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Valency over Time

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Valency over Time



Diachronic Perspectives on Valency Patterns
and Valency Orientation

Edited by
Silvia Luraghi and Elisa Roma

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Guglielmo Inglese

Anticausativization and basic valency orientation in Latin

Abstract: This paper focuses on basic valency orientation in Latin, based on the typology laid out by Nichols, Peterson and Barnes (2004). The data analyzed shows that Latin does not feature a strong orientation in its basic valency, due to a widespread use of suppletion. Only with inanimate verbs can one detect a certain tendency for intransitivization via either verbal voice or the use of the reflexive pronoun *se*. Other more marginal strategies include the use of causative verbal compounds with *-facio* ‘make’ and lability. In this respect, the Latin data sharply contrasts with current reconstructions of Proto-Indo-European (PIE) as a transitivity language, as well as with modern Romance languages, which make extensive use of intransitivization and lability. Such an intermediate position of Latin is historically explained as reflecting the convergence of different factors, chiefly the loss of the PIE causative morphology and the functional extension of the inherited mediopassive voice. Once put in a diachronic perspective, the Latin data provides unique insights on the dynamics, the direction, and the timing of the drift from transitivity to intransitivization that notoriously characterizes the Indo-European languages of Europe (Comrie 2006).

Keywords: Latin, basic valency orientation, (anti)causativization, transitivity, middle and reflexive

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1 Introduction

Anticausativization can be defined as the grammatical alternation whereby languages encode events that are conceived as brought about by an external volitional entity (e.g. *the boy broke the vase*) as opposed to ones that come about spontaneously (e.g. *the vase broke*). Syntactically, the anticausative alternation often implies a transitivity shift: externally caused events are predominantly encoded by transitive verbs whereas their spontaneous counterpart is mostly intransitive.

Languages may resort to various means of encoding the anticausative alternation. Specifically, Nichols, Peterson and Barnes (2004) proposed that languages can be typologized based on whether they preferably lexicalize spontaneous events or externally caused ones as morphologically basic verbs. Such a preference goes under the name of basic valency orientation. Drawing from the observation of the behavior of 18 verb pairs in a sample of 80 languages, Nichols, Peterson and Barnes (2004) pointed out that languages feature either oriented or non-oriented strategies, i.e. they may show a preference towards either overt transitivization or intransitivization or they may be indeterminate or neutral as to the orientation of the lexicalization pattern, in cases in which none of the members of the verb pair can be derived from the other (see Section 2.2).

In recent years, the study of basic valency orientation has become a topic of interest in Indo-European (IE) linguistics. Beside the modern IE languages originally featured in Nichols, Peterson and Barnes (2004), studies focusing on ancient IE languages have appeared as well, including Sanskrit (Kulikov 2009), Hittite (Luraghi 2012), Gothic (Ottósson 2013), Old Norse (Cennamo, Eythórsson and Barðdal 2015), Proto-Germanic (Plank and Lahiri 2015), Homeric Greek (Sausa 2016), and Old English (García García 2019). Generalizing over the findings of these studies, one can conclude that ancient IE languages display a system in which a number of derivational transitivizing strategies coexisted alongside the use of the active vs. middle inflectional voice opposition. This situation can to some extent be reconstructed for Proto-Indo-European (PIE) (cf. Luraghi 2019).

In this paper, I will make the case that our understanding of basic valency orientation in ancient IE languages and in PIE can still be profitably enhanced by the study of Latin. The study of valency phenomena and (anti)causativization strategies is not new to Latin linguistics (e.g. Cennamo, Eythórsson and Barðdal 2015; Pinkster 2015: Chap. 5), but a more general account of how these strategies relate to one another in terms of valency orientation is still missing. This work is devoted to such an investigation.

The paper is organized as follows. Section 2 discusses the theoretical background of the work: besides an overview on anticausativization (Section 2), the study by Nichols, Peterson and Barnes (2004) is presented in some detail (Section 3). Section 4 features a summary of previous research on basic valency in ancient IE languages and the reconstruction of the PIE basic valency. In Section 5, I turn to discussing the Latin data. After a brief note on the material employed and the methodology (Section 5.1), I illustrate the different strategies detected in Latin (Section 5.2) and then proceed to an *interim* summary of the data, with a focus on the individuation of Latin's basic valency (Section 5.3). The findings of Section 5 are then discussed from a diachronic perspective in Section 6, where I address the historical position of Latin with respect to PIE and Romance languages. Section 7 offers a conclusive summary of the paper's findings.

2 The anticausative alternation: a definition

As compared to other valency changing operations such as the passive and the reflexive, the notion of anticausativization constitutes a relatively recent acquisition in linguistics (cf. Nedjalkov and Sil'nickij 1969; Haspelmath 1987; on the relationship between the anticausative alternation and other voice phenomena see Kulikov 2010, 2013; Zúñiga and Kittilä 2019). Over the past 50 years, anticausativization has enjoyed the linguists' interest, and valency alternations of this type have been explored both within formal (see *i.a.* Schäfer 2008; Alexiadou 2010; Alexiadou, Anagnostopoulou and Schäfer 2015 with references) and functional/typological frameworks (see *i.a.* Nedjalkov and Sil'nickij 1969; Haspelmath 1987, 1993, 2016; Nichols, Peterson and Barnes 2004; Levin and Rappaport Hovav 1995; Zúñiga and Kittilä 2019: 40–52).¹

With the term anticausative, scholars essentially refer to “the intransitive use of a transitive verb where the original inanimate object/P argument, the Undergoer, occurs as subject” (Cennamo, Eythórsson and Barðdal 2015: 679). As a result, the Agent is removed from the verb's semantic valency (Kulikov 2013: 272) and

¹ Besides causative and anticausative (cf. Haspelmath 2016), verb pairs that undergo the (anti) causative alternations also go under the name of causative vs. inchoative (e.g. Borer 1991; Haspelmath 1993), induced vs. plain (Nichols, Peterson and Barnes 2004), causal vs. non-causal (Haspelmath *et al.* 2014), causative vs. non-causative (Grüntal and Nichols 2016). Note that the terms causative and anticausative have also been employed to refer to the overtly marked member of a morphological opposition (cf. Haspelmath 2016: 37). In this paper, I use these terms in the semantic sense, without any implication as to the morphological markedness of individual strategies.

the whole situation is presented as coming about spontaneously (Haspelmath 1993: 90). From a syntactic standpoint, anticausativization has been described as an intransitivizing strategy, as it entails a change in transitivity (see also Alexiadou, Anagnostopoulou and Schäfer 2015). Causative events typically feature an Agent and a Patient participants and are therefore prototypically transitive (Hopper and Thompson 1980; Næss 2007). By contrast, spontaneous events tend to be intransitive, as their event frame features one Patient participant only.

A textbook example of the semantics of the anticausative alternation is the use of the English verb *break*, as in (1a-b):

- (1) a. *The boy **broke** the vase* CAUSATIVE
 b. *The vase **broke*** ANTICAUSATIVE

There exists a number of well-known constraints on the classes of verbs that may participate in the anticausative alternation (see Cennamo, Eythórsson and Barðdal 2015: 680–681; Alexiadou, Anagnostopoulou and Schäfer 2015: 20–23, 52–56). Transitive verbs that cannot undergo anticausativization include (i) those featuring agent-oriented meaning components (Haspelmath 1987: 12), i.e. those verbs that lexicalize the manner component (Haspelmath 1993: 94; Levin and Rappaport Hovav 2005: 11; Rappaport Hovav and Levin 2010) and (ii) verbs that lexicalize a specified causer (Koontz-Garboden 2009: 80–86). In addition, languages show restrictions as to the aspectual classes of predicates that enter the anticausative alternation (Cennamo 2012; Cennamo, Eythórsson and Barðdal 2015), with telic change-of-state events constituting the core of anticausative verbs cross linguistically (Alexiadou, Anagnostopoulou and Schäfer 2015: 53).²

A number of useful syntactic tests have been devised, especially in formal frameworks, to individuate anticausative constructions and keep them distinct from closely related constructions such as passives (see Alexiadou, Anagnostopoulou and Schäfer 2015: 20–23, 36–44). Anticausatives cannot occur with Agent phrases (e.g. **the vase broke by the boy*) nor with agentive adverbs such as *deliberately*. On the other hand, they are compatible with the expression of the

² Anticausatives have often been equated with unaccusatives in Levin and Rappaport Hovav's (1995) terms (see e.g. Haspelmath 2016), on the ground that both types of verbs essentially refer to uncontrolled events undergone by an affected Patient. However, the two notions are not co-extensive. The class of anticausatives only includes those verbs that are opposed to a causative counterpart in a transitivity alternation, while on the contrary lexical unaccusatives may lack a corresponding causative counterpart (see further Alexiadou, Anagnostopoulou and Schäfer 2015: 80–96).

cause component, i.e. with *from*-phrases (e.g. *the ice melted from heat*), and they license adverbials that underscore the spontaneity of the process such as *by itself*. As discussed by Gianollo (2014: 980–981), these criteria also apply to anticausatives in Latin.

3 Basic valency between lexical typology and the anticausative alternation

Anticausativization was first explored by scholars interested in how verbal valency and argument structure can be manipulated. As such, it remains an essentially (morpho)syntactic notion. By contrast, the notion of basic valency as proposed by Nichols, Peterson and Barnes (2004) has been elaborated within the framework of lexical typology. Specifically, the main interest of Nichols, Peterson and Barnes (2004) is how languages pattern with respect to the lexicalization of semantically non-causative, i.e. plain, verbs as opposed to semantically causative (induced) ones (cf. Nedjalkov 1969; Nichols 1982; Haspelmath 1993; Nichols, Peterson and Barnes 2004; Comrie 2006; Cysouw 2010; see also Luraghi and Mertryis, this volume).

Nichols, Peterson and Barnes (2004) argue that languages show preferences for the lexicalization of either plain or induced verbs as morphologically more basic and can be accordingly assigned a basic valency orientation, i.e. the “valence orientation of their entire verbal lexicon” (Plank and Lahiri 2015: 3). The data for Nichols, Peterson and Barnes (2004) study consists in 18 verb pairs in a sample of 80 languages (see below on the criteria behind the data collection).³ The meanings are selected to maximize semantic sparseness, and include both animate and inanimate verbs, that is, verbs that “have a varying degree of agency and volition on the part of an animate S/O” (Nichols, Peterson and Barnes 2004: 155), e.g. *eat* and *hide*, and verbs that can be understood as having “varying degrees of independence, resistance to force, etc. on the part of an inanimate S/O” (Nichols, Peterson and Barnes 2004: 156), e.g. *boil* and *break*.

The possible types of morphosyntactic correspondence within verb pairs are summarized in Table 1. I return in more detail to these correspondence types in Section 5 when discussing the Latin data.

³ It should be remarked that Nichols, Peterson and Barnes (2004) is not simply a study on (anti) causativization strategies, since the verbs that they investigate do not entirely overlap with verbs that commonly undergo the anticausative alternation (cf. Haspelmath 1993) and include a number of verbs with animate S/O participants such as *eat* and *learn*.

Table 1: Types of correspondence (adapted from Nichols, Peterson and Barnes 2004: 159–160).

Language	Verb pair		Type of correspondence
	Plain	Induced	
Hittite	<i>ze-</i> ‘cook (intr.)’	<i>za-nu-</i> ‘cook (tr.)’	AUGMENTATION
Russian	<i>serdit’-sja</i> ‘be/get angry’	<i>serdit’</i> ‘make angry’	REDUCTION
Siberian Yupik	<i>aghagh-nga-</i> ‘hang (intr.)’	<i>aghagh-te-</i> ‘hang (tr.)’	DOUBLE DERIVATION
Hausa	<i>yi dariya</i> ‘laugh’	<i>ba dariya</i> ‘make laugh’	AUXILIARY CHANGE
Lai	<i>ʔa-thin phaəŋ</i> ‘be afraid’	<i>ʔa-thin phaʔn</i> ‘frighten’	ABLAUT
W. Armenian	<i>var.i-</i> ‘burn’ (intr.)	<i>var.e-</i> ‘burn (tr.)’	CONJUGATION CLASS CHANGE
English	<i>die</i>	<i>kill</i>	SUPPLETION
English	<i>break</i>	<i>break</i>	LABILITY

Generalizing over their findings, Nichols, Peterson and Barnes (2004: 150) propose that “languages can be typologized into a few broad groups”. The major distinction is that into oriented and non-oriented languages.

Oriented languages show a clear orientation in their basic valency. They can be distinguished into transitivity and intransitivity languages, based on whether they preferably lexicalize plain verbs as basic as compared to morphologically more complex induced ones (AUGMENTATION), or *vice versa* (REDUCTION). An example of a transitivity language is Hittite, where one finds pairs such as plain *ze-* ‘cook (intr.)’ vs. induced *za-nu-* ‘cook (tr.)’. By contrast, Russian constitutes a good instance of an intransitivity language, since it features the extensive use of the intransitivity reflexive marker *-sja*, as in e.g. plain *serdit’-sja* ‘be(come) angry’ vs. induced *serdit’* ‘make angry’.

Non-oriented languages are characterized by the fact that none of the pair members is morphologically more complex (and derived) from the other. Non-oriented languages can be further divided into neutral and indeterminate ones. In neutral languages, both members of the pair equally feature an overt morphological exponent. In these languages, double derivation, auxiliary change, and ablaut are the preferred strategies. An example is Siberian Yupik, where the plain and the induced verbs are likewise marked with a dedicated derivational morpheme, e.g. *aghagh-nga-* ‘hang (intr.)’ and *aghagh-te-* ‘hang (tr.)’. By contrast, in indeterminate languages both members of the pair are likewise unmarked. Strategies that fall within this group are suppletion, conjugation class change, and lability. The behavior of English *break* in (1) is a typical example of lability.

4 Basic valency orientation in ancient Indo-European languages

In recent years, the study of basic valency has become a topic of renewed interest in IE linguistics. The language sample employed by Nichols, Peterson and Barnes (2004) already included a number of modern IE languages. Based on this data, the authors detected a pattern of areal distribution, whereby modern western IE languages tend to be intransitivizing (e.g. Russian, Modern Greek, German; but see Plank and Lahiri 2015 for a reassessment of German), while modern eastern IE languages tend to be transitive (Hindi, West Armenian).

The picture has been further enriched by data from ancient IE languages. Studies that closely follow Nichols, Peterson and Barnes (2004) are Luraghi (2012) on Hittite and Sausa (2016) on Homeric Greek (see also Luraghi and Mertyrus, this volume, on the development of basic valency in the history of Greek). These two languages offer a contrasting picture. According to Sausa (2016), Homeric Greek is largely intransitivizing, as it employs active vs. middle voice alternation for 11 out of the 18 verb pairs under examination, especially for inanimate verbs, e.g. active *kaí-ō* ‘burn (tr.)’ vs. middle *kaí-omai* ‘burn (intr.)’. Voice alternation is also attested in Hittite as a possible strategy (Luraghi 2012), e.g. active *duwarn-i* ‘break (tr.)’ vs. middle *duwarn-ttari* ‘break (intr.)’, but it remains rather marginal as compared to the by far more frequent use of causative derivational morphology, e.g. *ze-* ‘cook (intr.)’ vs. *za-nu-* ‘cook (tr.)’. As a result, Hittite can best be described as transitive.

If one broadens the observation to other ancient IE languages, it turns out that traces of transitive can be singled out in several other branches. In Germanic, transitive seems to be the most widespread and older pattern, and there are good reasons to reconstruct Proto-Germanic as transitive. As pointed out by Ottósson (2013), in Gothic causativization through the suffix *-ja-* is older than intransitivizing derivation through *-na-* (see also Zanchi and Tarsi, this volume). Transitive remains a major trend in Modern German. As discussed by Plank and Lahiri (2015) ablauting verbs of the type *sitzen* ‘sit’ vs. *setzen* ‘set’ should be taken as instantiating a transitive pattern. In Modern English intransitivity is the predominant pattern. However, traces of an earlier causative pattern can still be detected in Old English, where one still finds *ja-*causatives, as in *rīsan* ‘rise’ vs. *ræran* ‘raise’ (cf. van Gelderen 2011; García García 2019). Indo-Aryan languages also offer evidence for transitive suffixes (e.g. *-aya-*) being the most widespread pattern, with voice alternation playing a much more limited role (thus *i.a.* Lazzeroni 2004, 2009; Kulikov 2009).

More controversial is the reconstruction of the basic valency orientation of the proto-language. In an earlier paper, Nichols (1982) reconstructed PIE as mostly intransitivizing. The evidence from early IE languages surveyed in this section however shows that this view is untenable. In fact, the comparative data points towards a different scenario, in which transitivization via causative affixes was largely predominant with all verb types (see Covini 2017). Voice alternation, which at this stage may better be regarded as an indeterminate strategy of the conjugation class change type (see Luraghi and Mertyrus, this volume, for discussion), played a marginal role with change-of-state verbs only (Comrie 2006: 315; Plank and Lahiri 2015; Luraghi 2019).

5 Basic valency orientation in Latin

In the ongoing debate on basic valency in (P)IE, Latin has virtually been given no attention. In Latin linguistics, there is already ample scholarship on the topics of valency (cf. Lehmann 2002), causativization (cf. Hoffmann 2016; Lehmann 2016; cf. also papers in Bortolussi and Lecaude 2014) and anticausativization strategies (cf. Gianollo 2014; Cennamo, Eythórsson and Barðdal 2015; Pinkster 2015: Chap. 5). However, a comprehensive account of these different phenomena within the framework of basic valency orientation is still lacking. In the following sections, I apply the methodology laid out in Nichols, Peterson and Barnes (2004) to determine the basic valency of the Latin verbal lexicon and its orientation.

5.1 Data and methodology

The data for this study comes from 24 meanings selected based on the updated guidelines in Nichols (2017). Two are novelties as compared to the original study by Nichols, Peterson and Barnes (2004). First, six new meaning pairs are taken into account (animate: *run*, *wake up*, *fall asleep*; inanimate: *shine*, *shake*, *roar*). Second, plain verbs are distinguished into continuous and bounded. This is a coarse classification employed by Nichols (2017) to refer to actionality distinctions of verbs into atelic (stative/durative) and telic (change-of-state, achievements, punctual). This is an important methodological point, since aspectual differences were disregarded in the original study (Nichols, Peterson and Barnes 2004: 156–157). However, as discussed by Luraghi (2012; see also Cennamo, Eythórsson and Barðdal 2015), taking into account both atelic and telic plain verbs may shed light on aspectual constraints on the realization of the alternation. Following Nichols, Peterson and

Barnes (2004), I do not take into consideration analytic causative constructions, unless a causative periphrasis is the only way to express the induced member of a given verb pair (see Section 5.2.1). This means that analytic causative constructions, which are numerous and of different types in Latin, fall out of the scope of this study and will not be systematically discussed (see Simone and Cerbasi 2001; Brucale and Mocciaro 2016; Hoffman 2016: 45–60; Lehmann 2016).

Based on the meaning list in Nichols (2017), the Latin verb pairs under study have been manually retrieved from standard dictionaries (Lewis and Short 1879; Glare 2012; the selection is restricted to verbs attested in Early and Classical Latin sources).

Data selection poses a significant methodological challenge. In Nichols, Peterson and Barnes (2004), verbs pairs were either elicited from speakers or retrieved from dictionaries. Unfortunately, Latin being a dead language, speakers' intuition cannot be used to assess the basicness of nearly synonymous verbs for a given meaning slot. This is especially a problem in Latin, where there is an abundance of equally plausible basic lexemes, partly due to the much larger corpus size as compared to e.g. Hittite.

This is an issue because the choice of the basic verb for a given meaning slot is decisive in the individuation of the correspondence pattern, thereby affecting the overall assessment of the basic valency and its orientation. Let us consider two instructive examples. For the causative meaning 'kill', possible Latin candidates are the verbs *neco*, *occido*, *caedo*, and *interficio*. In this case, the choice does not influence the resulting correspondence type within the pair, since irrespective of the induced verb, the correspondence with plain *morior* 'die' is consistently one of suppletion. This is, however, not always the case. Consider the meaning 'fall'. For this pair, the induced slot is assigned to *demitto* 'let fall'. For the plain counterpart two options are available: if one opts for *cado* 'fall' the resulting correspondence is one of suppletion, whereas in case *demittor* 'fall' is selected (or reflexive *se demittere*, see below), the correspondence is one of reduction.

It is thus of paramount importance to develop a consistent set of criteria for the individuation of the basic verbs for each meaning slot. According to van Gelderen (2011) "the choice of the basic variant is subjective". However, this may result in a much too biased data selection. I believe that some more principled criteria can be combined to assess the basicness of individual lexemes (see similar remarks in Luraghi 2012; Sausa 2016; Zanchi and Tarsi, this volume). Possible criteria include frequency, morphological complexity, and the verbs' semantics.

Frequency may constitute a good indicator of basicness. For example, for the meaning 'laugh', *rideo* is preferred over *cachinno* on account of its much higher frequency (97 vs. 7 tokens, data from Delatte *et al.* 1981). The basic insight is that high frequency is a proxy for verbs' entrenchment in the speakers' lexicon as the

default expression for a given meaning (e.g. Bybee 2007). Morphological complexity is also a helpful parameter, because simpler forms are often more basic than more complex (prefixed) ones. This is why, for instance, for ‘fall’ the plain simple verb *cado* is preferred to *de-cido* and *con-cido*. In addition, the verbs’ lexical semantics is another important diagnostic criterion. Verbs that are primarily associated with a given meaning are preferred over those that express that meaning only secondarily and/or metaphorically. For example, *morior* ‘die’ is preferred to *obeo* ‘go against > die’, *doceo* ‘teach’ is preferred to *trado* ‘transmit > teach’, and *neco* ‘kill’ is preferred to *caedo* ‘cut off > kill’. Verbs whose semantics is either too specific or too generic are also avoided. This is the case for verbs that lexicalize a more specific manner/instrument component, as e.g. *trucido* ‘butcher’, *manduco* ‘chew’, *coquo* ‘cook’, which are excluded in favor of less specific *neco* ‘kill’, *edo* ‘eat’, and *ferveo* ‘boil’, respectively. I have also avoided verbs that lexicalize much too generic events. On this premise, *quatio* is preferred to *agito* for ‘shake’ because the latter is also used with reference to more generic induced motion events and also in a metaphorical sense. Similar considerations hold for *luceo*, preferred over *fulgeo* for ‘shine’, because the latter is not restricted to denoting the emission of light but is more generally used to express brightness and visibility.

By carefully weighing in and combining these criteria, I have arrived at the individuation of the Latin verb pairs reported in Table 2. Verbs are divided into those with typically animate vs. inanimate S/Os.

Table 2: Latin verb pairs (based on Nichols 2017).

MEANING	ANIMATE S/O			
	PLAIN (ATELIC) ⁴	PLAIN (TELIC)	INDUCED	CORRESPONDENCE
1 laugh	<i>rideo</i>	-	[<i>risum moveo</i>]	periphrasis
2 die, be dead	<i>mortuus</i>	<i>morior</i>	<i>neco</i>	suppletion
3 sit down, be sitting	<i>sedeo</i>	<i>consīdo</i>	<i>pono</i>	suppletion
4 eat (up)	<i>edo</i>	<i>comedo</i>	<i>alo</i>	suppletion
5 know, learn	<i>scio</i>	<i>disco</i>	<i>doceo</i>	suppletion
6 see, catch sight	<i>video</i>		<i>monstro</i>	suppletion
7 be(come) angry	<i>irascor</i>		<i>irrito</i>	suppletion
8 fear, get scared	<i>metuo</i>	<i>horresco</i>	<i>terreo</i>	suppletion

⁴ Note that some verbs may have both an atelic and a telic interpretation, e.g. *lateo* ‘be hidden, go into hiding’. For some meanings, there is no finite verb form expressing the atelic spontaneous event: in this case the corresponding adjective (e.g. *siccus* ‘dry’) or resultative participle (e.g. *mortuus* ‘dead’, *casus* ‘fallen’) is given. See further Section 5.3.

Table 2 (continued)

MEANING	PLAIN (ATELIC)	PLAIN (TELIC)	INDUCED	CORRESPONDENCE
9 hide, go into hiding	<i>lateo</i>		<i>celo</i>	suppletion
19 awake, wake up	<i>vigilo</i>	<i>expergiscor</i>	<i>excito (e somno)</i>	suppletion
20 asleep, fall asleep	<i>dormio</i>	<i>obdormi(sc)o</i>	<i>sopio</i>	suppletion
21 run	<i>curro</i>	<i>accurro</i>	<i>incito</i>	suppletion
INANIMATE S/O				
10 (come to) boil	<i>ferveo</i>	<i>fervesco</i>	<i>fervefacio</i>	double der./aug.
11 burn, catch fire	<i>ardeo</i>	<i>ardesco</i>	<i>uro</i>	suppletion
12 be broken, break	<i>fractus</i>	<i>frangor/se frangere</i>	<i>frango</i>	voice/reduction ⁵
13 be open, open	<i>pateo</i>	<i>aperior/se aperire</i>	<i>aperio</i>	voice/reduction
14 dry (up)	<i>siccus</i>	<i>siccor</i>	<i>sicco</i>	voice
15 be(come) straight	<i>rectus</i>	[<i>corrigo</i>]	<i>corrigo</i>	[voice]
16 hang	<i>pendeo</i>	-	(<i>sus</i>) <i>pendo</i>	suppletion ⁶
17 turn over	<i>versus</i>	<i>vertor/se verto</i>	<i>verto</i>	voice/reduction
18 fall	<i>casus</i>	<i>cado</i>	<i>demitto</i>	suppletion
22 shine, light up	<i>luceo</i>	<i>lucesco</i>	<i>accendo</i>	suppletion
23 shake, trample	<i>tremo</i>	<i>tremesco</i> (poetic)	<i>quatío</i>	suppletion
24 roar, rattle	(<i>con</i>) <i>crepo</i>		(<i>con</i>) <i>crepo</i>	lability

5.2 Latin verb pairs: types of correspondences

As the data in Table 2 shows, in Latin the verb pairs under scrutiny attest to different types of correspondence. In the remainder of this section, I will take a closer look at each correspondence type and its properties.

⁵ On the reasons to treat reflexivization and voice alternation as occupying the same slot, e.g. *frangor/se frangere* ‘break (intr.)’ see Section 5.2.3.

⁶ Historically, *pendo* ‘weigh, hang’ and *pendeo* ‘be hanging’ are derived from the same PIE root *(s)pend- ‘spin’ (cf. de Vaan 2008 s.v.). The former reflects a simple thematic formation *(s)pende/o- whereas the latter is formed through the addition of the stative suffix *-eh1-, so that the two verbs belong to two different conjugation classes (cf. also *iacēre* ‘lie’ vs. *iacere* ‘cast’, *candēre* ‘shine’ vs. *ac-cendere* ‘light up’, Weiss 2011: 404). However, since conjugation class change is not a productive pattern of derivation in Latin, the correspondence between these two can be best regarded synchronically as one of suppletion (see more below in sec. 5.2.2), or better, as partial suppletion (cf. Nichols, Peterson and Barnes 2004: 159).

5.2.1 Verbal periphrases

In the case of verbal periphrases, there is no simple verb that lexicalizes the meaning at hand, and either the spontaneous or the causative event is encoded by an analytic construction. This type of correspondence is instantiated in my data only for the meaning ‘laugh’. As shown in example (2a-b), the plain verb is the simple verb *rideo*, whereas the induced counterpart is expressed by the analytic construction *risum movere* ‘move to laughter’.

- (2) a. **risi** *te* *hodie* *multum*
 laugh.PST.1SG 2SG.ACC today much
 ‘I’ve laughed a good deal at you today.’ (Plaut. *Stich.* 1, 3, 89)
- b. *est* *plane* *oratoris* **movere** **risum**
 be.PRS.3SG clearly orator.GEN move.PRS.INF laughter.ACC
 ‘The orator is clearly allowed to move to laughter.’ (Cic. *De Or.* 2, 236)

A preference for a periphrastic construction for the causative meaning ‘make laugh’ is unsurprising. The same pattern is also attested in Homeric Greek (*gelāō* ‘laugh’ vs. *ephēēke gelāsai* ‘lead to laugh’ [*Od.* 14.465], Sausa 2016: 216) and reflects a general tendency for the event of laughing to be more typically encoded as spontaneous (cf. Haspelmath 1993: 105). Since I follow here Nichols, Peterson and Barnes (2004) in considering only basic lexemes, the use of the periphrasis *risum movere* for ‘make laugh’ should not be strictly speaking included among possible correspondence types.

5.2.2 Suppletion

In suppletive pairs, both members of the verb pair are lexicalized by two different equally basic and unrelated lexemes (cf. Hoffmann 2016: 40–42, who speaks of lexical causatives for basic active verbs with causative semantics). The pattern is exemplified by the pair *morior* ‘die’ ~ *neco* ‘kill’, as in (3b), where the occurrence of the Cause *fame* ‘of hunger’ makes it particularly clear that in this context *neco* is used with the meaning ‘let die’.

- (3) a. *ut* *fame* *senatores* *quinque* **morerentur**
 so_that hunger.ABL senator.NOM.PL five die.SBJV.IMPF.MID.3PL
 ‘So that five senators died of hunger.’ (Cic. *Att.* 6, 1, 6)

- b. *qui plebem fame necaret*
 REL.NOM people.ACC hunger.ABL kill.SBJV.IMP.3SG
 ‘(Who was the one) who would let people die of hunger.’ (Cic. *Q. Fr.* 2, 3, 2)

It is worth noticing that with the meaning ‘die’ suppletion is a typologically widespread pattern (Haspelmath 1993: 106) and is also commonly attested in other ancient IE languages, including Hittite (*ākⁱ* ‘die’ vs. *kuen^{zi}* ‘kill’) and Ancient Greek (*thnēskō* ‘die’ vs. *kteinō* ‘kill’). As the data in Table 2 shows, Latin synchronically attests to a surprisingly high number of suppletive pairs, especially when compared to Hittite and Ancient Greek. However, as I discuss in Section 6, there is evidence that at least some of these pairs historically reflect an earlier transitivity pattern.

5.2.3 Voice alternation and reduction

Besides suppletion, the second most frequent pattern is voice alternation/reduction. This is an essentially intransitivizing pattern, whereby the plain verb is derived from the induced one either by means of the active/middle voice alternation, by means of the so-called *r*-endings, or through the use of the reflexive pronoun *se* (see Flobert 1975; Feltenius 1977; Gianollo 2014; Cennamo, Eythórsson and Barðdal 2015; Pinkster 2015: Chap. 5). As an example of this pattern, consider the correspondence between induced transitive *vertit* ‘turns (that side)’ in (4) and plain intransitive *vertitur* ‘turns’ and *se vertunt* ‘turned’ in (5a) and (5b), respectively.

- (4) *eam partem (...) ad speciem vertit nobis*
 DEM.ACC part.ACC to sight.ACC turn.PRS.3SG 1PL.DAT
 ‘(The moon) turns that side to our sight.’ (Lucretius 5, 724)

- (5) a. *vertitur interea caelum*
 turn.PRS.MID.3SG meanwhile sky.NOM
 ‘In the meanwhile, the sky turns (westward).’ (Verg. *A.* 2, 250)
- b. *Pompeiani se verterunt et loco cesserunt*
 of *P.*NOM.PL REFL turn.PST.3PL and place.ABL leave.PST.3PL
 ‘The followers of Pompeio turned around and left the place.’
 (Caes. *B. C.* 3, 51)

As comparison between (5a) and (5b) shows, the *r*-inflection and reflexive *se* can be regarded as functionally equivalent strategies, as they both serve the purpose of deriving the plain counterpart from the basic induced verbs.

Morphologically, the use of the reflexive pronoun is clearly a reduction strategy, since the plain verb receives additional marking as compared to the basic induced one, as in the case of Russian *serdit'-sja* 'be/get angry' ~ *serdit'* 'make angry' in Table 1. The status of voice alternation is less straightforward. There is disagreement as to whether voice alternation in IE languages should be regarded either as an indeterminate or as a reduction strategy (cf. Luraghi 2019 with references). In some IE languages, such as Hittite, and possibly in PIE, voice alternation should be regarded as an indeterminate strategy, since the alternation between the active and the middle inflection essentially conforms to the pattern of conjugation class change as defined by Nichols, Peterson and Barnes (2004: 159) (thus convincingly Luraghi 2012, 2019). However, as discussed by Sausa (2016: 211–212) the notion of conjugation class change does not entirely fit the pattern of voice alternation of IE languages such as Ancient Greek, in which the middle voice can be regarded as a marked voice category and as instantiating an intransitivizing pattern (a similar point is made by Luraghi and Mertyrus, this volume).

Similar considerations can profitably be extended to Latin and I regard the *r*-inflection as a reduction/intransitivization strategy for a number of reasons. Firstly, the *r*-inflection is overall systematically used for intransitivization in opposition to the active inflection, chiefly in passive function, to the effect that voice is fully integrated in the verbal paradigm as an inflectional category (cf. Clackson and Horrocks 2011: 25–26; Pinkster 2015: 236–258). Secondly, the *r*-inflection is also morphologically more complex than the active, since the inflectional set is phonologically heavier in most endings, e.g. *am-o* vs. *am-o-r*, *am-a-s* vs. *am-a-ris*, *am-a-t* vs. *am-a-tur*. Moreover, as also remarked by Nichols, Peterson and Barnes (2004: 175–176), the *r*-inflection presents a number of oddities (e.g. deponent and semi-deponent verbs) that make it less simple and regular than the active inflection. In this respect, the *r*-paradigm can be regarded as inflectionally marked as opposed to the unmarked active inflection (cf. Croft 2003: 92).

A closer look at the data reveals that reduction and voice alternation are also attested as marginal strategies for more verbs than the ones reported in Table 2. A few examples will serve to illustrate this point. For the meaning 'hide', besides *celo*, other possible candidates for the induced verb are also *abdo* and *condo*, which both attest to intransitivizing *se*-reflexive forms. For the induced verb *demitto* 'let fall', the most basic plain counterpart is the simple verb *cedo*. However, for this verb both intransitivizing *demittor* and *se demittere* are marginally attested. Similarly, transitive *uro* 'burn' is also paired with intransitivizing *uror*, which however shows a much narrower distribution (in terms of token frequency, see Delatte *et al.* 1981) as compared to simple *ardeo* 'burn (intr.)'. Intransitivization is not limited to basic induced verbs, but it is occasionally attested also for augmented induced verbs, as in the case of *sese fervefaciunt* in (6), which

remains however isolated as compared to the much more frequent basic plain verb *ferveo* ‘boil (intr.)’.

- (6) *eaepse sese patinae fervefaciunt*
 same.NOM.PL.F REFL dish(F).NOM.PL make_boil.PRS.3PL
 ‘The very dishes become warm (by themselves).’ (Plaut. *Ps.* 3, 2, 44)

When compared to induced verbs, both the *r*-inflection and reflexive *se* can be likewise characterized as intransitivizing strategies and are thus equivalent for the purpose of determining basic valency. This is not to say that the two are fully overlapping in their functional domain. As pointed out by several scholars, there exist a number of differences between the two, and specific motivations can be detected for the choice of one strategy over the other with individual verbs (see Gianollo 2014; Cennamo, Eythórsson and Barðdal 2015 for discussion with extensive references).

To begin with, the *r*-inflection and *se*-reflexives historically represent two different layers of intransitivization. Forms of the *r*-inflection constitute the older layer, as they ultimately continue the inherited PIE middle voice inflection (cf. Weiss 2011: 387–391). In Latin, the *r*-inflection shows a complex distribution. On the one hand, it is used in passive and anticausative function in the *infectum* system. On the other hand, it includes a number of deponents or *media tantum*, i.e. verbs that are inflected in the middle only (on these see esp. Gianollo 2005, 2010). The original function of the middle voice in PIE is a matter of ongoing debate, but there is a general consensus that anticausativization may have featured among the earliest functions, with the passive being fully developed in the daughter languages only (cf. Inglese 2020; Luraghi, Inglese and Kölligan forthc. with references).

The reflexive pronoun *se* is also of PIE inheritance, as it continues the **se-/swe-* pronominal stem. Earlier accounts reconstruct a reflexive function for this form as early as in PIE (e.g. Brugmann and Delbrück 1893–1916). However, more recent studies have pointed out that the stem **se-* was possibly anaphoric to begin with, and that it only developed a reflexive function at a subsequent stage (cf. Mendoza 1984; Petit 1999; Puddu 2005, 2007; Dunkel 2014: 751–762; Viti 2015: 94–96 with references). Out of this core reflexive function, in Latin the pronoun *se* further developed an anticausative function, as a first step in its broader development as a general marker of intransitivization/unaccusativity in Romance languages (cf. Kemmer 1993; Cennamo 1993, 2016).

Also owing to their different origin, it is unsurprising that the *r*-inflection and *se*-reflexives do not entirely overlap in their distribution in Early and Classical Latin. As discussed by Cennamo, Eythórsson and Barðdal (2015), the two main parameters that account for the distribution of *r*-forms and *se*-reflexives are the

verb's lexical aspect and the subject's agency. Concerning the former, *r*-forms are used in anticausative function with all verb classes that allow the alternation, including atelic verbs, e.g. *volvere* 'roll, flow' (note that this was unlikely the PIE situation, as the anticausative function of the middle was possibly in origin confined to spontaneous change-of-state events, cf. Luraghi 2012, 2019). *Se*-reflexives instead strongly prefer telic predicates. As to agency, *r*-forms are preferred when the subject participant lacks control over the event, while *se*-reflexives correlate with a certain degree of agency/control of the subject. This distinction can be neatly illustrated by comparing (5a) and (5b). In (5a), the middle form *vertitur* 'turns' refers to an uncontrolled event of physical motion undergone by the inanimate subject *caelum* 'sky', whereas in (5b) the form *se verterunt* 'they turned' clearly refers to a controlled event initiated by the animate participant *Pompeiani* 'the followers of Pompeo'. It must be stressed that these are tendencies at best, since *se*-reflexives in anticausative function can also occur with inanimate non-controlling subjects, as in the case of *patinae* 'dishes' in (6). Moreover, it should be added that the reflexive pattern in anticausative function is mostly confined to technical works. It only becomes widespread in other textual types in Late Latin (Cennamo, Eythórsson and Barðdal 2015: 686), when it also loses its connection with telic predicates (thus Gianollo 2014).

The distribution outlined so far is progressively altered in Late Latin, when the two constructions become fully equivalent. At this stage, one also witnesses the rise of labile verbs, owing to a general restructuring of the voice system that ultimately led to the rise of the Romance voice system (Gianollo 2014; Cennamo, Eythórsson and Barðdal 2015).

5.2.4 Augmentation and double derivation

The third pattern under analysis is noteworthy both in its synchronic status and in its diachronic background. In this case, the alternation concerns both verbal aspect and transitivity. Verbs that instantiate this pattern feature a threefold distinction between a basic plain stative verb, a plain change-of-state verb in *-sc-*, and an induced counterpart in *-facio*. This pattern is exemplified by the triplet *ferveo ~ fervesco ~ fervefacio* in (7):

- (7) a. **fervit** *aqua* *et* **fervet**
 boil.PRS.3SG water.NOM and boil.FUT.3SG
 'The water is boiling and will boil.' (Lucil. *apud* Quint. 1, 6, 8)

- b. *possent=ne* *seriae* *fervescere*
 can.SBJV.IMP.F.3PL=INT vessel.NOM.PL start_to_boil.PRS.INF
 ‘(And the cook asked) whether the vessels could start to boil.’
 (Plaut. *Capt.* 4, 4, 9)
- c. *eodem addito* *et oleum, postea*
 DEM.DAT add.IMP.FUT.3SG also oil.ACC afterwards
fervefacito
 make_boil.IMP.FUT.3SG
 ‘To this (mixture) one should also add oil, and then let (it) boil.’
 (Cato R. R. 156, 5)

In (7a), *fervit* ‘boils’ refers to a spontaneous atelic event of boiling and is used intransitively. Similarly, in (7b) *fervescere* is syntactically intransitive and indicates a non-causative event, but it contrasts with *fervit* in (7a) in its aspectual construal: whereas the former is atelic, the latter profiles a change-of-state ingressive event. The difference between (7a-b), signaled by the suffix *-sc-*, is thus mainly an aspectual one. Conversely, in (7c) the form *fervefacito* is used transitively (here with omission of a definite referential, anaphoric direct object) and indicates a causative event ‘make/let boil’. Thus, while the difference between (7b) and (7c) is only one of transitivity, both verbs being telic, the difference between (7a) and (7c) is both one of transitivity and of telicity.

The pattern exemplified in (7a-c) enjoys a somewhat wider productivity than that emerging from Table 2, but still remains quantitatively marginal in the history of Latin (cf. Hahn 1947; Fruyt 2011: 783; Litta and Budassi 2020). As already remarked by Hahn (1947), the core of the verbs that instantiate the *fervefacio* pattern must be old, since one finds triplets such as *areo* ‘be dry’ ~ *aresco* ‘dry up’ ~ *arefacio* ‘make dry’ as early as in Cato’s *De Agri Cultura* (2nd c. BC). Other meanings in Table 2 for which this pattern is attested as a less basic strategy are listed in (8):

- (8) a. ‘open’ (13): *pateo* ‘be open’ ~ *patesco* ‘open up’ ~ *patefacio* ‘open (tr.)’
 b. ‘dry’ (14): *areo* ‘be dry’ ~ *aresco* ‘dry up’ ~ *arefacio* ‘make dry’
 c. ‘shake’ (23): *tremo* ‘tremble’ ~ *tremesco* ‘start to shake’ ~ *tremefacio* ‘make tremble’
 d. ‘awake’ (19): *expergiscor* ‘wake up’ ~ *expergefacio* ‘awaken’

From a purely synchronic standpoint, the tripartite pattern under discussion can be sketched as [V ~ V-*sco* ~ V-*facio*] ⇔ [PLAIN.ATELIC ~ PLAIN.TELIC ~ INDUCED]. Within this threefold pattern, the correspondence between V and V-*facio* is one of augmentation. By contrast, the correspondence between V-*sco* and V-*facio* is one

of double derivation, because both the plain and the induced verbs are equally derived.

The Latin $V \sim V\text{-sco} \sim V\text{-facio}$ system is ultimately a manifestation of a derivational pattern already in force in PIE, which is known as the Caland System. It involves a basic root out of which several related formations can be derived by means of specific suffixes, including adjectives, nouns, and stative/inceptive/factitive verbs (cf. Nussbaum 1976; Rau 2009, 2013; Dell’Oro 2015; Bozzone 2016). Semantically, roots that belong to the Caland System often indicate basic property concepts, including color, shape, temperature, physical state etc., and this is also the case of the verbs that enter the $V \sim V\text{-sco} \sim V\text{-facio}$ pattern in Latin (cf. Fruyt 2001: 81–82). Patterns of derivation reflecting the Caland System are attested in other ancient IE languages, as in the case of Hittite *idalu-* ‘evil’, *idalaw-atar* ‘evilness’, *idalaw-ešš-* ‘become evil’, *idalaw-aḫḫ-* ‘make evil’. In Latin, derivational families that can be traced back to the Caland System typically feature a basic stative-intransitive verb in *-ē-*, an inchoative counterpart in *-sc-*, a causative verb in *-facio*, an abstract noun in *-or*, and an adjective in *-idus* (cf. Schindler 1999; Rau 2009: esp. 114–115, 123–125 for Latin data; see Olsen 2003 for an alternative explanation of the adjectives in *-idus*). As an example of this pattern, consider the family of Latin *candidus* ‘white’ in Table 3 (abbreviations in parentheses refer to authors where the forms are first attested).

Table 3: The Caland system in Latin.

Adjective	Noun	Stative verb	Change-of-state verb	Causative verb
<i>cand-idus</i> ‘white’ (Pl.)	<i>cand-or</i> ‘whiteness’ (Naev.)	<i>cand-eo</i> , <i>-ēre</i> ‘be white’ (Enn.)	<i>cand-ē-sco</i> ‘become white’ (Lucr.)	<i>cand-e-facio</i> ‘make white’ (Plaut.) <i>cand-idāre</i> ‘make white’ (App.)

The morphological status as well as the prehistory of the $V \sim V\text{-sco} \sim V\text{-facio}$ pattern are worth a more detailed discussion. To begin with, broadening the observation to other verbs that instantiate the pattern, the base plain verb can either be a radical formation, e.g. *trem-o* (\sim *tremisco* \sim *tremefacio*) or a stative *ē*-verb, e.g. *are-o* ‘be dry’. While radical formations are morphologically basic, the interpretation of the *ē*-type is less straightforward. In fact, intransitive stative *ē*-verbs of the second conjugation historically go back to a suffixed form, possibly in $*\text{-eh}_1\text{-(ye/o)}$ (cf. *i.a.* Mignot 1969; Watkins 1971; Jasanoff 2002–2003; Weiss 2011; Malzahn 2018 for details). Nevertheless, in spite of their derivational origin, stative *ē*-verbs do not constitute a productive verb forming strategy in Latin (Mignot 1969: 100) and their derivation is not always transparent. For example, *luceo* ‘shine’ is not syn-

chronically derived from the noun *lūx* ‘light’, but both independently go back to PIE **leuk-* (Watkins 1971: 68–69). This means that for the purpose of assessing the correspondence type, *ē*-verbs can be considered as morphologically simple, in pair with truly basic radical formation of the *tremo*-type.⁷

The suffix *-sc-* can be considered a derivational morpheme on a synchronic level, as it enters a productive and transparent word formation rule (Budassi and Litta 2017). The affix is unanimously considered a continuant of the PIE present stem pluractional morpheme **-skē/o-* (see e.g. Berrettoni 1971; Jasanoff 2002–2003: 134–133; Oettinger 2017; on the PIE suffix see Inglese and Mattioli 2020 with references). As Haverling (2000) has shown, Latin *-sc-* displays a wide range of aspect-related functions (see also Berrettoni 1971). It suffices here to say that in Early Latin the suffix must also have been originally connected with the encoding of inceptive change-of-state events of the type *fervesco* ‘start boiling’ and was productively applied to numerous verbs. Only later, in Late Latin, did the suffix undergo a progressive semantic bleaching, so that newly created *sco*-verbs became functionally equivalent to their bases, e.g. *fumo* = *fumesco* ‘emit smoke’ (see Haverling 2000 for a full discussion).

Let us now turn to forms in *-facio*. As per Hahn (1947), Latin displays different types of complex verbal forms featuring the verb *facio* ‘make’ (see also Fruyt 2001).⁸ Besides formations based on adverbs (e.g. *bene-facio* ‘do well’) and on

7 For deadjectival verbs, a marginal correspondence pattern that synchronically belongs to CONJUGATION CLASS CHANGE is also attested (for other verbs that also feature this pattern see fn. 6). These are cases in which a plain stative verb of the 2nd conjugation is paired with an induced change-of-state verb of the 1st conjugation, as in e.g. *clarēre* ‘be bright’ vs. *clarare* ‘make bright’, both based on *clarus* ‘bright’. This pattern historically reflects two different derivational strategies of PIE, which have become opaque in Latin. Again, stative verbs of the 2nd conjugation *-ēre* continue the PIE stative suffix **-eh₁-*, whereas induced verbs in *-are* reflect PIE factitive **-eh₂-*. Outcomes of **-eh₂-* can be observed as fully productive in Hittite factitive *ah₂-*verbs, e.g. *nēwa-* ‘new (adj.)’ > *nēwah₂-* ‘renew’ parallel to Latin *novāre* ‘renew’ (Kloekhorst 2008: 164), but in Italic this formation is archaic and recessive (Watkins 1971: 54–55).

8 As is well known, verbs of the *V-facio* type are often paired with counterparts in *-fio*, e.g. *calefacio* ~ *calefio* (cf. Hahn 1947). Forms in *-fio* are often regarded as indicating the passive counterpart of *facio*-form. A passive interpretation is for instance clearly at play when the verb is employed in an imperative predication, which by definition implies the presence of an external controlling agent (cf. *abi intro ac jube huic aquam calefieri* ‘go inside and order some water to be warmed up’ [Plaut. *Epid.* 655]). However, *fio*-forms can also indicate spontaneous events, thereby providing the anticausative counterpart to *facio*-verbs, e.g. *faces calefiunt* ‘the torches become warm’ (*Auct. Her.* 3, 12, 21). In this respect, *fio*-forms are close in meaning to inchoative *sco*-forms (cf. Fruyt 2001: 83 fn. 6). Nevertheless, given their passive/anticausative polysemy, for the purpose of this paper I consider only *-ē(sc)-* forms as indicating the plain counterpart of *facio*-verbs.

genitives (e.g. *multi-facio* ‘value highly’), the largest group consists of the combination of *-facio* with a verbal stem. This group includes (i) forms paired with stative intransitives *ē*-verbs (e.g. *caleo* ‘be warm’ ~ *calefacio* ‘make warm’), (ii) forms based on and equivalent to causative transitive verbs (e.g. *quatio* = *quatefacio* ‘shake’), (iii) forms paired with *sco*-verbs (e.g. *raresco* ‘grow thin’ ~ *rarefacio* ‘make thin’), and finally (iv) forms based on 1st or 3rd conjugation verbs (e.g. *labo* ‘fall’ ~ *labefacio* ‘make fall’ and *tremo* ‘shake’ ~ *tremefacio* ‘cause to shake’). Hahn (1947) already points out that among the group of deverbal *facio*-verbs, type (i), i.e. the *calefacio* type, is historically the oldest, and is well attested in Early Latin, whereas the other types constitute later innovations.⁹

The synchronic interpretation of the *calefacio* type has prompted a lively discussion. Specifically, even though scholars agree in describing verbs of the *calefacio* type as single lexemes (and not as multiword expressions), the status of the *-facio* component remains disputed. According to Fruyt (2001, 2011: 783–785), within this formation *-facio* behaves as a fully grammaticalized bound morpheme, i.e. an affix, while Brucale and Mocciaro (2016) suggest that *-facio* is better analyzed as the second member of a verbal compound. Indeed, the *calefacio* type shows a number of morphological oddities in contrast with other compound verb forms involving *facio* and verbal prefixes (see already Hahn 1947; Fruyt 2001). First, the radical vowel *-a-* does not undergo weakening, thus showing that the form fails to participate in the common Latin apophony pattern of the type *facio* ~ *inficio*. Secondly, the two members can also occur separately, and their order can even be reversed (in *tnesis*, e.g. *facit are* in Lucr. 6, 962). These two facts point to a rather shallow morphological link between the two components of the *calefacio* type. Nevertheless, traces of an increasing univerbation can be seen in the syncopated forms such as *calface* (Cic. *Fam.* 16, 18, 2). From a historical perspective, these facts suggest that the formation of the *calefacio* type, even though well attested since the earliest Latin sources, must be a comparatively late development within the PIE verbal system. In fact, there is agreement that the *calefacio* type must go back to some sort of periphrastic formation, with the two components eventually undergoing univerbation and *-facio* progressively developing into a derivational affix.¹⁰

⁹ Another type of causative construction involving *-facio* is the denominal pattern featuring the suffix *-fic-*, as in *aedi-fic-o* ‘build’. This type is productive in Latin and unlike the *calefacio* type survives in Romance languages (see Brucale and Mocciaro 2016 for discussion).

¹⁰ Similar processes, whereby analytic constructions give rise to synthetic forms are not unknown in the Latin verbal system. Compare, among others, the possible emergence of the *ba*-imperfect and the *b*-future from earlier periphrastic construction involving the root **b^huh₂-* ‘be’ (cf. Fruyt 2011: 758–760).

Also controversial is the interpretation of the first component in *-e-* that combines with *-facio*. From a synchronic standpoint, forms such as *cale-* cannot be described as autonomous lexemes, as they do not correspond to any finite form of the verb. At best, they can be analyzed as verbal stems. Concerning its origin, the *cal-e-* formant has been understood as reflecting either an old imperative (Hahn 1947) or an infinitive (Fruyt 2001, 2011: 783).

Alternatively, particularly interesting are attempts to view the *-e-* of *cal-e-facio*, as well as the suffix of simple stative verbs in *-ē-*, as the relic of an old instrumental noun in **-eh₁* (see chiefly Jasanoff 1978, 2002–2003). This reconstruction is based on comparison between the Latin *calefacio/calefio* type and the Indo-Aryan so-called *cvī* construction. The latter can be synchronically described as an analytic construction featuring a preverb in *-ī* issued from an *a*-stem noun/adjective combined with the verbs *kṛ-* ‘make’ (or *dha-* ‘put’) and *bhū-* ‘be(come)’, e.g. *tīvra-* ‘strong’ > *tīvrī kṛ-/bhū-* ‘make/become strong’. Without going into too much detail, according to proponents of this reconstruction, both the *calefacio* type and the *cvī* construction go back to a PIE construction that featured the instrumental of an abstract noun in **-eh₁* combined with the verbs **d^heh₁-* ‘put, make, do’ and **b^huh₂-* ‘be’ and meaning ‘make something X, be(come) X’, respectively (see Jasanoff 1978, 2002–2003; Schindler 1980; Ruijgh 2004; Balles 2009; Bozzone 2016 for slightly different accounts).¹¹ If this is correct, then even though the Latin *calefacio* type seems to have undergone univerbation at a later stage, this is not a recent Latin formation, as its roots go back to the protolanguage.¹²

11 The morphological behavior of the *calefacio* type discussed earlier in this section makes it clear that the PIE construction *ROOT-*eh₁ *d^heh₁-/*b^huh₂-* ‘be/make X’ was not yet univerbated in the protolanguage, and possibly behaved as a periphrastic (anti)causative construction. Given its periphrastic nature, the existence of the *ROOT-*eh₁*d^heh₁-/*b^huh₂-* construction in the protolanguage does not challenge Luraghi’s (2019) conclusion that PIE was largely transitivizing.

12 In this respect, Brucale and Mocciaro’s (2016: 285–286) observation that compounds in *-fico* represent an older formation as compared to the *calefacio* type should be taken with due care. As a matter of fact, the morphological evidence adduced by Brucale and Mocciaro (2016), chiefly the weak root vocalism *-i-* and the use of a connective vowel *-i-* (cf. *laetus* ‘glad’ > *laet-i-fic-o* ‘make glad’), only shows that the *-fico* type univerbated at an earlier date, but the PIE pattern out of which the *calefacio* type originated is, as discussed, in all likelihood at least as old. Earlier univerbation of the *-fico* type is further supported by the fact that these verbs do not generally allow a passive/anticausative counterpart in *-fio* (see fn. 8)

5.2.5 Lability

Lability concerns those verbs that “can show valency alternation, i.e. change in syntactic pattern, with no formal change in the verb” (Kulikov and Lavidas 2014: 871; see also Letuchiy 2009; Creissels 2014). Lability that affects anticausative verbs also goes under the name of P-lability, i.e. patient preserving lability. Labile syntax in Latin has been extensively studied by Gianollo (2014), who has shown that the occasional labile use of anticausative verbs occurs already in Early Latin but gains ground as a widespread strategy only at later times.

From the perspective of basic valency, lability can be defined as an indeterminate pattern, since the plain and the induced verbs are encoded by the same form and are thus equally unmarked. Among the verb pairs in Table 2, this correspondence type is attested only once for the verb (*con*)*crepo* ‘rattle’, as shown in (9a-b), in which the likewise active basic forms *crepuit* and *crepant* are used to express the spontaneous event ‘rattles’ and the causative event ‘make rattle’, respectively.

- (9) a. *crepuit* *foris*
 rattle.PST.3SG door.NOM
 ‘The door made a noise.’ (Plaut. *Am.* 1, 2, 34)
- b. *procul auxiliantia* *gentes* *aura*
 afar helping.ACC.PL.N people.NOM.PL bronze(N).ACC.PL
crepant
 rattle.PRS.3PL
 ‘Afar people make the bronze rattle in (her) help.’ (Stat. *Th.* 6, 687)

Instances of lability are also attested for a few verbs other than (*con*)*crepo* ‘rattle’ in Table 2, including *aperio* (Plaut. *Pers.* 300), *sicco* (Cato *Agr.* 112.2), and *luceo* (Plaut. *Cas.* 118). Such a narrow distribution is perfectly in line with Gianollo’s (2014: 966–970) observation that P-lability becomes increasingly common only in Late Latin (lability is also on the rise in Greek, see discussion in Luraghi and Mertyrus, this volume).

It is worth remarking that some instances of lability are in fact the historical outcome of the conflation of different PIE formations that were fully differentiated in the protolanguage. A case in point is the verb *luceo* ‘shine’, whose syntax is exemplified in (10):

- (10) a. *luce* *lucebat* *aliena*
 light.ABL shine.IMP.3SG stranger.ABL
 ‘(The moon) was shining of a borrowed light’ (Cic. *Rep.* 4, 16, 15)

- b. *lucebis* *facem*
 light.FUT.2SG torch.ACC
 ‘You will light a torch.’ (Plaut. *Cas.* 118)

As comparison between (10a) and (10b) illustrates, the verb *luceo* can be used intransitively, as in (10a), or transitively, as in (10b). Taken at face value, this evidence points towards a synchronically labile use of the verb *luceo* on par with *crepo* in (9a-b). A more careful consideration of the diachrony of *luceo* reveals a more complex picture. In fact, the two usages of *luceo* can be traced back to two different formations. PIE featured two distinct derivational suffixes, the already mentioned stative suffix **-eh₁-*, and the causative suffix **-éye/o-*. In Latin, the two suffixes phonologically merged as *-ē-*, and verbs originally belonging to the two different formations equally ended up in the 2nd conjugation (Watkins 1971: 68–69; Weiss 2011: 403–404). Once the two formations fell together, this resulted in the gradual loss of *ē*-causatives of the type *moneo* ‘remind, warn’ as compared to the somewhat more productive *ē*-statives (cf. Fruyt 2011: 783 fn. 214). The labile pattern of *luceo* can thus be easily understood as the outcome of such a merger: *luceo*₁ in (10a) is intransitive and atelic, and derives from the PIE stative verb **leuk-eh₁-* ‘be shining’, whereas *luceo*₂ in (10b) is transitive and telic, and can be traced back to the PIE causative form **louk-éye-* ‘make shine’.

5.3 Verb pairs and correspondences: a summary

In the previous sections, I have surveyed the different correspondence types attested in Latin for the encoding of transitivity alternations of the (anti)causative type. Drawing upon the observation of the behavior of the 24 verb pairs, we are now in the position to assess the basic valency of Latin and its orientation.

As the data in Table 2 shows, the prevalence of suppletion indicates that Latin is predominantly indeterminate for animate verbs. To put it differently, Latin basic valency is not strongly oriented towards either transitivization or intransitivization. Only with inanimate verbs does Latin show a minor tendency towards reduction/voice alternation. In this respect, Latin sharply contrasts with both Hittite, which, as discussed in Section 4, is strongly transitivizing, and with Ancient Greek, which features instead a substantial tendency towards intransitivization via voice alternation.

From the survey conducted in Section 5.2, it is remarkable that, with the exception of the limited use of *facio*-compounds, Latin lacks a productive pattern of formation of morphologically causative verbs (cf. Hoffmann 2016: 35; Lehmann 2016). Again, this fact is particularly striking if compared to the abundance of der-

ivational verbal causative morphology attested in other ancient IE languages and that can be reconstructed for the protolanguage (cf. Covini 2017). As I discuss in the next section, this can be partly explained by the fact that causative strategies were regularly lost via sound changes in Latin. Note, however, that the lack of morphological causativization is consistent with the typological generalization proposed by Nichols, Peterson and Barnes (2004: 164) that within the same language, augmentation and suppletion tend to be mutually exclusive.

Let us turn now to discussing in more detail some notable aspects of the various strategies and of their mutual relationship.

In the first place, the verbs' lexical aspect plays a role in determining the choice of the correspondence pattern. Within the class of plain verbs, if one differentiates between the atelic and the telic variant, e.g. *be dry* vs. *dry up*, three patterns can be detected, based on whether the atelic situation is encoded by a stative verb (*sedeo* 'sit', *pateo* 'be open'), an adjective (*siccus* 'dry'), or a participle (*mortuus* 'dead'). If the plain atelic verb is a simple stative verb, its telic counterpart is often derived by means of two telicizing strategies, that is prefixation, e.g. *edo* 'eat' > *com-edo* 'eat up' (see Romagno 2003), or -*sc*-suffixation, e.g. *ardeo* 'burn' > *ardesco* 'catch fire'. Some verbs attest to the simultaneous use of both prefixation and -*sc*-suffixation, e.g. *dormio* 'sleep' > *ob-dormisco* 'fall asleep' (see Haverling 2000). By contrast, if the telic plain verb is a simple verb, e.g. *siccus* 'dry up', the atelic counterpart is expressed by a nominal form, i.e. an adjective, or by a non-finite verbal form, i.e. by a participle.

Aspect plays a role in predicting the choice of the correspondence type also between plain and induced verbs, depending on whether the telic or the atelic verb is more basic. If the plain atelic verb is a morphologically simple stative verb, the induced counterpart is either suppletive, e.g. *ardeo* 'burn (intr.)' vs. *uro* 'burn (tr.)', or a form in -*facio*, e.g. *ferveo* 'boil (intr.)' vs. *fervefacio* 'make boil'. By contrast, if the induced verb is basic, then the corresponding atelic event is preferably encoded via adjectives or participles, e.g. *frango* 'break' vs. *fractus* 'broken'.

Animacy is also a key factor in determining the distribution of different correspondence types. As we have seen, animate and inanimate verbs show a contrasting picture. In Latin, suppletion is virtually the only available strategy with animate verbs. Inanimate verbs show a more varied picture and besides suppletion also attest to double derivation, voice alternation, reduction, and lability. Such a split between animate and inanimate verbs is not at all exceptional (see Nichols, Peterson and Barnes 2004: 177). Specifically, the fact that reduction strategies are only attested with inanimate verbs complies with Nichols and associates' universal preferred lexicalization tendency, whereby languages preferably treat inanimate induced verbs as basic (Nichols, Peterson and Barnes 2004: 172).

Within the IE family, such a split has also been observed for Greek (Luraghi and Mertyrís, this volume)

As I have already remarked in Section 5.2, it must be stressed that the choice of the verbs in Table 2 in part overshadows the fact that in Latin less basic strategies are also available for the lexicalization of some meanings. This observation bears two noteworthy methodological consequences. On the one hand, it shows once again that the choice of the verb pairs largely determines our understanding of the basic valency profile of a language, and that is it therefore of primary importance to have a sound methodology for the individuation of the verb pairs. On the other hand, the case of Latin offers a neat illustration of the limits of the basic valency approach as elaborated by Nichols, Peterson and Barnes (2004). As a matter of fact, while the very notion of basic valency is useful to grasp the general behavior of languages and to make meaningful large-scale cross-linguistic generalization, the assessment of a language's basic valency often implies an oversimplification of the actual facts of language. Indeed, besides the mainstream patterns which are taken into account in typologizing basic valency, languages often attest to a sizable number of minor alternative strategies. It is often the case that such a coexistence of different correspondence types reflects the historical layering of older and newer strategies.

6 Basic valency from PIE to Romance languages: a diachronic perspective

As I have discussed in Section 5, Early and Classical Latin texts offer a heterogeneous picture when it comes to the possible strategies for the encoding of the (anti)causative alternation. A closer look at the inventory of strategies available reveals that such synchronic variation reflects a historical layering of formations inherited from PIE and Latin innovations. In this section, I offer a historical perspective on the basic valency of Latin and elaborate in more detail on the position of Latin with respect to the basic valency of PIE and that of Romance languages.

To begin with, the basic valency of Latin can be compared with that of PIE. The main difference that can be detected between Latin and the basic valency reconstructed for PIE is the lack of transitivizing derivational morphology (see Section 4). Such a difference can probably be better understood as a consequence of the more general restructuring of the verbal system that took place between PIE and Italic and that also affects grammatical features other than the encoding of voice, such as aspect, tense, and mood (see Fortson 2010: 278–281; Clackson and Horrocks 2011: 18–26; Weiss 2011: Chap. 35–39 with further references).

On the one hand, the basic valency of Latin partly continues an inherited situation. This is clearly the case of the anticausative use of the middle inflection, which may be reconstructed for the protolanguage already (Luraghi 2019). Another archaic feature is the retention of formations that originally belonged to the Caland System. As discussed in Section 5.2.4, these include the pattern whereby a plain stative verb in $-\bar{e}- < *eh_1-$ (and a plain change-of-state verb in $-sc-$) coexists alongside the induced counterpart in $-e-facio$ (forms in $-facio$ built on root verbs, e.g. *trem-o* ~ *trem-e-facio*, reflect in all likelihood a later extension).

On the other hand, one also detects a number of innovations. First, one observes an increasing opacization of erstwhile productive causativization strategies, which is mostly due to regular sound changes. Among formations that cease to be productive in Latin one counts nasal-infixed formations, e.g. *pando* ‘make open’ < PIE $*pt-n(e)-h_2-$, $*-éye-$ causatives, e.g. *doceo* ‘teach’ < $*de\acute{k}-$ ‘accept’, and $*-eh_2-$ factitives, e.g. *novāre* ‘renew’ < PIE $*new-eh_2-$ (cf. Covini 2017). In this respect, some verb pairs that synchronically display suppletion historically reflect a transitivization pattern. This is the case of the synchronically suppletive pair *pateo* ‘be open’ vs. *pando* ‘open’, which ultimately continue an opposition between the PIE plain stative stem $*pth_2-h_1y\acute{e}-$ vs. the induced nasal infixed stem $*pt-n(e)-h_2-$ (cf. LIV² s.v. $*peth_2^1$, de Vaan 2008 s.v. *pando*). Some induced verbs in $-eo$, which synchronically must be analyzed as basic, hence as instantiating suppletion, also reflect earlier causativization strategies. Examples are *terreo* ‘frighten’, *sōpio* ‘put to sleep’, *doceo* ‘teach < make accept’, all originally featuring the PIE causative suffix $*-éye/o-$ (see Fruyt 2011: 782–783; Covini 2017 for details).

Besides the opacization of causative morphology, which ultimately leads to the expansion of the suppletive pattern, another innovation that contributes to reshaping the basic valency profile of Latin is the rise of *se*-reflexives. These expand out of their original reflexive function and start covering the range of functions previously associated with the inherited *r*-inflection, including the anticausative (Cennamo, Eythórsson and Barðdal 2015). This is an ongoing process of replacement of the old *r*-inflection that is only fully achieved in Romance languages. Notably, in this case we do not witness the rise of an entirely innovative pattern, but rather the formal renewal of an already existing pattern (cf. Reinöhl and Himmelman 2017).

Turning now to the subsequent development of Latin, a remarkable difference can be detected between the basic valency of Latin and that of Romance languages. In general, one observes a decay of suppletion, which is replaced by different strategies. In the first place, there are Romance languages that show a markedly intransitivizing profile. This is the case of Italian. Italian is mostly intransitivizing, as it uses *si*-reflexivization as the main intransitivizing strategies with most verbs, both animate and inanimate ones (on Italian see further Ježek 2003; Cennamo and Ježek 2011). In case *si*-reflexivization is not employed, the

pattern is by preference a periphrastic one, with the use of the new *fare* ‘make’ + infinitive periphrastic causative formation typical of Romance languages for the induced verbs (cf. Simone and Cerbasi 2001). Similar considerations hold for French, which is regarded by Haspelmath (1993: 101) as predominantly intransitivizing. Different is the case of Portuguese, which is mostly indeterminate. However, unlike in Latin where indeterminacy is due to the diffusion of suppletion, indeterminacy of Portuguese is rather due to extensive lability (cf. Nichols, Peterson and Barnes 2004). Remarkably, both *se*-reflexivization and lability, which eventually take over in Romance languages, are only at the onset in Latin (on the development of the Latin reflexive in Romance languages see Cennamo 1993, 1998, 2016, 2020, this volume *i.a.*).

The time span covered by the development from PIE to Romance languages gives us a privileged viewpoint on the diachronic stability of basic valency. As Nichols, Peterson and Barnes (2004) remark, among those languages that show an oriented basic valency, transitivity languages are cross-linguistically more common than intransitivizing ones. This means that the widespread intransitivizing pattern of the modern IE languages of Europe is a typologically marked phenomenon. As the historical evidence presented in this paper has shown, such a marked intransitivizing profile is clearly an innovation, since it is likely that PIE preferred transitivity as the basic means of encoding the (anti)causative alternation. The intransitivizing European pattern seems even more remarkable if one considers that basic valency has repeatedly been pointed out as being a relatively stable typological feature, especially when compared to other features more prone to change, such as e.g. word order or alignment (cf. Nichols 1992; Wichmann 2015). Therefore, the history from PIE to Romance languages “gives some indication of the time span needed by a language to develop this cross-linguistically marked pattern as its basic typological profile” (Comrie 2006: 316).

The Latin data analyzed in this paper shows an intermediate phase in this typologically unexpected shift and is of relevance to get a better perspective on the transitivity > intransitivizing drift that occurred in some of the IE languages of Europe. As I have discussed, the intransitivizing profile of Romance languages finds its seeds already in Latin, in which intransitivization is an available strategy for a number of (inanimate verbs). The reason why intransitivization took over is in all likelihood to be sought in internal factors, viz. the loss of older causative morphology, which left open a functional gap for the inherited middle voice to extend in its anticausative function, and this was later renewed and eventually replaced by lability and *se*-reflexives (Gianollo 2014). The key role of the loss of causativization strategies in the development of a new basic valency profile is not exceptional: for instance, as discussed by van Gelderen

(2011), it was the decay of older transitivizing strategies that triggered the large-scale shift from transitivization to lability from Old English to Modern English (see also García García 2019; lability in English is the main pattern also due to the loss of the Indo-European reflexive pronoun in English, which was preserved and gave rise to reflexive middles in other Germanic languages such as German, see van Gelderen 2000: 28).

Given its typologically exceptional nature, it has been argued that the rise of reflexive anticausatives is to be considered an areal feature of the IE languages of Europe. As Comrie (2006: 316) puts it, we may be witnessing “an areally conditioned renewal of the semantics of the [PIE] middle voice by means of reflexive morphology.” This scenario is in principle not at all unlikely. On the one hand, we now know that other typological ‘quirks’ of European languages, such as the otherwise typologically uncommon frequency of HAVE-perfects, most likely became established through extensive language contact in the region (see Drinka 2017 with references). On the other hand, language contact has been shown to be a major factor in the change of transitivity patterns in general (see Grossman, this volume).

Unfortunately, the details of the putative contact scenario behind the rise of reflexive anticausatives, and the consequent shift in the European languages’ basic valency, remains to date unexplored. It is clear that the development of new anticausative reflexives displays different timing in different IE sub-groups in Europe. A preliminary survey may point towards Latin, and thus Romance languages, as a potential candidate for the source of reflexive intransitivization. As we have seen, Latin preserves the PIE middle and employs the reflexive pronoun in anticausative function since its earliest phase. In Gothic, anticausative reflexives are virtually unattested, and only develop in later stages of Germanic (cf. Ottósson 2013). The Slavic languages already attest to reflexives in anticausative functions in Old Church Slavonic (cf. Malicka-Kleparska 2016), but given the relatively late attestation one cannot rule out the possibility that these constitute a late development. All in all, if indeed language contact played a role in the large-scale drift in the basic valency of IE languages of Europe towards intransitivization, the data presented in this paper is at least suggestive that Latin may be the origin of this pattern. Indeed, in Latin the renewal of the PIE middle by means of reflexive morphology, as discussed by Comrie (2006), appears to have taken place at an earlier date. More research is needed to confirm the plausibility of this contact scenario. At any rate, this situation is compatible with the well-known leading role of Latin (and Romance varieties) in the spread of linguistic innovations among the IE languages of Europe, as in the case of the expansion of HAVE-perfects (cf. Drinka 2017).

7 Conclusions

In this paper, I have explored the basic valency orientation of Latin, based on the guidelines proposed by Nichols, Peterson and Barnes (2004) and Nichols (2017). With respect to the original study, the analysis of Latin has brought to light two important methodological considerations. Firstly, when dealing with an extinct language, there is a need to develop a sound methodology for the correct individuation of the verb pairs to be analyzed. Secondly, a closer observation of the Latin data reveals that the basic valency approach often leads to much too simplistic generalizations on the behavior of individual languages, which may feature several competing strategies for the encoding of anticausativization. Whereas it might blur the neat synchronic typological picture, such a variation is extremely insightful as to the historical layering of strategies of different dating and origin.

The analysis conducted in this paper was based on 24 verb pairs attested in Early and Classical Latin sources. Once properly individuated, these 24 verb pairs offer an interesting picture. Latin attests to a variety of strategies for the encoding of the anticausative alternation. Suppletion is by far the preferred strategy, but one also finds that other strategies are employed, including voice alternation, the reflexive pronoun *se*, verbal compounds in *-facio*, and lability. Overall, the extensive use of suppletion makes basic valency in Latin largely indeterminate, and only inanimate verbs show a certain proclivity towards intransitivization. These findings are at odds with the behavior of other ancient IE languages, which are predominantly oriented, as well as with modern Romance languages, which are mostly intransitivizing or make use of lability.

Such an intermediate position of Latin can be better understood if one considers the data from a diachronic perspective. As I have argued, the Latin situation historically results from the convergence of different factors. Among these, a key role is played by the loss of the PIE transitivizing morphology and by the extension of the functional domain of the inherited middle voice, eventually renewed by the more recent construction based on the reflexive pronoun *se*. These changes pave the way for the development of basic valency in Romance languages. Once dynamized in a historical perspective, the Latin data offers us unique insights for the understanding of the dynamics, the direction, and the timing of the typologically rare transitivizing-to-intransitivizing drift that took place in the IE languages of Europe (Comrie 2006). As I have argued, one cannot rule out the possibility that Latin has provided the model for the rise and diffusion of intransitivization as a widespread pattern across Europe.

Abbreviations

Examples are glossed following the *Leipzig Glossing Rules*. Other glosses include IMPF = imperfect, MID = middle voice.

Abbreviations for Latin authors and texts are the following:

A.	Aeneis,
Agr.	De Agri Cultura,
App.	Appuleius,
Auct. Her.	Auctor ad Herennium,
Am.	Amphitruo,
Att.	Epistulae ad Atticum,
B. C.	Bellum Civile,
Caes.	Caesar,
Capt.	Captivi,
Cas.	Casina,
Cic.	Cicero,
De Or.	De Oratore,
Enn.	Ennius,
Epid.	Epidicus,
Fam.	Epistulae ad Familiares,
Lucil.	Lucilius,
Lucr.	Lucretius, De Rerum Natura
Pers.	Persa,
Naev.	Naevius,
Plaut.	Plautus,
Ps.	Pseudolus,
Q. Fr.	Epistulae ad Q. Fratrem,
Quint.	Quintilianus, Institutiones Oratoriae
R. R.	De Re Rustica,
Rep.	De Re Publica,
Stat.	Statius,
Stich.	Stichus,
Th.	Thebais,
Verg.	Vergil

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