

# Note on Latin Grammar

Jinyuan Wu

September 27, 2023

# Chapter 1

## Introduction

### 1.1 The language and the speaker

#### 1.1.1 Latin as a classical language

Latin was the language of the Romans and the official language of both the Roman Republic and the Roman Empire, and hence the official language of the Catholic Church, which was *the* church for the Western Roman Empire. The international nature of the Roman Empire made Latin the international language around the Mediterranean Sea at that time – indeed, *Mare Nostrum* ‘our sea’ in Latin, and its importance in science, arts, law, religion, and literature lent it more than one thousand of years of life as a common literary language and a sacred language in western Europe after the collapse of the Western Roman Empire and the emergence of the Romance language family.

As recently as the nineteen century, Latin was still fluently used by scholars and in the Catholic Mass. A decline in the popularity of Latin was observed after that. The rapid development of English (at first, also French and German and sometimes Russian) as the language of science largely replaced the status of Latin as a scholar language. After Vatican allowed vernacular languages being used in liturgies, Latin also largely lose its position in the daily use in the Catholic church.

This note is about **Classical Latin** – the Latin of classical Latin writers – and **Ecclesiastical Latin** – the kind of Latin of the Catholic church. That’s to say Old Latin, vulgar Latin (with prototypes of Romance articles), etc. are not discussed in detail in this note. Still, some historical knowledge is important for us to understand why Latin is the way it is.

#### 1.1.2 Latin in ancient Mediterranean world

The historical and contemporary importance of Latin of course doesn’t endorse it as a inherently superior language. Indeed, Latin used to be TODO: other languages were more important

We only have a handful of Latin texts before 600BC; as a comparison, there are about 150 pre-600BC Etruscan texts. Even in the period between 600BC and 100BC, during which we have around 3000 Latin texts, we have about 9000 Etruscan texts, which is three times as many as their Latin counterparts.

## 1.2 Previous studies

## 1.3 About this note

This note roughly follows the example of

Of course, it's still possible to carry out grammatical description in different ways. For example, generally we shouldn't separate morphology and syntax categorically. For a heavily inflected language like Latin, however, it's an appealing idea to start a chapter named "verbal morphology" and cover all TAME marking in it, both the abstract concepts and the concrete paradigms.

## 1.4 Texts

TODO: classical writers

## 1.5 Typological parameters

Some typological parameters and peculiar points of Latin are listed here for the impatient, as well as some remarks on Latin in a more theoretical perspective. For a bottom-up overview, see chap. 3.

### 1.5.1 Morphology

Latin is well known for its rich morphology, which enables a rather free – but still not completely arbitrary (§ 8.5.1) – constituent order. Good agreement is shown between phonological and grammatical wordhood, with exceptions like the clitic *-que*.

A stem can be well defined for both verbal and nominal morphology in Latin, enabling a clear derivation-inflection distinction: prototypical derivational processes that are considered to be a part of the head noun/verb and not the surrounding NP/-clause are morphologically realized strictly before prototypical inflection processes, forming the stem (§ 4.2.1, § 6.1.1) to which inflection processes are applied, with possible contextual allomorphs (§ 2.3). Latin inflection is always suffixal, while derivation is predominantly prefixal. Despite its richness, a large portion of instances of Latin derivation are historical, with meanings of derived forms having significantly shifted and no longer regularly inferrable.

A general tendency in the stem structure is modification affixes usually are prefixes, while affixes bearing grammatical information (like change of part of speech) are usually suffixes (§ 4.1, TODO: ref). Apart from affixation, Latin does use compounding, as in *aequilibrium* (*aequ-i-libr-ium*, 'even-balance-SG.NOM, equilibrium'; Smith 2016, § 92), but compounding was already less productive – if not completely obsolete – in the Classical period.

Concatenative morphology (affixation and compounding) is prominent but isn't the only morphological device. Reduplication is attested in formation of the perfect stem (TODO: ref); this however is largely historical and is no longer productive. Dropping of first-conjugation stem-final vowel (§ 6.3.1) may be analyzed as subtraction, although it can be seen as due to morphophonological rules. The imperfect *-ba-* is

sometimes said to be an infix (as well as its counterparts like *-bi-*), though it fits in a concatenative picture of verbal morphology.

### Box 1.1: Advices when reading

The morphological richness (and the scrambled constituent order) makes Latin hard to read especially for people whose first languages are, say, English or Mandarin. Whenever unsure about a sentence, do the follows:

1. Skim over the words and label the stems that can be easily recognized.
2. Skim over and circle uncontroversial grammatical items, like inflectional endings and prepositions. It's OK to be unable to interpret them immediately (and we need the steps below).
3. Choose a grammatical item and tentatively give a list of possible features it carries. For example, seeing *-v-* in a verb usually means it's based on the perfect stem (§ 6.2.3); *-um* may be second declension accusative, but there are other possibilities (Table 4.1).
4. Use constraints like "the preposition *in* licenses the accusative case or the ablative case" to narrow the possibilities identified above.
5. Draw unfinished dependency arrows: for a verb, draw arrows pointing to the subject and/or the object; for a nominative adjective, draw an arrow pointing to the modified head noun. But note that it's possible that the subject is dropped, or there is no head noun (compare English *the poor*). Then try to pair the arrows.

Repeat the above procedure and finally the sentence can be understood. This procedure is demonstrated in § 13.2.1.

## 1.5.2 The nominal system

Lack of determiner

TODO: other IE languages

## 1.5.3 The verbal system

Most clausal grammatical categories are marked on the verbal morphology. In English we have infinitive clauses, but strictly speaking, there is no such thing as "infinitive verb": the head verb of an infinitive clause has exactly the same form of a non-third person singular present tense verb. In Latin however, the head verb of an infinitive clause in Latin indeed has a separate position in the paradigm. Thus, the most salient clausal grammatical categories can be enumerated by observing verbal inflection (chap. 6).

## 1.5.4 Clausal dependents and alignment

Latin is a clear nominative-accusative language.

(§ 7.1). In

There is no serial verb constructions in Latin and thus semantic functions like location or instrument are always realized by typical peripheral arguments attached

to the core argument structure. These peripheral argument positions sometimes can be filled by adverbs, which also reveals an origin of adverbs: fossilized case forms.

### **1.5.5 Clause combining**

In Latin there is no serial verb constructions. Subordination strategies can be neatly summarized into complement clauses, relative clauses and adverbial clauses.

# Chapter 2

## Phonology and the writing system

### 2.1 Phonemes and the alphabet

Although the phoneme inventory of a language often is not accurately reflected by its preferred system, since Latin is a classical language and no ancient Roman is alive today, its phonology has to be inferred from known texts.

The most accepted writing system of Latin developed into what we call **Latin letters** – or the **Roman alphabet** – today, which is the most widely used writing system in the world. **Old Italic scripts**, used by Early Old Latin inscriptions as well as neighbor languages, show a larger degree of variation, which clearly derived from Greek letters. The standard Latin alphabet derived from old Italic scripts. Note that ancient Romans only used the big letters; the small letters was invented during the era of Charlemagne.

The letter *J* was not used by ancient Romans, although we sometimes see *I* appearing at the start of a word and therefore possibly represents the semivowel /j/. The letters *U* and *W* are also not used. Similar to the case of *I*, the letter *V* is used to represent what appears to be the semivowel /w/ as well as the vowel /u/. The letter *K* is an archaic one and only appears before *A* in a small number of words (Oniga, 2014, chap. 2). The letters *Y* and *Z* are used to spell Greek words that include *TODO*: *Y* and the voiced dental affricate, respectively.

The Latin consonant inventory is therefore given by Oniga (2014, Table 3.1). Note that the letter *X* is a double consonant: it means /ks/ or /gs/.

Two semivowels – /j/ and /w/ – can be recognized, which appear as *i* or *u*.

The vowels are given by Oniga (2014, Table 3.2). Each vowel has a long variety and a short variety.

### 2.2 Prosody

### 2.3 Morphophonological rules

Some phonological rules in Latin are sensitive to morpheme boundaries. We can therefore assert that at least in a historical stage, Latin speakers had a clear sense of morphemes as real phonological objects, instead of mere theoretical models.

### 2.3.1 Vowel deletion

Short vowels *a*, *o* and *e* become zero before a morpheme boundary or another vowel (Oniga, 2014, § 8.3). This rule is exemplified by the absence of the thematic vowel in both declension (TODO: rosis) and conjugation (TODO).

### 2.3.2 Vowel shortening

A long vowel before another vowel or morpheme boundary is not deleted, but shortened. Again this is exemplified (§ 6.3.1, TODO: ref)

Also, in the final syllable of a phonological word, a long vowel before a consonant except *s* is also shortened. Counterexamples when the vowel is not in the final syllable exist, like *bāris* ‘a type of flat-bottomed freighter used on the Nile in Ancient Egypt’.

A long vowel is generally shortened before a sequence containing a liquid or nasal and a following stop consonant, like *nt*. This rule comes from an older Indo-European sound law: the Osthoff’s Law (Oniga, 2014, p. 55).

### 2.3.3 Vowel weakening

When a short syllable is in a medial, open syllable, and a morpheme boundary occurs immediately before, within or after the syllable, it becomes *i* (Oniga 2014, p. 55; TODO: ref).

### 2.3.4 Vowel lengthening

A vowel is always *lengthened* before *nf* and *ns* (Oniga, 2014, p. 55).

# Chapter 3

## Parts of speech

### 3.1 Overview

#### 3.1.1 Wordhood

In this note I follow the traditional definition of Latin wordhood, which is easily done using phonological criteria, or, to be more accurate, orthographical criteria: what was documented by ancient Romans as a word is recognized as a word. Latin is heavily inflectional, and the grammatical categories seen in nominal and verbal morphology already reflect the most salient grammatical categories in NPs and clauses; words without inflectional morphology (so-called **particles**) usually lack any synchronically active internal structures at all. Thus, we can also say the traditional notion of Latin words indeed has morphosyntactic significance and should be kept in use.

#### 3.1.2 Part of speech division

Latin word classes can be defined easily via morphology and these classes prove to have uniform morphosyntactic behaviors. Non-particle words can be divided into two large classes: those with similar morphology of prototypical nouns (i.e. **declension**) are **nominals**, while words with similar morphology of prototypical verbs (i.e. **conjugation**) form a uniform class rightfully called **verbs**. Nominals include **nouns** and **adjectives**, the distinction between the two can also be defined morphologically.

Latin particles include **prepositions**, **adverbs**, **interjections**, and **conjunctions**. The adverb class and the preposition class have a large overlap: often a preposition has an intransitive counterpart, which is similar to a prototypical adverb. Conjunctions may be seen as “prepositions for clauses”. The functions and etymologies of particles are highly diverse.

Latin nouns, verbs, and adjectives are all open categories. They are able to head constituents, and so are correlatives (though correlatives can be listed in the grammar). The preposition class is closed and is a part of the grammar, just like conjunctions. However, conjunctions are purely functional, while certain prepositions may be argued to head attributive expressions: though prepositions are often said to be markers of a periphrastic case system, the semantics carried by certain Latin prepositions are too complicated for a case system. This is also the case of adverbs: some adverbs seem to be periphrastic markers of TAME categories and therefore may be considered as a part of the grammar, while others seem to carry “real” meanings. Fig. 3.1 is a



visualization of the classification of Latin word classes.

Articles (English *a* or *the*), despite prevalent in other Indo-European languages, are missing in Latin. This, together with the fact that Classical Sanskrit and Old Persian didn't have articles and the Slavic languages still don't, is a strong indicator that proto-Indo-European (PIE) didn't have articles. Note that the fact that Latin lacks articles doesn't mean the determiner syntactic function doesn't exist: there are evidences suggesting certain aspects of the behavior of Latin NPs are just like English (Giusti and Iovino, 2014).

## 3.2 Nouns

The structure of nouns and their phrases is introduced in § 4.1. They are declined for case and number (§ 4.2), and the features also spread to other nominals in the NP by agreement. According to their meanings and ability to license NP dependents, Latin nouns can be classified into TODO

## 3.3 Verbs

Classification parameters of the Latin verb include the conjugation class (§ 6.3), the syntactic and semantic argument structure (§ 8.4), the event structure (TODO: Computability with TAME),

## 3.4 Pro-forms

Pro-forms can be divided into pronouns and correlatives. The former are discussed in § 4.4.1. The latter can be classified in Table 3.1; the rows correspond to their immediate roles, while the columns correspond to their meaning and/or relation with a more precedent in a higher position.

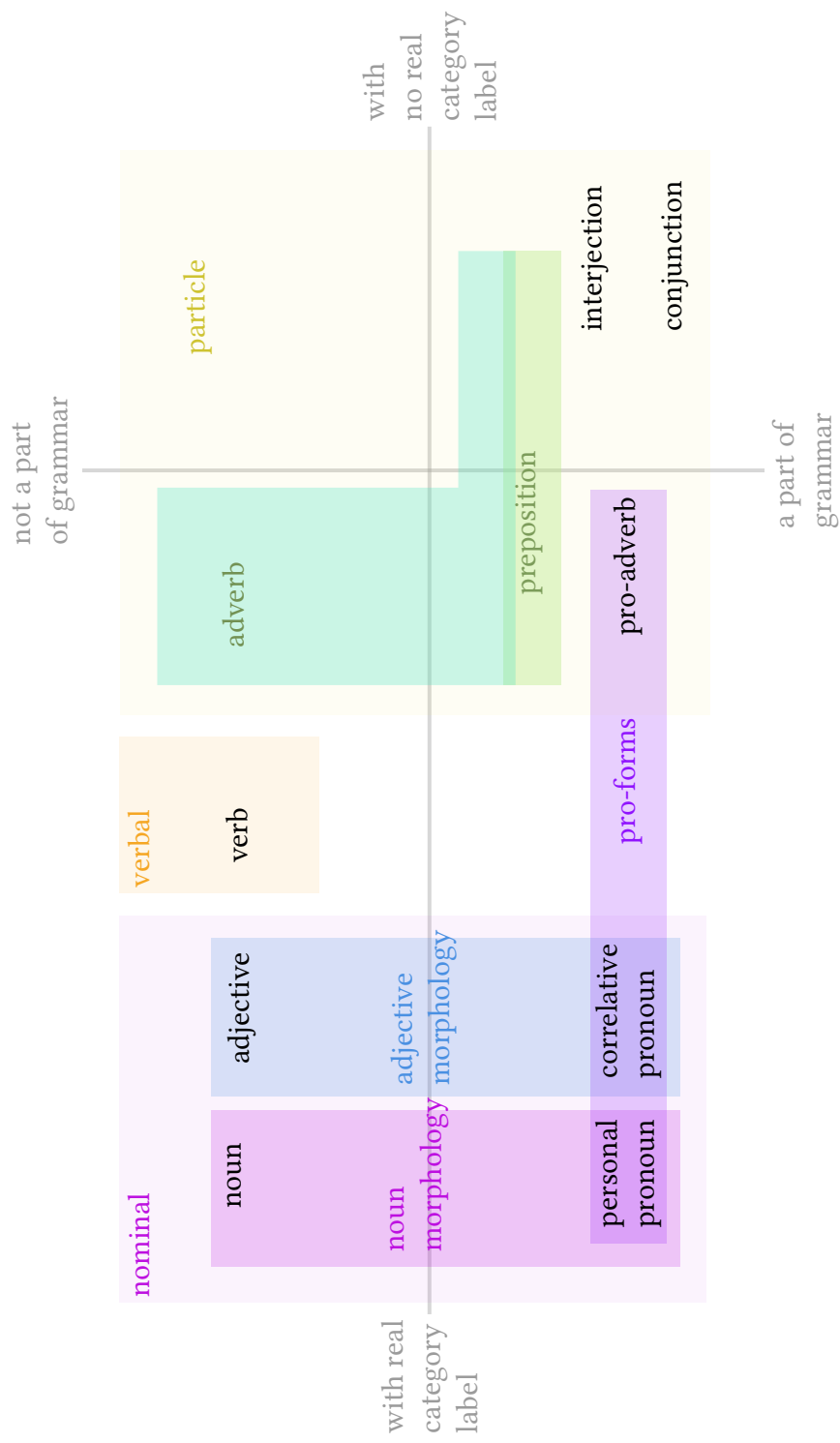


Figure 3.1: Latin word classes

### Table 3.1: Classification of Latin correlatives

nominal head	basic dual	“question”									
		interrogative	relative	indefinite	relative	proximal	medial	distal	identity	indefinite	collective

# Chapter 4

## Noun and noun phrase

### 4.1 The structure of noun

Latin nouns are declined for case and number, which is agreed upon by other nominal words in the NP. The structure of the Latin noun is just the stem plus inflectional ending with the case and number categories fused into one suffix (§ 4.2). There are five declension classes in Latin.

Inside the stem we find a list of

### 4.2 Declension of regular nouns

#### 4.2.1 The paradigm

There exists a discrepancy in recognizing the stem of a noun. One approach is to find the common part of all case forms of one nominal lexeme; thus *rosam* ‘rose-SG.ACC’ is analyzed as *ros-am*, with *ros-* being the stem. Allen and Greenough (1903, p. 17) documents the paradigms of all the five declension classes in this approach. The full list of attested noun endings is Table 4.1. The list is still not the full picture of Latin nominal inflection: stem alternation is seen in the third declension (§ 4.2.2).

Table 4.1: Declension endings; Roman numerals are declension classes

ending	declension
-a	I, SG.NOM, SG.VOC; IIN, PL.NOM, PL.ACC, PL.VOC; IIIN, PL.NOM, PL.ACC, PL.VOC
-ā	I, SG.ABL
-ae	I, SG.GEN, SG.DAT, PL.NOM, PL.VOC;
-am	I, SG.ACC
-ārum	I, PL.GEN
-ās	I, PL.ACC
-e	IIM, SG.VOC; IIIFMN, SG.ABL
-ē	V, SG.ABL
-ei/-ēi	V, SG.GEN, SG.DAT
-em	IIIFM, SG.ACC; V, SG.ACC
-ēbus	V, PL.DAT, PL.ABL
-ērum	V, PL.GEN
-ēs	IIIFM, PL.NOM, PL.ACC, PL.VOC; V, SG.NOM, SG.VOC, PL.NOM, PL.ACC, PL.VOC
-ī	IIM, SG.GEN, SG.VOC, PL.NOM, PL.VOC; IIN, SG.GEN; IIIFMN, SG.DAT
-ibus	IIIFMN, PL.DAT, PL.ABL; IVFMN, PL.DAT, PL.ABL
-is	IIIFMN, SG.GEN
-īs	I, PL.DAT, PL.ABL; IIMN, PL.DAT, PL.ABL
-ō	IIMN, SG.DAT, SG.ABL
-ōs	IIM, PL.ACC
-ōrum	IIMN, PL.GEN
-r	IIM, SG.NOM, SG.VOC
-ū	IVFM, SG.ABL; IVN, SG.NOM, SG.DAT, SG.ACC, SG.ABL, SG.VOC
-ua	IVN, PL.NOM, PL.ACC, PL.VOC
-uī	IVFM, SG.DAT
-um	IIMN, SG.ACC; IIN, SG.NOM, SG.VOC; IIIFMN, PL.GEN; IVFM, SG.ACC
-us	IIM, SG.NOM; IVFM, SG.NOM, SG.VOC
-ūs	IVFM, SG.GEN, PL.NOM, PL.ACC, PL.VOC; IVN, SG.GEN
-uum	IVFMN, PL.GEN

#### Box 4.1: Frequent confusions when analyzing noun endings

The ending sequence *-io* can be found in Table 4.1 and we may hurry to the conclusion that it's the third declension abstract noun ending *-io* in the nominative or accusative case. Not necessarily – it can also be *-ium* in the dative or ablative case (when the macron symbol for long vowels are not used).

Another approach – informed by historical comparison with other Indo-European languages – make use of the thematic vowel in declension endings that can also be found in Table 4.1 (Oniga, 2014, pp. 45, 63). Thus, the first conjugation singular accusative ending *-am* is *-a-m*, with *-a-* being the thematic vowel; we may also attach the thematic vowel back to the stem in the narrow sense *ros-* and redefine the complex *ros-a-* as the stem of *rosam*. The table is shown

### 4.2.2 The third declension

The third declension is a big tent containing several subclasses. Nominative singular endings attested in the third declension include -s, -t, -x (i.e. -cs) (Allen and Greenough, 1903, § 53).

## 4.3 The structure of the noun phrase

Although Latin lacks the article

### 4.3.1 Attributives

This section only discusses adjective or numeral attributives in detail. For in-depth discussion of relative clauses, see chap. 11.

### 4.3.2 The possessive construction

### 4.3.3 Numerals in the noun phrase

## 4.4 Minor categories

Some NPs contain only one word and can't accept any modification or complementation. They are also referred to instances of pronouns.

### 4.4.1 Personal pronouns

Latin pronouns are complete NP themselves: no attributives should be attached to them. Pronouns are declined for case, gender and number, and they also can be governed by prepositions.

### 4.4.2 Reflexive pronouns

It can be seen that *se* lacks nominative forms. In some circumstances, the reflexive *se* looks like the subject; but these cases are more appropriately analyzed as reflexive usages of transitive verbs (1).

- (1) ...necessarium est primo investigare de ipsa sacra doctrina, qualis sit, et ad  
quae [se extendat]

‘It is necessary to first investigate into this sacred doctrine, of what kind it would be, and what it would extend itself to (i.e. its nature and extent).’ (*Summa*, I q. 1 pr.)

### 4.4.3 Demonstratives

Latin has proximate, medial, and distal demonstratives: the first refers to something close to the speaker, the last refers to something far away, and the second refers to something in between, probably near the listener.

#### 4.4.4 Interrogative and relative pronouns

### 4.5 Case and preposition

After discussing the internal structure of NPs, we investigate the interaction of NPs with their syntactic functions. This is done by two systems: the case system and the preposition system.

#### 4.5.1 Distribution of the cases

The roles of the five cases are not symmetric. Being nominative simply means being the subject in a finite clause or something agreeing to it and nothing else: the subject may be in a passive clause and is not agentive at all. The nominative case and the accusative case received by the direct object are *structural* cases: they are purely decided by the syntactic environment and don't have much semantic significance.

On the other hand, the rest cases are *inherent* cases: they are similar to prepositions, having direct semantic interpretations – “source” or “target” or ... – themselves, and once an inherent case is assigned to an NP, the latter is “sealed” just like a prepositional phrase: the change of the outside syntactic environment doesn't change anything inside.

##### 4.5.1.1 The nominative

##### 4.5.1.2 The accusative

The accusative case has both structural and inherent uses (Oniga, 2014, p. 238):

##### 4.5.1.3 The genitive

Although in most teaching materials, the genitive case is considered to mark the possessor (and is thus an inherent case), a complete overview of its distribution reveals that it's actually a structural case representing *any* type of nominal dependency and not just possession and also sometimes assigned by certain types of verbs; some of the nominal dependencies can be metaphorically understood as possession, but others can't (Oniga, 2014, p. 244): it's hard to explain genitive of quality in terms of possession. This is comparable to English *of* in *a man of great talent* and *it's so kind of you*, which seems to be a purely structural phenomenon and is not based on metaphor; and indeed what is considered as prototypical possession also has strong cross-linguistic variation (Dixon, 2010, pp. 262-263).

##### 4.5.1.4 The dative

The dative case is an inherent case assigned to the benefactive, the experiencer, and the purpose (Oniga, 2014, p. 251); thus it's the case assigned to the indirect object (§ 8.1.4) as well as many adjuncts TODO

##### 4.5.1.5 The ablative

The ablative case is an inherent case assigned to the source and the instrument; so its distribution is similar to the dative case: it appears in source and instrument indirect

objects (TODO) as well as various adjuncts. A source argument can be the position from which something moves (**ablative of source**) or the source in a separation event (**ablative of separation**: ‘remove’, ‘deprive’), or the place where something comes into being (**ablative of material**, ‘birth’, ‘origin’), or the cause of something (“the source of the event”, **ablative of cause**); the agent in the passive voice possibly comes from one of the figurative use of the ablative as well.

#### 4.5.2 Prepositions

### 4.6 Constituent order and information structure

Similar to the case in clause structure (§ 8.5.1), the internal constituent order of NPs are strongly influenced by information structure. The default constituent order is attributive-before-head noun (Allen and Greenough, 1903, p. 396).



# Chapter 5

## Adjectives and adverbs

The adjective class and the adverb class are linked together by several factors: the adjective phrase and the adverb phrase are both prototypical modifiers, often with parallel structures; they both have the category of degree; adverbs can be formed regularly from adjectives.

### 5.1 Declension of regular adjectives

Peripheral arguments may also be regarded as adverbials. This chapter, however, is mainly about mean, TODO

### 5.2 Arguments of adjectives

#### 5.2.1 Dative

- (1) ... consubstantialem Patri ...  
consubstantial-SG.ACC Father-SG.DAT  
'consubstantial with Father' (Nicene Creed)

### 5.3 Comparative construction

*tam quam*

TODO: structure of some prepositions

# Chapter 6

## Verb morphology

### 6.1 The structure of the paradigm

#### 6.1.1 The verb template of the finite paradigm

Some inflected Latin verbs and their parts are shown in Fig. 6.1. Traditionally, the verb is divided into the **stem** and the **ending**. Derivation in Latin is predominantly preverbal, and hence the conjugation is mostly about the final lexical morpheme in the verb stem, which is represented as the root in Fig. 6.1. There may be a perfect suffix after the root. Components of the verb ending include the **tense and mood suffix** (also known as the **tense suffix**), and the person, number and voice marker, which is called the **personal ending** here, following the terminology in [Allen and Greenough \(1903, § 165\)](#).

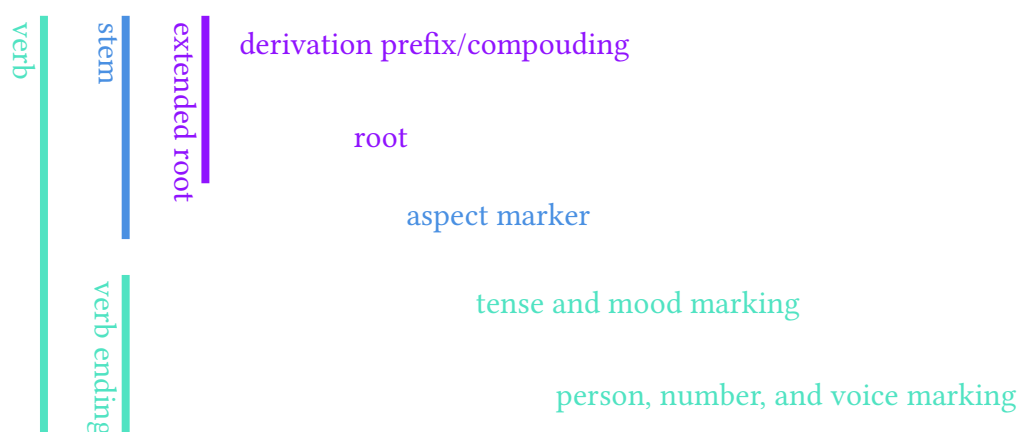


Figure 6.1: The template of Latin verbs. Indentation means linear order and not necessarily constituency structure.

The core stem assumes semi-regular alternations. The perfect marker is often but not always -v- (§ 6.2.3). Although the aspect marker is a part of the TAM marking (§ 6.1.3), it somehow is much more closely attached to the root in the morphophonological realization of the verbal system: how it is realized is not completely predictable, and therefore the two finite stem forms – the present stem and the perfect stem – are both required for complete characterization of the paradigm of a regular verb. To fully decide the paradigm we still need a further stem, the supine stem (§ 6.2.1).

Contextual allomorphs also exist for other morphemes in Fig. 6.1 (Embick and Halle, 2005, p. 11), as can be observed in Table 6.1. The most salient change is that an alternating vowel may appear between the root and the aspect suffix (if any), which is also known as the **thematic vowel**. It is the residue of the PIE ablaut and labels the conjugation class (§ 6.2.4), and is subject to morphophonological contextual alternation (§ 6.3.1). The tense affix is determined by “tense” in the sense of traditional Latin grammar, i.e. both tense and aspect (Table 6.3), and has dependence on the conjugation class (TODO: ref). The PERFECT tense also has its own personal endings (Table 6.4).

#### Box 6.1: More than one thematic vowel?

Phenomena similar to the thematic vowel – vowel alternation with no morphosyntactic significance between two morphemes – can be observed between the tense suffix and the personal ending (as in *amābuntur*; § 6.3.3) as well. We may go further and say that the *-imus* ending seen in first person active indicative perfect, as opposed to *-mus* observed in other cases, contains a thematic vowel *i* after the perfect marker *-v-*. Some generalize the concept of thematic vowel and stipulate a thematic vowel position after *every* morpheme Embick and Halle (2003). This is also motivated by evidences from some descendants of Latin (Oltra Massuet, 1999; Oltra-Massuet and Arregi, 2005). Whether this is needed for describing Latin however is

Below I discuss the subsystems in Fig. 6.1.

### 6.1.2 Voice

Latin doesn’t have rich valency changing devices: there is only one clause-wide valency decreasing device – passivization – and there is no valency increasing device. Causative constructions are realized by complement clauses, not any change in the argument structure. A verb (and hence the clause headed by it) is therefore either in **active voice**, or in **passive voice**. Some verbs are deponent (§ 6.5), which means they only have morphological passive forms.

### 6.1.3 TAME categories

The categories of primary tense (past or not; future or not), secondary tense (perfect tense – or aspect – or not), imperfective-perfective distinction and realis-irrealis distinction are marked by the Latin tense and mood suffix in Fig. 6.1. The parameter of primary tense has three values: present, past and future; the past future tense seen in English is absent in Latin. The imperfective-perfective distinction and the secondary tense are fused into one category, with three possible values: plain, imperfect, and perfect. The “progressive perfect” category (*have being doing* in English) is missing in Latin. TODO: Some say the imperfective/perfective distinction (for example the *be doing* construction in English) is not syntactically coded in Latin? What’s perfect, then? The realis-irrealis distinction is discussed below as *mood*.

The composition of present, past and future tenses and plain, imperfect and perfect “aspects” gives nine options, but in Latin, the past simple and the present perfect are identified with each other, for obvious semantic closeness; the imperfect and simple “aspects” are fused when the primary tense is present or future. Thus there are only six morphologically distinguished options, as is shown in Table 6.2. In the Latin

Table 6.1: Examples of Latin finite verbs

verb form	stem			tense and mood	personal ending
	extended root	extended root	thematic vowel		
<i>amō</i>	<i>am</i>				<i>ō</i>
<i>laudāmus</i>	<i>laud</i>		<i>ā</i>		<i>mus</i>
<i>olēvimus</i>	<i>ol</i>		<i>ē</i>	<i>ν</i>	<i>imus</i>
<i>amāveris</i>	<i>am</i>		<i>ā</i>	<i>ν</i>	<i>s</i>

grammatical tradition, the term **tense** usually refers to these six options, instead of the past/present/future system.

Table 6.2: Latin tenses

	past	present	future
imperfect	IMPERFECT	PRESENT	FUTURE
simple	PERFECT		
perfect	PLUPERFECT	PERFECT	FUTURE PERFECT

#### Box 6.2: Mismatch between TAME constructions and fine-grained categories

Note that semantic TAME features are different from syntactic TAME features, and the two are in turn different from packaged TAME marking constructions that can be easily identified in surface-orientated analyses. This is illustrated in Table 6.2. Following the example in Grimm (2021), in this note, I use small capitals for the names of attested surface realizations of TAME and the default font for TAME values. (Some other grammars, like Jacques (2021); Friesen (2017), use initial capitals for the former.)

Similar fusion between categories is shown in the category of **mood**.<sup>1</sup> It's the fusion of morphologically marked clause type (declarative and imperative) and morphologically marked modality. The verb morphology of interrogative clauses is exactly the same as declarative clauses: the interrogative clause type is marked by the existence of interrogative *pro*-forms. Thus, there are three moods in finite clauses in Latin: INDICATIVE, SUBJUNCTIVE, and IMPERATIVE. The INDICATIVE is the fusion of the declarative/interrogative clause type and the realis modality. The SUBJUNCTIVE mood is the fusion of the declarative/interrogative clause type and the irrealis modality. The IMPERATIVE is basically the imperative clause type: it doesn't allow modality marking. Sometimes people say the infinitive is the fourth mood, though it's a non-finite clause.

### 6.1.4 Agreement

Latin is a typical nominative-accusative language, both morphologically and syntactically. In finite clauses, there is subject-verb agreement: the number and person of the subject is marked on the main verb. In the case of periphrastic conjugation, the features are marked on the copula.

### 6.1.5 Compatibility of categories

There is no FUTURE tense and FUTURE PERFECT tense in subjunctive clauses, probably for the semantic reason that the future tense already contains certain sense of modality (an event predicted to happen), and thus is not compatible with the SUBJUNCTIVE mood. The IMPERATIVE mood is not compatible with other TAME markings except the PRESENT tense and the FUTURE tense. It's still compatible with the voice category, and

<sup>1</sup>Dixon (2009) only calls the category of clause type *mood*. Huddleston and Pullum (2002), on the other hand, calls syntactic modality mood and uses the term *modality* for pure semantics. Different linguists use the term *mood* and *modality* in radically different ways. In this note I just focus on the common practice in Latin grammar study. In terms of general linguistics, the Latin *mood* is a mixture of clause type (the real mood) and modality.

allowed persons are second person singular/plural with the PRESENT tense, and second/third person singular/plural with the FUTURE tense. The absence of first person is also probably from semantic origin.

In conclusion, the categories involved in the finite verb paradigm of Latin are shown in Fig. 6.2. Here mood and tense are realized in one morpheme, and voice, person and number are realized in one morpheme. The paradigm is realized synthetically in all circumstances except in passive voice and perfect tense. In that case, the verb conjugation is realized like the English passive, i.e. via a copula and the perfect passive participle.

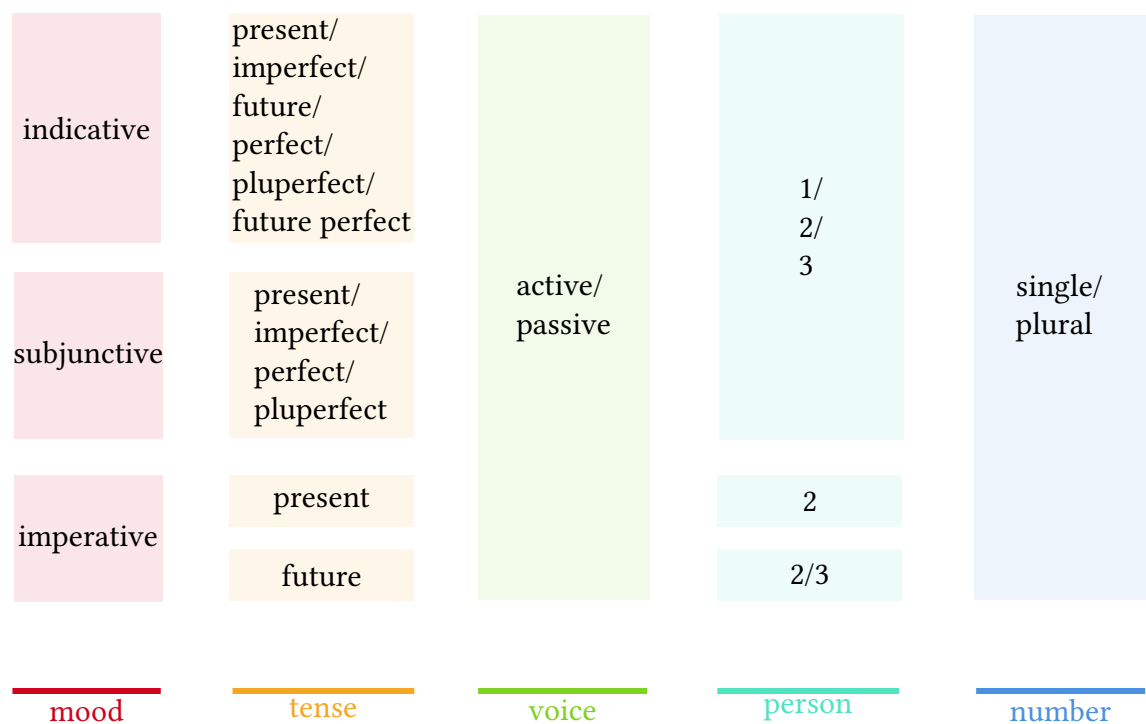


Figure 6.2: Categories in the finite paradigm

**Box 6.3: Recording verb inflectional forms**

### 6.1.6 The non-finite paradigm

According to the morphology, Latin non-finite verb forms can be classified into the infinitives (§ 6.4.1) and the nominal forms (§ 6.4.2), the latter having noun-like or adjective-like morphology. Non-finite verb forms don’t agree with the subjects they take, so there is no number or person category marked on them in the same way as Fig. 6.2, though for nominal verb forms there are number and person categories marked in the same way as the nominal morphology.

The infinitives include present active, present passive, perfect active, perfect passive, future active, and future passive infinitives. The latter three are realized periphrastically (Fig. 6.3).

The nominal verb forms include the **simple active**, the **perfect passive** (often just called the perfect participle), and the **future active** participles, the **gerund**, the

**gerundive** which is also known as the **future passive** participle, and two supine forms. The **first supine** is identical in the form to the singular neutral accusative perfect participle, without any reference to the number category of any argument it takes. The **second supine** is identical to the singular neutral ablative or dative past participle, also with no inflection with respect to the number category of any argument it takes. The gerund is morphologically the singular neutral of the gerundive (§ 6.4.2.5).

#### Box 6.4: Whether to keep supine as a verb form

The idea of the stingy linguist may lead one to reject the notion of supine in Latin grammar (§ ??). However, for the same reason the infinitive (or the “plain form”, since the infinitive is actually a label of clauses – see the discussion and the separation principle in § ??) is recognized as a form independent from the present form in English in **Huddleston and Pullum** (2002, p. 74), the status of supine as a separate form is recognized in this note. The reasons include TODO

In Classical Latin, the gerund and participle forms are significantly more noun-like than their counterparts in English, and this also justifies the term *nominal form*, because they are not far from prototypically nominalization: although they are still modified by adverbs, they are unable to take arguments. In Ecclesiastical Latin, the so-called nominal forms are more verb-like (TODO: ref), being able to take arguments, and are therefore no longer “nominal”.

## 6.2 Formation of stems

### 6.2.1 The three verb stems

Latin shows stem alternation that is not completely predictable. All verb forms can be obtained by three stems (**Allen and Greenough**, 1903, § 164), if the verb is regular:

- The **present stem**, which, after attached with proper endings, forms
  - The PRESENT, IMPERFECT, and future forms, regardless of whether they are indicative or subjunctive, active or passive. (There is no future or future perfect subjunctive).
  - All the imperatives.
  - The present infinitives, active and passive.
  - The present participle, the gerundive, and the gerund.
- The **perfect stem**, which, after attached with proper endings, forms
  - The perfect, pluperfect, and future perfect active, indicative or subjunctive. Again, there is no future or future perfect subjunctive. Note that the passives are *not* formed by the perfect stem.
  - The perfect active infinitive. (Or the perfective infinitive active, since infinitive is considered as a mood by some people.)

Note that the perfect passive participle is *not* obtained from the perfect stem.

- The **supine stem**, which, after attached with proper endings or used together with proper forms of *sum*, forms

- The perfect passive participle, which, by being used with proper forms of *sum*, forms
  - \* The perfect, pluperfect, and future perfect passive forms, indicative or subjunctive. Again, there is no future or future perfect subjunctive. This is periphrastic conjugation: it is done by using proper forms of *sum* with the perfect passive participle.
  - \* The perfect infinitive passive.
- The future active participle, which, used together with *esse*, makes the future active infinitive.
- The future passive infinitive, by being used together with *īrī*.

This process is summarized in Fig. 6.3.

In a dictionary, typically the stems are not directly given – which are given are representative verb forms, from which the stems and the conjugation class can be inferred. The reasons are the follows. First, for fluent users, recording actually attested word forms is easier compared with the morpheme-based “anatomized” approach. Second, Latin has four conjugation types, and hence the three stems themselves aren’t sufficient to decide how to conjugate the verb: more information is needed, and by storing already conjugated verb forms, the conjugation class can be decided by observing the endings. What are stored are the following **principal forms**, from which the three stems and the conjugation class can be solved out (Allen and Greenough, 1903, § 172):

1. *The first-person present active indicative*: formed from the present stem.
2. *The present infinitive*: formed from the present stem. By observing its ending, the conjugation class can be decided, and by comparing with the first principal form, the present stem is obtained.
3. *The first-person perfect active indicative*: showing the perfect stem.
4. *The neutral accusative past participle*, i.e. the form of supine: showing the supine stem.

The ways to obtain the stems from the principal forms are:

- *The present stem* can be found by dropping *-re* in the PRESENT INFINITIVE (Allen and Greenough, 1903, § 175).
- *The perfect stem* can be found from the third principal part: just remove *-ī*.
- *The supine stem* can be found by dropping *-um* in the supine i.e. the fourth principal form (Allen and Greenough, 1903, § 178).

Note that in Medieval Latin, often, instead of *iri* plus the first supine, *fore* plus the perfect participle is used to form the future passive infinitive. TODO: find a reference <https://www.nationalarchives.gov.uk/latin/stage-2-latin/lessons/lesson-24-infinitives-accusative-and-infinitive-clause/>



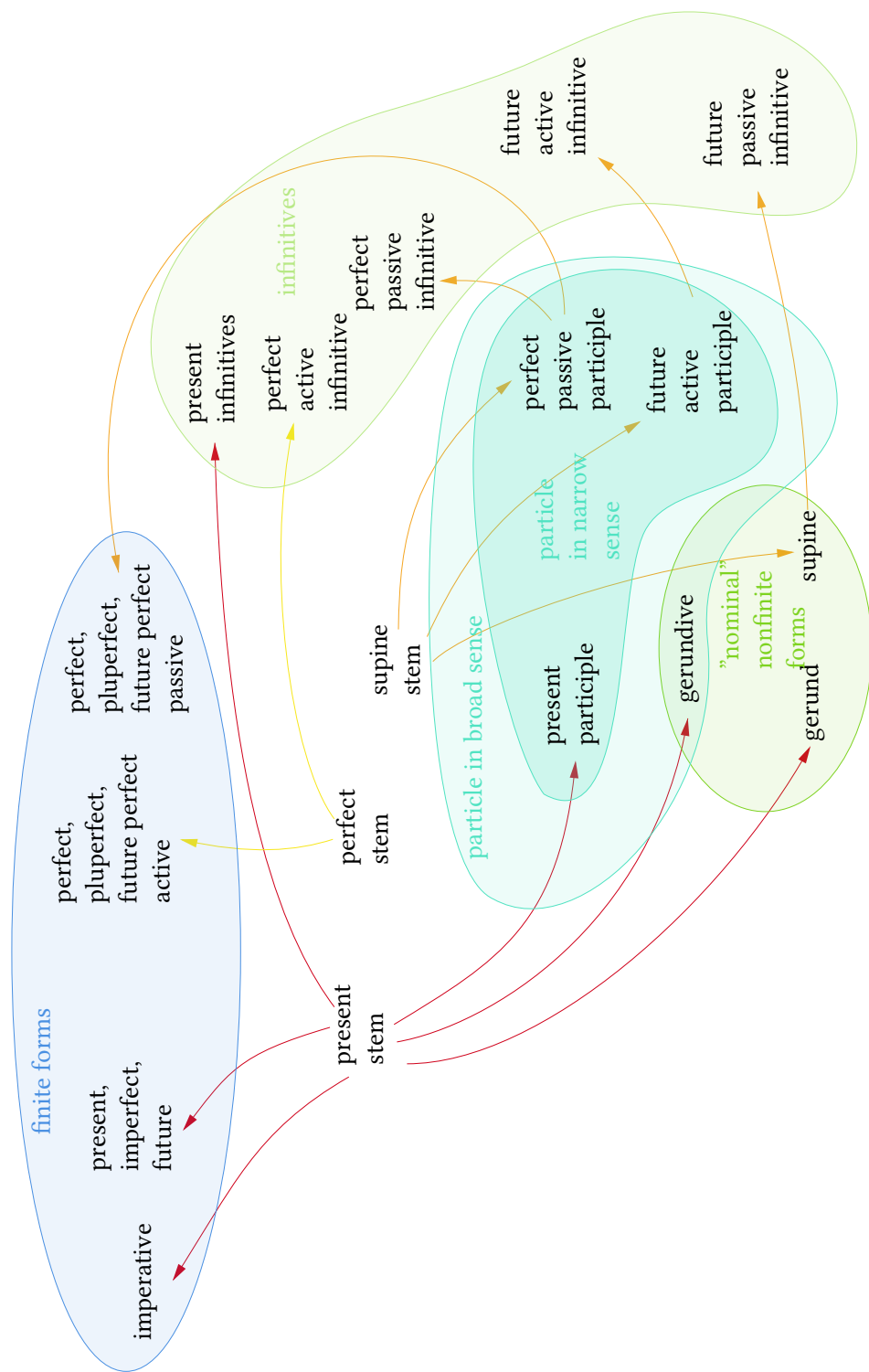


Figure 6.3: How to get all conjugation forms from the three stems

## 6.2.2 Formation of the present stem

## 6.2.3 Formation of the perfect stem

## 6.2.4 Conjugation classes

Depending on the way realization of the paradigm for a verb, Latin verbs are traditionally divided into four conjugations classes according to the thematic vowel of the stem: if the stem ends in *a*, it's a first conjugation verb (§ 6.3.3); if it ends in *e* then we have a second conjugation verb (§ 6.3.4); TODO. The conjugation classes however can't be reduced to the thematic vowel, since there are some contextual allomorphs that can't be explained synchronically in this way (§ 6.3.1, Table 6.3). There are a handful of irregular verbs (§ 6.6) that can't be inflected using rules pertaining to the four regular conjugations.

Another aspect of the inflectional behavior of the verb is whether it's deponent; this also has some implications on the argument structure (§ 6.5).

# 6.3 The finite paradigm

Due to morphophonological rules, morpheme division inevitably involves controversies. This section follows the analysis in Oniga (2014, chap. 14).

## 6.3.1 Marking of tense and mood

The contextual alternation of the tense and mood marker is listed in Table 6.3. They are subject to phonological rules and have allomorphs in different conjugation classes. A long vowel after the suffix, if any, is shortened before *-m*, *-r*, *-t*, and *-nt* due to vowel shortening in the final syllable before a consonant, and also before *-ntur* due to Osthoff's Law (§ 2.3.2; Oniga 2014, p. 130). The present indicative doesn't add a suffix after the stem, so the thematic vowel at the end of the stem is directly exposed to the personal ending, and vowel changes in § 2.3 happen.

The perfect and pluperfect subjunctive suffixes are only used for the active voice. For the passive voice, periphrastic conjugation with the perfect passive participle is used.

Table 6.3: Tense and mood suffixes

Suffix	Mood and tense	Note
∅	Present indicative	With change on thematic vowel
<i>-bā-</i> , <i>-ebā-</i>	Imperfect indicative	Possibly shortened
<i>-be-</i>	Future indicative	For 1c, 2c; Allomorphs: <i>-b-</i> , <i>-bi-</i> , <i>-bu-</i>
∅	Perfect indicative	With its own personal endings
<i>-erā-</i>	Pluperfect indicative	Possibly shortened
<i>-eri-</i>	Future perfect indicative	Allomorph: <i>-er-</i> (1SG)
<i>-ē-</i>	Present subjunctive	Allomorphs: <i>-a-</i> , <i>-ā-</i> , <i>-e-</i>
<i>-rē-</i>	Imperfect subjunctive	Possibly shortened
<i>-eri-</i>	Perfect subjunctive	For active only
<i>-issē-</i>	Pluperfect subjunctive	For active only; possibly shortened

### Box 6.5: Shortening or lengthening?

If we just restrict ourselves to the verbal paradigm, it may be attempting as well to consider *-ba-* as the indicative imperfect suffix, since *-bā-* does not outnumber it. But prolonging is rare in phonology: shortening, due to physiological motion control factors (some sound sequences are easier to pronounce), is more frequent. The same line of argumentation can be applied to justify the status of *-rē-* as the somehow canonical subjunctive imperfect suffix.

Perfect indicative active verb forms have their own set of personal endings (Table 6.4). The plural part of the personal endings still contains the usual *-mus*, *-tis*, *-nt* endings, and thus alternatively, we may analyze the verb endings for the PERFECT tense as the follows: the tense suffix is *-ī-* for first-person singular, third-person singular and first-person plural, *-is-* for second-person singular and second-person plural, and *-ēru-* for third-person plural; the first person singular ending is empty, and the second person singular ending is *-tī*, and the rest of personal endings are the same as those of other tenses.

Table 6.4: Personal endings for the PERFECT

Suffix	Person and number
<i>-ī</i>	1SG
<i>-istī</i>	2SG
<i>-it</i>	3SG
<i>-imus</i>	1PL
<i>-istis</i>	2PL
<i>-ērunt</i>	3PL

- The indicative:
  - Future:
    - \* For first and second conjugation verbs, the tense-mood morpheme is *-bi-*, except for first-person singular (which is *-b-*) and third-person

plural (which is *-bu-*).

- \* For third and fourth conjugation verbs, change stem-final stem.

- Future perfect:

- \* *-eri-* for all cases except first person singular.

- \* *-er-* for first-person singular.

- The subjunctive:

- Present: no suffixation, but there is regular change on the stem-final vowel:

- \* For first conjugation verbs, .

- \* For second conjugation verbs, → *eā-*.

- \* For third conjugation verbs, → *ā-*.

- \* For fourth conjugation verbs, → *iā-*.

These alternations apply for both active and passive verbs, so they have nothing to do with polarity, and this is why I put them in this section.

- Imperfect: *-rē-*, possibly shortened.

### 6.3.2 The personal ending

Possible personal endings are listed in Table 6.5. In the active voice, *-ō* is used with present indicative, future indicative (first and second conjugations only), future perfect indicative, and *-m* is used with imperfect indicative, future indicative (third and fourth conjugations only), pluperfect indicative, and the subjunctive mood regardless of tense. The PERFECT tense has its own personal endings: in the alternative analysis outlined in the last section, the first person perfect indicative ends with *-ī*, and the second person perfect indicative ends with *-tī*.

The ending *-re* is alternative form of second-person singular compatible with all non-periphrastic tenses and moods. If this personal ending is used, then the tense and mood marking is none. Note that the resulting verb form is the same as the infinitive principal part (§ 6.2.1).

The *-or* version of the passive first person ending is seen in present indicative and future indicative in the first and second conjugations; the latter has the deep form *-be-or*, then then is realized as *-bor* because of vowel deletion (§ 2.3.1).

Table 6.5: Personal endings

Suffix	Person and voice	Note
<i>-ō, -m</i>	active, 1SG	Depend on tense
<i>-s</i>	active, 2SG	
<i>-t</i>	active, 3SG	
<i>-mus</i>	active, 1PL	
<i>-tis</i>	active, 2PL	
<i>-nt</i>	active, 3PL	
<i>-r, -or</i>	passive, 1SG	<i>-or</i> for present and future indicative only
<i>-ris</i>	passive, 2SG	Allomorph: <i>-re</i> (without tense suffix)
<i>-tur</i>	passive, 3SG	Non-perfect tenses
<i>-mur</i>	passive, 1PL	Non-perfect tenses
<i>-minī</i>	passive, 2PL	Non-perfect tenses
<i>-ntur</i>	passive, 3PL	Non-perfect tenses

- The passive:
  - First-person singular:
    - \* *-r*: compatible with all tenses and moods, except the present indicative.
    - \* *-or*: present indicative. Also, note that the future indicative (first and second conjugations only) ending is *-bor*, which may be analyzed as .
  - Second-person singular:
    - \* *-ris*: compatible with all non-periphrastic tenses and moods.
    - \*

#### Box 6.6: Parsing a finite verb

Follow these steps to parse a finite verb:

- First see whether the aspect is perfect (by looking at the stem part) and the personal ending.
- Then TODO

### 6.3.3 The first conjugation

Attested thematic vowel alternations include:

- In first person singular present forms, the final *ā* is dropped, because the personal ending is *-ō* or *-or* and the thematic vowel is subject to vowel deletion.
- In active subjunctive *ā-* → *ē-*.

### 6.3.4 The second conjugation

Attested thematic vowel alternations include:

- In active indicative present forms, *ē* → *e*.

### 6.3.5 The third conjugation

The third conjugation has two subclasses: the thematic vowel-less case, and the *i*-thematic case.

### 6.3.6 Periphrastic conjugations

An auxiliary verb construction is a structure that contains one or more auxiliaries apart from the main verb, and yet is mono-clausal and is not a complement clause construction, and the auxiliaries are realizations of the verbal system surrounding the main verb, and not independent lexical verbs. Auxiliary verb constructions realizing grammatical categories that are usually realized by inflectional endings in a paradigm should be seen as a part of that paradigm, and therefore are known as periphrastic conjugations.

## 6.4 Non-finite forms

### 6.4.1 The infinitives

### 6.4.2 The gerund and participles

#### 6.4.2.1 The gerund

The gerund is morphologically a neutral singular noun. The stem is formed by adding *-nd-* to the present stem; in other words, the accusative form of the gerund of the verb is obtained by removing the final *s* of the present active participle and adding *dum*. Note that the nominative case is missing – when a non-finite clause is required in the subject position, it's always an infinitive.

#### 6.4.2.2 The present active participle

The present active participle (i.e. the present participle) is morphologically a third declension adjective (TODO: gender). The stem of the present active participle is obtained by adding *-nt* to the present stem. Equivalently, the nominative singular form – the citation form – is obtained by replace the *-re* ending of the present active infinitive by *-ns* (or in other words, add *-ns* to the present stem).

#### 6.4.2.3 The perfect passive participle

The perfect passive participle (i.e. the perfect participle or the past participle) can be found by declining the neutral accusative past participle, i.e. the fourth principal part.

#### 6.4.2.4 The future active participle

To get the future active participle (i.e. the future participle), add *-urus* to the supine stem.



### 6.6.1.2 The nonfinite paradigm

The only nominal form is the future active participle *futūrus*. The three active infinitives forms are all attested. The present active infinitive is *esse*. The perfect active infinitive is *fuisse*, regularly formed by the perfect stem *fu-*.

The future active infinitive can be regularly formed by adding *esse* to the future active participle, and therefore is *futūrum esse*. There is also a free variant *fore*.

### 6.6.1.3 The perfect system

The perfect forms – finite forms and the perfect active infinitive – of *sum* can be formed regularly (§ 6.3) according to the perfect stem *fu-*.

### 6.6.1.4 The imperative system

The present imperative system, which is known for reflecting the present stem, is formed regularly using *es-*: the singular second person present imperative is *es* and the plural second person present imperative is *este*.

### 6.6.1.5 The present system

The imperfect forms of *sum* are highly irregular, though patterns can still be found. In the indicative part (Table 6.6):

- The PRESENT forms show no pattern except the personal endings. Note that here *-m* instead of *-ō* is used for the first person singular form.
- The IMPERFECT forms are formed by adding the standard personal endings (*-m*, *-s*, *-t*, *-mus*, *-tis*, *-nt*) to *erā*, the vowel *ā* of which undergoes shortening according to rules in § 6.3.1.
- The FUTURE forms are formed by the same personal endings seen in the first and the second conjugations, although the tense marker isn't the same: the stem-tense marker complex is *er-* instead of the stem plus *-b-*.

Table 6.6: The indicative paradigm of *sum*

PRESENT	IMPERFECT	FUTURE
<i>sum</i>	<i>eram</i>	<i>erō</i>
<i>es</i>	<i>erās</i>	<i>eris</i>
<i>est</i>	<i>erat</i>	<i>erit</i>
<i>sumus</i>	<i>erāmus</i>	<i>erimus</i>
<i>estis</i>	<i>erātis</i>	<i>eritis</i>
<i>sunt</i>	<i>erant</i>	<i>erunt</i>

In the subjunctive paradigm (Table 6.7), we find that in the PRESENT system, the stem-tense marker complex is fused into *sī-*, and in the IMPERFECT system, the stem-tense marker complex is fused into *essē-* or *forē-*, both of which are then attached to



the standard *-m*, *-s*, etc. personal endings, and the vowel shortening rule in § 6.3.1 works.

Table 6.7: The subjunctive paradigm of *sum*

PRESENT	IMPERFECT
<i>sim</i>	<i>essem, forem</i>
<i>sīs</i>	<i>essēs, forēs</i>
<i>sit</i>	<i>esset, foret</i>
<i>sīmus</i>	<i>essēmus, forēmus</i>
<i>sītis</i>	<i>essētis, forētis</i>
<i>sint</i>	<i>essent, forent</i>

### 6.6.2 The verb *faciō*

The verb *faciō* looks pretty regular regarding the endings, except for one thing: its *stem* alternates according to the voice.

## 6.7 Auxiliary verb constructions

Latin is usually perceived as a language with few analytic properties; the only example of periphrastic conjugation being the *sum* plus perfect passive participle construction. A deeper look however reveals there might be more

# Chapter 7

## Verb frames

This chapter is mainly about verbs that don't take complement clauses as arguments. The phenomena discussed in this chapter mostly apply to complement clause constructions as well, but complement clause constructions have their own peculiarities (§ 10.1).

### 7.1 Argument positions and verb frames

#### 7.1.1 Prototypical intransitive verbs

##### 7.1.1.1 The MOTION type

#### 7.1.2 Prototypical transitive verbs

With complement-taking verbs temporarily excluded, a prototypical transitive verb is more or less close to the AFFECT type, with an A argument which is the causer of the event

#### 7.1.3 Copular verbs

##### 7.1.3.1 The verb *sum*

It's also possible to use *sum* with an indirect object, and the meaning because 'something be to [someone]<sub>indirect object</sub>'. In this case we get the possessive dative construction (Allen and Greenough, 1903, § 373).

TODO:

- (1) Nono, utrum uti debeat metaphoricis vel  
tenth whether at.any.rate owe-SUBJ.PRES-3SG.ACT metaphoric-PL.DAT/ABL or  
symbolicis locutionibus.  
symbolic-PL.DAT/ABL speech-PL.DAT/ABL  
'Whether (it) at any rate uses metaphoric or symbolic speech.' (*Summa*, I q. 1 pr.)

# Chapter 8

## Clause structure

The clause appears as a single utterance (and is a **sentence**<sup>1</sup> in this case), either declarative or interrogative, as a complement of a verb (complement clause construction), as an adverbial of another clause (i.e. modifier in the verbal system), and as a relative clause (i.e. modifier in the nominal system).

Descriptive parameters of clausal structure include the argument positions, deep and surface, availability and interpretation of TAME marking, the availability and interpretation of grammatical categories higher than TAME categories including topicalization and focusing, which in the case of Latin determine the constituent order, and, in the embedded clause case, the licensing environment and the inside *wh*-forms.

### 8.1 The nucleus clause

#### 8.1.1 Complements and adjuncts

This section examines the verb, complements<sup>2</sup> and adjunct positions in Latin clauses. Parameters used in the classification include

- their internal structures (case, preposition, NP or clause, etc.),

---

<sup>1</sup>Some authors use the term *sentence* as a synonym of *utterance*. Although this is the convention many Latinists use, it is not followed in this note.

In some languages a clause that qualifies as an utterance contains more grammatical categories than a minimal subject-predicate construction (like sentence-final particles possibly missing in embedded clauses), and a distinction between the sentential clause and a nucleus clause has to be made. This is not the case in Latin.

<sup>2</sup>In Huddleston and Pullum (2002) the term *complement* means a clausal dependent position that has a closer relation with the lexical head; the boundary between complements and adjuncts is sometimes hard to draw (see below). A clausal dependent position is an all-in-one label concerning several grammatical relations (see the main text): the label *subject*, for example, covers both the pivot role in the nucleus clause (i.e. “SpecTP” in generative grammar) and the most external, agentive role in the argument structure (i.e. “SpecvP” or “SpecVoiceP” in generative grammar).

In traditional Latin grammar, however, *complement* means the copular complement. This note follows the terminology used in most descriptive grammars, so use the term *copular complement* to refer to the The Cambridge Grammar of the English Language (CGEL) *predicative complement*.

A further confusion, as is seen in § 7.1, is due to the term *complement-taking verb*, i.e. a verb that take a complement clause or something semantically equivalent to a complement clause as one of its arguments.

- their correspondence with semantic roles (Huddleston and Pullum 2002, § 4.2),<sup>3</sup>
- their behaviors in valency alternation,
- their behaviors in reflective constructions,
- agreement,
- and extracting properties in e.g. relativization.

The first three properties are mainly about deep generalized semantics roles, i.e. *deep* S, A, P (or O) etc. in Dixon (2009). Valency alternation devices may highly depend on properties of the verb (TODO: ref), or a more high-level and uniform one usually known as *voice* (TODO: ref); both of them are well attested in Latin. The last two properties are mainly about clausal-level grammatical relations or “surface argument position” in Dixon (2009), which can be labeled as *surface* S, A, P; details of possible surface argument positions, including possible identification of S and A or P and split of S, is specified in the alignment typology of the language. Latin is a nominative-accusative language, with clear S=A identification and therefore a well-defined subject (TODO: ref).

Beside the subject, various types of objects, and copular complements, there are more clause dependents corresponding to less frequently seen semantic roles like purpose, direction, location, etc. They may be licensed or even required by the verb (**oblique argument**, corresponding to the E argument in Dixon (2010, p. 116)), or they may be modifying the whole clause and therefore are usually optional (**peripheral argument**, or “adjuncts”). Besides clauses and NPs (with or without prepositions), their categories also include adverb phrase (AdvP)s, a majority of the latter originating from case forms.

A clear complement-adjunct distinction – telling peripheral arguments from core arguments or oblique arguments – is hard to establish in Latin. Latin peripheral arguments do not necessarily have prepositions. Latin is highly free-ordered and therefore all clause dependents can leave their base positions. Latin is also highly *pro*-drop, and even uncontroversial core arguments can be omitted. Oblique arguments are frequent in Latin, as is the case in English (consider *run away from* or *get into*). Thus criteria of category, position, and argument in Huddleston and Pullum (2002, § 4.1.2) all fail to work. Latin doesn’t have systematic way to replace the core predicate (i.e. without adjuncts) by an anaphora, and that criterion does not work, either. TODO: really? The remaining criteria are about selection, licensing, and obligatoriness; these criteria are however hard to use for a classical language. Thus, despite I’m fully aware that clausal dependents concerning place, instrument, mean, etc. may be licensed by both the argument structure of the verb and by clausal adjunct positions and may have clear structural differences in other languages (as in English), currently no distinction between the two cases is made. Following the traditional notion, the subject, several kinds of objects, the copular complement (Huddleston and Pullum (2002) calls it *predicative complement*) are identified as complements.

---

<sup>3</sup>We still need to distinguish between the abstract, essentially syntactic concepts like agent, patient, source, etc. which are meaningful in syntactic devices like valency changing and are represented as generalized semantic roles (see below), and truly semantic and more numerous role listed in Dixon (2005).

### 8.1.2 The subject

Latin is an accusative language. A **subject** can be identified for all clauses, though it is frequently omitted. Grammatical behaviors of the subject are summarized in the follows.

- *Coding of semantic role*: In an active clause, the subject is the S argument in a prototypical intransitive argument structure and the A argument in a prototypical transitive argument structure. It's often said that the subject is usually the most agentive argument, but for so-called unaccusative intransitive verbs, the subject is patientive, which can be demonstrated by the semantics and the fact that when the causer of the event is present as an argument, the patientive S argument in the intransitive verb frame becomes the O argument in the transitive verb frame. In a passive clause, the subject corresponds to the “promoted argument” (§ 8.2).
- *Case marking*: Subjects are always nominative for finite clauses, whenever the case system is in action, i.e. whenever the subject is an NP or a gerund. Nonfinite clauses may be argued to be subjectless in the surface form (a reasonable claim, since they have deficient TP layers, and hence it is possible that no canonical subject position exists), but in accusative-infinitive constructions, the accusative may be seen as the non-canonical subject of the infinitive.
- *Agreement*: the number and person features on the subject leave marking on the verb complex. Latin does not have verbal agreement with arguments other than the agreement with the subject.
- *Category*: a subject is an NP or a complement clause (§ 10.1), usually an infinitive but never a gerund (§ 6.4.2.1). This constraint isn't seen in any other clausal complement types.

### 8.1.3 The direct object

Here is a list of grammatical properties of the direct object:

- *Coding of semantic role*: In a prototypical transitive argument structure, the direct object is the P argument, i.e. the most patientive argument.
- *Case marking*: Direct objects are always accusative when it makes sense to talk about case – but not all accusative arguments are direct objects (§ 4.5.1.2).
- *Passivization*: If an argument is coded as the direct object, then it can regularly be promoted to the subject position in a passive clause (§ 8.2). Secondary objects are less frequently promoted in passivization (§ 4.5.1.2).

### 8.1.4 The indirect object and the secondary object

Latin also has two complement positions named as object: the indirect object and the secondary object. The indirect object is distinguished by the following grammatical properties:

- *Coding of semantic role*: in a AGT-type argument structure, the indirect object is usually the G argument. Intransitive clauses sometimes also have indirect objects, and an indirect object, in this case, is also a G argument.
- *Case marking*: indirect objects are always dative (§ 4.5.1.4).
- *Passivization*: indirect objects are always retained in passive clauses. They are never promoted to subjects in passivization.

The secondary object is distinguished by the following grammatical properties:

- *Coding of semantic role*: in an AGT-type argument structure that is always about information flowing, the T argument (i.e. the thing asked about or taught about) is the secondary object. The G argument (i.e. the person who is asked or taught) is the direct object. Sometimes the G argument is ablative, and in this case, there is only one accusative argument: the secondary object. Another place where secondary objects appear is clauses headed by a verb with a compounded accusative preposition.
- *Case marking*: secondary objects are always accusative.
- *Passivization*: secondary objects can be passivized, but much more rarely than direct objects.
- 

The distributions of the secondary object and the indirect object are mutually exclusive. This means for ditransitive verbs of type GIVING, Latin shows a clear and strong tendency to identify the T argument with the monotransitive O, while for ditransitive verbs about teaching, the inverse is true.

#### Box 8.1: Comparison with English

It can be found that the Latin indirect object has more similarity with the English *to*-PP, which is also called the indirect object in some grammars, but not CGEL. The Latin indirect object differs from the English (accusative) indirect object in passivization. Since in Latin, verbs with AGT-type argument structure do not have alternation of complementation pattern – in English we have *give sth. to sb.* and *give sb. sth.*, while in Latin there is only the former one, but *to sb.* is replaced by a dative, (always with no preposition) – the G argument is identified with the E argument, and the T argument is identified with the P argument. In other words, in Latin, there is only the *John gave [goods]<sub>T</sub> to [charity]<sub>G</sub>* pattern: the double-object *John gave charity goods* pattern is absent.

Therefore, for typical ditransitive verbs, i.e. verbs like *give*, Latin shows a clear and strong tendency to identify the T argument with the monotransitive O, which is more typical than English<sup>a</sup>, but for verbs with meaning of TEACH or ASK, there is also a clear and strong tendency to identify the G argument with the monotransitive O. The term *secondary object* is coined to cover this grammatical position.

<sup>a</sup>In English, in the *give sb. sth.* construction, it is the person i.e. the G argument that is passivized, while the T argument i.e. *sth.* cannot, though the latter is identified with monotransitive O according to other criteria.

### 8.1.5 Copular complements

Latin also has copular complements. A copular complement, just like its counterpart in English, basically can be viewed as a displaced attributive or appositive (and hence is prototypically filled by an NP or an AdjP) but is a little more peripheral (manner, state, factitive, etc.) in its meaning than an attributive or appositive.

Latin has nominative predicate and accusative predicate: as hinted by their names, the nominative predicate gives a property of the subject and agrees with it, and the accusative predicate gives a property of the direct object and agrees with it. In passivization of the direct object, the accusative predicate becomes the nominative predicate.

Other types of copular complements without agreeing with the subject exist. TODO: ablative of quality, price, etc. The syntactic status of copular complements here are closer to PPs: we may say they receive *inherent cases*, while the nominative and accusative copular complements receive *structural cases* (§ 4.5.1).

### 8.1.6 (Change of) location

TODO: considering moving this section to the case section

Various semantic roles can be summarized as SOURCE, and the source clausal dependents – adjunct or complement – have the following properties. Note that we are dealing with a *group* of clausal dependents.

- *Coding of semantic role*:
- *Case marking*: a source argument is in the ablative case. It may come together with the prepositions *ex* or *ab*.
- *Passivization*: not available.

### 8.1.7 Others

There are other clausal dependents with semantic roles and case/preposition markings different from any other type mentioned above; they are skipped here for brevity. A full list of these clausal dependent slots can be found by checking the usage of each preposition.

## 8.2 Voice

## 8.3 Preverbs and other verbal derivations

## 8.4 Verb frames

### 8.4.1 Overview

In this section I consider the correspondence between semantics of verbs and their syntactic properties. Attested combinations of the argument slots include

TODO: deponent, unaccusative

It can be seen that unaccusative verbs are all deponent (Oniga, 2014, pp. 308-309)

On the semantic side, I follow the semantic classification by Dixon (2005, Part B), Dixon (2010, § 18.5), and Dixon (2009, § 3.3). Verbs are classified semantically into three subgroups:

1. Primary-A, which contains verbs that don't take arguments with meanings similar to those of complement clauses,
2. Primary-B, which are semantically **complement-taking**<sup>4</sup> and **lexical**, which have arguments that are semantically equivalent to complement clauses (but not necessarily syntactically coded as complement clauses) and have meanings more complicated than what's expected for grammatical items, and
3. Secondary, members of which have the same *meaning* of certain grammatical constructions in the verbal system, but not the same syntactic properties (for example, they may just take complement clauses instead of being auxiliary verbs).

Note that the valency class of the verb is strongly related to but is not determined by the semantics of the verb.

I will generally follow the classification in Pinkster (2015, chap. 4); some verb classes enumerated by Pinkster are discussed in more details in chap. 10, since a full account of their behaviors is closely related to the structure of complement clauses.

## 8.5 Finite declarative sentences: indicative and subjunctive

### 8.5.1 Constituent order and the information structure

Patterns in Latin constituent order are often overlooked in traditional grammar. Still, fine-grained constituency is demonstrated by the relation between *non* and the auxiliary (§ 8.5.4), radical change of VO/OV frequency when structural ambiguity is controlled (§ 8.5.7), and usual constituency tests (Danckaert 2017, § 1.6; TODO: ref to my own analysis in conjunction). The *non*-before-auxiliary condition implies an auxiliary hierarchy just like the one in English, although it's not as developed as the latter since Latin is inflectionally rich. The constituency tests hint on at least the subject-VP binary branching. The fact that superficial VO/OV orders may have structural ambiguity means it's likely that some of the constituent orders are comparable to English poetry in imitation of Latin (Allen and Greenough, 1903, § 600), Japanese scrambling and topicalization (TODO: ref).

Available evidence supports the tradition in existing secondary literatures that Latin is thus better described as a discourse-configurational language, with multiple topicalization and focusing structures (Oniga 2014, p. 189; Danckaert 2017, p. 77; Devine and Stephens 2006, among others). Initial positions in clauses clearly bear information structure functions. Constituents that are able to move to the positions include almost everything: arguments, adverbials, the negator *non*, and also the verb (TODO: aux) (Allen and Greenough, 1903, § 598). TODO: is it possible for the main verb to move to the initial point only? Note that fronting of the verb may be used

---

<sup>4</sup>Here the term means "semantically equivalent to a complement clause construction".



to focus the verb root or the *tense* (Allen and Greenough, 1903, p. 397); this means preposing of the verb is comparable to stressing the verb in English.

Apart from the information structure, prosody is also an important factor TODO

Pragmatically unmarked sentences have the arguments as pragmatic topics and the rest of the VP are the focus: ‘we already know Baebius, his army, and Pinarius (topics); the piece of new information is that a transferring process happens involving the three’. This kind of sentences, known as “broad scope focus” sentences in Devine and Stephens (2006, p. 15) because the scope of focusing is broad and not restricted to a single argument, demonstrates a preferred constituent order (Devine and Stephens, 2006, p. 79), which may be referred as the **neutral order** in Latin, although its frequency – without controlling the information structure – isn’t significant higher than other constituent orders. This order clearly isn’t a faithful representation of the argument structure, since the direct object – the argument that is supposed to be the closest one to the main verb – appears far from the main verb. The reason is likely to be that the “neutral order” also marks the aforementioned “unmarked” information structure, in which the arguments are by default topicalized

In periphrastic conjugation, the constituent order is subject + object + verb + *sum*. This may also show a mismatch between the dependency structure and the linear order, since if we consider the auxiliary *sum* to be the analytic counterpart of the inflectional suffix and has a higher position compared to the main verb (i.e. the participle), then since the subject and topicalized constituents usually appear on the left side, it also should appear on the left side compared with the participle under it. But the case may just be that the participle is focused and is moved leftward by default, just like the topicalized direct object, so the auxiliary then appears at the end of the clause in the neutral order.

## 8.5.2 Positioning of arguments

## 8.5.3 Positioning of the verb (without auxiliary)

### Box 8.2: Position of the verb

The position of the verb involves a theoretical question: is its appearance away from the unmarked clause-final position due to phrasal movement (the verb root being moved to a new position, carrying all suffixal realizations of TP functional heads together with it), or is it due to being attracted by some sort of functional head (in this case the verb root is just like a head in head movement; similar mechanisms appear in, say, *on the top of the mountain lies a small village*)? Since this distinction is hard to test, I refrain from picking up one explanation.

## 8.5.4 Positioning of auxiliary and negation

One piece of evidence suggesting the grammatical status of *sum* is somehow different from a lexical verb is that its position has non-trivial interaction with the position of *non*. The negator *non* usually appears before the verb (Danckaert 2017, § 1.5, TODO: or aux?), and apparent violations seem to be constituent negation as opposed to sentential negation (Danckaert, 2017, p. 43).

### 8.5.5 On so-called postposing constructions

Whether postposing exists as an information structure marking device is still not completely clear. It's said that postposing is never used for emphasis (Allen and Greenough, 1903, p. 395), and apparent counterexamples are all “afterthoughts” TODO; but

The postponed subject is likely to be an afterthought, coindexed with a zero pronominal in the rest of the sentence before it Devine and Stephens (2006, p. 87), comparable to English *it kills three people, the wandering puma*.

### 8.5.6 Notes on some typologically rare constituent orders

### 8.5.7 Historical evolution

Without sentences in which the OV/VO alternation can be alternatively analyzed as topicalization, VO frequency no longer shows significant change as time went by, indicating a well-defined extended verb phrase (Danckaert, 2017, § 1.5, p. 29).

## 8.6 Information packaging constructions

### 8.6.1 Existential clause

In the existential construction, the *sum* verb always appears first (Allen and Greenough, 1903, p. 396).

### 8.6.2 Cleft construction

nequitia est quae te non sinit esse senem

## 8.7 Question formation

## 8.8 Small clauses

Some constructions may be analyzed as “small clauses”, which are smaller than usual clauses and lack real TAME marking; they are therefore not “real” clauses, but still appear frequently in Latin texts. (1) is a formula used frequently in Catholic Church and is an example of a small clause as a single and complete utterance. The fact that *gratias* is not in the nominative or the vocative case means (1) is neither a finite construction nor a single-NP utterance.

- (1) De-o                      grati-as  
    God-SG.DAT thank-PL.ACC  
    ‘(May) thanks be to God.’

Since English – and a lot of other languages – bans small clauses appearing as complete utterances, translation of these constructions may map them into full clauses in the target language.

### Box 8.3: Why small clauses

Alternatively, small clause constructions can be analyzed as a full clause (for example, a copular clause) with the verb deleted. The main problem of this analysis is if this is true, we need to explain why prototypical transitive clauses never see their verbs omitted. It's therefore better to say that a copular clause is a small clause *plus* the copular, and that a giving or receiving ditransitive verb takes a small clause as its internal complement, which doesn't involve a questionable verb deleting process and also captures the intuition that a small clause is a full clause minus the verb.

## **Chapter 9**

### **Adverbial clauses**

# Chapter 10

## Complement clause constructions

### 10.1 Overview

#### 10.1.1 Infinitives

##### 10.1.1.1 *Accusativus cum infinitivo*, or the autonomous infinitive

Despite the superficial resemblance to the English object raising constructions, Latin complement infinitives with accusative subjects are licensed even after complete nominalization of the complement-taking verb. Therefore the accusative subject of the complement clause can't be seen as an object of the complement-taking verb, since the nominalized verb no longer takes object in Latin. Therefore, the *accusativus cum infinitivo* construction is comparable to English *for sb. to do sth.*, where the subject of the complement clause is autonomous; the accusative case here is the case assigned to the subject of a non-finite clause where the nominative case is not available. This is not completely unexpected, since even absence of an explicit complementizer is observed in the *ut* clause as well (Oniga, 2014, pp. 290-292).

# Chapter 11

## Relative constructions

### 11.1 Agreement properties

The case of a relative pronoun is determined by its syntactic position in the relative clause, and *not* the case of the antecedent, though the number and gender categories are determined by agreement with the antecedent.

# **Chapter 12**

## **Coordination**

Latin coordination in the nominal system and the verbal system shows strong correspondence, with most conjunction words being shared by the two systems.

# Chapter 13

## Texts

Below are some examples of Latin texts, in an order from the easiest to the hardest, with remarks on their vocabulary and grammar.

### 13.1 Liturgy texts

#### 13.1.1 Short formulae in the Roman Mass

Examples in this section are short formulae found in the Roman Mass in the order of their appearance. In (1, 2), *nomine* and *patris* are third declension nouns, while *spiritus* is a fourth declension noun.

- (1) In Nomine Patris, et Filii, et Spiritus  
in name-SG.ABL Father-SG.GEN and Son-SG.GEN and SPIRIT(M)-SG.GEN  
Sancti.  
holy-M.SG.GEN  
'In the name of the Father, and of the Son, and of the Holy Spirit.'
- (2) – Dominus vobiscum. – Et cum spiritu tuo.  
Lord(M)-SG.NOM 2PL.ABL and with spirit(M)-SG.ABL your-M.SG.ABL  
'– The Lord be with you. – And with your spirit.'
- (3)

#### 13.1.2 Nicene Creed

- (4) Credo in unum Deum, Patrem  
believe-IND.PRES.1SG in one-M.SG.ACC God(M)-SG.ACC father(M)-SG.ACC  
omnipotentem,  
omnipotent-M.SG.ACC  
'I believe in one God, (the) omnipotent Father,'
- (5) factorem caeli et terrae, visibilium omnium et  
maker-  
'maker of'



## 13.2 Vulgate bible

### 13.2.1 Excerpts in John 1

- (6) in principio erat Verbum et Verbum erat apud Deum et Deus erat Verbum  
in be.IMPF  
'In the beginning' (John 1:1)
- (7) omnia per ipsum facta sunt et  
all-N.PL.NOM through DEM-ACC make.PPRT-N.PL.NOM be.IND.PRES.3PL and  
sine ipso factum est nihil  
without DEM.ABL make.PPRT-N.SG.NOM be.IND.PRES.3SG nothing.NOM  
quod factum est  
REL.N.3SG make.PPRT-N.SG.NOM be.IND.PRES.3SG  
'All have been made through exactly this (i.e. the Word of Lord), and without exactly this, nothing that has been made has been made.' (John 1:3)

As an example, below I show how (7) can be parsed. First we can see a *et* dividing the sentence into two branches.

1. For the first branch, we know *omni-* is a quantifier meaning *all*, and morphologically it's a twin-termination third declension adjective; then from Table 4.1 and the fact that we are dealing with a third declension word, the ending *-a* means neutral and PL.NOM/ACC/VOC. The vocative case is of course impossible here.
2. The word *per* is a preposition taking an accusative object. *Ipsum* is a basic identity demonstrative, with the meaning of "exactly this". Since it follows *per*, the ending *-um* here seems to be the accusative case marker, instead of a neutral nominative case marker.
3. The sequence *facta sunt* contains the indicative perfect 3pl copula *sunt*, and in *facta*, we see the supine stem *fact-* of the verb *faciō* 'make'. The second fact means *facta* should be the perfect passive participle in a certain inflection form. Then *facta sunt*, collectively, is the indicative passive perfect 3pl form of *faciō*. (Here we are fortunate: it's possible that *facta* and *sunt* get scattered to different places.) The *-a* ending can again be looked up for in Table 4.1: the possibilities are PL.NOM/ACC/VOC – note that the first declension singular possibilities are excluded by the fact that *sunt* is in plural form. We expect *facta* to be nominative because it has to agree with the subject, which is always nominative and it turns to be possible.
4. Now we should link things together. The open ends are: the case of *omnia*, and the (3pl) subject of *facta sunt*. Then quite obviously, we find *omnia* should be in the subject position, and therefore everything works well.
5. We can also check gender agreements to make sure our reading is correct.

The second half is done in similar manners. The structure of the text looks like this:

[[omnia]<sub>subject</sub> [per ipsum]<sub>instrument:PP</sub> [facta sunt]<sub>verbal complex</sub>]<sub>coord</sub> et [[sine ipso]<sub>adverbial:PP</sub> [factum est]<sub>verbal complex</sub> [nihil [quod factum est]<sub>rel</sub>]<sub>subject</sub>]<sub>coord</sub>

## 13.3 *Aeneid*

### 13.3.1 Introduction

- (8) Arma virumque cano, Troiae  
weapon(N)-PL.ACC man(M)-SG.ACC=and sing-IND.PRES.1SG Troy-SC.GEN  
qui primus ab oris Italiam,  
REL.M.SG.NOM first-M.SG.NOM from shore(F)-PL.ABL Italy(F)-SG.ACC  
fato profugus, Laviniaque venit  
fate(N)-SG.ABL exiled-M.SG.NOM Lavinia-TODO=and go.to-IND.PRES.3SG  
litora, multum ille et terris iactatus et alto vi superum saevae  
shore(N)-PL.ACC  
memorem Iunonis ob iram; multa quoque et bello passus, dum conderet

urbem, inferretque deos Latio, genus unde Latinum, Albanique patres, atque

altae moenia Romae.

‘I sing weapons and a man, who was the first from the shores of Troy to Italy,  
was by fate exiled, and ’

In (8), it should be noted that *arma* is in plural only. The *qui* clause is an example of the rule that the relative pronoun doesn’t agree in case with the antecedent (§ 11.1). The copula is omitted in the *qui* clause.

## 13.4 *Summa Theologiae*

### 13.4.1 Introduction

Thomas Aquinas, a theologian and philosopher, was recognized by the Catholic Church as one of the Doctors of the Church, usually known as *Doctor Angelicus* (doctor-SG.NOM angle-ADJ-SG.NOM, ‘Angelic Doctor’). *Summa Theologiae* (summary-SG.NOM theology-SG.GEN, ‘Summary of Theology’) or *Summa Theologica* (summary-SG.NOM theology-ADJ-SG.NOM.F), usually abbreviated as *Summa*, is probably his most known work. As its name implies, the book is a summary of Catholic theology, containing necessary information for beginning theological students and for arguing against frequently seen heresies. Apart from its great value within and out of Christianity, the book is a good example of what Medieval Latin looks like.

One salient feature of *Summa* is it’s written in a rather strict and even dull format. The work is divided into three Parts, each containing many Questions. Each Question (i.e. a topic, like “the nature and extent of this sacred doctrine”) is divided into several Articles (i.e. a specific question, like whether the sacred doctrine is a science). Each Article starts with a sentence like (9) indicating its index within the Question it belongs to, and then several Objections are raised to support an unorthodox idea; then the accepted doctrine contrary to the above heretical claims is given (10), followed by a comment by Thomas on this Article (11).

- (9) Ad primum sic proceditur.

- (10) Sed contra est quod dicitur II  
 but contrarily be.IND.PRES.ACT.3SG what.R.SG.N say-IND.PRES-3SG.PASS two  
 ad Tim. III ...  
 to(TODO) NAME three  
 ‘But on the contrary there is what is said in 2 Timothy 3 ...’ (*Summa*, I q. 1  
 s.c.)
- (11) Respondeo dicendum quod ...  
 respond-IND.PRES-1SG.ACT  
 ‘I respond to what is said that ...’

# References

- Joseph Henry Allen and James Bradstreet Greenough. *Allen and Greenough's New Latin grammar for schools and colleges: Founded on comparative grammar*. Ginn, 1903.
- Lieven Danckaert. *The development of Latin clause structure: A study of the extended verb phrase*, volume 24. Oxford University Press, 2017.
- Andrew M Devine and Laurence D Stephens. *Latin word order: Structured meaning and information*. Oxford University Press, 2006.
- Robert MW Dixon. *A semantic approach to English grammar*. OUP Oxford, 2005.
- Robert MW Dixon. *Basic linguistic theory volume 1: Methodology*, volume 1. OUP Oxford, 2009.
- Robert MW Dixon. *Basic linguistic theory volume 2: Grammatical topics*, volume 2. Oxford University Press on Demand, 2010.
- David Embick and Morris Halle. Latin inflections. *Paper delivered at Going Romance*, 2003.
- David Embick and Morris Halle. On the status of stems in morphological theory. *AMSTERDAM STUDIES IN THE THEORY AND HISTORY OF LINGUISTIC SCIENCE SERIES 4*, 270:37, 2005.
- Dianne Friesen. *A grammar of Moloko*. Language Science Press, 2017.
- Giuliana Giusti and Rossella Iovino. A split-dp hypothesis for latin and italo-romance. *Complex Visibles Out There. Olomouc Modern Language Monographs*, 4:127–143, 2014.
- Nadine Grimm. *A grammar of Gyeli*. Language Science Press, 2021.
- Rodney Huddleston and Geoffrey K. Pullum. *The Cambridge Grammar of the English Language*. Cambridge University Press, 2002. doi: 10.1017/9781316423530.
- Guillaume Jacques. *A grammar of Japhug*, volume 1. Language Science Press, 2021.
- Isabel Oltra-Massuet and Karlos Arregi. Stress-by-structure in spanish. *Linguistic Inquiry*, 36(1):43–84, 2005.
- Maria Isabel Oltra Massuet. *On the notion of theme vowel: A new approach to Catalan verbal morphology*. PhD thesis, Massachusetts Institute of Technology, 1999.

Renato Oniga. *Latin: a linguistic introduction*. OUP Oxford, 2014.

Harm Pinkster. *The Oxford Latin Syntax: Volume 1: The Simple Clause*. Oxford University Press, 08 2015. ISBN 9780199283613. doi: 10.1093/acprof:oso/9780199283613.003.0004.

Peter L Smith. *Greek and Latin roots: part I-Latin*. University of Victoria, 2016.