are rather in topicalized positions. With gerunds, this is not the case and for that reason it is not possible for a gerund to appear in associate position of an expletive here (329).

329. a) *\*It is /was important my going to Edinburgh.*  
 b) *It is / was important (for me) to go to Edinburgh.*

Infinitives are thus clearly non-nominal. They can be either CPs, IPs or vPs as we will see in the following sections. Gerunds, on the other hand, despite having internally some verbal characteristics, are nominal DPs. Infinitives are interpreted as having nominal functions; that is, they have the functions of DPs but they are not in the DP positions.

## 5.2 Raising Constructions

Infinitival complements are of different kinds: there are two kinds of control construction complements, Exceptional Case Marking (ECM), and raising to subject complements, and they have very distinct properties. Raising to subject (330), ECM (331) and subject and object control infinitives (332a-b) are non-finite constructions that form semi-clauses.

330. *John seems to like me.*

331. *I believe John to like me.*

332. a) *I decided to do it.*

b) *I persuaded him to do it.*

Because they are non-finite they do not show any number and person (“phi” features) agreement, nor do they have their own overt subject in nominative case. So, at first glance, they all look very similar; however, their internal structure is different.

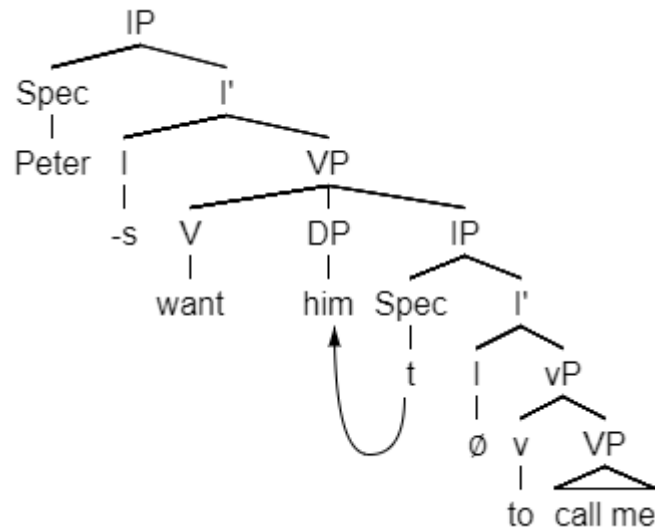
Originally the raising constructions were thought to be of two types (see Rosenbaum 1974). One class of them was and still is called raising to subject predicates which include verbs such as *seem*, *appear*, *be likely*, *happen*, *turn out*, *be certain* and others. Here (333) the DP *John*, which seems to be the subject of the verb *to be*, is actually raised out from the bracketed vP *to be lost*. What is left is only the phonetically silent “trace” of the non-finite subject indicated by indices.

333. *John<sub>i</sub> appears [t<sub>i</sub> to be lost].*

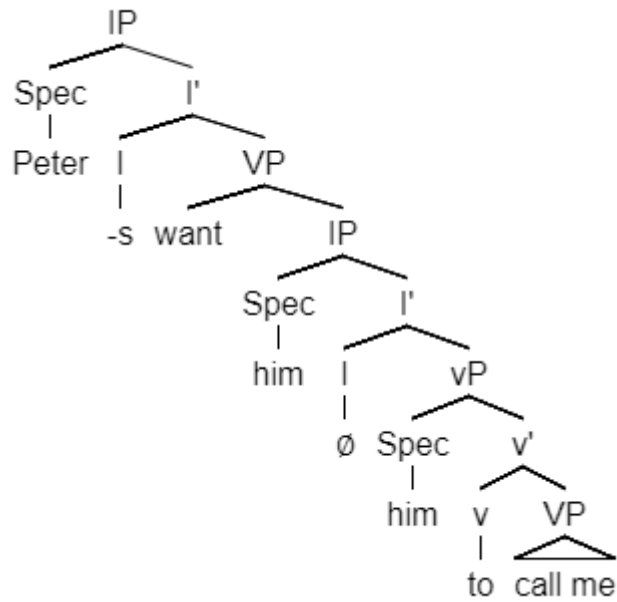
All raising constructions contain predicates that do not assign any semantic theta role to their subjects. *John* in (333) is theta marked as the experiencer of the copula verb *to be*, but it does not have any theta role assigned by the raising verb *appear*.

The second type of raising infinitives was known as the raising to object construction (334) (Postal 1974), which later became known as Exceptional Case Marking (ECM) construction (335) (Chomsky 1993), and as such it appears with the accusative case, which is triggered by the raising verb in the matrix clause.

334. *Peter wants him<sub>i</sub> [t<sub>i</sub> to call me].* (“Raising to Object” – Postal)



335. *Peter wants [him to call me].* (“Exceptional Case Marking” – Chomsky)



The case marking is exceptional because the matrix verb triggers the ACC case on the embedded subject across the clausal boundary, and even though it seems it is the object of the matrix clause it does not have any theta role assigned by the matrix verb.

ECM verbs are also themselves non-agentive just like raising to subject verbs. These verbs include among others *want, believe, expect, know, prove, assume, need, think, show, consider*.

The claim that the surface structure of (334) is not raising to object but an ECM construction can be demonstrated by (336), where we can see that the complement of the verb is not just the pronoun but the whole non-finite clause including the pronoun.

336. a) *What do you want?*  
b) *\*him / him to call me.*

ECM constructions include the infinitival phrase that is in its base form a vP with a potential to become an IP (or even a CP), because some ECM predicates can express their own negation (337) or can have their independent tense.

337. *I need him not to be satisfied. ≠ I do not need him to be satisfied.*

338. *Yesterday I wanted him to come tomorrow.*

We will see some more differences in chapter 7 where the phasehood of these and other types of infinitival clauses is discussed.

### 5.3 Control Constructions

There are three types of control: there are so called subject control constructions, object control constructions and arbitrary control constructions. Control constructions can be divided into obligatory (subject and object) and non-obligatory (arbitrary). According to Landau (2003), there is also partial control, which we will also mention briefly. All control predicates as opposed to raising predicates do assign theta roles to their subjects and objects.

(i) Subject control constructions take their name from the fact that it is the subject of the matrix clause which is co-referential with the infinitives' silent pronominal subject PRO, which is often the agent of the embedded clause (339). Examples of subject control verbs are *promise, decide, hope, manage, fail*.

339. *Peter<sub>i</sub> decided [PRO<sub>i</sub> to stay at home].*

(ii) In object control constructions, it is the object of the finite matrix verb that is co-referential with the infinitival subject, mostly the agent, of the non-finite verb.<sup>42</sup> Also here, the covert subject is labelled PRO. These verbs include for example: *persuade, force, order, ask*.

340. *I persuaded him<sub>i</sub> [PRO<sub>i</sub> to stay at home].*

(iii) In arbitrary control constructions (341) there is no specific antecedent within the sentence which must be co-referential with the covert subject of the non-finite clause and the reference is thus arbitrary since the controller is anybody in general.

341. *They gave an order [ PRO<sub>arb</sub> to retreat].*

(iv) The fourth potential type of control is called partial control (342). This type of control “is one where the individual denoted by the controller is a proper subset of the understood subject of the embedded clause” (Pearson 2016, 691).

342. *Peter asked what [PRO<sub>par</sub> to do with his book].*

This type of control has multiple antecedents, one being present in the matrix clause but the rest being the generic anybody. Following examples are from Reed (2013, 154):

343. a) *At that point in the lecture a clueless student<sub>i</sub> asked the professor when PRO<sub>i+arb</sub> to project PRO and when not to project.*

b) *At that point in the lecture a clueless student<sub>i</sub> asked the professor when one should project PRO and when one should not.*

In this example, the subject of the matrix clause is also partially contained in the reference of PRO subject of the embedded clause and for this reason some linguists (Landau 2003) call this type of obligatory control the partial control. It seems, however, that the reasons for this

---

<sup>42</sup> In most cases the subject of the embedded infinitive in object control constructions is also the agent of the embedded verb; however, there are exceptions depending on the type of the embedded verb. For example, the verb *believe* as in *John persuaded Peter to believe in God again*. Here *Peter* is the experiencer of *believe* rather than the agent.

kind of interpretation are rather pragmatic and so we are not going to treat this particular potential sub-type of control in detail.

#### 5.4 Mono-clausal and Bi-clausal Constructions

Raising and control constructions seem to be similar to one another. In both types the matrix clause contains a DP which is interpreted as an argument of a verb in the subordinate phrase. However, they differ greatly because raising verbs do not take their own DP arguments, and control verbs clearly do. In case of raising to subject (344a), we speak about a movement even though this has been denied by some linguists (Jacobson 1990), and in case of control (344b) we speak of government and binding even though some linguists (Heim, Lasnik, and May 1991) claim that control differs from binding and that binding is found only with anaphors and reflexive pronouns (344c). Binding as opposed to control does not impose or involve separate thematic roles.

344. a) *He seems [e] to be happy.*  
b) *I persuaded him to do it.*  
c) *John woke up and washed himself.*

Unlike raising verbs, which allow any kind of subject that the verb in the complement allows, control verbs only allow DP arguments with which the main clause is semantically compatible. For this reason, only the raising verbs (345b and 346b) can have parts of idioms as their subjects while control verbs (345c and 346c) never do.

345. a) *I let the cat out of the bag.*  
b) *The cat seems to be out of the bag*  
c) *\*The cat managed /decided to get out of the bag.*
346. a) *Chickens come home to roost.*  
b) *Chickens seem to come home to roost.*  
c) *\*Chickens managed / decided to come home to roost.*

The distribution of subjects / agents in infinitival constructions is also very different. According to VP-Internal Subject Hypothesis<sup>43</sup>, subjects do not start in the specifier position of an IP. Rather, they move there from the specifier position of a VP / vP, thus every VP / vP has a subject, either overtly present or understood from the matrix clause. Evidence comes from binding of reflexive pronouns. These pronouns need an antecedent within the same clause (347). If the phonetically silent, covert argument PRO truly exists, it helps to explain why it is possible to have reflexives in a phrase where there is no other antecedent overtly present in the clause. They can be observed in examples of both subject control (348a) and object control (348b).

347. *I want [ Jane<sub>i</sub> to wash herself<sub>i</sub>/ \*myself].*

348. a) *She<sub>i</sub> promised him [ PRO<sub>i</sub> to lock herself<sub>i</sub>/\* himself up].*

b) *He asked her<sub>i</sub> [ PRO<sub>i</sub> to trust herself<sub>i</sub>/\* himself].*

In surface structure, subject control expressions have an understood subject that is implicitly present in the embedded clause as a PRO that functions as a specifier. Object control expressions also include an understood subject of the embedded clause that is, however, the object.

In the deep structure or LF there are two subjects in control expressions, but they are the same in case of subject control and they are agents of the finite and non-finite verb respectively. In object control, there are two distinct subjects in PF and they are also both arguments of the verbs (matrix verb and infinitival) present. In raising to subject there is only one subject that is projected to matrix clause and it is the agent of the non-finite verb.

ECM expressions have two different subjects, one in nominative case and the second one, which is the agent of the non-finite verb, in accusative case. These two clauses create an amalgamated structure as they are fused together by the accusative case marked subject of the infinitive.

---

<sup>43</sup> The VP-Internal Subject Hypothesis, commonly abbreviated as VPISH, has been known since the mid-1980s and adopted by many linguistics (e.g.: Zagana 1988; Sportiche, Koopman, and Stabler 2014; Koopman and Sportiche 1991; Huang 1993)

Another difference between raising and control constructions is the (in)ability to contain expletive subjects. While raising constructions do allow this, control constructions do not. Expletives are “empty” and do not have the semantics to appear as arguments of control verbs; they are not semantically “heavy” enough. Raising infinitives work with both the expletive subjects *there* (349b) and *it* (350b) because the raising verb does not assign any theta role to the subject. Subject control verbs (349c) and (350c) and object control verbs (349d) and (350d) on the other hand require agentive arguments and as such need semantically richer subjects that can take up this role.

349. a) *There is a man playing the guitar.*  
 b) *There<sub>i</sub> appears [t<sub>i</sub> to be a man playing the guitar].*  
 c) \**There<sub>i</sub> promised [PRO<sub>i</sub> to be a man playing the guitar].*  
 d) \**I asked there<sub>i</sub> [PRO<sub>i</sub> to be a man playing the guitar].*

350. a) *It is raining.*  
 b) *It<sub>i</sub> seemed [t<sub>i</sub> to be raining].*  
 c) \**It<sub>i</sub> managed [PRO<sub>i</sub> to be raining].*  
 d) \**I persuaded it<sub>i</sub> [PRO<sub>i</sub> to be raining].*

This contrast can be explained by the main verb selecting arguments. The control verbs need overt subject / agent while raising verbs do not theta mark their subject and never have an agent.

Another test for distinguishing between raising and control infinitives is passivization of the lower verb. “[W]hen ... [it] is in the passive, the meaning of the sentence is the same as in the active voice in case of raising constructions, but not in case of control constructions” (Przepiórkowski and Rosen 2004, 2). In the case of raising verbs (351a) and similarly most ECM verbs (351b), the meaning is certainly the same. Control constructions would change meaning under passivization (352).

351. a) *John seems to support Mary. = Mary seems to be supported by John*  
 b) *I expect John to support Mary. = I expect Mary to be supported by John.*



352. a) *John tries to support Mary.* ≠ *Mary tries to be supported by John.*  
b) *I ordered John to support Mary.* ≠ *I ordered Mary to be supported by John.*

One final distinguishing characteristic between raising and control constructions is negation. It can be either sentential negation on the auxiliary or constituent negation, placed directly on the infinitive.

353. *John doesn't seem to like Mary.* = *John seems not to like Mary.*

354. *John didn't prove her to be guilty.* ≠ *John proved her not to be guilty.*

355. a) *I asked him not to return* ≠ *I didn't ask him to return.*  
b) *I promised not to call.* ≠ *I didn't promise to call.*

While raising to subject infinitives (353) result in the same reading no matter where the negation is, with ECM infinitives (354) and with control infinitives (355) the two negations result in different meanings. With the raising infinitives this is an example of “NEG raising” as found in Horn (1975). This means that the negation from the complement clause is raised to the main clause. If we attempt to place sentential and constituent negation at the same time within one raising construction the result is ungrammatical (356).

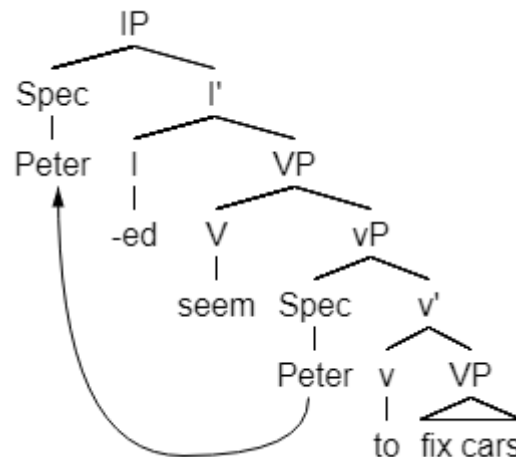
356. a) *\*John doesn't seem not to be happy.*  
b) *\*Mary doesn't appear not to be ready.*

This results from the difference in “size” between raising and control infinitives, which we investigate more in the next chapter. The former are smaller, i.e. they are just vPs and as such they share the only negation slot with the matrix verbal I position. The negation is then always sentential no matter where it appears in PF. Control constructions and ECM constructions seem to have two IPs in the sentence, one in the matrix clause and the other one in the embedded clause. That is why they can express two types of negation with distinct readings.

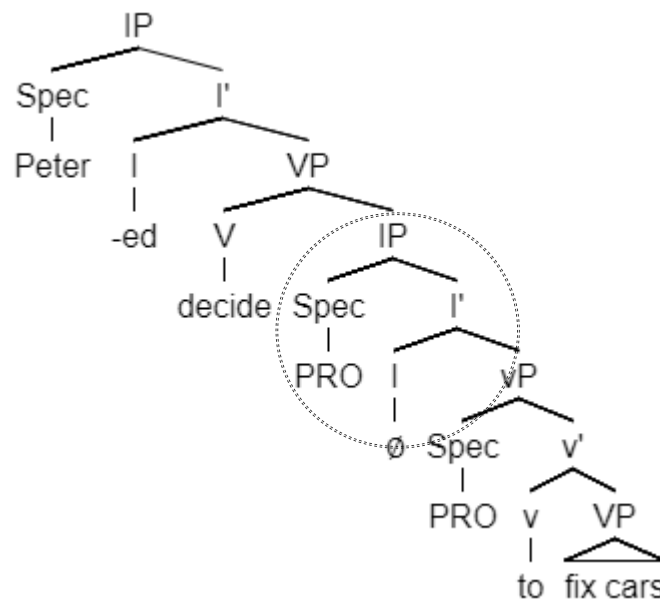
All of these tests suggest that the difference between the raising and control constructions is the difference between mono-clausal and bi-clausal constructions. That is,

raising verbs are light in their lexical (semantic) meaning, and do not allow for full independent subordinate clauses; they allow for vPs, while control verbs do allow for more independent clauses complements which are at least IPs.

357. Mono-clausal infinitives (Raising to subject and some ECM infinitives)



358. Bi-clausal infinitives (Control and some ECM infinitives)



This distinction further correlates with the phasehood of different types of infinitives which is addressed in detail in Chapter 7; in case of (357) the selecting verb belongs to a closed class and selects a vP which is not an independent phase. In the case of (358), open class

verbs select open class V, and the lower vP is a complete phase. Some limited number of ECM verbs (e.g.: *expect*) select open class V. They may seem to project to IP but they are not phases and may undergo for example passive movement.

## 5.5 Infinitives and Tense

To further clarify and support our claim that control constructions are bi-clausal and raising constructions mono-clausal, we can consider the independent tense axis of infinitives by using an adverbial of time to force the infinitive to get a future meaning. There has been much debate (e.g.: Stowell 1982; Susi Wurmbrand 2007) how infinitives can and do express tense. Non-finite infinitival clauses can express something like tense by combining with the aspectual auxiliary, they can form the so called past infinitive with auxiliary *have*, which enables them to express relative tense; that is to say that the content of the embedded clause took place before the event in the matrix clause.

359. a) *to have done*

b) *She wished to have done her homework earlier.*

If the infinitive is not part of the periphrastic past construction, however, the interpretation of its tense will depend solely on the verb in this non-finite form and also on the type of the matrix construction it complements. Infinitives are often said to have an inherent futurity orientation, that is to say in our terms, they are irrealis. For example, Stowell (1982) notices that the event time of control infinitivals is, in some sense, unrealized or a “possible future” with respect to that of the matrix. In case of raising infinitivals, the time of the event is simultaneous with that of the matrix clause. Stowell describes this difference in terms of the tense feature. Though neither of the infinitivals can express the tense morphologically we agree that it is evident that one type can express it syntactically.

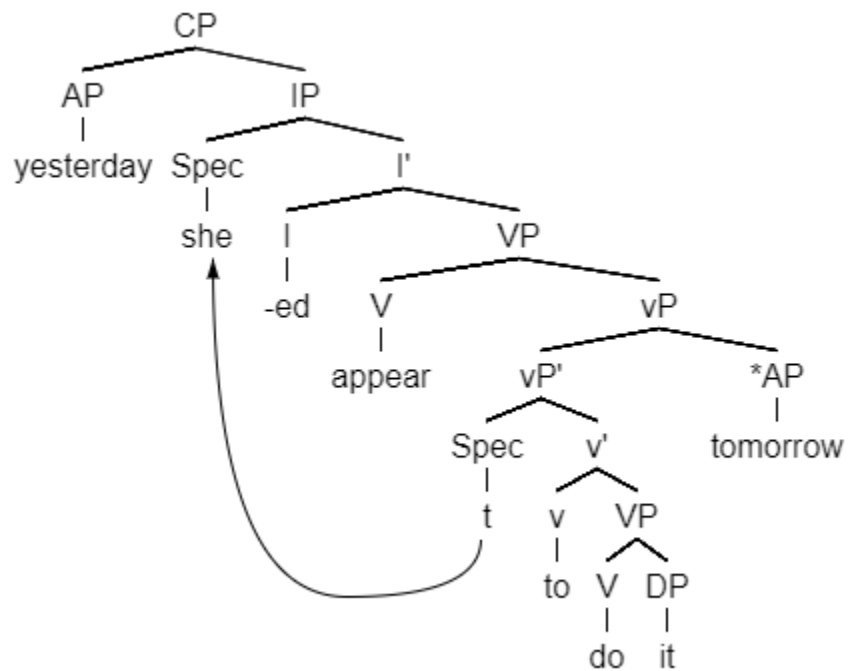
360. *Peter decided some time ago to open up his own restaurant one day.*

361. *\*Peter seemed (some time ago) to open up his own restaurant one day.*

According to Stowell, control infinitivals are [+ tense] whereas raising infinitivals are [- tense]. From this distinction he claims, there results an important difference between control and raising regarding case. The feature [+ tense] checks Case, either nominative if the verb is finite or “null case” if the verb is non-finite.<sup>44</sup> The raising infinitive does not have the ability to trigger case at all (Stowell 1982, 562).

In the example (362), a raising to subject construction, the tense of the embedded clause is the same as the one in the matrix clause, there is only one subject overtly present and the non-finite phrase is the only vP that can assign an argument role to the subject that is raised to the matrix clause. This type of infinitive is not by itself a clause, but neither is the finite part. Only together do they form a grammatical unit.

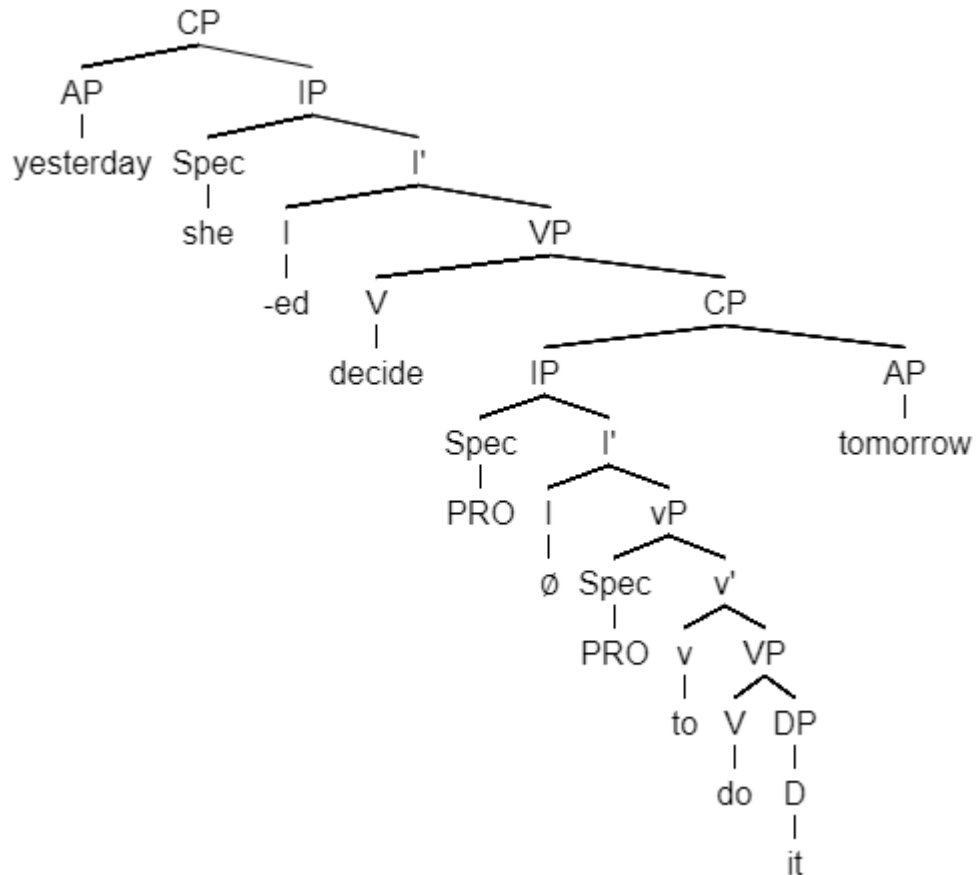
362. \* *Yesterday she appeared to do it tomorrow.*



<sup>44</sup> Null case for Stowell means that the non-finite T can check the null Case only if it is [+ tense], that is in case of Control infinitives. The null Case is then realized as a PRO covert subject of the embedded infinitive.

The next example (363) exemplifies subject control; the tense of the embedded clause is independent of the matrix clause. There are two independent clauses present that happen to share the same subject which is present twice, once overtly and once covertly, as an understood or implied subject of the embedded clause. In this second example the infinitive has the behaviour of an IP. Wurmbrand (1998) follows Rizzi (1978) and calls the two types of infinitives restructuring (the embedded infinitive and matrix verb are reanalysed as one unit) and non-restructuring by, which means that some infinitives are independently clausal, and some are not.

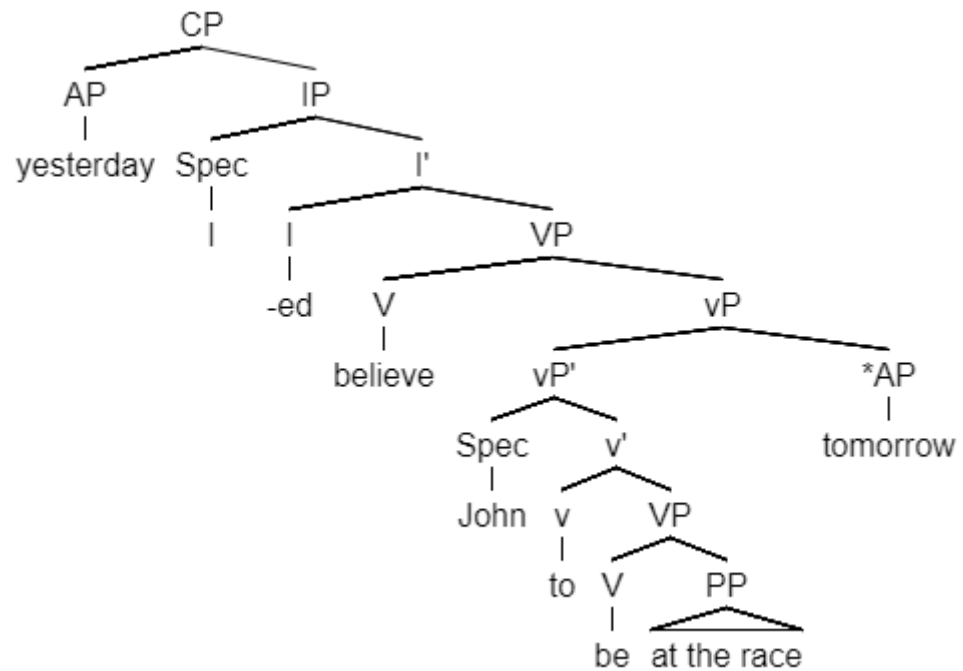
363. *Yesterday she<sub>i</sub> decided [PRO<sub>i</sub> to do it tomorrow].*



With ECM expressions, we have to distinguish between two kinds. With one kind the “believe type”, the whole sentence (364) is the complement of the finite verb, but similarly to raising to subject constructions the matrix verb here does not assign any theta role to the accusative case marked pronoun that seems to be its object. Even the finite part of this

expression is not independent of its sentential complement. The tense of the embedded clause is determined entirely by the tense of the matrix clause.

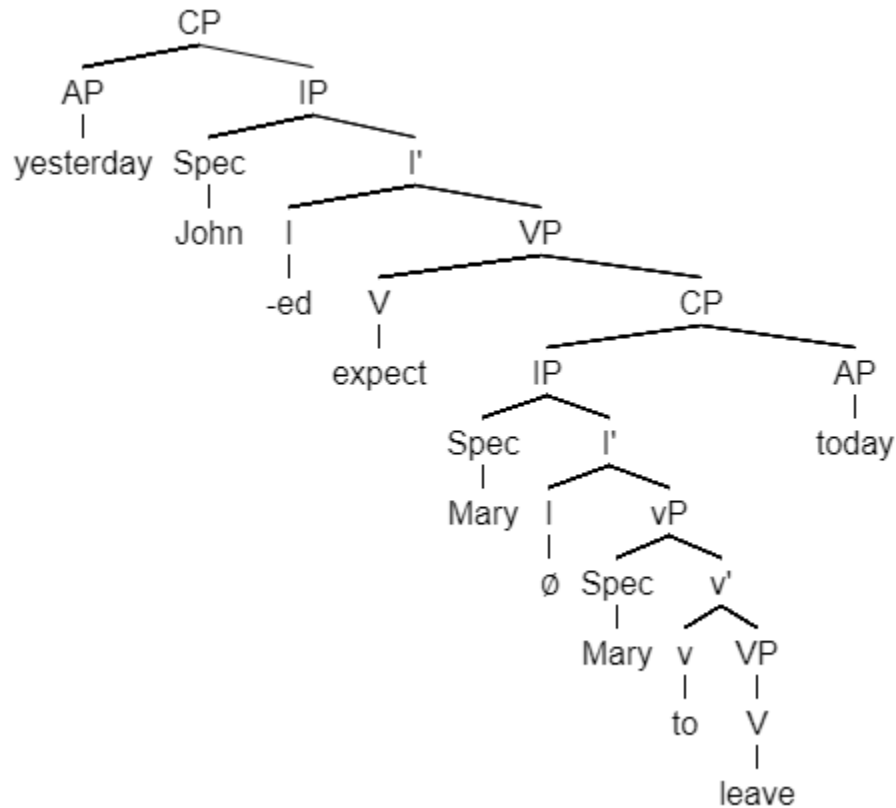
364. \*Yesterday I believed [John to be at the race tomorrow].



It is not possible to have two time adverbials associated with a single IP.

However, this does not seem to hold for all instances of ECM constructions, but only for the “*believe* type”. With the other kind of ECM verbs, the “*expect* type”, the matrix verb allows the embedded verb its own time independence of pointing to the future.

365. *Yesterday John expected / wanted Mary to leave today.*



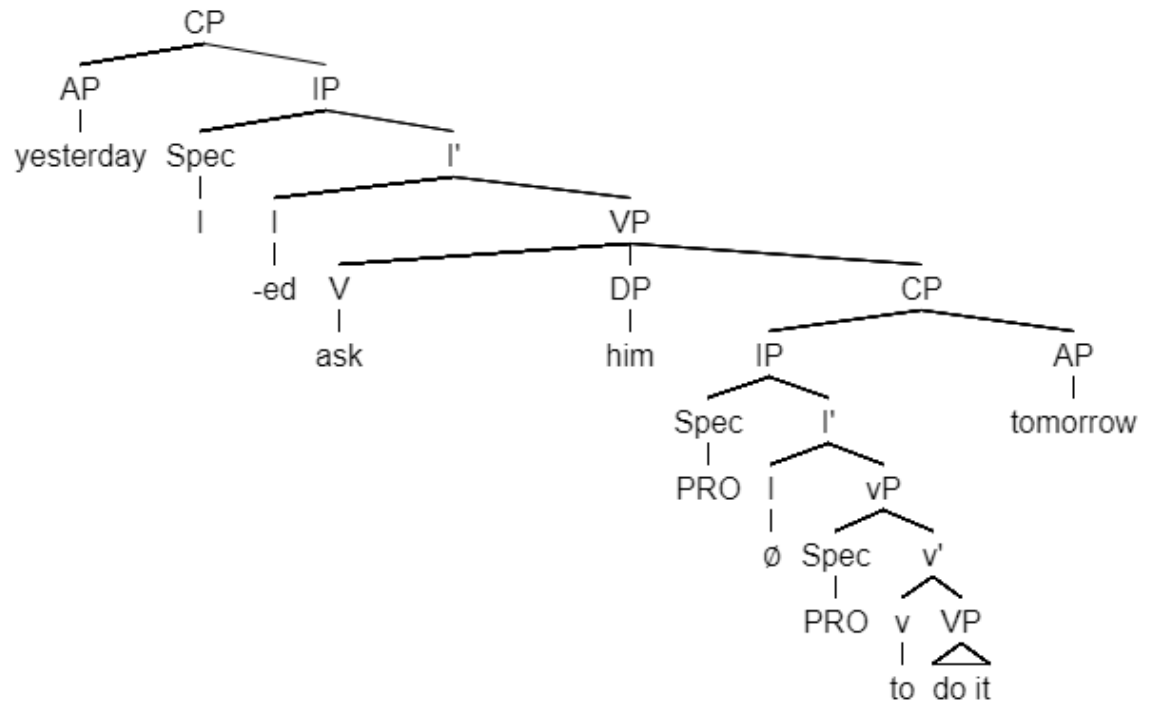
With ECM, it depends on the matrix verb what the understood tense is going to be, whether it is going to be simultaneous or pointing towards future. In neither case the subordinate clause is realis.

According to Stowell (1982, 566) it is the matter of COMP position which is not available in ECM complements because of their need and ability to have their subjects case marked across the phrasal boundary. If there was a COMP position available, the matrix verb could not govern or assign case to the embedded subject. The non-finite complementizer *for* is therefore not compatible with ECM infinitives.

366. a) *\*Jim expected for Bill to be happy.*  
 b) *\*Jane believed for John to be the murderer.*

In an object control construction, the tense of the non-finite clause is always independent of the matrix clause. This is an example of more sentential, non-restructuring infinitive in Wurmbrand's terms.

367. *Yesterday I asked him<sub>i</sub> [PRO<sub>i</sub> to do it tomorrow].*



Wurmbrand (2007), however, claims that infinitives are tenseless in all their instances. She concludes that even control infinitives that seemingly allow for future tense in fact do not express it. To support her argument, she provides the following examples.

368. a) *Leo decided a week ago that he will go to the party (\*yesterday).*  
 b) *Leo decided a week ago to go to the party yesterday.* (Susi Wurmbrand 2007, 409)

Wurmbrand concludes that “[t]enseless structures correctly predict that infinitival ‘tense’ is non-deictic/relative and that infinitives do not participate in the computation of [Sequence of Tenses]” (2007, 414).

To decide which viewpoint is more valid (Wurmbrand’s or Stowell’s) a further analysis is necessary. Let’s begin with Stowell’s claim that control infinitives have this [+ tense] feature and thus the ability to express tense more independently than raising infinitives. His claim, though, does not hold with all traditionally classed control verbs. Especially with subject control verbs there seems to be a subgroup that does not follow this pattern.



369. a) *John decided yesterday to come tomorrow.*  
 b) \**John managed / failed / pretended yesterday to come tomorrow.*

Whether the infinitive is able to express futurity or not does not depend solely on the type of the matrix construction, but also on the syntactic requirements of the matrix verb itself. A subject control verb like *manage* does not allow for this independence of the subordinate clause tense because it requires simultaneity with its complement.

It might be possible that this distinction, the ability or inability to express independent tense, is connected to the type or rather size of the phrase these infinitives form. Control constructions are analyzed as CPs or at least IPs (e.g.: Chomsky 1993, Ch. 3), while raising constructions are smaller. Certain verbs, however, may form both types of constructions. Example (370) is an example of ECM, which ordinarily are not able to have their own independent tense feature. The same verb can also appear in a subject control construction (370b) as the matrix verb that allows for IP or CP (370c) complementation.

370. a) *Yesterday I wanted him to leave tomorrow.*  
 b) *Yesterday I wanted to leave tomorrow.*  
 c) *Yesterday I wanted (very much for) him to be admitted tomorrow.*

If there is an adverb in between the verb and the ACC object, it is necessary to use the preposition *for* because the adverb would otherwise block the case marking of the embedded subject. The case and its trigger should be adjacent (Stowell 1982).

Other ECM verbs that also take activity verbs as their complements, like the verbs *expect*, *wish* or *need*, can be subject control verbs just like the verb *want*, and they also allow for the preposition *for*. All the examples (371a-c) are taken from COCA.

371. a) *You know, it's the last thing you would **expect for him to** be in trouble like that.*  
 [COCA:2014:SPOK\_CNN]  
 b) *You see, I **need for** old cuz **to** take out Fat Ace.*  
 [COCA:2015:FIC\_ Bk:KingDivas]  
 c) *Naturally, she couldn't **wish for us to** die, so she died herself, inside.*  
 [COCA:2015:FIC\_NewYorker]

On the other hand, some ECM verbs that do not allow for the usage of the preposition *for* do not allow the independent tense interpretation at all; these are the “believe type” ECM verbs.

372. a) \**I believe for him to be leaving tomorrow.*  
b) \**Yesterday I believed him to leave tomorrow.*

Raising to subject constructions cannot ever express their own tense, and they are the smallest of the infinitival complements, they are always vPs.

373. a) \**Yesterday he appeared to leave tomorrow.*  
b) \**Yesterday John seemed to leave tomorrow.*

The determining factor regarding the tense of infinitives thus seems to be the semantics of the matrix verb and the size of the infinitival complement. The construction has to include another IP or even CP with its own independent tense slot for the adverbial. We have seen this in the tree diagrams in (363), (365) and (367) and also in examples with the preposition *for* which serves as a complementizer of a CP (370c) and (371).

For comparison, gerunds in complement position always allow tense depending on the matrix clause. In (374a) the action was simultaneous, in (374b) it was preceding and in (374c) subsequent; these differences are systematically correlated with governing verbs themselves.

374. a) *He enjoyed watching the movie (\*tomorrow/ \*the day before).*  
b) *He regretted watching the movie (\*tomorrow / the day before).*  
c) *He considered watching the movie (tomorrow/ \*the day before).*

In neither (374a) nor (374b), can we change the reading into future by adding an adverbial of time as we could in the case of control constructions with infinitives (363). Gerunds, as we have seen before, are the least sentential nominalizations since they are DPs, and as such they do not express their own tense in themselves.

From these considerations, it is possible to conclude that control infinitives are “bigger” clauses than raising infinitives. The former are at least IPs and can be CPs, they are bi-clausal, have their distinct tense, scope of negation. Raising infinitives on the other hand are mono-clausal, i.e., they are only vPs, they do not have their independent tense nor scope of negation.

As we have seen with ECM infinitives there are two types “*believe* type” and “*expect* type” and each of them has different qualities. The “*believe* type” cannot have their independent tense or negation meaning, and they cannot take the preposition *for* as a non-finite complementizer. This type of ECM infinitive is a vP. The “*expect* type” on the other hand can have all of the above, plus it can form subject control constructions. This second type of ECM constructions is at least an IP and potentially a CP when introduced by the complementizer *for*.

## 5.6 Movement and Control Controversy

In Chomsky (1981), raising infinitives are considered to involve movement of an argument from an embedded clause to a matrix clause, while control infinitives do not. We are now going to address Hornstein’s (1999) controversial claim that control and raising are both examples of movement. According to Hornstein’s approach, the two constructions (raising and control) differ only in their theta roles. While in control the subject that is moved has two theta roles, in raising there is only one.

Franks and Hornstein (1992) distinguishes between two types of control and PRO. Counter to the Chomsky’s description of PROs as anaphors and at the same time pronouns, according to Hornstein they are either one or the other. In case of obligatory control there is a movement and the PRO is treated as a trace. The DP checks a different  $\theta$ -role in each clause, the  $\theta$ -role is thus assigned multiple times and there is no need for a PRO subject in control construction. He envisions it like this:

375. a) *John hopes to leave.*

b) [IP John [VP John [hopes [IP John to [VP John leave]]]]] (Hornstein 1999, 79)

In case of non-obligatory control (NOC) Hornstein operates with little “*pro*” which stands for the pronoun and has distribution similar to the original PRO.

376. *It is impossible **pro** to win at roulette.* (Hornstein 1999, 92)

He goes further and considers the object control PROs plus infinitivals to be predicates of the matrix subject.

This theory, however, poses more problems than it solves. Landau, an ardent opponent of Hornstein's theory, comments as follows: "MDP-violations, partial control, the proper delineation of NOC and case independence in OC reveal serious shortcomings of the analysis" (Landau 2008, 322). Landau can account for all the supposed problems of control theory except for two: a split control and backward control. These according to him pose a problem for everybody and for obvious reasons. His concluding remark is that the movement analysis is no more simple or elegant than any previously existing theory on control and we agree.

Split control has been traditionally believed to be an instance of non-obligatory control as in the example (377a) (Hornstein 1999, 73); in (377b) he shows that it does not work under obligatory control.

377. a) *John<sub>i</sub> told Mary<sub>j</sub> [that [[PRO<sub>i+j</sub> washing themselves / each other] would be fun]].*  
 b) \**John<sub>i</sub> told Mary<sub>j</sub> PRO<sub>i+j</sub> to wash themselves / each other.*

However, split control can also sometimes occur with obligatory control. In the following example (378) we can see that the PRO does not have an arbitrary reference at all and that both DPs are the agents of the embedded verb. Similar examples were suggested by Koster and May (1982, 138), but apparently were not acceptable for all speakers.

378. *John<sub>i</sub> suggested to Mary<sub>j</sub> [PRO<sub>i+j</sub> to wash each other].*

379. a) *Jim proposed to Mary [PRO to go to the movies by themselves / with each other].*  
 b) *John proposed to Mary [PRO to help each other].*

The difference from standard examples of OC is that split control has more than one antecedent and PRO is thus syntactically plural. This should not be a problem since there are plural PROs in both subject and object control too.

380. *The children / Tim and John wanted to go out.*

381. *John persuaded the children / Tim and Peter to go out with him.*

If we attempt a truly arbitrary split control as in example (382), we can see that it does not require split control per se.

382. *The need PRO<sub>arb</sub> to help each other should be stressed.*

There are two antecedents in LF but they are not overtly present, so they are not really syntactically antecedents of the non-finite clause. This would be an example of non-obligatory arbitrary control.

Therefore, it seems that split control does not really pose a problem for control theory. Even though there are some cases when it seems to be insufficient, they are only marginal and are related to the semantics of the matrix verb as we can see in the example of two similar constructions where split control does not work in case of (377b) and it works in (379).

The second problem, which supposedly supports Hornstein's theory is the issue of backward control (BC). It is often analyzed in Greek and Romanian, since in these two languages every instance of obligatory control can be transformed into backward control as it is shown in Alexiadou et al. (2010, 96):

383. *(O Janis) emathe (o Janis) na pezi (o Janis) kithara (o Janis)*  
(John-nom) learned-3sg (John-nom) subj play-3sg (John-nom) guitar (John-nom)  
'Janis learned to play the guitar.'

384. *(Ion) a uitat (Ion) să cinte (Ion) la chitara (Ion)*  
Ion has forgotten (Ion) subj play (Ion) at guitar (Ion)  
'Ion has forgotten how to play the guitar.'

In the same paper Alexiadou et al. argue that in order for a language to exhibit backward control, it has to involve: "pro-drop, VSO orders with vP-internal subjects, clitic doubling and EPP checking via V-raising" (2010, 115). In other words, backward control is not frequently encountered. Even from this very brief description it seems that since every backward control is also an obligatory control it cannot be an example of movement. Control as opposed to movement involves an argument in the matrix clause that is also in underlying structure the argument of the non-finite clause. Movement operates with only one argument

in underlying structure, and as such it cannot be the argument of both matrix and non-finite embedded clauses.

Hornstein’s claim is therefore not persuasive and we will continue to treat raising infinitives as involving movement and control infinitives involving binding of the subject.

## 5.7 Czech Counterparts of Raising, ECM and Control Infinitives

Raising, ECM and control constructions can be found in Czech as well, and their distribution seems to correspond to their English counterparts most of the time, but there are some differences compared to English. First let us have a look at an example of the subject control construction (385). Even though it is a grammatical sentence it can be paraphrased by means of a finite subordinate clause which sounds more natural in Czech (386).

385. *Petr plánoval [PRO<sub>subj</sub> hrát karty].*  
 Petr<sub>NOM.SG.M</sub> planned<sub>SG.M</sub> play<sub>INF</sub> cards<sub>ACC.PL.F</sub>  
 ‘Peter planned to play cards.’

386. *Petr plánoval, že bude hrát karty.*  
 Petr<sub>NOM.SG.M</sub> planned<sub>SG.M</sub> that will play<sub>INF</sub> cards<sub>ACC.PL.F</sub>  
 ‘Peter planned that he will play cards.’

In object control constructions, the subject of the embedded clause can take accusative case (387) or dative case (388) depending on the requirements or “rection” of the matrix verb. In this case, it is also possible to rephrase the subordinate clause as finite (389).

387. *Jan donutil Emila [PRO<sub>obj</sub> číst ten román].*  
 Jan<sub>NOM.SG.M</sub> made<sub>SG.M</sub> Emil<sub>ACC.SG.M</sub> read<sub>INF</sub> that novel<sub>ACC.SG.M</sub>  
 ‘Jan made Emil read that novel.’

388. *Jan poručil Emilovi [PRO<sub>obj</sub> číst ten román].*  
 Jan<sub>NOM.SG.M</sub> ordered<sub>SG.M</sub> Emil<sub>DAT.SG.M</sub> read<sub>INF</sub> that novel<sub>ACC.SG.M</sub>  
 ‘Jan ordered Emil to read that novel.’

389. *Jan poručil Emilovi, aby četl ten román.*  
 Jan<sub>NOM.SG.M</sub> ordered<sub>SG.M</sub> Emil<sub>DAT.SG.M</sub> so that reads<sub>SG.M.PAST</sub> that novel<sub>ACC.SG.M</sub>  
 ‘Jan ordered Emil to read the novel.’

Control in Czech does not require the nearest c-commanding NP, the source of phi features on PRO can also be a finite verb showing agreement (thus having phi features). This difference is, however, due to the fact that Czech is a pro drop language.

390. *Petri slíbil [PRO<sub>i</sub> vymalovat hned po prázdninách].*  
 Petr promised<sub>SG.M</sub> paint<sub>INF</sub> immediately after holiday  
 ‘Peter promised to paint immediately after the holiday.’

And finally, the arbitrary control construction can be also found in Czech.

391. *Bylo přikázáno [PRO<sub>ARB</sub> vyklidit město].*  
 was<sub>SG.N</sub> ordered<sub>SG.N</sub> clear<sub>INF</sub> city<sub>ACC.SG.N</sub>  
 ‘It was ordered to clear out the city.’

Raising to subject constructions (392) are typical with modals or aspectual verbs which “are unambiguously raising in Czech” (Dotlačil 2004, 49). Apart from modals and aspectual verbs, raising to subject in Czech is possible only with the verb *být* followed by matrix verb *zdá se*.

392. *Počasí se zdá [t<sub>i</sub> být krásné].*  
 weather<sub>NOM.SG.N</sub> REFL seems<sub>SG.N</sub> be<sub>INF</sub> lovely<sub>NOM.SG.N</sub>  
 ‘The weather seems to be lovely.’

In this case, it would be more natural to rephrase the sentence in the following way using an unexpressed subject in Czech.

393. *Zdá se (mi), že počasí je krásné.*  
 seems REFL me<sub>DAT</sub> that weather<sub>NOM</sub> is lovely.  
 ‘It seems to me that the weather is lovely.’

ECM subjects take only accusative case in Czech (394) and the finite alternative (395) is possible. ECM verbs in Czech are much smaller in number than in English; they seem to

be limited mostly to the verbs of perception. The English counterpart of this type of ECM in Czech has is a bare infinitive construction. This type of ECM is small just like “*believe* type” in English not having its independent time adverbial slot.

394. *Viděl [ho plavat] (\*zítra).*  
 saw<sub>SG.M.PAST</sub> him<sub>ACC.SG.M</sub> swim<sub>INF</sub> tomorrow  
 ‘He saw him swim (tomorrow).’

395. *Viděl ho, jak plaval.*  
 saw<sub>SG.M.PAST</sub> him<sub>ACC.SG.M</sub> how swam<sub>SG.M</sub>  
 ‘He saw him when he was swimming.’

The equivalents of most frequent English ECM verbs (*věřit* “believe”, *očekávat* “expect”, *chtít* “want”) are not ECM verbs in Czech. We were able to find just one other verb *dovolit* “allow” that behaves like ECM in Czech.

396. *Dovolil jsem mu odjet zítra.*  
 let<sub>SG.M.PAST</sub> am him<sub>DAT</sub> leave<sub>INF</sub> tomorrow  
 ‘I let him leave tomorrow.’

In this case, it is possible to use an independent time adverbial, which suggests that this type of ECM is bigger just like “*expect* type” in English.

In Czech, the raising infinitives also seem to be smaller than control infinitives, as can be seen with negation (397-400). The same as in English, the position of the negation does not influence the meaning of the sentence in Czech raising constructions (397-398). Czech control constructions (399-400) have two distinct readings depending on whether the negation is clausal or sentential.

397. *Počasi se nezdá být krásné.*  
 weather<sub>NOM.SG.M</sub> REFL not-seem<sub>SSG.M</sub> be<sub>INF</sub> lovely<sub>NOM.SG.N</sub>  
 ‘The weather doesn’t seem to be lovely.’



398. *Počasí se zdá nebyť krásné.*  
 weather<sub>NOM.SG.M</sub> REFL seem<sub>SSG.M</sub> not-be<sub>INF</sub> lovely<sub>NOM.SG.N</sub>  
 ‘The weather doesn’t seem to be lovely.’

399. *Petr plánoval nehrát karty.*  
 Petr<sub>NOM.SG.M</sub> planned<sub>SG.M</sub> not-play<sub>INF</sub> cards<sub>ACC.PL.F</sub>  
 ‘Peter planned not to play cards.’

400. *Petr neplánoval hrát karty.*  
 Petr<sub>NOM.SG.M</sub> not-planned<sub>SG.M</sub> play<sub>INF</sub> cards<sub>ACC.PL.F</sub>  
 ‘Peter didn’t plan to play cards.’

The possibility of using different temporal adverbs in Czech raising and control constructions suggests a similar conclusion; that is, some control infinitives (401-402) may allow for the independent time reading while no raising constructions (403) do.

401. *Včera Petr poručil Janovi odjet (až) zítra.*  
 yesterday Petr<sub>NOM.SG.M</sub> ordered<sub>SG.M</sub> Jan<sub>DAT.SG.M</sub> leave<sub>INF</sub> (only) tomorrow  
 ‘Yesterday Peter ordered Jan to leave tomorrow.’

402. *Petr plánoval [PRO<sub>subj</sub> hrát karty] zítra.*  
 Petr<sub>NOM.SG.M</sub> planned<sub>SG.M</sub> play<sub>INF</sub> cards<sub>ACC.PL.F</sub> tomorrow  
 ‘Peter planned to play cards tomorrow.’

403. \**Počasí se zdá [ti být krásné] zítra.*  
 weather<sub>NOM.SG.M</sub> REFL seem<sub>SSG.M</sub> be<sub>INF</sub> lovely<sub>NOM.SG.N</sub> tomorrow  
 \*‘The weather seems to be lovely tomorrow.’

The Czech equivalent of English ECM construction (404) does not allow for the independent time reading either.

404. \**Včera Petr viděl Jana plavat zítra.*  
 yesterday Petr<sub>NOM.SG.M</sub> saw<sub>SG.M</sub> Jan<sub>ACC.SG.M</sub> swim<sub>INF</sub> tomorrow

Both in English and in Czech, infinitival constructions are considerably frequent, but in Czech there is a tendency to use finite counterparts, if possible. This would be especially the case of control constructions where the finite counterparts would seem much more natural, as in (386 and 389).

There is, however, one big distinction between Czech and English infinitivals, which is illustrated by Czech examples with clitics. Clitic climbing, which means “realization of a clitic in a clause higher than the one in which the clitic originates” is not possible in English but it appears in Czech with some types of infinitivals (Dotlačil 2004, 70). It is a phenomenon possible only with restructuring verbs. With control infinitives the clitics may but do not have to climb to the matrix clause (405-406).

405. *Emil včera slíbil [podívat se **jí** na tu úlohu co nejdříve].*  
 Emil yesterday promised look REFL **her** on that task what earliest  
 ‘Emil promised yesterday to have a look at her homework as soon as possible.’

406. *Emil se **jí** včera slíbil [podívat na tu úlohu co nejdříve].*  
 Emil REFL **her** yesterday promised look<sub>INF</sub> at that task what earliest  
 ‘Emil promised her yesterday to have a look at the homework as soon as possible.’

With raising infinitives, the clitics do not have any other option but to climb to the matrix clause (407-409).<sup>45</sup>

407. *Marie musí ty domy [prodávat Janovi pod cenou].*  
 Mary start those houses<sub>SACC</sub> sell<sub>INF</sub> John<sub>DAT</sub> below price.  
 ‘Mary must sell the houses to John below the price.’

408. *\*Marie musí [prodávat mu je pod cenou].*  
 Mary start sell<sub>INF</sub> **him**<sub>DAT</sub> **those**<sub>ACC</sub> below price.

---

<sup>45</sup> The examples are adapted from Veselovská (2009). Czech clitics in examples (405-409) are indicated by bold letters.

409. *Marie mu je musí [prodávat pod cenou].*  
 Mary **him**<sub>DAT</sub> **those**<sub>ACC</sub> must sell<sub>INF</sub> below price.  
 ‘Mary must sell the houses to John below the price.’

The rules and constraints of clitic climbing in Czech are complex and for a detailed overview see Dotlačil (2004). For our purpose here, we used this brief illustration to point out that also in Czech there are obviously at least two different sizes of infinitival constructions and clitics can be used as another means to demonstrate that. With “bigger” infinitives (IPs and CPs) if there are any clitics involved they may but do not have to climb to the matrix clause. With smaller infinitives (vPs), clitics have to climb up to the matrix clause (Veselovská 2013).

## 5.8 Chapter Summary

English infinitival complements are of different sizes and have, therefore, different properties and different degrees of independence. Only some of them, namely control complements and one type of the ECM complements, the “*expect* type”, could qualify as CPs. These are bi-clausal, have independent negation and if the semantics of the verb permits it, they can express a future pointing tense (a subcase of their irrealis feature) independent of the tense of the matrix verb.

The other type of ECM complement, the “*believe* type”, is less independent than the “*expect* type” when it comes to a temporal frame, but more independent than raising constructions. These distinctions will be discussed in detail in Chapter 7.

Raising complements form a mono-clausal unit with the matrix verb and cannot ever realize separate CPs; they do not allow for complementizers. In fact, they are not separate IPs. Their mono-clausal properties imply that the matrix verb does not assign any theta role to its surface subject and there is only one subject present in the whole construction. Their mono-clausal properties were demonstrated through a series of tests demonstrating a single temporal frame, single type of negation and the ability to thrive in idiomatic expressions. Raising constructions can more easily express realis meaning if the matrix verb or adjective has the Assertive realis feature (see 4.9).

The distribution of infinitives in Czech seems to mirror their English counterparts. There are several differences, but they are originating mostly from the difference between the types of these two languages. In Czech, infinitival complements, especially control complements, are less frequent and less natural than finite alternatives. ECM infinitives in Czech are possible only with verbs of perception and very few other verbs. And finally, apart from modals and aspectual verbs, there seems to be only one other subject raising verb *zdát se* meaning ‘to seem’.

One thing, however, that illustrates the different sizes of infinitives in Czech is clitic climbing. Object clitics can climb to a higher clause or stay in the embedded clause in bigger constructions like IPs, or CPs, which are control constructions in Czech. But clitics have to climb to the matrix clause in the case of smaller constructions, i.e. raising constructions which are vPs, because there is no dependent IP for them to be located in.

## 6. Bare Infinitives as Special Complements

The so called bare infinitives in English are infinitives that do not follow the infinitival marker *to*. There are several types of verbs and constructions that allow or even require complementation with a bare infinitive. These include:

- **central modals** (410a) like: *must, may, might, will, would, can, could, shall, should*
- **semi-modals** (410b) like: *need* and *dare*, modal idioms (410c) like: *would rather, had better*, auxiliary *do* (410d),
- **verbs of sensory perception and cognition** (410e) like: *see, hear, feel, watch, notice, observe, overhear*
- **causative verbs** (410f) like: *have, make, let, help*

410. a) *I may sleep for several hours.*  
b) *John needn't sleep.*  
c) *Peter would rather sleep for several hours.*  
d) *We do (not) sleep for several hours now.*  
e) *Jane watched him sleep.*  
f) *That made him sleep.*

Bare infinitives also appear after certain prepositions (411a) e.g.: *except, save, but*, in pseudo-cleft constructions (411b) and in certain wh-questions (411c).

411. a) *I am allowed to do anything except fall asleep.*  
b) *What I want to do is soon go home.*  
c) *Why bother doing that?*

Chomsky in his first edition of *Lectures on Government and Binding* from 1981 suggests that the *to* of infinitives is an INFL (1993, 18), the same category as auxiliaries, later using the label I (Chomsky 1986, 3). Radford (2004) follows this idea and considers both *to*-infinitives and bare infinitives to be TPs with either the T being *to* or null. However, as we have seen in Chapter 2 and will again see in the following chapter, not all infinitives are of the same size, and *to* is definitely not in the position of I / T. Bare infinitives are without doubt smaller than *to*-infinitives because they lack the particle *to* in the position of the little *v*, i.e. they are not

vPs but VPs. This lack of the *v* head is crucial for their syntactic behavior as they fail to form structures similar to the full *to*-infinitives.

Wurmbrand (2012) asks the question, why there are certain verbs in English that select bare infinitives and what they have in common. She rules out their structural properties and is left with a special kind of selectional specification common to all matrix verbs in this category. Our proposition is in accord with that; verbs requiring bare infinitival complementation all select VPs that are less than maximal projections (vPs). This has several consequences that we will analyze, mainly that these complements do not have an explicit irrealis feature. This would suggest that irrealis interpretation is in general triggered by the little *v* infinitival *to*. We are going to consider the structural as well as semantic properties of bare infinitival complements.

## 6.1 Modals and Intransitive Verbs with Bare Infinitives

The plain form of a verb is always used in the present subjunctive, imperative and bare infinitive. The unifying pattern is that none of these shows any inflection (Huddleston and Pullum 2002, 83). This suggests that the infinitive, the same as the imperative and subjunctive, might represent the irrealis mood. Since the morphological analysis is not possible for a base form, we are going to have a look at the syntactic behavior of bare infinitives.

Firstly, we will have a look at bare infinitives as complements of modals.

412. *He must / can / might (\*to) study harder.*

And then, we will discuss a group of semi-modals that can take bare infinitives as well as *to*-infinitives as their complements.

413. a) *He dare not open the door.*  
b) *He didn't dare (to) open the door.*  
c) *He need not bother.*  
d) *He did not need to bother.*

According to Duffley (1992) there are semantic differences between the infinitival complements with and without *to*. Quirk also believes that the decision whether to use bare infinitive or a *to*-infinitive “is conditioned by the subject’s involvement” (1985, 841). If the agent of the matrix verb is also involved as the agent of the subordinate clause, then a bare infinitive is more likely to be used:

414. *I helped Peter clean his room.* = I cleaned the room.

If the agent of the infinitive is solely the DP in accusative adjacent to the matrix verb there is more likely to be a full infinitival form:

415. *I helped Peter to see the truth.* = Peter was the one to see the truth.

Duffley claims that with bare infinitives there is “a perfective view of the realization of an event” while with *to*-infinitives there is “an action situation referred to a point in time prior to its realization” (1992, 18).

416. *I had nine people to call.* = It was my obligation to call them.

417. *I had nine people call.* = They actually called me.

This distinction is possible only with a small number of verbs. It has not been supported by any linguistic data from corpora, but it serves as an illustration of some possible infinitival properties. The lack of the infinitival particle *to* seems to indicate that whatever is in the embedded clause actually happened.

We are not going to devote much space to the only auxiliary that requires complementation with bare infinitive, the verb *do*. It suffices to say that the bare complementation of *do* appears in negative (418a) and interrogative sentences (418b) and also as an emphasis (418c).

418. a) *He does (not) speak English.*

b) *Does he speak English?*

c) *Do tell me, I am all ears.*

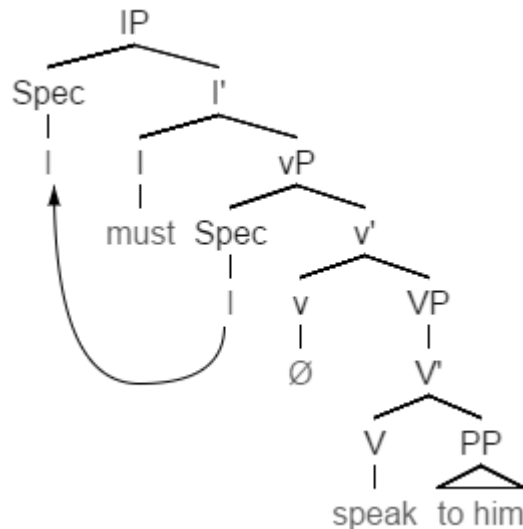
The auxiliary does not have any added meaning (as opposed to modals that express a degree of irrealis), it just has a certain auxiliary function. This indicates that bare infinitives as opposed to *to*-infinitives are not in themselves irrealis. Whether they turn out to be irrealis on LF depends on their governing element and selection, and not on the infinitive itself.

### 6.1.1 Central Modals

There are many similarities between raising to subject verbs and modals regarding their syntactic behavior. In fact, it might seem that the only difference is the absence or presence of the infinitival particle *to*.

Tree representation of modals' complementation:

419. *I must speak to him.*



Modals, the same as the raising to subject verbs, are weak in lexical meaning; they express modality unrelated to the agent of the infinitival clause. The agent or the subject of the infinitive is, however, raised to the position of the subject of the matrix clause, even though it does not have any theta role assigned by the matrix verb. This does not mean, however, that modals are verbs. We are not going to fully justify the categorial status of modals here, but we are going to show their syntactic behavior compared to raising to subject verbs.



The claim that modals behave like raising verbs is not uncontroversial. There are without doubt differences between raising to subject verbs and modals. For one, modals occupy the I position and raising verbs the V position. Only raising verbs can appear with dummy subjects and have as their complements finite clauses (420).

420. a) *It seems / is likely that Peter is ill.*  
b) *\*It must that Peter is ill.*  
c) *It must be that Peter is ill.*

With modals, there is only one place for negation and that is after the modal because they do not allow for *do* support. It is still possible to use both sentential (421a) and constituent or phrasal negation (421b), but because both types of negation follow the modal the result may seem odd and confusing at times, because this changes the polarity of the sentence into positive. Also, if the negation is not contracted for the reason that it cannot be (421d) the resulting double negation seems odd even though it is grammatical.<sup>46</sup>

421. a) *Jim mustn't go to school.*  
b) *Jack mustn't not go to school.*  
c) *?Jim cannot not visit my grandmother.*  
d) *?Jack may not not go there.*

But there are also many similarities, that we are going to present.

---

<sup>46</sup> In *COCA* there are only two instances of *may* followed by double negation:

i) *Some may **not not** refuse up front but they make the process so onerous that the renter becomes discouraged.*

[COCA:1996:NEWS\_Houston]

ii) *It may **not not** do any good, but I have to try.*

[COCA:1990:FIC\_Bk:SingingStones]

There is only one instance in *BNC*:

iii) *Although the final result may **not not** be known until mid-morning, computer predictions indicated Mr Major was on his way back to Downing Street with a small majority.*

[BNC:1992:AJU\_W\_newsp\_brdsh\_t\_nat\_mics]

Ross (1969) distinguishes between epistemic (422a) and deontic (422b) modals, the former being according to him intransitive and appearing in raising constructions and the latter being transitive (having two theta roles) and appearing in control constructions.

422. a) *Peter<sub>i</sub> must t<sub>i</sub> know the answer, I am sure about that.*  
b) *Peter must PRO leave the country immediately, it is crucial.*

However, Wurmbrand (1999) offers a persuasive analysis where she demonstrates that both epistemic and deontic modals involve raising to subject from a lower position within the tree structure (423) as in (419).

423. a) *Peter<sub>i</sub> must t<sub>i</sub> be at home, I am sure about that.*  
b) *Peter<sub>i</sub> must t<sub>i</sub> leave immediately, it is crucial.*

Among the critical arguments she uses is that modals, just as raising verbs, cannot be passivized, their embedded object on the contrary can be passivized (424a-b) as opposed to control complements (424c).

424. a) *The biscuits seem to have been finished by Paul.*  
b) *The biscuits may be finished by Paul.*  
c) *\*The biscuits tried/decided to be finished by Paul.*<sup>47</sup>

Summing up the similarities between modals and raising to subject verbs:

- i. Modals and raising to subject verbs do not passivize

Matrix passivization is not possible for either raising infinitival constructions or modals.

425. a) *We hope to return to this issue.*  
b) *?It is hoped to return to this issue.*

426. a) *We seem to agree on this.*  
b) *\*It is seemed we agree on this.*

---

<sup>47</sup> These examples used by Wurmbrand (1999) are from Warner (1993).

427. a) *We must agree on this.*  
b) \**It is must we agree on this.* (Huddleston & Pullum 2002, 1196)

ii. Possible passivization of the embedded infinitive

Passivization of raising infinitives is not a problem, because just as modal infinitives, they are not sensitive to voice.

428. a) *He seemed to convince me.* = *I seemed to be convinced by her.*  
b) *I must buy this book.* = *This book must be bought by me.*

iii. Existential constructions

Both raising to subject verbs and modals can appear in existential constructions (429).

429. a) *There must be a solution (on my desk by 10 pm).*  
b) *There seems to be a solution.*

As we have seen in the previous chapter, raising verbs are capable of having a dummy subject *there* or *it*. Modals seem to be capable of this as well in both epistemic (430a) and deontic (430b) meanings. They require the auxiliary *be* for this.

430. a) *There must be a solution to this problem.*  
b) *There must be more light or the plants will die.*

However, modals unlike raising verbs cannot take the dummy subject when there is another semantic subject available. They always require a verbal complementation because they are not verbs per se (431c), and a clause must have a V position.

431. a) *She seems to like me.* = *It seems that she likes me.*  
b) *She must like me* = \**There/It must that she likes me.*  
c) *It must **be** that she likes me.*

iv. Incompatibility with preposition *for*

As mentioned above, modals, just as raising verbs, do not select complex clausal constructions with overt subjects introduced by the preposition *for*, because they are examples of raising to subject and there is no other slot available for another agent.

432. a) *Peter arranged / intended for John to see her.*  
b) \**Peter seemed / appeared for John to see her.*  
c) \**Peter must have for John see her.*

v. Not theta marking their surface subjects

Neither raising verbs nor modals take their own agents as their subject, nor do they take subject experiencers, in fact they do not theta mark their surface subjects at all. Their subjects are theta marked by the verb in their infinitival complement (bare or *to*-infinitive).

Apart from the above-mentioned similarities, modals, as is apparent from their name, have an inherent modal or irrealis feature because they express degrees of possibility or necessity. They do not need to select another irrealis feature expressed by the infinitive because it would be redundant. This is why their complements lack *to*.

### 6.1.2 Verbs with Weaker Modality

There is a special group of semi-modals represented by the verbs *dare* and *need*. This means that they share some paradigms with modals but not all of them. The important characteristic of these verbs is that they have homonymous modal counterparts and yet are purely lexical. As lexical verbs, they take *do* support for sentence negation and inversion in polar questions, and they also have the distinct third person singular present tense forms. Their verbal complement is the full *to*-infinitive.

433. a) *We do not dare / need to call him.*  
b) *Do we dare / need to call him?*  
c) *We dare / need to call him and so do you.*  
d) *We dare / need to call him, don't we?*

As semi-modals these two words are restricted to non-affirmative expressions, that is ‘negative polarity’ expressions. Unlike the lexical verbs, they cannot be positive.

434. a) *I dare not / needn't call him.*  
b) *Dare / need I call him?*  
c) *?I dare call him.*  
d) *\*I dare / need call him.*  
e) *\*Do I dare / need call him?*

A problem arises when these two usages (lexical verb and modal) “blend” (Quirk 1985) and we get something like (435) with *do* support indicating a lexical verb but complemented by a bare infinitive indicating a modal, or when the distinction between them starts to “blur” (Huddleston and Pullum 2002). However, this applies to *dare* only, *need* never acts like this.

435. *They do not dare ask for more.* (Quirk 1985, 138)

436. *Few of them dare / dared stand up to him.* (Huddleston and Pullum 2002, 110)

For the above reason, they are called semi-modals or marginal modals (Quirk 1985) and in both their variants (lexical and semi-modal) they are raising to subject verbs. As such they accept complementation by a vP with *to* or VP or without *to*.

437. *I didn't need to buy the ticket.*

438. *I needn't have bought the ticket.*

When the verb *need* is used in expressions about the past the difference between its lexical and modal properties is most apparent. In the first case the lexical verb used in past tense complemented by infinitive suggests that the action did not take place because we were aware of the fact it was not necessary to buy the tickets. In the second example with the modal verb, however, the tickets were bought because we were unaware of the fact that it was not necessary to buy them. This usage for deduction about the past is reserved for modals and it is not surprising that here *need* is complemented by the bare infinitive.

Another subcategory of modals are irrealis modal idioms such as *would rather* and *had better*, which are also complemented by bare infinitives.

439. a) *Jim had better do it.*  
b) *Jim hadn't better do it.*  
c) *Had Jim better do it?*

Another modal idiom is *would rather* or *would sooner* which takes a bare infinitival as its complement but is also a finite clause and that is why it is not a full modal.

440. a) *I would rather leave now*  
b) *I would rather he left.*

Negation is problematic here because it can be either clausal or constituent negation with different readings. In (441a) only the infinitive is negated, while in (441b) it is a reaction to a positive sentence (441c) which is being denied.

441. a) *I would rather not go out tonight.*  
b) *I wouldn't rather stay home.*  
c) *You would rather stay at home?*

Overall *would rather* complies with the N.I.C.E. criteria (see section 2.3) characterizing modals, and once again, this semi-modal expression is an example of the raising to subject construction complemented by bare infinitive.

Another modal or verb with modal features is *ought (to)*. The most problematic aspect of it is the full *to*-infinitive it sometimes requires. “There is a growing tendency, however, for it to be constructed with a bare infinitival in non-affirmative contexts (particularly negatives), bringing it closer to the central modals” (Huddleston and Pullum 2002, 109).

442. a) *You ought to leave the room now.*  
b) *You oughtn't take any notice.*  
c) *Ought I leave the room?*

Otherwise the verb *ought to* fulfills all the N.I.C.E. criteria (of section 2.3) and also behaves like raising to subject verb. It is very clearly irrealis in any case.

The last modal aspirant is the quasi-modal *be*, which is homonymous to other usages of *be*, both auxiliary and lexical. Its meaning is most similar to the modal *should*.

443. a) *She is to hand in the essay by Friday.*  
b) *She should hand in the essay by Friday.*

Once again it belongs to the category resembling the raising to subject verbs (the verb *be to* does not theta mark its subject). More about *ought to* and also *be to* has already been presented in Chapter 2.5. This last quasi-modal (*be to*) seems to have modal meaning (semantics) rather than belonging to the syntactic category of modals and that is why it has the irrealis *to*. On one hand, regarding the N.I.C.E. criteria, it behaves like a MOD / AUX. But on the other hand, it does not have any other key modal properties. Notably it shows agreement with the subject and is followed by the *to*-infinitive.

The group of semi-modals shows a very specific behavior of the limited number of verbs that is in between lexical verbs and modals. This is not anything new, but there is another way of looking at these verbs and that is their syntactic complementation and subjects. From this perspective they all require a raised subject which is not theta marked by them (they are all agentless) and bare infinitival complementation. This suggests that they are closed class items and that their complements form VPs without the *v to*, the reason being that they are all inherently irrealis and thus do not need another irrealis item such as *to*.

### **6.1.3 Verbs Expressing Initial Phase of Action**

Various categories of verbs seem to require bare infinitival complementation. One small class of these verbs includes for example: *go, come, run*. These verbs form a special closed class of originally lexical verbs that are used as grammatical items sharing several features.

Firstly, there is no inflection allowed and they appear only in the basic form. These expressions typically but not only appear in imperative sentences.<sup>48</sup>

444. a) *Peter, go **open** the door!*  
b) *Peter will go open safe.*  
c) *Peter and John go collect garbage.*

They can, however, appear in other kinds of expressions, like interrogative or declarative sentences, as long as there is no inflection involved (445-447). Therefore, we can find them in questions in present tense (446a) or questions in past tense third person singular (446a) because the inflection is on the auxiliary. When the auxiliary is taken away and the sentence is declarative the result is ungrammatical (446b, 447b).

445. *Mary and Pete go get milk every time the milkman comes.*

446. a) *Does she often go get the milk?*  
b) *\*She goes get the milk.*

447. a) *Did she go get the milk?*  
b) *\*They went get the milk.*

Secondly, these expressions appear in constructions describing two activities that are basically just one activity with two stages. First you go and then you open the door. The first ‘stage’ can be dropped and the sentence is still understandable but loses its unique properties because it becomes a canonical simple sentence. The inflection is allowed, and the verb is finite.

448. a) *(Go) open the door!*  
b) *Mary and Pete get milk every time the milkman comes.*

---

<sup>48</sup> This inability to show any kind of morphology has been called the *inflection condition* by Pullum (1990).



Other verbs that express initial phase like *start* or *begin* require the *to*-infinitive complementation or gerund. The difference is clearly visible in (449-450); while with *start* we can ask about its complement with *come* it is not possible.

449. a) *Today, Paul and Rose start to speak to us.*  
b) A: *What do they start?* B: *To speak to us.*

450. a) *Today, Paul and Rose come speak to us.*  
b) \*A: *What do they come?* B: *Speak to us.*

Therefore, even though it seems that there are two VPs in a certain fixed sequence, the two verbs are basically one unit. We cannot for example separate the two verbs even though there seems to be the implied conjunction *and*, but if it appears in spell out the result is odd if not ungrammatical (451).

451. a) ?*Come **and** eat. I've chilled a bottle of champagne to celebrate.*  
b) ??*Go and shut the door.*

The two verbs are not in coordination. It is even worse when we split the construction with an adverb (452).

452. a) \**Mary and Pete come **often** see me.*  
b) *Peter will go **quickly** open the safe.*

We can compare these expressions to those like *kiss and make up* and we see that this latter type clearly involves two VPs in coordination with the conjunction *and* overtly spelled out. There is also a fixed sequence of the two activates required, but there are clearly two distinct actions in progress. Inflection on both verbs is also grammatical.

453. *(First) they kissed and (then) made up.*

It is not conclusively clear that the second verb is in bare infinitival form. In the V +V construction, it can be the case that the second verb takes the form of the first verb because it is in subordination, be it imperative, infinitive, subjunctive or present simple tense. This problem surfaces with the verb *be* as it shows morphology.

454. *I want to /should go be a better person.*

455. *\*I go be a better person.*

We included this subsection because we are aware of this phenomenon, however, we are not sure how to approach it. It seems that at least sometimes the second verb is a bare infinitive. And once again the matrix verbs are grammaticalized items (the lack of inflection is a strong indicator) that require bare infinitival complementation. In this aspect they behave in a way similar to modals and that is also why they are included in here together with other modals.

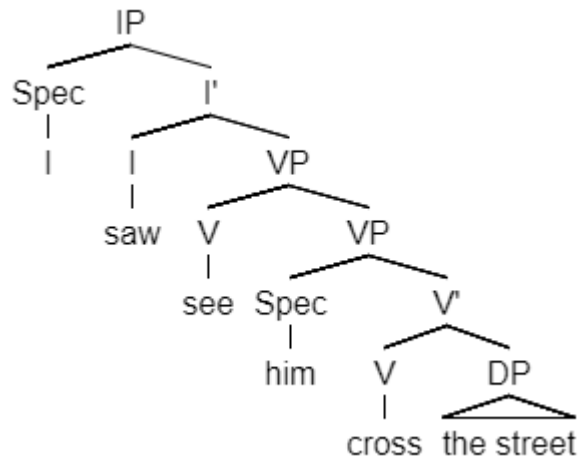
As to their semantics, they all express a kind of movement (*go, come, run*) and also an initial phase of something that is expected to happen. In most cases it is a hypothetical event or action, therefore irrealis. Nonetheless, they can also express something that happens on a regular basis, and therefore is realis. This indicates that with a bare infinitive, irrealis is not inherent but depends on the selecting verb.

## 6.2 Transitive Verbs with Bare Infinitive Complements

The category of lexical verbs requiring bare infinitival complementation include some apparently transitive verbs of causation (456a) and perception (456b). Their list is limited and they all belong to the closed class of grammatical verbs. These verbs show a pattern similar to ECM verbs (5.2), in that they also contain a DP in accusative case that is the agent of the bare infinitive and which stands between the verb and bare infinitive: VP+DP+Bare Inf.

456. a) *Jane let **him** help her.*  
b) *I saw **him** cross the street.*  
c) *Peter heard **her** cry in bed.*

457. Tree representation of verbs of perception infinitival complementation:



The same as with ECM verbs, here the Spec VP of the infinitive is also case marked by the matrix verb across a phrasal boundary VP, as shown by the reflexive pronouns that require the antecedent to be present within the same clause (458).

458. *I helped / saw [him shave himself / \*myself].*

Bare infinitives do not appear in control constructions and as a result they do not have their own independent tense (Susi Wurmbrand 2012).

459. a) *\*Today Jim saw her cry yesterday evening.*  
 b) *\*Last week Jim let her leave next month.*  
 c) *\*Two days ago, Jim could leave tomorrow.*

Negation can be placed on the first MOD / AUX, and then the sentential negation results in different reading than the constituent (phrasal) negation with verbs of causation, cognition and perception.

460. a) *Peter did not make her cry. ≠ Peter made her not cry.*  
 b) *Jim did not see her sleep. ≠ Jim saw her not sleep.*  
 c) *Mark did not watch her win. ≠ Mark watched her not win.*

Under passive voice, ECM constructions maintain the same meaning as in the active voice (461a). The verbs requiring bare infinitive complementation also maintain the same meaning under passivization (461b-c). However, it is only possible to passivize a main clause complemented by a bare infinitive as a main clause complemented by a *to*-infinitive. The *to* is inserted into a passive voice sentence because if there are two VPs, there either has to be an overt case between them (ACC) or the infinitival *to*. The *to* is omitted if it is possible to get the +Realis reading as with the verb of perception and causatives.<sup>49</sup>

461. a) *Jim expected Tom to call him.* = *Tom was expected to call Jim.*  
b) *Jim made Tom call Harry.* = *Tom was made to call Harry.*  
c) *I saw her sneeze.* = *She was seen to sneeze.*

ECM verbs can have expletive embedded subjects either *there* or *it* and still remain grammatical (462a-b). Only some perception verbs can do this as well, and if they do, there is always a *to*-infinitive complementing them (462c).

462. a) *Jim expected there to be an open bar.*  
b) *Jim expected it to be easy.*  
c) *I heard it to be a good film.*

Verbs of causation actually denote two distinct kinds of meaning, for example the verb *make* can mean to cause something to happen as in (463a) or to force somebody to do something as in (463b). In both cases the meaning is realis. The structure is V+V and expresses a single event.

463. a) *The sun made her freckles come out.*  
b) *Jill made Jim clean his room.*

---

<sup>49</sup> According to Sheehan (2018) the causatives and verbs of perception do not actually passivize at all. Their passive voice counterpart should not have the infinitival marker *to*. The reason for their inability to passivize is according to Sheehan connected to the phase theory because the A-movement does not have access to phase-edge escape hatches (I or little v related projections).

The verb *have* in its ditransitive use can mean something like allow to happen in case of (464a) and arrange for something that is happening (464b). Again, in both cases there is a realis reading of the embedded clause.

464. a) *I have my plants grow in a greenhouse.*  
b) *I have Paul come twice a week.*

The verbs of perception and causative verbs (in their force meaning) seem to behave in syntactically the same way as ECM verbs, except that the latter require the *to*-infinitive complementation. Causatives and perception verbs require the *to*-infinitive only when passivized and verbs of perception also with the insertion of the dummy object (462c-d). ECM verb complements have an independent temporal reference usually through aspectual markers, perfective *have* or progressive *be* + *-ing*. With verbs of perception and causation the tense of the matrix and subordinate clause is always simultaneous.

Semantically perception verbs express facts that were witnessed by the main clause subjects which are experiencers. Causative verbs entail the activity which is in bare infinitive and they are agentive. Both of these groups of verbs have no need for irrealis feature because they are themselves realis and need only the base form of the verb, the bare VP.

### 6.3 Bare Infinitive as Predicates

Bare infinitives also appear in a few other constructions like pseudoclefts, after certain prepositions and after *wh*-elements in *wh*-questions.

465. *What Jane decided to do was leave him.*

466. *Peter let Jane do anything except (to) **leave** for the weekend.*

467. *Why **bother** trying coffee machine? It never works.*

In all three constructions, bare infinitives serve the purpose of the main semantic predicate. In case of pseudoclefts, there is a finite dummy predicate coreferential with the bare infinitival predicate (465). In case of prepositions, there is usually a choice to use or not to

use the infinitival marker *to*, and when it is omitted it is probably for language economy reasons (466). The preposition occupies the slot of the complementizer and the infinitival acquires its tense meaning from the matrix verb which is the dummy *do*. The *wh*-element may also serve as the complementizer for certain bare infinitive questions (466).

### 6.3.1 Bare Infinitive in Pseudoclefts

In pseudocleft constructions the subject is represented by the *wh*-clause and the bare infinitive is its predicate (cf. Higgins 2015). The bare infinitive follows the verb *be* and is typically associated with the verb *do*. The verb *do* is a dummy or a placeholder for the lexical verb in infinitival form that is in the rhematic position close to the end of the sentence.

Pseudoclefts are one of the means of expressing sentence dynamism in English. They contrast with the old information, the theme or topic, and new information, and express the rheme or focus. Bare infinitive can appear in the position of the stressed rhematic information in these kinds of constructions.

Rhematic pseudocleft examples can include a raising to subject verb (468a) in the matrix clause, subject control verb (468b), an object control verb (468c) and an ECM verb (468d), because all of them rhematize the infinitival VP.<sup>50</sup>

468. a) *What he seems to do is **place** himself at the point of intersection.*  
b) *What I decided to do is **apply** for the job.*  
c) *What I encouraged him to do was **sit** down with his employees.*  
d) *What I wanted him to do was **leave** the country.*

The non-rhematic or neutral versions of the sentences would look like this (469a-d).

---

<sup>50</sup> The bare infinitive in pseudocleft sentences can also alternate with full *to*-infinitives. The bare infinitival option seems to be connected with the adjacency to the auxiliary *be*.

469. a) *He seems to place himself at the point of intersection.*  
b) *I decided to apply for the job.*  
c) *I encouraged him to sit down with his employees.*  
d) *I wanted him to leave the country.*

Bare infinitives in pseudocleft focus have no inherent relation to (ir)realis, in line with our hypothesis that irrealis is related to *to*. Semantically the meaning of the bare infinitive is the same in pseudoclefts and in non-rhematic sentences.

### 6.3.2 Bare Infinitive after Prepositions

There is a list of preposition-like elements that take bare infinitives as their complements, these include: *but, except, save, than*.

470. a) *She did nothing but cry.*  
b) *I would do anything but / except lie.*  
c) *Many of them went to jail rather than pay the fine.*

However, these prepositions can be also followed by the *to*-infinitive if the matrix construction requires complementation with the *to*-infinitive. This happens if the verb following the preposition has a complement of its own.

471. *There's nothing he wants **save to** pursue his studies in peace.*

472. *You have no choice **but to** accept her offer.* (Huddleston and Pullum 2002, 1263)

The choice between the bare infinitive and *to*-infinitive after these prepositions depends solely on what the larger construction licenses. The meaning is realis or irrealis depending on the combination of the matrix verb and the preposition. In (470a) it is realis while in (470b) it is irrealis. This again shows, that the bare infinitive, unlike the *to*-infinitive, is unspecified for realis.

### 6.3.3 Bare Infinitive in Wh-questions

Bare infinitive can be also used with *why* in the main clause. The same applies to *how*, even though this phenomenon is becoming more and more obsolete.

473. a) *Why say it?*  
b) *Why drive all the way there?*  
c) *How leave it be?*

These examples imply that there is no reason or way to do whatever is expressed in the infinitive, they are examples of irrealis. It is a so called indirect directive, where the speaker wants to say, “Do not do it” or in case of the example (473c) “How is it possible to leave it be?”. The bare infinitive following *wh-* element forms a sort of a rhetorical question. “Whereas in *why to* uses the speaker has the reasons for actualizing some event in mind, *why Ø?* structures are used by the speaker to imply that he is unable to conceive of any reason for the infinitive event to occur or to be performed” (Duffley and Enns 1996, 230). These questions are actually subordinate shortened complements (474).

474. a) *There is no reason why we should say it.*  
b) *I have no idea why we should drive all the way there.*  
c) *I do not know how I should leave it be.*

According to Duffley it depends on the context, if it is affirmative only *to*-infinitive can appear in *wh*-constructions but if it is interrogative both *to* and bare infinitives can appear there, except for the word *why* which accepts bare infinitive only.

As we can see on the rephrased examples in (474) the meaning is best illustrated using the modal *should*. The inherent irrealis feature of these expressions can be the explanation why they do not need a separate irrealis element *to* and prefer bare infinitive to full infinitive.

## 6.4 Bare Infinitive Limitations in Comparison with *to*-infinitive

Our principal structural hypothesis for English bare VPs is that they are complements that are *non-maximal* of the highest functional head *v* in a maximal projection of *V*



(Veselovská 2017b, Ch. 7), namely vP. This v houses the feature irrealis in unmarked configurations.

A first broad consequence of this hypothesis, though many details remain to be worked out, is that the limited distribution of bare infinitives must be linked to their status as complements (and not adjuncts, subjects, specifiers, etc.). It appears that only certain selected complements can be non-maximal phrases, and moreover, that such non-maximal complements can only be selected by closed class items, as will be argued for further in the next chapter.

There are aspects of this type of selection we don't understand fully. One limitation connected with movement is that they cannot appear in passivized constructions (476).

475. *Mary made John cry.*

476. *John was made \*(to) cry.*

This is not so much the matter of their size as it is caused by their sudden adjacency to the matrix verb because the original object that separated them is moved to the subject position.

#### **6.4.1 Bare Infinitives and Realis Value**

We have argued that there are different sizes of different types of infinitives. Bare infinitives lack the particle *to*; when complementing other verbs, bare infinitives only keep their independent constituent negation both after modals and after causative / perception verbs. Constructions with bare infinitives are not able to express their independent tense, so they are definitely not CPs and neither IPs. They do not have the same qualities as vPs either, they cannot be topicalized, they typically do not have their subjects overtly expressed, so they are the smallest of all kinds of infinitives, bare VPs. All the verbs they complement belong to very specific categories; they are all closed classes of verbs.

As we have established before, bare infinitives lack v position which is typically occupied by *to* expressing the irrealis feature. Without this, the bare infinitive does not express realis but rather its mood depends on the main verb in the combination with special constructions (pseudoclefts, prepositions, etc). Bare infinitive is thus predictably irrealis when combined with modals. With some verbs they are realis due to the selecting

verb which is itself realis. An example of this is a closed class item that is agentless like the verbs of perception.

477. *John saw Peter eat ice cream.*

In case of pseudocleft constructions, it depends solely on the selecting verb. If the main verb is realis, then the complement will be realis too.

478. *What I did was seek out some manufacturers.*

[COCA:2015:MAG\_Essence]

In wh-constructions bare infinitives are always irrealis since these are questions.

479. *What to do?*

And finally, with prepositions it depends on the matrix verb as well as the preposition itself.

480. *She does nothing but cry.*

481. *She wants to do nothing but watch TV.*

In (480) the verb *does* indicates that the activity of crying takes place, while in (481) the verb *want* combined with *do* expresses a desire that does not have to be fulfilled.

#### **6.4.2 Movement Constraints on Bare Infinitives**

Infinitives, bare or full, are verbal clauses and they are not DPs, even though they seem to share the same slot with them because they can be subjects or objects as well. Emonds (2015) claims that infinitives cannot actually stand in the position of subject nor object since these require DPs. Instead, initial infinitives are pre-posed and there is a null structural subject DP between the infinitive and the I position. An empty expletive DP is co-indexed with the infinitive.

482. [CP To find a good job]<sub>j</sub> [IP [DP Ø]<sub>j</sub> [I would] [VP make her very happy ]].  
(Emonds 2015, 17)

Bare infinitives cannot appear even in the position of the subject nor can they be pre-posed like *to*-infinitives. They have an even more restriction distribution because they are *not maximal projections*. They are too small to be able to stand alone like full infinitival CPs do. Bare infinitives are even smaller than the basic vPs because they lack the marker *to* in the little *v* position, they are just bare VPs. VPs cannot stand in the position of a subject so topicalization of bare infinitives is not permitted (483), not even in case of verbs that normally require bare infinitival complementation (484).

483. \**Find a good job would make her very happy.*

484. \**Feel sorry I made him.*

### 6.4.3 Bare Infinitives with Overt Subjects / Agents

Bare infinitives do not have overt subjects with case assigned from within VP. Their subjects are moved to the position of the subject of the matrix verb in the case of modal complements.

485. *I<sub>i</sub> must [t<sub>i</sub> go home now].*

In the case of causative verbs and verbs of perception, the subject of the bare infinitive is the object-case marked DP following the matrix verb. Because VP is not maximal, and it is not a CP, there is no room for a DP subject.

486. *I made **Steve** cry.*

487. *I saw **Peter** steal the jacket.*

It is not possible to use the preposition *for* as a complementizer which would introduce the bare infinitive. The preposition *for* requires full *to*-infinitive.

488. a) *Jane made (\*for) John leave.*  
b) *She called for him \*(to) be fired.*  
c) *Jane made (\*for) John leave.*

#### 6.4.4 Bare infinitives as Surprise Clauses

There are, however, special cases when the overt subject is present in PF. Example (489a) is a root infinitive, a part of polar echo construction and example (489b) is a special construction in contexts of surprise.

489. a) *Kim tell a lie! Surely not.*

b) *Rather than Kim give the introductory lecture, why don't you do it yourself?*

(Huddleston and Pullum 2002, 1187)

490. a) *Her tell a lie! Surely not.*

b) *Rather than her give the introductory lecture, why don't you do it yourself?*

Both are informal, if the subject is a pronoun it is most likely case marked with accusative in both constructions (490).

#### 6.5 Brief Comparison with Czech

In Czech, there is no other possibility of forming the infinitive than with the inflectional suffix *-t*, so it is not possible to carry out a comparison. This special infinitival suffix originates in the position of little *v* just like the English infinitival *to*. To prove this, we can try to move the suffix around as little *v* can and English bare infinitive cannot (483). Topicalization of the infinitival phrase is possible in Czech (491) so it seems that the Czech infinitive is a vP.

491. *Najít (si) práci by ho učinilo šťastným.*

find<sub>INF</sub> REFL work<sub>ACC</sub> would him made happy

‘To find a job would make him happy.’

492. *Pracovat jako voják se Petr rozhodl už na škole.*

work<sub>INF</sub> as soldier REFL Petr decided already at school

‘Peter decided to work as a soldier already at school.’

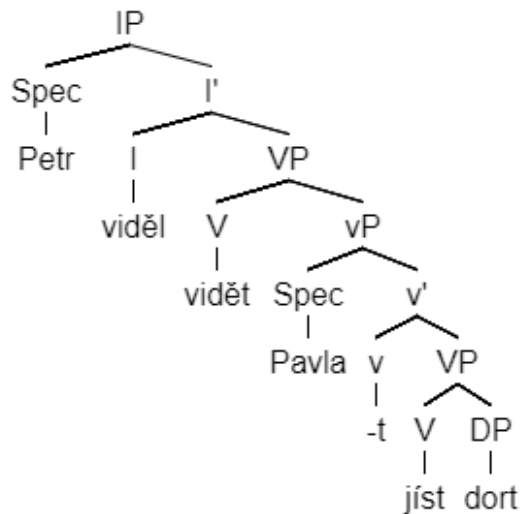
There is thus no bare infinitive in Czech. Modals are, for example, also raising verbs in Czech, which is caused by their semantic non-agentivity rather than their syntax because in Czech modals behave like lexical verbs.

493. *Petr musí jít domů.*  
 Petr must<sub>3.PRES</sub> go home  
 ‘Petr must go home.’

With verbs of perception in Czech (494) it is the same as in English, they also form ECM constructions and so do Czech causative verbs (496). Both of these are also realis in meaning in Czech.

494. *Petr viděl Pavla jíst dort.*  
 Petr saw<sub>3.SG</sub> Pavel<sub>ACC</sub> eat cake.  
 ‘Petr saw Pavel eat a cake.’

495. Tree representation of Czech infinitival ECM complementation:<sup>51</sup>



<sup>51</sup> The word *viděl* “saw” in the I position in the tree stands for past tense inflection.

496. *Petr nechává Pavla pracovat u sebe doma.*  
Petr let<sub>3.SG</sub> Pavel<sub>ACC</sub> work<sub>INF</sub> at his home  
'Peter lets Pavel work at his house.'

497. *Maminka dala sušit prádlo přes noc.*  
mom gave dry<sub>INF</sub> laundry over night.  
'Mom let the laundry dry overnight.'

It is interesting to compare passivized counterparts of the (496-497). In case of the Czech verbs of perception the resulting passive with infinitival complement is ungrammatical (498) and we have to use a finite complement (499) in order to construct a grammatical sentence.

498. *\*Pavel byl viděn jíst dort.*  
Pavel was seen eat<sub>INF</sub> cake

499. *Pavel byl viděn, jak jí dort.*  
Pavel was seen as eats<sub>3.SG</sub> cake  
'Pavel was seen eating cake.'

With Czech causatives the situation is even more limited and neither passivized infinitival complement (500) nor passivized finite complement (501) form a grammatical sentence.

500. *\*Pavel je nechán pracovat u Petra doma.*  
Pavel is let work<sub>INF</sub> at Peter home

501. *\*Prádlo bylo dáno sušit přes noc*  
laundry was given dry<sub>INF</sub> over night.

The question is why Czech lacks the bare infinitive, and how does it compensate for it or why English needs it at all. The verbs that choose bare infinitives in English are either incompatible with the irrealis feature of the *to* particle (verbs of perception) or they do not need it as they are irrealis themselves (modals). As for Czech, verbal morphology demands some kind of suffix. Czech infinitive with *-t / -ci* morpheme is the most basic possible form

of a verb. In Czech, the infinitival morpheme is always present no matter if the meaning of the infinitive is realis (after perception verbs and causatives) or irrealis (e.g. after control verbs).

## 6.6 Chapter Summary

Bare infinitives and *to*-infinitives differ in one particular thing and that is the lack of the particle *to* with the former, otherwise bare infinitives complement verbs (and follow prepositions) that behave like raising to subject verbs (in case of modals) or ECM verbs (in case of causatives and verbs of perception). This applies to both English and Czech. In English, bare infinitives are VPs and they lack the *v* head of a maximal *v*P. As such they cannot stand alone and be topicalized as subjects or have their own overt subjects.

With the complements of verbs of perception, we witness something that is or was actually happening.

502. *I saw him cry.*

Causative verbs also imply that whatever the agent attempted actually happened or happens regularly to the causee.

503. *I made him cry.*

504. *I make him cry every single time.*

It would seem that the lack of the infinitival particle *to* results in the cancellation of the intrinsic irrealis feature of the infinitive. The infinitive without *to* is really just a plain form without any additional semantic value.

## 7. Phasehood of Infinitives

With the existence of embedded clauses there has always been the question of what label they should have. Embedded clauses consist of at least one NP and one VP that function as a unit. Their unity is the key characteristic of their status. This means, on the one hand their ability to move as a whole and on the other hand the strong restrictions of moving constituents out of them.

Regarding movement, it is important to distinguish between “A movement” (505b), i.e. argument movement, and “A-bar movement” (505c) to Spec of a CP (Freidin and Lasnik 1981).

505. a) *John bought a car.*  
b) *A car was bought \_\_\_ by John.*  
c) *Who did you say \_\_\_ bought a car?*

This necessity to somehow delimit and label the embedded clauses attracted greater attention with the “long-distance movement” (Chomsky 1973). The issue that troubled most linguists was that sometimes the long-distance movement was allowed (506b) and sometimes it was not (507b).

506. a) *John believed **that** Mary liked Peter.*  
b) *Who<sub>i</sub> did John believe that Mary liked t<sub>i</sub>?*
507. a) *John watched the film **which** saddened Jim.*  
b) *\*Who<sub>i</sub> did John watch the film which saddened t<sub>i</sub>?*

Example (506a-b) shows a successful movement of the object out of the embedded complement clause to the position of the subject of the main clause, while example (507a-b) is an embedded relative clause which functions as a closed off unit and movement out of it



results in an ungrammatical sentence.<sup>52</sup> It would seem that in the latter example the closed off unit is somehow more autonomous than the subordinate clause in the former example, though both are CPs.

Originally, it was his theory of islands that accounted for this distinction, but the search for an autonomous unit took a new turn in Chomsky (2000). Phase theory was more universal than the theory of islands, because Chomsky had long wanted to create a principle that would account for the contrast of examples (506-507) and explain the reason why the sentence (507b) fails. He found the solution in his “successive cyclic movement”<sup>53</sup> (1973) which operates with the notion of movement in cycles one after the other. Through this method, the argument of the embedded clause moves to the so-called escape hatch at the edge of the phrase, also the “edge” of the phase, and then moves again to the sentence initial position of the matrix clause, the specifier of the phrase.

There is a constraint, however, with some sentences because of the phrases that block the movement to the edge. The edge can be already occupied by a phrase, typically a wh-phrase or any other phrasal item. That is why the given element cannot escape from the embedded clause, because there is no place for it to finish the first cycle of the movement and thus it cannot move second or even third time to the sentence initial position.

In “Derivation by Phase” (2001) Chomsky develops his idea and introduces phases as an alternative to his previous Barriers or Bounding Nodes. No matter which terminology one decides to use, it is important to realize that there is such an apparatus that creates an independent unit of a certain kind. Under universal grammar it is the “Locality Principle” that requires all grammatical operations to be local. This serves language economy as well as it minimizes the search. By search is meant the search of the goal (wh-phrase) by the probe

---

<sup>52</sup> Ross (1967) identified several constructions (“islands”) which do not allow for the wh-element to escape (to move) out of them. These constructions include: indirect questions, relative clauses, sentential subjects, possessive noun phrases, and coordinate structures. He did not propose a unified characterization of them.

<sup>53</sup> The rules of successive cyclic movement include A-bar movement only and this movement is always from one edge to another edge and follows individual cycles.

(selecting head).<sup>54</sup> This will result in an easier processing of smaller chunks, one phase at a time. As Chomsky puts it “phases should be as small as possible to minimise memory” (2001, 14).

Phases are relatively isolable, that is they can appear alone in focus peripheral positions, for example, pseudoclefts.

508. a) *What King Lear said was [CP that Cordelia was no longer his favorite daughter].*  
b) *What Goneril did was [vP blind Gloucester].* (Matushansky 2005, 4)

This type of mobility that presupposes semantic and phonological independence and completeness is considered one of the key features of phases.

Another typical feature of phases is that they are of a propositional nature and they are basically complete clausal and functional complexes. All theta-roles are assigned and the phase (a vP or a CP) also includes both tense and force (Chomsky 2000, 106). They thus form a semantic proposition that can have a truth value.

509. *I regretted **that John ate the chocolate cake.***

510. a) *I managed **to escape the horrors of war.***  
b) *What I managed was **to escape the horrors of war.***

The force of the embedded clause (509) is declarative and the sentence says that there is an agent *John* who ate the cake. The proposition of this clause is true. In case of (510) the infinitival complement can also have a sort of propositional reading and it definitely functions as a complete functional complex.

Lastly it is the reconstruction effects as in Chomsky (1977), the derivation of logical form (LF) from Surface structure (SS), when a moved element is interpreted in a lower position than the position in which it is pronounced.

---

<sup>54</sup> Probe and goal are subjacency terms where the probe attracts the closest goal that it c-commands in order to satisfy its selection (Sportiche, Koopman, and Stabler 2014).

511. a) SS *Which book about Mary does he like?*  
 b) LF *Which x does he like [x book about Mary]*

The edge of a phase provides a potential reconstruction site. “The only way a wh-phrase can be interpreted in an intermediate [Spec,CP] position is if it passed through this position, leaving a copy behind” (Citko 2014, 74).

512. *Jan<sub>4</sub> asked* [<sub>CP2</sub> [*which picture of himself*<sub>2,3,4</sub>]<sub>1</sub> *Piotr<sub>3</sub> thought* [<sub>CP1</sub> [*which picture of himself*<sub>1</sub> *that Adam<sub>2</sub> liked* [*which picture of himself*<sub>2,3,4</sub>]<sub>1</sub>]. (Citko 2014, 75)

“Consider in this light example [...] [(512)]: the presence of multiple wh-copies gives rise to multiple potential interpretations, involving different antecedents. If the copy in the specifier of CP1 is the one that is interpreted, the most local potential binder for the anaphor is going to be *Piotr*. If it is the highest copy instead (the one in the specifier of CP2), the most local potential binder is going to be *Jan*. And if it is the lowest one, the most local potential binder is going to be *Adam*” (Citko 2014, 75).

According to Chomsky (2001) there are phases of two kinds, strong phases that have as their heads little *v* or *C* and weak phases that would include passive verbs or raising constructions. Phases with *C* as their head are all clauses, and phases with *v* as their head contain accusatives; that is, they include transitive verbs. The head *C* or *v* has a complement that is its sister IP or VP respectively. There has been a discussion (Chomsky 2005) of whether DPs should also be acknowledged as phases, but we will not concentrate on this topic because we are more interested in the potential phasehood of infinitives.

All full clauses can be introduced by some kind of complementizer and that is why they are CPs even if the complementizer is null. If a clause cannot be introduced by a complementizer it is not a phase. In the example (513) the clause is a CP with a null complementizer (Radford 1988) and in (514) it is introduced by the complementizer *that*. The recursive nature of language enables the sentence in (515) to become a new phase introduced by the complementizer *if*. In example (516) the preposition *for* serves as a complementizer but this time a non-finite one.

513. *John helps me.*

514. *I know **that** John helps me.*

515. *[**If** I tell her [**that** John helps me]], she will be happy.*

516. *I wish [**for** John to go home.]*

Phases, be it CPs or vPs, “inherently trap elements inside them” (Boeckx and Grohmann 2007, 216), this is similar to a “Complete Functional Complex”, the one part of the derivation in which “all functional roles are satisfied” (Chomsky 1986, 15). For Chomsky (2001) vP is a phase by being a domain where all theta roles are assigned. The key restriction on phases was introduced as the Phase impenetrability condition (PIC) by Chomsky (2001). The definition of the PIC is as follows:

517. “If X is dominated by a complement of a phase YP, X cannot move out of YP”

(Chomsky 2001, 108)

Phases are to be impenetrable to movement, however, anything that appears on its edge can move. According to Chomsky “v\* is the functional head associated with full argument structure, transitive and experiencer constructions, and is one of several choices for v, which may furthermore be the element determining that the selected root is verbal, along lines discussed by Marantz (1997)” (Chomsky 2008, 143). Legate (2003) shows that passives and unaccusatives also project a vP phase same as transitive verbs. We are going to attempt to show that at least some infinitives exhibit the basic features of phasehood as well.

In Chapter 2 we discussed the nature of the infinitival particle *to* and arrived at the conclusion that it is in a little v position, i.e. a sister to a VP headed by a lexical verb (57). We repeat here that all *to*-infinitives, no matter their size, have the following inherent structure:

518. [vP [SPECvP  $\emptyset$ ] [v' [v to [VP ...]]]]

When judging the phasehood of infinitives, i.e. at least vPs, there are two basic premises that we are going to adhere to.

519. a) A maximal projection vP of an activity V is a phase iff an open class item selects its lexical V.  
b) Neither movement nor case assignment cross the boundary of a vP phase.

(adapted from Čakányová and Emonds 2017)

What these premises say, most open class lexical verbs introduce phasal domains. Conversely, many closed class items are not complemented by phases. These closed class items contain some prepositions and conjunctions, the auxiliary verbs *be*, *have*, *get* and modals, and because of their limited number also raising to subject verbs.

### 7.1 Phasehood and Obligatory Control Infinitives

We have seen that some infinitives, specifically obligatory control (OC) infinitives, can be CPs and as such they should be phases by definition. As CPs, they have all the verb's arguments they need, including the covert DP subject PRO which is coreferential with a controller in the main clause and a non-finite predicate. OC infinitives include subject control (520), object control (521) and arbitrary control constructions. In accord with (519) there is no raising involved nor case marking across the phrasal or phasal boundary because the PRO controlled element does not move anywhere outside the phase. It stays in situ and lacks any overt case. An empty subject DP is ensured by a general cross-linguistic prohibition on assigning case into a phasal domain (CP). For tree representation of control constructions see (363) and (367).

520. *Jim decided* [<sub>CP</sub> PRO *to use these books*].

521. *Jim encouraged John* [<sub>CP</sub> PRO *to study history*].

As we discussed in Chapter 5 without putting them in the framework of phases, the control infinitives are the structurally biggest of all infinitives and as such they allow for the

independent time adverbial and independent negation reading. That is, the infinitive has its own IP which ensures independence from the scope of the matrix verb.

522. *Yesterday Jim<sub>i</sub> decided [PRO<sub>i</sub> to use these books (next year)].*

523. *Yesterday Jim persuaded John<sub>i</sub> [PRO<sub>i</sub> to use these books (next year)].*

Clausal negations of the main and OC subordinate clauses result in different meanings.

524. a) *Jim has not decided to study history.*

b) *Jim has decided not to study history.*

525. a) *Jim did not persuade John to study history.*

b) *Jim persuaded John not to study history.*

However, the key concept with OC is that the verbs that require OC are complemented by activity verbs that have subjects with agent theta roles. They are almost never complemented by stative verbs, as opposed to other types of constructions requiring non-finite complementation like ECM or raising verbs (Lakoff and Ross 1966).

526. a) ??*My friend tried / decided to owe less money / to be tall.*

b) \**Our situation tried / decided to owe less money / to be tall.*

527. a) ??*We forced / convinced John to need less money / to be tall.*

b) \**The crisis forced / convinced John to need less money / to be tall.*

OC infinitives are selected by a virtue of their lexical head V, rather than through a category like v, I or C.

Just as finite phases, control infinitives can move as independent units in pseudo-clefts into a focus position.

528. a) *I decided to buy a new book.*

b) *What I decided was [to buy a new book].*

They have their own force, which is mostly irrealis, because a *to*-infinitive is in fact irrealis mood as shown in Chapter 4. Regarding the truth value, we treat this topic in detail in Chapter 3 and even though infinitives never show full factivity they can have some truth value related features, and this is especially true about control infinitives.

529. *I forgot to call my mother on her birthday.*

530. *I forced Jim to buy the house.*

As for the reconstruction effects, the head of control infinitives is a C.

531. *John decided to do yoga.*

532. *What did John decide to do \_\_\_?*

The A' movement is recoverable, that is, it can be reconstructed. The same as in example (512), here also in (533) the presence of several wh-copies gives rise to several possible interpretations, involving different antecedents.

533. *Jan<sub>4</sub> persuaded Piotr<sub>3</sub> to ask [which picture of himself<sub>2,3,4</sub>] Adam<sub>2</sub> liked [which picture of himself<sub>2,3,4</sub>]<sub>1</sub>*

Depending on which copy in the specifier is the one that is interpreted, the potential binder for the anaphor is going to be the most local one. It can be *Jan* or *Piotr* or even *Adam*.

Independent tenses and clausal negations in complements reflect separate IPs, so we can conclude that OC infinitives must be at least CPs that contain vPs, as seen in (363) and (367). They also qualify as phases because they are isolable, have their own irrealis force and have reconstruction sites. Their phasehood explains why they do not involve movement of their subjects out of them and why their subjects cannot be overtly case-marked.

## 7.2 Non-phasal Raising Infinitives

Raising to subject infinitives are the smallest from all infinitives lacking both independent negation reading and an adverbial of tense slot because they lack an independent IP.

534. a) *Yesterday, John seemed to like Jane a lot (\*today).*  
b) *John did not seem to like Jane. = John seemed not to like Jane.*

The fact that there is a copy or trace of the subject within the infinitival clause explains the anaphoric relationship with a reflexive pronoun. The trace is the remnant of the subject movement to the higher clause. It moves because it needs a case assigned and that can be done only by the matrix predicate. Also, raising verbs do not assign any theta role to their moved subject DPs. The only theta role available to them is from the non-finite verbs which are often stative verbs and then the moved subject can be an experiencer.

535. *John seemed to himself [to know a great deal about stars].*

536. *John<sub>i</sub> seemed [t<sub>i</sub> to know himself a great deal].*

The moved subject is not the same as PRO in OC constructions because the subject that PRO is co-referential with does not need to move anywhere, it is already in the position of either subject or object of the matrix clause. The raising of the subject from the embedded clause to the main clause is itself a sufficient proof of lack of phasehood of the lower clause. Movement out of the phase is not permitted because it violates the (517). In other words, movement out of the phase is not possible unless the element that is moving is at the edge of the phase. The elements can move or are accessible only to the next strong phase. Raising to subject constructions do not have a CP layer. The movement is allowed because it is not a



phase. These verbs select vP and the lexical DP can be merged in SPEC(vP) and raise to SPEC(IP) in the main clause and receive case from I.<sup>55</sup>

537. \**Mary seems for (her) to like me.*

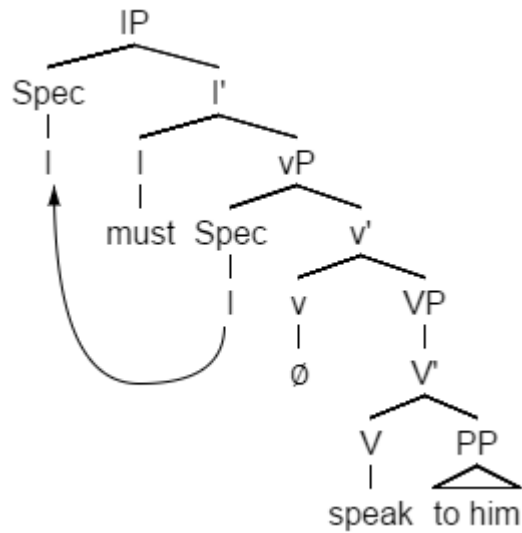
There are two kinds of raising to subject infinitives, type *a* introduced by modals and type *b* introduced by raising to subject finite verbs, which are light verbs. Both of these groups belong to a closed class category of elements. Modals for a clear reason, they even occupy the I position within the tree structure, and I is not an open class category. Raising to subject verbs, same as modals, are also very few in number and we can have their complete list as in Rosenbaum (1974): *seem, appear, turn out, happen, be likely*.

---

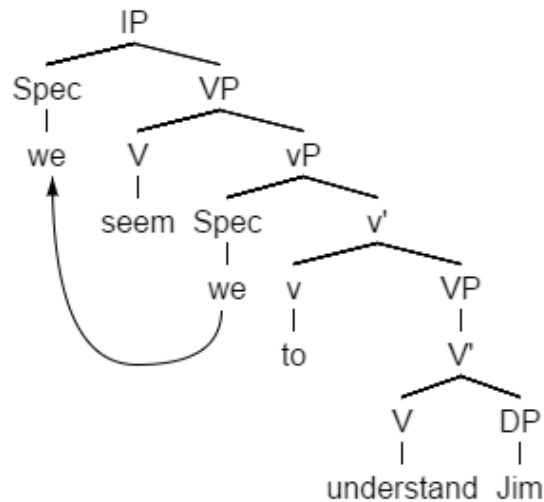
<sup>55</sup> Pesetsky (2016) asks a question whether raising infinitives are made as such or whether they become such. According to him they are derived from CPs by means of exfoliation, which is peeling off the CP layer. In his approach infinitives in deep structure are full CPs and they become smaller because of a non-finite probe. By peeling off the CP and IP layer their subject appears at the edge of the phase and can move. The subject position of the infinitival must move because it is not case licensed in situ and would violate Case Filter, which says that every NP must be assigned a specific case. The subject moves to a case marked position of the argument of the higher matrix verb. This solution, however elegant, is not necessary for determining the phasehood of different infinitivals. Raising to subject infinitives are the smallest kind of infinitivals without their own slot for negation or time adverbial. Moreover, they do not allow complementizers and they do not have their own force and are not isolable in pseudo-clefts:

- i) \**What John seems is to like Jane a lot.*
- ii) \**What John happens is to be my brother.*

538. Tree representation of raising to subject – type a:



539. Tree representation of raising to subject – type b:



Type *a* with modals involves bare infinitives which do not have their own IP. There is only one IP in the entire sentence which is in fact one clause. The second type *b* with light verbs is complemented by a *to*-infinitive and may appear slightly bigger, however, there is again only one IP in the entire clause. Both raising to subject infinitival categories are mono-clausal as we have seen in 5.4.

Wurmbrand (2014) suggests that distinct adverbs of time would require a projection above vP but still below the raised subject; for us this would mean another IP. The negation is thus going to be directly on vP, becoming a post verbal negation as a sort of constituent negation. The meaning is *the same* as if the main verb is negated, i.e. equivalent to what early generative syntax postulated as a separate rule of NEG-raising. The scope of negation is over the whole sentence in both types of raising.

There is no independent force of the two clauses, and the sentences with raising infinitive are more condensed and contain only one I position. Moreover, the movement is allowed, and the subject of the embedded infinitive has to raise to the position of the subject of the matrix verb even though not theta marked by the latter. These predicates select vP phrases based on the functional category v, and these vP are not phases.

### **7.3 Two Types of ECM Infinitives**

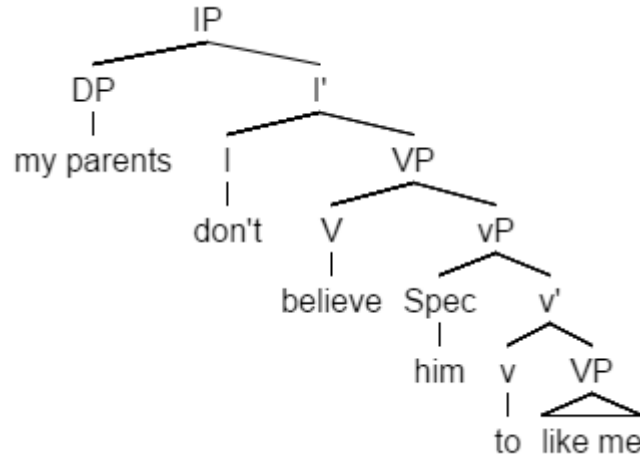
ECM constructions involve an element that is the subject of the complement but is case marked by the matrix verb across the phrasal boundary.<sup>56</sup> This alone suggests a violation of PIC criteria but first let's analyze this type of construction in detail. There are of two types of ECM constructions one the so called *believe*-type and the other *expect*-type.

---

<sup>56</sup> This alone suggests a violation of PIC criteria but first let's analyze this type of construction in detail.

Tree representation of ECM – *believe*-type:

540. *My parents don't believe* [<sub>VP</sub> *him (not) to like me*].



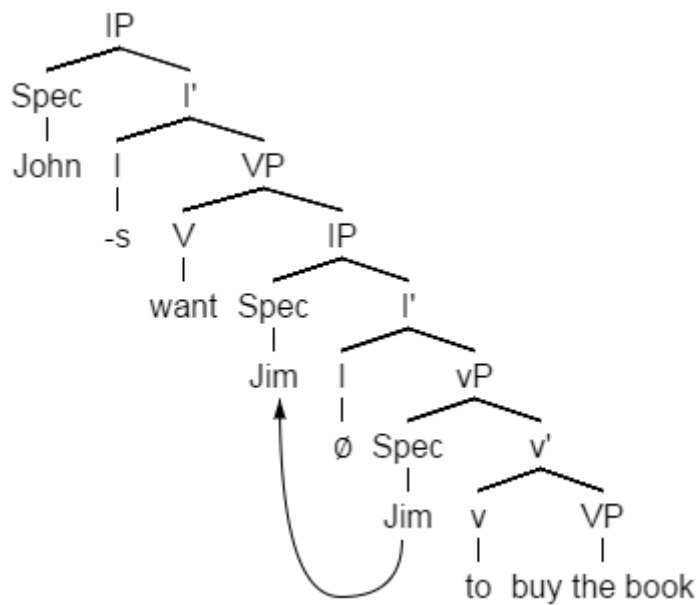
541. a) *Yesterday I believed / judged / assumed Jim to be a good worker (\*tomorrow).*

b) *I don't believe / judge / assume Jim to have prepared his homework well.*

c) *I believe / judge / assume Jim not to have prepared his homework well. (=541b)*

Tree representation of ECM – *expect*-type:

542. *John wants* [<sub>IP</sub> *Jim to buy the book*].



543. a) *Yesterday I wanted / expected Jim to do his homework (tomorrow).*  
b) *I don't want / expect Jim to do his homework this afternoon.*  
c) *I want / expect Jim not to do his homework this afternoon. (≠ 543b)*

The verbs in (543) can combine with adverbs whose temporal reference is not the same as the main clause adverbs. In contrast, the verbs in (541) can't have their independent time adverbials and the time reference of the subordinate clause is determined by the main verb time reference. The independent time reference position is on the whole understood to be node for Tense I, which is undoubtedly absent in case of the verbs in (541). Thus, it would seem that the ECM infinitives which are selected by the epistemic *believe*-type verbs as in (541) do not project to IP but only to vP.

In case of ECM *expect*-type verbs, negation of the main clause in (543a) results in different meanings from the negation of the subordinate clause (543b), and the infinitive thus must project to its own IP. This means that the infinitive in (543), which can have its independent time adverbial and a different clausal negation, is at least an IP, because these ECM *expect*-type verbs select a whole proposition, i.e. an IP as their complement.

The greatest difference between Raising to Subject infinitives (vP) and ECM infinitives (vP or IP) is that there is no movement involved with ECM verbs (*believe*-type) and the complement is introduced by an open class verb.<sup>57</sup> So far it seems that the phasehood is more or less a question of the element that introduces the infinitival phrase; open class items introduce phases while closed class items do not. But here, another factor enters, while the complement of *expect*-type can be an activity verb that has an agent, in case of *believe*-type the complement is typically a stative verb. "Thus, ECM type a [*believe*] verbs, though open class items, do not freely select V-headed complements. Since they select rather a feature of v (and V) and [...] their vP complements are not phases" (Čakányová and Emonds 2017, 107).

In some ECM constructions, the subject of the infinitive precedes the adverb of the higher clause which clearly shows that the infinitival is not impenetrable.

---

<sup>57</sup> With ECM *expect*-type, the number of these verbs is so limited that they can be considered a closed class category.

544. *Sue proved [Jane<sub>i</sub> **conclusively** *t<sub>i</sub> to have committed the crime*].*

545. *Sue proved Jane<sub>i</sub> **conclusively** [*t<sub>i</sub> to have committed the crime*].*

This is evidence for movement of the subject into the higher verbal domain (Postal 1974, 146). However, the verb *prove* seems to be the only one that unambiguously permits this. Other ECM verbs do not so readily allow for the penetration.

546. *?Sue wanted him **desperately** to return.*

547. *??Peter believed Jim **entirely** to be a good man.*

The three tests for phasehood that we applied earlier on OC infinitives included pseudoclefts, force and reconstruction effects. ECM apparently do not easily form pseudoclefts and they are therefore not independent units.

548. *\*What I expect is John to come late.*

549. *\*What I believe is him to be happy.*

Regarding their force (and truth value) ECM really do not express any propositions that could be judged true or false, because they include epistemic verbs and as such they express a degree of modality.

550. a) *She expected John to come late.*

b) *What did she expect John to do?*

551. a) *She believe John to be happy.*

b) *What does she believe John to be?*

As for reconstruction effects, movement out of ECM complements is not a problem and neither is case marking across their phrasal boundary. Even though the verbs from this category are open class verbs they do not select an activity V, they select stative verbs, which

is not compatible with our restriction of phasal selection (519). It is possible to conclude that ECM complements are not phases.

#### 7.4 For to Infinitives and their Status

Some ECM infinitives can also be introduced by the complementizer preposition *for*.

552. *I intend him to be doing all sorts of odd jobs in future books.*

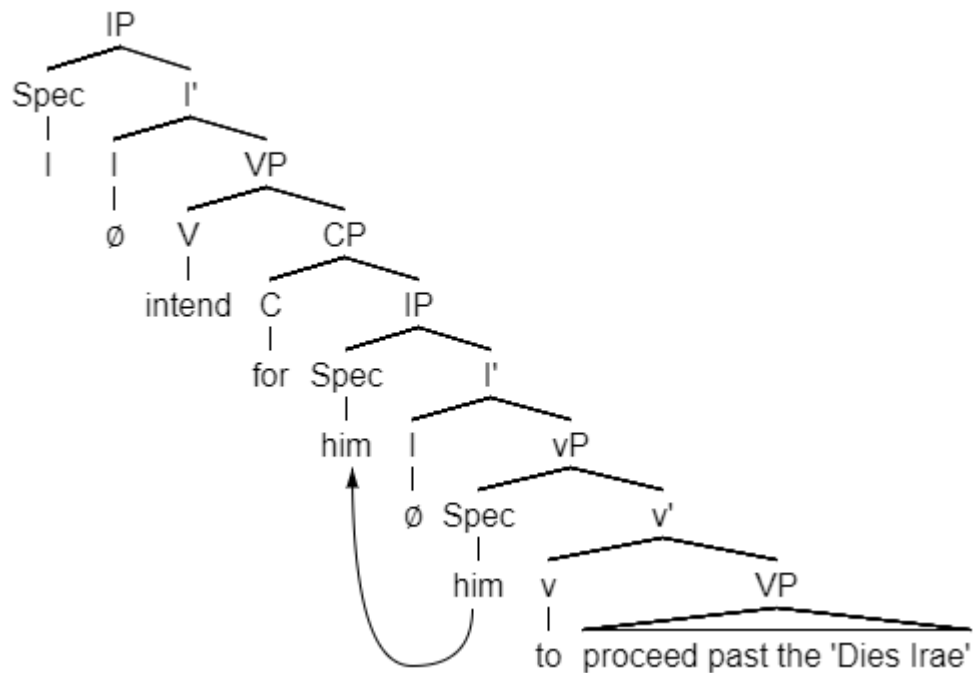
[COCA:1998:NEWS\_Chicago]

553. *I intend for him to proceed past the 'Dies Irae' and finish his Requiem.*

[COCA:2012:FIC\_FantasySciFi]

It thus appears that these ECM infinitives with the complementizer are bigger than other types of ECM infinitives, they are as big as the control infinitives and they form phases.

554. Tree representation of a phasal infinitival construction:



The ECM verbs that allow for this are usually of the type that has a homonymous control alternative. The verb *intend* for example can also be a subject control verb (555). The same applies for example to verbs *would like*, *prefer*, *wish*.

555. a) *I intend to buy this house.*  
b) *I prefer to be alone.*

Another type of verbs which can have the complementizer *for* are verbs that are typically subject control verbs. They can require the complementizer when there is no controller. The preposition also case marks the subject of the infinitive.

556. a) *Rachel hopes \*(for) Ross to be happy.*  
b) *Sarah waited \*(for) him to come out.*

In the above examples, the infinitivals form CPs, and therefore they are phases. Clausal negation (557) and time adverbs (558) are different in the two different IPs.

557. *Sarah did not wait for him to come out. ≠ Sarah waited for him not to come out.*

558. *Rachel has always hoped for Ross to be happy one day.*

The vPs that they include are by themselves not phases because they are introduced (selected) by a closed class null item in I that expresses modality.

## 7.5 Phasehood of Czech Infinitives

Phasehood can vary cross-linguistically. For example, PPs are phases in some languages, those that do not allow prepositional stranding, and they are not phases in other languages that allow for prepositional stranding (Abels 2003). Other instances arise from the fact that a particular language may lack the basic building blocks for the phase, for example DPs are deemed to be phases, yet some languages do not have overt articles and therefore determiners are more scarce.



Czech infinitives, as we have seen, engage in both control and raising constructions and to a certain degree (with verbs of bodily sensation) also ECM constructions. In English, the infinitives that are also phases are only obligatory control infinitives.

### 7.5.1 Czech Obligatory Control Infinitives as Phases

The Czech OC infinitives exhibit similar qualities. The example (559) is subject control and example (560) is an object control infinitive.

559. *Rozhodl jsem se [PRO jít domů].*  
 decided am REFL go home  
 ‘I decided to go home.’

560. *Petr poručil Janovi [PRO jít domů].*  
 Peter ordered John go home.  
 ‘Peter ordered John to go home.’

The OC can have its independent time adverbial with a scope over the non-finite complement in both subject and object control.

561. *Včera jsem se rozhodl jít zítra domů.*  
 yesterday am REFL decided go<sub>INF</sub> tomorrow home  
 ‘Yesterday I decided to go home tomorrow.’

562. *Petr včera poručil Janovi jet zítra domů.*  
 Peter yesterday ordered John go<sub>INF</sub> tomorrow home  
 ‘Yesterday, Peter ordered John to go home tomorrow.’

The negation of the matrix clause results in a different meaning than the negation of the embedded non-finite clause in both subject (563) and object (564) control.

563. *Nerozhodl jsem se jet domů. ≠ Rozhodl jsem se nejít domů.*  
 not-decided am REFL go<sub>INF</sub> home decided am REFL not-go<sub>INF</sub> home  
 ‘I did not decide to go home.’ ≠ ‘I decided not to go home.’

564. *Petr neporučil Janovi jet domů. ≠ Petr poručil Janovi nejít domů.*  
 Peter not-ordered John go<sub>INF</sub> home. ≠ Peter ordered John not-go<sub>INF</sub> home.  
 ‘Peter did not order John to go home.’ ≠ ‘Peter ordered John not to go home.’

The adverbial that is placed in the embedded non-finite clause is not related to the matrix clause, as is apparent from the different meanings the two sentences in subject control (565) and object control (566) have.

565. a) *Rozhodl jsem se jít okamžitě domů.*  
 decided am REFL go<sub>INF</sub> immediately home  
 ‘I decided to go home immediately.’

b) *Okamžitě jsem se rozhodl jít domů.*  
 immediately am REFL decided go<sub>INF</sub> home  
 ‘I immediately decided to go home.’

566. *Petr rychle poručil svému synovi dojít zeleninu.*  
 Peter **hastily** ordered his son finish<sub>INF</sub> vegetables  
 ‘Peter hastily ordered his son to finish the vegetables.’

567. *\*Petr poručil svému synovi rychle dojít zeleninu.*  
 Peter ordered his son **hastily** finish<sub>INF</sub> vegetables

There cannot be an overt complementizer in a form of a preposition but just as in English the *wh*-element can appear in the position of the infinitival specifier (569).

568. *\*Rozhodl jsem se pro Petra jít domů.*  
 decided am REFL for Peter go<sub>INF</sub> home

569. *Rozhodl jsem se, co dělat.*  
 decided am REFL what do<sub>INF</sub>  
 ‘I decided what to do.’

The unity of these non-finite complements can be attested on pseudoclefts in Czech as well. OC sentences allow for the movement of the non-finite clauses even though this type of construction is not typical for Czech because it is a means of Functional Sentence Perspective and Czech with its relatively free clausal word order does not need it.

570. *Co jsem se rozhodl (udělat) je přijít pozdě.*  
 what am REFL decided (do<sub>INF</sub>) is come<sub>INF</sub> late  
 ‘What I decided (to do) is to come late.’

571. *K čemu jsem se rozhodl je přijít pozdě.*  
 to what am REFL decided is come<sub>INF</sub> late  
 ‘What I decided (to do) is to come late.’

572. *K čemu jsem přinutil Petra je lhát.*  
 to what am made Petr is lie<sub>INF</sub>  
 ‘What I forced Peter to do is to lie.’

### 7.5.2 Czech ECM Infinitives as Non-phases

In Czech, there are very few examples of ECM verbs. The closest category of verbs that share many characteristics with ECMs are the verbs of bodily sensation and perception in Czech, and their English counterparts are usually complemented with bare infinitives. The greatest and most significant difference between ECM verbs and verbs of perception both in Czech and English is that with the verbs of perception the subjects of the embedded clauses seem to receive the thematic role from the matrix verb. They are objects and patients of the matrix verb as well as subjects and agents or experiencers of the embedded verb.

573. *Viděl jsem Petra dojíst zeleninu.* = *Viděl jsem Petra.*  
 saw am Peter finish<sub>INF</sub> vegetables saw am Peter  
 ‘I saw Peter finish the vegetables.’ = ‘I saw Peter.’

574. *Slyšel jsem Jana plakat celou noc.* = *Slyšel jsem Jana.*  
 heard am John cry<sub>INF</sub> all night heard am John  
 ‘I heard John cry all night.’ = ‘I heard John.’

These are opposed to examples (575), where the meaning is distinct, and the subject of the embedded clause is not the object of the matrix verb.

575. a) *I believe John to be a liar.* ≠ *I believe John.*  
 b) *I want John to apologize.* ≠ *I want John.*

This would point to the object control verbs, yet verbs of perception are not examples of object control either. They can take dummy subject (576).

576. *I saw there to be no reason.*

Verbs of perception appear to behave like a combination of two English ECM types, allowing for independent negation meaning but not having the adverbial of time slot. Nevertheless, they are one of the few types of verbs in Czech remotely similar to ECMs, so we will examine them from this perspective in this section.

577. *Viděl jsem Petra dojíst zeleninu.*  
 saw am Peter finish<sub>INF</sub> vegetables  
 ‘I saw Peter finish the vegetables.’

These Czech ECM verbs do not allow for independent time adverbials in the embedded clause but require simultaneity of their complements.

578. *Včera jsem viděl Petra dojíst zeleninu (\*zítra).*  
 yesterday am saw Peter finish<sub>INF</sub> vegetables tomorrow  
 ‘Yesterday I saw Peter finish the vegetables (\*tomorrow).’

Yet, negation of the subordinate non-finite clause (579) results in a different meaning than the negation of the main clause (580).

579. *Včera jsem viděl Petra nedojíst zeleninu.*  
yesterday am saw Peter not-finish<sub>INF</sub> vegetables  
'Yesterday I saw Peter not finish the vegetables.'

580. *Včera jsem neviděl Petra dojíst zeleninu.*  
yesterday am not-saw Peter finish<sub>INF</sub> vegetables  
'Yesterday I did not see Peter finish the vegetables.'

And a sentence adverbial placed in the embedded clause (582) does not relate to the main clause, just as we have seen with some English ECMs. So, the meaning of (581) and (582) is different.

581. *Skutečně jsem viděl Petra dojíst zeleninu.*  
truly am saw Peter finish<sub>INF</sub> vegetables  
'I truly saw Peter finish the vegetables.'

582. *Viděl jsem Petra skutečně dojíst zeleninu.*  
saw am Peter truly finish<sub>INF</sub> vegetables  
'I saw Peter truly finish the vegetables.'

In English, however, these verbs that take bare infinitives in active form opt for *to*-infinitives if they are passivized. In Czech, something completely different happens; if these verbs get passivized, their complements become finite.

583. *Petr byl viděn, jak dojedl zeleninu.*  
Peter was seen as finished<sub>3.SG.M</sub> vegetables  
'Peter was seen to finish the vegetables.'

584. *Petr byl slyšen, jak pláče.*  
 Peter was heard as cries<sub>3.SG</sub>  
 ‘Peter was heard to cry.’

Like English, ECM constructions in Czech never take complementizers and they are not CPs. They have the independent negation reading but their time reference is controlled by the matrix IP. There is no other type of ECM phrases in Czech, therefore ECM constructions in Czech are not phases.

### 7.5.3 Czech Raising Infinitives as Non-phases

Raising in Czech is also very limited only the verb *zdát se* (‘seem’) can be followed by the verb *být* (‘to be’).

585. *Počasí se zdá být krásné.*  
 weather REFL seem be nice  
 ‘The weather seems to be nice.’

As we have seen in Chapter 5, raising infinitives behave similarly to their English counterparts, there is no time adverb slot because there is only one IP within the clause and the negation of the infinitive results in the same meaning as the negation of the matrix verb. Moreover, there is movement out of the lower clause involved. All this is applicable to Czech raising infinitives as well and they are thus never phases either.

586. *Včera se počasí zdálo být krásné (\*zítra).*  
 yesterday REFL weather seemed be<sub>INF</sub> nice tomorrow  
 ‘Yesterday the weather seemed to be nice (\*tomorrow).’

587. *Počasí se nezdá být krásné. = Počasí se zdá nebýt krásné.*  
 weather REFL not-seems be<sub>INF</sub> nice weather REFL seems not-be nice  
 ‘The weather does not seem to be nice.’ = ‘The weather seems not to be nice.’

All in all, the phasehood of Czech infinitives is similar to phasehood of English infinitives. In Czech, only the control infinitives qualify as phases because they alone can be introduced by complementizers (wh-words), have two IP slots for different time adverbials and two negations and are treated as units in pseudocleft constructions.

## 7.6 Chapter Summary

From the above it seems apparent that all *to*-infinitives include vPs and some of them, particularly obligatory control infinitives have phasehood qualities. The basic structure of all *to*-infinitives is the one in (518).

The selecting lexical category in all control constructions is a lexical V (open class item) and it can select +Activity verbs. The DP is +Animate, it is an agent and it is a PRO (Chomsky 1993). Obligatory control constructions form a phase.

The ECM infinitives are either selected by an open class V which selects a closed class -activity (and –agent) complement (the *believe*-type), or they are similar to raising to subject infinitives selected by an element that belongs to a closed class category, and so they do not form phases. As regards bare infinitives, they are not clause-like because they must obligatorily raise to subject and they are never to be phases.

Czech infinitival examples seem to confirm the English distribution of non-finite phases. In both languages, only control infinitival complements are phasal.

## 8. Conclusion

In this dissertation we have seen that there are multiple types of English and Czech infinitives as to their sizes and features. Firstly, in Chapter 2, we re-evaluated the by now almost standard truism regarding the infinitival marker *to* as a MOD / AUX. We showed that it does not behave in a similar way to other MOD / AUX in not being able to pass the N.I.C.E. diagnostics: appearing more frequently with constituent negation, not inverting with subjects and not forming question tags. By ruling out a higher position than I, we came to the conclusion that there is a better and more suitable place for it, lower within the syntactic structure of infinitives, and that is the little *v*. We observed that this label has been inconsistently in use for various other verbal features, namely with double object constructions (Larson 1988) and transitive verbs (Chomsky 2005), or as a *v*-Voice (Kratzer 1996). We established that all *to*-infinitives have one and the same minimal structure (57) repeated here for convenience.

588. [vP [SPECvP Ø] [v' [v to [VP ...]]]]

By looking at the historical development of infinitives in English we could follow the original prepositional nature of the *to* and its gradual grammaticalization that took place as early as in Old English. The *to* nowadays indeed behaves as a grammatical item and as such it should be treated, as having some inherent grammatical meaning or force, which is irrealis.

We introduced the so called factive verbs in Chapter 3 to show that they are in fact incompatible with infinitival complements. Instead, factive verbs require finite complementation in order to retain the presupposition of their complement. There have been several attempts to define factivity and give an exhaustive list of verbs that trigger presupposition or entailment, but this has proved to be a tedious and to a certain degree futile task. We tried to incorporate what we considered useful from the previous approaches and give a slightly clearer overview of the verbs with such qualities (Table 3, page 51 ). We demonstrated that infinitival complementation can only seemingly entail truth of the complement with some “implicative” verbs (Karttunen 1971), but overall, we learnt that *to*-infinitives demonstrably have some inherent irrealis feature blocking the factive or realis meaning.



Since we are aware that there are many types of infinitives regarding their syntactic functions, we wanted to investigate them all in relation to this irrealis feature. In Chapter 4 we saw that in the strong majority of their syntactic functions English infinitives can have, their main feature is irrealis. These functions include: subjects, topics, most adjuncts and most complements. There are a few exceptional cases when the irrealis feature of the *to*-infinitive is cancelled and this happens only in the selection process of verbs and adjectives that have an inherent realis assertion feature.

We subsequently contrasted the infinitive with other irrealis moods in English, namely subjunctive, conditional and imperative and we could see that these three are comparable to the infinitive in certain contexts and that the infinitive can indeed be used instead of any of these. They are all uniformly marked in current English by a complete lack of agreement morphology and we concluded that the infinitive is one of the irrealis moods.

In Chapter 5 we wanted to see whether it is not the size of the individual infinitives what influences their susceptibility to realis reading and so we contrasted the control infinitives with raising to subject infinitives and ECM infinitives. We learnt that control infinitives are the biggest constructions and that they form bi-clausal structures (as big as CPs). They have their independent time adverbial slot and as such are not easily influenced by the matrix verb and its timeline. They almost invariably express irrealis mood.

We divided ECM infinitives into two subgroups and one of them the “*expect* type” proved to be bigger than the other ECM infinitive the “*believe* type”. The former is also bi-clausal while the latter type is smaller and comparable to raising infinitives. Raising to subject infinitives proved to be the smallest mono-clausal constructions; vPs with only one (matrix) IP within the clause. These vPs can form realis contexts only with a strictly limited number of verbs e.g. *turn out* or *happen* (4.9.1) and with a few factive adjectives e.g. *happy* or *proud* (4.9.2).

When we considered the infinitival marker *to* it was also necessary to consider bare infinitives and their properties (Chapter 6). We saw that bare infinitives are used after closed class items limited in number. The first class we considered were central modals and we demonstrated that they form raising to subject constructions (6.1.1). The modal feature of modals is incompatible with the infinitival marker *to* exactly because it is also inherently modal. Next, we investigated the verbs of perception and causatives that are among the few

that form actually realis constructions (6.4.1). These are examples of ECM infinitives of the smaller “*believe* type” and as such they do not have their own slot for a time adverbial. We saw that bare infinitives do not have the same properties as their full *to*-infinitive counterparts, namely that they are not inherently irrealis nor realis. They are the most basic verbal forms without any inherent features, they are just VPs lacking the vP layer and the properties that come with it.

Lastly, in Chapter 7 we considered the infinitives from the point of view of the infinitival phases as in Chomsky (2001). We considered restrictions on movement out of the phrases and their ability to move as a whole and saw that obligatory control infinitives have phasehood qualities. All functional roles are satisfied, and all theta roles are assigned. The selecting lexical category in all control constructions is a lexical V (open class item) and it can select +Activity verbs. The DP in control infinitives is +Animate, it is an agent and it is a PRO (Chomsky 1993). Therefore, obligatory control constructions form a phase.

We have already seen that there are two types of ECM infinitives. One of them (“*believe* type”) is selected by an open class V which selects, however, a closed class -activity (and –agent) complement. The other type (“*expect*-type”) is, similar to raising to subject infinitives, selected by an element that belongs to a closed class category, and so neither of these forms phases.

Bare infinitives are not clause-like at all because they must obligatorily raise to subject and they are never phases. In this chapter we came up with two basic premises that must be fulfilled for an infinitive to be a phase (519) for convenience repeated here:

589. a) A maximal projection vP of an activity V is a phase iff an open class item selects its lexical V.  
b) Neither movement nor case assignment cross the boundary of a vP phase.  
(adapted from Čakányová and Emonds 2017)

Czech infinitival examples seem to confirm the English distribution of non-finite phases. In both languages, only control infinitival complements are phasal.

Overall, we investigated the English infinitive thoroughly mainly from the syntactic point of view, but we also considered its semantics. We encountered many similarities

between Czech and English and the only differences seemed to be caused by the difference in language typology.

We conclude that the English (and also Czech) infinitive is one of the irrealis moods with free irrealis marker *to* and that it can form structures that are clause-like and also phase-like (in case of control infinitives) with relative independence from the matrix clause. We feel that that the fact that we have been able to formulate and confirm more general structural claims about infinitives than earlier semantics-based approaches, whether traditional or generative in inspiration, demonstrates the value and importance of the syntactic approach.

## Bibliography

- Abels, Klaus. 2003. "Successive Cyclicity, Antilocality and Adposition Stranding." PhD Thesis, Storrs: University of Connecticut.
- Alexiadou, Artemis, Elena Anagnostopoulou, Gianina Iordachioaia, and Mihaela Marchis. 2010. "No Objections to Backward Control." In *Movement Theory of Control*, edited by Norbert Hornstein and Maria Polinsky, 89–118. Amsterdam: John Benjamins.
- Biber, Douglas, and Randolph Quirk, eds. 2012. *Longman Grammar of Spoken and Written English*. Harlow: Longman.
- Boeckx, Cedric, and Kleanthes K. Grohmann. 2007. "Remark: Putting Phases in Perspective." *Syntax* 10 (2): 204–22.
- Čakányová, Michaela. 2012. "The Ingressive Phasal Verbs Begin and Start Through the Historical Perspective." In *Text as a Dynamic Interplay of Text Parameters*, edited by Ondřej Molnár and Michal Kubánek, 111–20. Olomouc: Univerzita Palackého.
- . 2013. "Contemporary Distribution of 'Start' and 'Begin' in COCA and BNC." presented at the OLINCO, Palacký University, Olomouc, June 6.
- Čakányová, Michaela, and Joseph Emonds. 2017. "Phasehood of Infinitives." *Linguistica Brunensia* 65 (2): 97–114.
- Chomsky, Noam. 1973. "Conditions on Transformations." In *A Festschrift for Morris Halle*, edited by Morris Halle, Stephen R. Anderson, and Paul Kiparsky, 232–86. New York: Holt, Rinehart and Winston.
- . 1977. "On Wh-Movement." In *Formal Syntax*, edited by Peter W. Culicover, Thomas Wasow, and Adrian Akmajian, 71–132. New York: Academic Press.
- . 1986. *Barriers*. Cambridge: MIT Press.
- . 1993. *Lectures on Government and Binding: The Pisa Lectures*. Berlin: De Gruyter Mouton.
- . 2000. "Minimalist Inquiries: The Framework." In *Step by Step: Essays on Minimalist Syntax in Honor of Howard Lasnik*, edited by Howard Lasnik, Roger Martin, David Michaels, and Juan Uriagereka. Cambridge: MIT Press.
- . 2001. "Derivation by Phase." In *Ken Hale: A Life in Language*, edited by Kenneth L. Hale and Michael J. Kenstowicz. Cambridge: MIT Press.
- . 2005. "Three Factors in Language Design." *Linguistic Inquiry* 36 (1): 1–22.
- . 2008. "On Phases." In *Foundational Issues in Linguistic Theory: Essays in Honor of Jean-Roger Vergnaud*, edited by Robert Freidin, Carlos Peregrín Otero, and Maria Luisa Zubizarreta. Cambridge: MIT Press.
- Chomsky, Noam, and Howard Lasnik. 2015. "The Theory of Principles and Parameters." In *The Minimalist Program*, 11–116. Cambridge: MIT Press.

- Chuquet, Jean. 1986. *To et l'infinitif anglais: Détermination et opérations énonciatives*. Paris: Ophrys.
- Citko, Barbara. 2014. *Phase Theory: An Introduction*. Cambridge: Cambridge University Press.
- Comrie, Bernard. 1985. *Tense*. Cambridge: Cambridge University Press.
- Denison, David. 1993. *English Historical Syntax: Verbal Constructions*. London: Longman.
- Dixon, Robert M. W. 1992. *A New Approach to English Grammar, on Semantic Principles*. Oxford: Clarendon Press.
- Dotlačil, Jakub. 2004. "The Syntax of Infinitives in Czech." MA Thesis, Tromsø: University of Tromsø.
- Duffley, Patrick J. 1992. *The English Infinitive*. London: Longman.
- . 2003. "The Gerund and the To-Infinitive as Subject." *Journal of English Linguistics* 31 (4): 324–52.
- . 2006. *The English Gerund-Participle: A Comparison With the Infinitive*. New York: Peter Lang.
- Duffley, Patrick J., and Peter J. Enns. 1996. "Wh- Words and the Infinitive in English." *Lingua* 98 (4): 221–42.
- Egan, Thomas. 2008. *Non-Finite Complementation: A Usage-Based Study of Infinitive and -Ing Clauses in English*. Amsterdam: Rodopi.
- Emonds, Joseph. 1976. *A Transformational Approach to English Syntax: Root, Structure-Preserving, and Local Transformations*. New York: Academic Press.
- . 1991. "The Autonomy of the (Syntactic) Lexicon and Syntax: Insertion Conditions for Derivational and Inflectional Morphemes." In *Interdisciplinary Approaches to Language*, 119–48. Dordrecht: Springer.
- . 2000. *Lexicon and Grammar: The English Syntacticon*. Berlin: De Gruyter Mouton.
- . 2015. "Gerunds vs. Infinitives in English: Not Meaning but Form." In *From Theory to Practice 2013*, edited by Roman Trušník and Katarína Nemčoková, 13–38. Zlín: Univerzita Tomáše Bati.
- Emonds, Joseph, and Jan Terje Faarlund. 2014. *English: The Language of the Vikings*. Olomouc: Univerzita Palackého.
- Emonds, Joseph, and Ludmila Veselovská. 2015a. "The Categorial Status of Infinitives and Gerunds in English and Czech." In *From Theory to Practice 2014: Proceedings of the Sixth International Conference on Anglophone Studies*, edited by Gregory Jason Bell, 13–41. Zlín: Univerzita Tomáše Bati.
- . 2015b. "The Cross-Linguistic Homes of Mood and Tense." In *Representing Structure in Phonology and Syntax*, edited by Marc van Oostendorp and Henk van Riemsdijk, 277–314. Berlin: De Gruyter Mouton.

- Flidrová, Helena. 1995. "K výzvové modalitě vyjádřené infinitivem v ruštině a češtině." *Opera Slavica* 5 (2): 33–37.
- Franks, Steven, and Norbert Hornstein. 1992. "Secondary Predication in Russian and Proper Government of PRO." In *Control and Grammar*, edited by Richard K. Larson, Sabine Iatridou, Utpal Lahiri, and James Higginbotham, 1–50. Dordrecht: Springer.
- Frege, Gottlob. 1972. *Conceptual Notation, and Related Articles*. Edited by Terrell Ward Bynum. Oxford: Clarendon Press.
- Freidin, Robert, and Howard Lasnik. 1981. "Disjoint Reference and Wh-Trace." *Linguistic Inquiry* 12 (1): 39–53.
- Gelderen, Elly van. 1993. *The Rise of Functional Categories*. Amsterdam: John Benjamins.
- Givón, Talmy. 1980. "The Binding Hierarchy and the Typology of Complements." *Studies in Language* 4 (3): 333–77.
- González-Vilbazo, Kay, and Luis López. 2012. "Little v and Parametric Variation." *Natural Language & Linguistic Theory* 30 (1): 33–77.
- Green, Georgia. 1992. "Purpose Infinitives and Their Relatives." In *The Joy of Grammar: A Festschrift in Honor of James D. McCawley*, edited by James D. McCawley, Diane Brentari, Gary N. Larson, and Lynn A. MacLeod, 95–128. Amsterdam: John Benjamins.
- Greene, Robert L. 2018. "Doing the Splits." *The Economist*, April 28, 2018.
- Grice, Herbert Paul. 1975. "Logic and Conversation." In *The Semantics-Pragmatics Boundary in Philosophy*, edited by Maite Ezcurdia and Robert J. Stainton, 41–58. Peterborough: Broadview Press.
- Haegeman, Liliane. 2006. "Conditionals, Factives and the Left Periphery." *Lingua* 116 (10): 1651–69.
- Haiman, John. 1978. "Conditionals Are Topics." *Language* 54 (3): 564–89.
- Hansen, Björn. 2010. "Another Piece of the Infinitive Puzzle: the Czech Frustrative Construction 'ne a ne zapršet.'" In *Karlík a továrna na lingvistiku: prof. Petru Karlíkovi k šedesátým narozeninám*, edited by Aleš Bičan and Petr Karlík, 166–79. Brno: Host.
- Heim, Irene, Howard Lasnik, and Robert May. 1991. "Reciprocity and Plurality." *Linguistic Inquiry* 22 (1): 63–101.
- Higgins, F. R. 2015. *The Pseudo-Cleft Construction in English*. New York: Routledge.
- Hooper, Joan B. 1975. "On Assertive Predicates." In *Syntax and Semantics*, edited by John P. Kimball, 91–124. New York: Academic Press.
- Hopper, Paul J., and Elizabeth Closs Traugott. 2003. *Grammaticalization*. Cambridge: Cambridge University Press.

- Horn, Laurence R. 1975. "Neg-Raising Predicates: Toward an Explanation." In *Papers from the Eleventh Regional Meeting, Chicago Linguistic Society, April 18-20, 1975*, edited by R.E. Grossman, L.J. San, and T.J. Vance, 280–94. Chicago: The Society.
- Hornstein, Norbert. 1999. "Movement and Control." *Linguistic Inquiry* 30 (1): 69–96.
- Huang, C.-T. James. 1993. "Reconstruction and the Structure of VP: Some Theoretical Consequences." *Linguistic Inquiry* 24 (1): 103–38.
- Huddleston, Rodney D., and Geoffrey K. Pullum. 2002. *The Cambridge Grammar of the English Language*. Cambridge: Cambridge University Press.
- Hylton, Peter. 2010. "Willard van Orman Quine." Edited by Edward N. Zalta. *The Stanford Encyclopedia of Philosophy*. Metaphysics Research Lab, Stanford University. <https://plato.stanford.edu/archives/win2016/entries/quine/>.
- Jackendoff, Ray. 1985. "Believing and Intending: Two Sides of the Same Coin." *Linguistic Inquiry* 16 (3): 445–60.
- Jacobson, Pauline. 1990. "Raising as Function Composition." *Linguistics and Philosophy* 13 (4): 423–75.
- Jespersen, Otto. 1905. *Growth and Structure of the English Language*. Leipzig: B. G. Teubner.
- . 2006. *A Modern English Grammar on Historical Principles*. Edited by Niels Haislund. London: Routledge.
- Kageyama, Taro. 1992. "AGR in Old English To-Infinitives." *Lingua* 88 (2): 91–128.
- Kant, Immanuel. 2009. *Critique of Pure Reason*. Edited by Paul Guyer and Allen W. Wood. Cambridge: Cambridge University Press.
- Karttunen, Lauri. 1971. "Implicative Verbs." *Language* 47 (2): 340–58.
- . 2016. "Presupposition: What Went Wrong?" *Semantics and Linguistic Theory* 26: 705–31.
- Kiparsky, Paul, and Carol Kiparsky. 1970. "Fact." In *Progress in Linguistics: A Collection of Papers*, edited by Manfred Bierwisch and Karl Erich Heidolph, 143–73. Berlin: De Gruyter Mouton.
- Koopman, Hilda, and Dominique Sportiche. 1991. "The Position of Subjects." *Lingua* 85 (2): 211–58.
- Koster, Jan, and Robert May. 1982. "On the Constituency of Infinitives." *Language* 58 (1): 116–43.
- Koupil, Karel. 1947. "Supinum." *Naše řeč* 31 (2–4): 78–79.
- Kratzer, Angelika. 1996. "Severing the External Argument from Its Verb." In *Phrase Structure and the Lexicon*, 109–37. Dordrecht: Springer.
- Lakoff, George, and John Robert Ross. 1966. "A Criterion for Verb Phrase Constituency." *Report National Science Foundation* 17.
- Landau, Idan. 2003. "Movement Out of Control." *Linguistic Inquiry* 34 (3): 471–98.

- . 2008. “Movement-Resistant Aspects of Control.” In *New Horizons in the Analysis of Control and Raising*, edited by William D. Davies and Stanley Dubinsky, 293–325. Dordrecht: Springer.
- Larson, Richard K. 1988. “On the Double Object Construction.” *Linguistic Inquiry* 19 (3): 335–91.
- Legate, Julie Anne. 2003. “Some Interface Properties of the Phase.” *Linguistic Inquiry* 34 (3): 506–15.
- Lobeck, Anne C. 1995. *Ellipsis: Functional Heads, Licensing, and Identification*. New York: Oxford University Press.
- Los, Bettelou. 2007. *The Rise of the To-Infinitive*. Oxford: Oxford University Press.
- Lyons, John. 1977. *Semantics*. Cambridge: Cambridge University Press.
- Machová, Dagmar. 2016. “Polyfunctionality and the Ongoing History of English Modals.” PhD Thesis, Olomouc: Univerzita Palackého.
- Marantz, Alec. 1997. “No Escape from Syntax: Don’t Try Morphological Analysis in the Privacy of Your Own Lexicon.” *University of Pennsylvania Working Papers in Linguistics* 4 (2): 201–25.
- Matushansky, Ora. 2005. “Going Through a Phase.” *Perspectives on Phases. MIT Working Papers in Linguistics* 49: 157–81.
- Meillet, Antoine. 1912. *L’évolution des formes grammaticales*. London: Williams et Norgate.
- Miller, D. Gary. 2002. *Nonfinite Structures in Theory and Change*. Oxford: Oxford University Press.
- Němec, Igor. 1977. “K vývoji funkcí infinitivu v češtině a v litevštině.” *Slovo a slovesnost* 38 (4): 275–80.
- Newman, Elsie. 2018. “In (Do-)Support of Phrasal Auxiliary Movement.” presented at the OLINCO, Palacký University, Olomouc, June 7.
- Nicholas, Nick. 1998. “The Story of Pu: The Grammaticalisation in Space and Time of a Modern Greek Complementiser.” PhD Thesis, Melbourne: The University of Melbourne.
- Nuyts, Jan, and Johan van der Auwera, eds. 2016. *The Oxford Handbook of Modality and Mood*. Oxford: Oxford University Press.
- Palmer, Frank Robert. 2001. *Mood and Modality*. Cambridge: Cambridge University Press.
- Pearson, Hazel. 2016. “The Semantics of Partial Control.” *Natural Language & Linguistic Theory* 34 (2): 691–738.
- Pesetsky, David. 2016. “Exfoliation: Towards a Derivational Theory of Clause Size.” presented at the OLINCO, Palacký University, Olomouc, June 10.
- Picallo, M. Carme. 1984. “The Infl Node and the Null Subject Parameter.” *Linguistic Inquiry* 15 (1): 75–102.



- Poldauf, Ivan. 1954. "Infinitiv v angličtině." *Časopis pro moderní filologii* 36: 9–23.
- . 1972. "Factive Implicative Evaluative Predicates." *Philologica Pragensia* 15: 65–92.
- Postal, Paul Martin. 1974. *On Raising: One Rule of English Grammar and Its Theoretical Implications*. Cambridge: MIT Press.
- Przepiórkowski, Adam, and Alexandr Rosen. 2004. "Czech and Polish Raising/Control With or Without Structure Sharing." *Research in Language* 3: 33–66.
- Pullum, Geoffrey K. 1990. "Constraints on Intransitive Quasi-Serial Verb Constructions in Modern Colloquial English." *Ohio State Working Papers in Linguistics* 39: 218–39.
- Quirk, Randolph, ed. 1985. *A Comprehensive Grammar of the English Language*. London: Longman.
- Radford, Andrew. 1988. *Transformational Grammar: A First Course*. Cambridge: Cambridge University Press.
- . 2004. *English Syntax: An Introduction*. Cambridge: Cambridge University Press.
- Reed, Lisa A. 2013. *Strengthening the PRO Hypothesis*. Berlin: De Gruyter Mouton.
- Reuland, Eric J. 1983. "Governing -Ing." *Linguistic Inquiry* 14 (1): 101–36.
- Rizzi, Luigi. 1978. "A Restructuring Rule in Italian Syntax." In *Recent Transformational Studies in European Languages*, edited by Samuel Jay Keyser, 113–58. Cambridge: MIT Press.
- Rosenbaum, Peter S. 1974. *The Grammar of English Predicate Complement Constructions*. Cambridge: MIT Press.
- Ross, John Robert. 1967. "Constraints on Variables in Syntax." PhD Thesis, Cambridge: Massachusetts Institute of Technology.
- . 1969. "Auxiliaries as Main Verbs." In *Studies in Philosophical Linguistics*, edited by William Todd, 77–102. Evanston: Great Expectations Press.
- Schueler, David. 2013. "Factivity and Presuppositions." presented at the LSA Annual Meeting, Boston, January 4.
- Sheehan, Michelle. 2018. "On Why Verbs of Perception / Causation Sometimes Don't Passivize." presented at the OLINCO, Palacký University, Olomouc, June 7.
- Smith, M. B., and J. Escobedo. 2001. "The Semantics of To-Infinitival vs. -Ing Complement Constructions in English." In *Proceedings from the Thirty-Seventh Meeting of the Chicago Linguistic Society*, edited by M. Andronis, C. Ball, H. Elston, and S. Neuvel, 549–63. Chicago: The Society.
- Sportiche, Dominique, Hilda Judith Koopman, and Edward P. Stabler. 2014. *An Introduction to Syntactic Analysis and Theory*. Malden: Wiley/Blackwell.
- Stowell, Tim. 1982. "The Tense of Infinitives." *Linguistic Inquiry* 13 (3): 561–70.
- Svoboda, Karel F. 1960. "Infinitivní věty podmínkové." *Naše řeč* 43 (3–4): 65–80.
- Tottie, Gunnel. 2001. *An Introduction to American English*. Malden: Wiley/Blackwell.

- Verplaetse, Heidi. 2003. "What You and I Want: A Functional Approach to Verb Complementation of Modal 'Want To.'" In *Modality in Contemporary English*, edited by Roberta Facchinetti, Frank Palmer, and Manfred Krug, 151–89. Berlin: De Gruyter Mouton.
- Veselovská, Ludmila. 2009. "Možnosti generativní klasifikace infinitivu." *Slovo a slovesnost* 70 (4): 314–26.
- . 2013. "Vazba objektu s infinitivem." In *Kapitoly ze syntaktologie češtiny*, edited by Milada Hirschová and Oldřich Uličný, 246–72. Olomouc: Univerzita Palackého.
- . 2017a. *English Syntax (1): Syllabi for the Lectures, Examples and Exercises*. Olomouc: Univerzita Palackého.
- . 2017b. *English Syntax (2): Syllabi for the Lectures, Examples and Exercises*. Olomouc: Univerzita Palackého.
- Warner, Anthony R. 1993. *English Auxiliaries: Structure and History*. Cambridge: Cambridge University Press.
- Whitehead, Alfred North, and Bertrand Russell. 1910. *Principia Mathematica*. Cambridge: Cambridge University Press.
- Wierzbicka, Anna. 1988. *The Semantics of Grammar*. Amsterdam: John Benjamins.
- Wittgenstein, Ludwig. 2007. *Tractatus logico-philosophicus*. Translated by Petr Glombíček. Praha: OIKOYMENH.
- Wright, Joseph, and Elizabeth Mary Wright. 1925. *Old English Grammar*. Oxford: Oxford University Press.
- Wurmbrand, Susi. 1998. "Infinitives." PhD Thesis, Cambridge: Massachusetts Institute of Technology.
- . 1999. "Modal Verbs Must Be Raising Verbs." In *Proceedings of the 18th West Coast Conference on Formal Linguistics*, edited by S. Bird, A. Carnie, J. Haugen, and P. Norquest, 559–612. Somerville: Cascadilla Press.
- . 2007. "Infinitives Are Tenseless." *University of Pennsylvania Working Papers in Linguistics* 13 (1): 407–20.
- . 2012. *Infinitives, Restructuring and Clause Structure*. Berlin: De Gruyter Mouton.
- . 2014. "Tense and Aspect in English Infinitives." *Linguistic Inquiry* 45 (3): 403–47.
- Zagona, Karen. 1988. *Verb Phrase Syntax: A Parametric Study of English and Spanish*. Dordrecht: Kluwer.
- Zubizarreta, Maria Luisa. 2001. "The Constraint on Preverbal Subjects in Romance Interrogatives: A Minimality Effect." In *Subject Inversion in Romance and the Theory of Universal Grammar*, edited by Aafke Hulk and Jean-Yves Pollock, 183–204. New York: Oxford University Press.
- Zwicky, Arnold. 1988. "On the Subject of Bare Imperatives in English." In *On Language: Rhetorica, Phonologica, Syntactica. A Festschrift for Robert P. Stockwell from His*

*Friends and Colleagues*, edited by Caroline Duncan-Rose, 437–50. London: Routledge.

## **Corpora and Dictionaries**

*British National Corpus (BYU-BNC)*. Available online at <http://corpus.byu.edu/bnc>.

*Corpus of Contemporary American English (COCA)*. Available online at <http://corpus.byu.edu/coca>.

*Oxford English Dictionary*. Available online at <http://www.oed.com>.

*Slovník současného jazyka českého*. Available online at <http://ssjc.ujc.cas.cz>.

## Appendices

### Appendix I: List of Object Control Verbs:

*ask, admonish, authorize, bribe, catch, caution, choose, commission, compel, convince, designate, devise, direct, dispatch, empower, enable, encourage, entice, expand, force, hire, impel, induce, influence, inspire, instruct, invite, lead, leave, license, motivate, move, name, oblige, order, permit, persuade, press, prod, program, prompt, push, require, retain, schedule, select, sensitize, slate, spur, teach, tell, tempt, trust, urge, warn*

### Appendix II: List of Subject Control Verbs:

*admit, afford, agree, aim, apply, arrange, ask, attempt, avoid, be willing, bother, come, care, choose, claim, clamor, concede, conspire, decide, decline, delay, deny, deserve, determine, disclaim, discuss, enjoy, elect, favor, figure, flock, force, forget, get, go to show, hate, hesitate, hope, intend, jump, know, learn, like, look, love, manage, mean, mind, miss, move, negotiate, offer, opt, plan, pledge, plot, pose, ponder, prefer, prepare, press, proceed, profess, promise, propose, push, quite, race, recall, refuse, report, resolve, risk, rule out, rush, scramble, seek, serve, set out, sign, sound, stand, strive, struggle, suffice, swear, threaten, try, undertake, vote, vow, wait, want, wish*

### Appendix III: List of ECM Verbs:

*allow, assume, believe, cause, consider, declare, deem, estimate, expect, find, get, hold, imagine, intend, judge, know, make, mean, need, perceive, project, repute, rumor, report, say, see, show, suppose, think, want, wish*

### Appendix IV: List of Raising to Subject Verbs:

*appear, begin, continue, end up, fail, figure, happen, keep, need, ought, prove, quit, remain, say, seem, start, stop, tend, wind up, apt, certain, due, likely, sure, unlikely, be about to, be bound to, be going to, be set to, be supposed to, have to, have got to, turn out to, used to*