Journal of Linguistics (2026), 1–33
doi:10.1017/S002222672610111X

Journal of Linguistics
CAMBRIDGE UNIVERSITY PRESS

RESEARCH ARTICLE

On the syntactic autonomy of theme vowels

Erik Zyman

Department of Linguistics, University of Chicago, United States
Email: ezyman@uchicago.edu

Received: 07 December 2023; **Revised:** 22 September 2025; **Accepted:** 12 January 2026

Keywords: architecture of grammar; elementary operations; External Merge; L-selection; Morphology as Syntax; theme vowels

Abstract

Some of the most fundamental questions in linguistic theory concern grammatical architecture. Focusing on morphosyntax specifically, how many components are 'morphosyntactic' phenomena distributed over, and how do they divide up their labor? Answers differ: some versions of Distributed Morphology posit a rich postsyntactic morphological component, whereas Morphology-as-Syntax approaches sharply reduce its role. Against that backdrop, this article investigates theme vowels, which are often analyzed as purely morphological (nonsyntactic). A diagnostic is introduced for their derivational origin, based on the narrow-syntactic phenomenon of lexical selection (L-selection): if a theme vowel is L-selected (to the exclusion of others) by a higher head, it must be in the narrow syntax; otherwise, the test is inconclusive. The former situation obtains in Latin: in synthetic causatives, *fac-* 'make' can be immediately preceded by *-ē/-e* but no other theme vowel. An analysis is developed on which theme vowels are syntactic and hence L-selectable. Alternative analyses on which theme vowels realize dissociated nodes added postsyntactically fail empirically or become notational variants of the syntactic analysis, since they must give theme vowels narrow-syntactic featural 'precursors'. Theme vowels, then, are syntactic, introduced by (External) Merge. Insofar as dissociated-node insertion can be replaced with Merge, suspicious theoretical duplications are avoided, in line with minimalist goals.

1. Introduction

Some of the most fundamental questions in linguistic theory have to do with the architecture of grammar: how many components does the grammar have; what are their properties, atoms, and elementary operations; and why? These overarching questions naturally take more specific forms in particular domains of inquiry. In morphosyntax, for example, two major questions along these lines are 1) how many grammatical components the phenomena traditionally referred to as 'morphosyntactic' are distributed over and 2) what the division of labor is between those components, if there is more than one. Different answers to these questions have been given in different morphosyntactic frameworks. In Distributed Morphology, for instance (Halle & Marantz 1993, 1994; Harley & Noyer 1999; Embick & Noyer 2001;

© The Author(s), 2026. Published by Cambridge University Press. This is an Open Access article, distributed under the terms of the Creative Commons Attribution licence (http://creativecommons.org/licenses/by/4.0), which permits unrestricted re-use, distribution and reproduction, provided the original article is properly cited.

https://doi.org/10.1017/S002222672610111X Published online by Cambridge University Press

Arregi & Nevins 2012, a.m.o.), there is argued to be a (sometimes rich and finely articulated) postsyntactic morphological component that takes as its inputs the structures built up in the syntax and subjects them to a range of morphological operations distinct from the narrow-syntactic operations. In the various versions of Morphology as Syntax, by contrast, either the existence of this postsyntactic morphological component is denied altogether or, at the very least, its role is sharply reduced, with many phenomena that might be given postsyntactic analyses in Distributed Morphology attributed instead to interactions between elementary narrow-syntactic operations such as (External and Internal) Merge and Adjoin (Koopman 2020; Zyman 2020, 2025a; Zyman & Kalivoda 2020; Julien 2022; Ntelitheos 2022; Collins & Kayne 2023; Crippen 2023; and references therein; see also Bruening 2018a,b).

Naturally, the choice between these two frameworks[1] is not an all-or-nothing matter: it may be that the morphosyntactic framework that achieves the highest degree of empirical and explanatory adequacy lies somewhere between the most 'radical' versions of Distributed Morphology and Morphology as Syntax.[2] In order to come closer to answering these larger questions, we need to subject particular empirical phenomena to close scrutiny, prioritizing those that seem especially likely to shed light on the division of labor between the syntax and the (putative) postsyntax.

Against this backdrop, the present article investigates theme vowels. Theme vowels are particularly germane in this context because they have been repeatedly claimed to be purely morphological – i.e., of no syntactic relevance. Thus, Halle and Marantz (1993: 135) write:

> In many languages—for example, Spanish, Russian, Latin, Latvian—word stems must have a Theme suffix, which has no syntactic […] role […] It is natural to assume that such affixes are introduced by the rules that relate [S-Structure] to M[orphological] S[tructure]. By placing them in this part of the grammar, we account for their lack of effect in the syntax…

Similarly, Aronoff (1994: 46) says of Latin theme vowels that they have 'a use in the language, but that use is purely morphophonological' and that they are 'thus never referred to' by any syntactic rule. Likewise, Embick (2010: 75) assumes 'that Theme morphemes are, in general, "ornamental" pieces of morphology, items that are apparently relevant for morphological well-formedness, but not part of syntax' (see also Embick & Noyer 2007: Section 9.4.1, esp. 305–306, and Oltra-Massuet 2020: Section 2.1).

In view of such claims, it is unsurprising that theme vowels have been argued to be the realizations of nodes that are created postsyntactically (Halle & Marantz 1994; Oltra-Massuet 1999a,b; Embick 2000: 196 fn. 23, 2010: Section 3.1.2; Embick & Halle 2005; Oltra-Massuet & Arregi 2005; Calabrese 2015; Gribanova 2015; Pomino & Remberger 2022a,c, 2025; Grestenberger 2023; see also Pomino & Remberger 2019, 2022b; Dolatian 2022; and Dolatian & Guekguezian 2023). But a rival strand of work contends instead that theme vowels are, or are the realizations of, terminal nodes (or larger structures) that are present in the narrow syntax (Picallo 1991; Jabłońska 2004, 2007; Svenonius 2004a,b;

[1] A third (lexicalist) alternative will be briefly discussed, and argued against, in fn. 39. On Nanosyntax, see fn. 4.

[2] Relevant here is Marantz's (2019) remark that 'I believe the evidence for Impoverishment is strong, but I no longer adopt Fission and Fusion in my own work'. Likewise, a reviewer notes, citing Haugen and Siddiqi (2013, 2016), that, in Distributed Morphology, 'there are many attempts to reduce the postsyntactic machinery, close to completely abolish postsyntactic processes like *Fission*, *Fusion*, *Impoverishment*, *Pruning*, etc.'

https://doi.org/10.1017/S002222672610111X Published online by Cambridge University Press

Wiland 2009; Spyropoulos, Revithiadou & Panagiotidis 2015; Kayne 2018: Sections 14–15, 2019; Fábregas 2019, 2022; Taraldsen Medová & Wiland 2019; Bertocci & Pinzin 2020, 2021; Manzato 2023, q.v. for discussion of the debate and additional references; Storment 2025; see also Mateu 2017 and Myler 2025).[3]

This article will argue for the latter view, proceeding as follows. Section 2 introduces the narrow-syntactic phenomenon of lexical selection (L-selection), and uses it to formulate a diagnostic for the derivational origin of theme vowels: if a theme vowel is L-selected (to the exclusion of others) by a higher head, then it is the realization of a head present in the narrow syntax – but if not, the test is inconclusive. Section 3 presents evidence from Latin showing that, in fact, it is possible for a higher head to L-select one theme vowel to the exclusion of others. Section 4 develops an analysis of this phenomenon, couched in a version of Morphology as Syntax, that relies crucially on the premise that theme vowels are syntactic heads and can therefore be L-selected in a fine-grained way, just like Ps.[4]

Section 5 turns to the question of whether the relevant empirical observations could also be accounted for if theme vowels were taken to be the realizations of nodes created postsyntactically. To do this, it combines the analysis of Latin theme vowels given by Embick (2010: Section 3.1.2) with Embick's (2000: 188) principle of Feature Disjointness. It is shown that the analysis is unsuccessful. An attempt is then made to strengthen that analysis by dropping Feature Disjointness, thereby bringing it closer to Embick's (2010: Section 3.1.2) analysis. It is argued that, with the addition of one unconventional assumption, the analysis can be made to account for the relevant empirical observations – but only in a way that seriously undermines the conceptual rationale for postsyntactic theme-node creation and hence brings the postsyntactic analysis very close to being a notational variant of the syntactic analysis. (The supplementary material discusses and evaluates three additional alternative analyses.) Section 6 concludes the article by summarizing its main arguments and considering their broader implications for morphosyntactic theory and for our understanding of grammatical architecture.

2. L-selection as a diagnostic for the syntactic status of particular empirical phenomena

The main question about theme vowels that we want to answer, then – in order to come closer to settling the more overarching theoretical questions discussed above – is whether they are realizations of nodes (or larger structures) that are present in the narrow syntax or of nodes that are created postsyntactically. Those two analyses of the derivational origin of theme vowels will be referred to below for convenience as the Syntactic Analysis and the Postsyntactic Analysis, respectively. Crucially, the terms 'Syntactic' and 'Postsyntactic' in those names allude to the grammatical components in which the NODES (or larger hierarchical structures) are created that theme vowels realize. The question of whether the Syntactic or the Postsyntactic Analysis is superior is thus orthogonal to the question of

[3] See Calabrese (2019, 2023) and Calabrese and Petrosino (2023) for hybrid views, on which the nodes that theme vowels realize are created postsyntactically in some languages and in the narrow syntax in others.

[4] A reviewer asks about this article's stance toward Nanosyntax (Starke 2009, a.m.o.). Briefly put, that framework is not adopted here. Developing a nanosyntactic analysis of Latin theme vowels and comparing it with the analysis developed here would be highly worthwhile, but, for space reasons, that task must await another occasion.

https://doi.org/10.1017/S002222672610111X Published online by Cambridge University Press

whether PHONOLOGICAL CONTENT, including that of theme vowels, is inserted late, in the postsyntax (in keeping with work in Distributed Morphology) or early, during the narrow-syntactic derivation (Collins & Stabler 2016, Bruening 2019b, Kayne 2019–2020, Collins & Kayne 2023).

One phenomenon that can shed considerable light on whether the Syntactic or the Postsyntactic Analysis is preferable is L-selection (Pesetsky 1991: Section 1.3; Merchant 2019), exemplified below:

(1) a. We dislike the fact that Chelsea's strategy **depends** [$_{PP}$ **on** computer viruses from the ACME Corporation].
b. *We dislike the fact that Chelsea's strategy **depends**.
c. *We dislike the fact that Chelsea's strategy **depends** [$_{DP}$ computer viruses from the ACME Corporation].
d. *We dislike the fact that Chelsea's strategy **depends** [$_{PP}$ {of / from / in / to / at / for / with / toward / off / off of} computer viruses from the ACME Corporation].

In (1a), the verb *depend* takes an *on*-PP as its complement, and the result is acceptable. Example (1b) shows that the complement of *depend* (in this use) is obligatory: it cannot be omitted. Example (1c) shows that not just any complement will do: the complement of *depend* cannot be a nominal phrase. Crucially, (1d) shows that not even all PPs are acceptable as the complement of *depend.* Rather, *depend* imposes a much stricter requirement: its PP complement must be headed by *on* (compare (1d) with (1a)).[5]

L-selection is extremely local: for two lexical items X and Y, if X L-selects Y, then (a projection of) Y merges with (a projection of) X (see also Landau 2007: 488–489). Thus, the *on*-requirement imposed by *depend* cannot be met just anywhere in the structure. If *on* is to satisfy this requirement, it cannot appear too high, as in (2a) (which is unacceptable regardless of whether *depend* is given a structural complement or not). Likewise, *on* cannot appear too low (2b).

(2) a. *We dislike **on** the fact that Chelsea's strategy **depends** ([$_{DP}$ computer viruses from the ACME Corporation]).
b. *We dislike the fact that Chelsea's strategy **depends** [$_{DP}$ computer viruses [$_{PP}$ **on** the ACME Corporation]].

The strict locality of L-selection provides some of the strongest evidence that Internal Merge is involved in deriving structures like (3):

(3) We dislike the computer viruses from the ACME Corporation **on** which Chelsea's strategy **depends**.

For formal definitions of Merge aimed at accounting for the locality of selection, see Collins and Stabler (2016: 63–64), Merchant (2019: 326), and Zyman (2024, esp. Section 4; 2025b: 11, 36). L-selection is discussed further in Haegeman, Jiménez-Fernández and Radford (2014: 87), Brodkin (2021: Section 2.2), Zyman (2021: 515; 2022: Sections 6–7), Hewett (2023: 352, 2025), and Serova (2023: Section 3.1).

[5] The P can alternatively be *upon.*

https://doi.org/10.1017/S002222672610111X Published online by Cambridge University Press

L-selection is relevant here because it is a fundamentally syntactic phenomenon, a conclusion argued for by Merchant (2019: 332) and further argued for extensively by Zyman (2024: supporting information, esp. 5–8). That being so, L-selection makes available a diagnostic that can help us choose between the Syntactic and the Postsyntactic Analysis of theme vowels:

(4) *L-selection diagnostic for the derivational origin of theme vowels*
   a. If a theme vowel is L-selected (to the exclusion of others) by a higher head, then it is the realization of a head present in the narrow syntax, supporting the Syntactic Analysis.
   b. If a theme vowel is not L-selected (to the exclusion of others) by a higher head, then no firm conclusion can be drawn.[6]

Notably, what is crucial here is whether a higher head can L-select a particular theme vowel to the exclusion of others, not whether a theme vowel can L-select a lower head – in the most widely discussed cases, a root – to the exclusion of others. That is because what a defender of the Syntactic Analysis might analyze as L-selection by a theme vowel of a root could alternatively be analyzed by a defender of the Postsyntactic Analysis as postsyntactic contextual allomorphy – specifically, different roots differentially conditioning the realization of (postsyntactically created) Theme nodes (see the references cited for the Postsyntactic Analysis in the introduction).

With the diagnostic in (4) established, we can now proceed to consider an empirical phenomenon to which we can apply it.

3. The phenomenon: Latin synthetic causatives and their interactions with theme vowels

Almost all Latin verbs fall into a handful of conjugation classes, each associated with a particular theme vowel[7]:

(5) a. *First-conjugation verb: theme vowel* -ā
   am-**ā**-mus
   love-TH.I-1PL
   'we love'

[6] This is because such a result would be compatible with at least two explanations:

(i) a. Theme vowels are the realizations of nodes that are created postsyntactically and hence cannot be L-selected in the narrow syntax – i.e., the Postsyntactic Analysis is correct.
   b. Theme vowels are the realizations of nodes that are present in the narrow syntax but, for whatever reason, are not L-selected but merely c-selected (see Pesetsky 1991: Chapter 1).

Therefore, the diagnostic in (4) is unidirectional, like many syntactic diagnostics (including essentially all constituency tests and some argument/adjunct diagnostics).

[7] Examples follow the Leipzig Glossing Rules. Additions: DIM = diminutive; int. = intended interpretation; lit. = literal interpretation; TH.I/II/III/IV = first/second/third/fourth-conjugation theme vowel; TH.III(I) = theme vowel of the third conjugation (*-i*-stem subtype). Glosses omit irrelevant details for legibility.

https://doi.org/10.1017/S002222672610111X Published online by Cambridge University Press

b. *Second-conjugation verb: theme vowel* -ē
doc-**ē**-mus
teach-TH.II-1PL
'we teach'

c. *Third-conjugation verb: theme vowel* -i
leg-**i**-mus
read-TH.III-1PL
'we read'

d. *Third-conjugation verb, -i-stem subtype: theme vowel* -i
cap-**i**-mus
seize-TH.III(I)-1PL
'we seize'

e. *Fourth-conjugation verb: theme vowel* -ī
dorm-**ī**-mus
sleep-TH.IV-1PL
'we sleep'[8]

The first-, second-, and fourth-conjugation theme vowels – *-ā*, *-ē*, and *-ī* – shorten to *-a*, *-e*, and *-i*, respectively, under phonologically predictable circumstances.

With (5) established, we can now turn to the main phenomenon of interest: synthetic causatives formed with the root *fac-* 'make'. The term 'synthetic' here is used in a traditional and purely impressionistic and descriptive sense, alluding to the fact that the causative verbal structures in question have each traditionally been considered one 'word' – but no commitment is intended to the hypothesis that there is any such thing as a syntactic (or, for that matter, a morphological) 'word'. (See Svenonius 2018: Section 1 for an overview of various theoretical positions on 'wordhood'.)

The phenomenon of synthetic causatives with *fac-* 'make' – henceforth '*fac-* causatives' – is illustrated in (6)–(7). Example (6) shows that *calēre* 'be warm' is a second-conjugation verb, and accordingly features the theme vowel *-ē*. Example (7) shows that from *cal-ē* 'be.warm-TH.II' (a subpart of (6)) can be derived the *fac-* causative *calefacere* 'warm [something]'.[9]

[8] Embick (2010: 76) posits that the theme vowel of (5c)-type verbs is an *-i* (a 'barred i') distinct from the *-i* characterizing (5d)-type verbs. And a reviewer notes that the third conjugation is sometimes called 'consonantal', and, on some approaches, the vowel of interest in some forms of third-conjugation verbs is analyzed as not actually a theme vowel (see Pomino & Remberger 2022a: 4, 2025: 11 for discussion). Neither of these analytic differences will be directly relevant here.

[9] Examples are morphologically segmented following Zyman and Kalivoda (2020) (see especially their appendix). This article will adopt the traditional view that the only theme vowels in Latin verbs are those shown in (5), though it will ultimately develop a Morphology as Syntax–style analysis on which the notion 'theme vowel' is not a primitive one.

On Calabrese's (2019) analysis, there are many more theme vowels in Latin verbs – e.g., in *amā**bā**tur* 'he/she/it was loved', not only the linearly earlier but also the linearly later *-ā* is a theme vowel (p. 417), and in *laudā**vi**ss-*∅*-**ē**mus* '[if] we had praised', not only *-ā* but also the other three boldfaced elements, including *-*∅, are theme vowels (p. 386). This view is not adopted here because it seems to me that the author does not really argue for it. See Zyman and Kalivoda (2020: appendix, esp. fnn. 1–2) for detailed comparisons between Calabrese's morphological decompositions and those adopted here.

Of the length alternation between the boldfaced second-conjugation theme vowel *-ē* in (6) and its counterpart *-e* in (7), Hahn (1947: 301) writes that 'when the preceding syllable is short', *-ē* 'is regularly changed to *ĕ* by the action of the iambic law', and that this happens in *cal**e**facere* 'warm [something]' but not in *ārē**fa**cere* 'dry [something] up'

https://doi.org/10.1017/S002222672610111X Published online by Cambridge University Press

(6) cal-**ē**-r-e
be.warm-TH.II-PRS.INF-ACT
'be warm'

(7) cal-**e-fac**-e-r-e
be.warm-TH.II-make-TH.III(I)-PRS.INF-ACT
'warm [something]'

Particularly relevant for us is the empirical generalization – argued for meticulously by Hahn (1947) – that there is a strong link between being a second-conjugation verb (with theme vowel *-ē*) and being able to form a *fac-* causative. This generalization emerges clearly from the literature on (or mentioning) *fac-* causatives taken as a whole: Corssen (1870: 514), Paucker (1872: 50 fn. 46), Schmidt (1883: 397), Lindsay (1894: 490), Skutsch (1901, 1914, esp. Chapters 30, 37), Sonnenburg (1901), Stowasser (1901), Sommer (1902: 102–103; 1914: 144–145), Güntert (1917: 19–24), Kretschmer (1929: 53–56), Meillet and Vendryes (1968: Section 435), Fruyt (2001; 2005: 238 fn. 7), Brucale (2012, esp. 113), and Brucale and Mocciaro (2016: 282–283), among other works; see in particular Gradenwitz (1904: 370–371 and also 372). To begin to see this, consider (8): in every subexample, the (pre-*r* 'stem' of the) second-conjugation verb on the left-hand side of the arrow forms the *fac-* causative on the right-hand side.[10]

(8) a. ārēre 'be dry' → āre**fac**ere 'dry [something] up'
b. calēre 'be warm' → cale**fac**ere 'warm [something]' (= (6)–(7))
c. candēre 'be dazzling, shine' → cande**fac**ere 'make dazzlingly white; make [something] glow'
d. fervēre 'boil' → ferve**fac**ere 'boil [something]'
e. frīgēre 'be cold' → frīge**fac**ere 'make [something] cold'
f. ignēre 'be on fire' → igne**fac**ere 'set on fire'
g. languēre 'be faint, languid' → langue**fac**ere 'make [someone] feel faint, languid'
h. liquēre 'be fluid, liquid' → lique**fac**ere 'make [something] liquid'
i. macēre 'be lean, meager' → mace**fac**ere 'make [something] wither away'
j. madēre 'be wet, moist' → made**fac**ere 'wet [something], moisten'
k. mollēre 'be soft' → molle**fac**ere 'soften [something]'
l. nigrēre 'be black' → nigre**fac**ere 'blacken [something]'

---

or *fervēfacere* 'boil [something]'. See Hahn (1947: 301–302) on exceptions, variation, and the (un)reliability of dictionaries on this point. In view of this complexity, the present article will follow Hahn (1947: 302) in not marking length on the theme vowel *-ē/-e* when it immediately precedes *fac-* 'make' (or forms thereof).

Incidentally, the element immediately FOLLOWING *fac-* in (7) is the theme vowel of the third conjugation (*-i-*stem subtype), which surfaces as *-e* rather than *-i* when immediately preceding *-r*.

[10] The data in (8) are due to Hahn (1947: 303–304), except (8i) and (8r): the *fac-* causatives in those subexamples were extracted from the *Thesaurus Linguae Latinae* (1900–) (*TLL*). The data from the former source are slightly adapted in a few ways. First, vowel length is marked (modulo the consideration mentioned in fn. 9). Secondly, some translations are slightly tweaked or given in more detail. Third, although Hahn cites almost every verb in its first-person singular present indicative active form (the traditional citation form for Latin verbs), they are all cited in their present active infinitive forms here. (Hahn cites some *fac-* causatives in their first-person singular present indicative PASSIVE forms, or in their perfect passive participle forms, on the grounds that active forms of these verbs are not attested. However, the verbs of this sort given in (8) ARE attested – either in naturally occurring text or, at least, in lexicons – so (8) gives every verb in its present active infinitive form, for consistency. See Hahn 1947 for discussion.)

https://doi.org/10.1017/S002222672610111X Published online by Cambridge University Press

m. nitēre ‘gleam’ → nit**e**facere ‘make [something] gleam’
n. olēre ‘smell, emit a smell’ → ol(**e**)facere ‘smell [something]’ (once: ‘cause to emit a smell’)[11]
o. pallēre ‘be pale’ → pall**e**facere ‘make pale’
p. patēre ‘be open’ → pat**e**facere ‘open [something]’
q. pavēre ‘be terrified’ → pav**e**facere ‘terrify’
r. pigrēre ‘be slow, sluggish’ → pigr**e**facere ‘make sluggish, immobile’
s. pudēre ‘be ashamed’ (though usually ‘make ashamed’) → pud**e**facere ‘make [someone] feel ashamed’
t. pūtēre ‘stink; be rotten’ → pūt**e**facere ‘make [something] stink, rot’
u. putrēre ‘be rotten’ → putr**e**facere ‘make [something] rot’
v. rigēre ‘be stiff’ → rig**e**facere ‘make [something] stiff’
w. rubēre ‘be red’ → rub**e**facere ‘redden [something]’
x. squālēre ‘be stiff, rough, squalid’ → squāl**e**facere ‘make [something] squalid’
y. stupēre ‘be stunned’ → stup**e**facere ‘stun, benumb, render senseless’
z. tābēre ‘waste away, melt’ → tāb**e**facere ‘melt, dissolve [something]’
aa. tepēre ‘be lukewarm’ → tep**e**facere ‘make [something] lukewarm’
ab. timēre ‘be afraid’ → tim**e**facere ‘scare’
ac. torpēre ‘be numb, torpid’ → torp**e**facere ‘benumb, make torpid’
ad. tumēre ‘be swollen’ → tum**e**facere ‘make [something] swell up’
ae. turgēre ‘be swollen, inflated’ → turg**e**facere ‘make [something] swell up’
af. ūmēre ‘be wet, moist’ → ūm**e**facere ‘wet [something], moisten’

In fact, (8) considerably understates the productivity of the pattern, since it excludes verbs formed with P-like prefixes (see Hahn 1947: 303–304).

The generalization that there is a tight link between being a second-conjugation verb and being able to form a *fac-* causative is further strengthened by the additional examples of the *-ēre → -efacere* pattern in (9), which are adapted from Hahn (1947: 306). Hahn notes (see also Brucale 2012: 113; Brucale & Mocciaro 2016: 283) that the verbs on the right-hand side of the arrow in (9) have the intriguing characteristic that the *fac-* within them ‘does not render them causative, or, indeed, alter their meaning in any way, so far as can be judged’ (on non-valency-increasing causatives, see Tyler 2023). Naturally, this attribute of the *fac-* verbs in (9) does not at all undermine the claim that (9a–h) provide further evidence of the productivity of the *-ēre → -efacere* pattern.

(9) a. abolēre ‘destroy’ → abol**e**facere ‘destroy’[12]
b. adolēre ‘magnify; burn’ → adol**e**facere ‘magnify; burn’
c. allicēre ‘attract’ → allic**e**facere ‘allure’
d. cavēre ‘beware’ → cav**e**facere ‘take care of; beware of’
e. condocēre ‘instruct’ → condoc**e**facere ‘instruct’

[11] See Hahn (1947: 305).

The theme vowel *-e* immediately preceding *fac-* in this causative verb typically does not surface overtly, for some reason.

[12] The (pre-theme-vowel) ‘stems’ of the verbs in (9) – except those in (9d) and (9h) – are complex, consisting of a P-like prefix and a root: *abol-* ‘destroy’ = *ab-* ‘away from’ + *ol-* ‘increase, grow’; *adol-* ‘magnify; burn’ = *ad-* ‘toward’ + *ol-* ‘increase, grow’; *allic-* ‘attract’ = *ad-* ‘toward’ + *lac-* ‘entice, allure’; *condoc-* ‘instruct’ = *con-*/*com-* ‘thoroughly’ + *doc-* ‘teach’; *common-* ‘remind’ = *con-*/*com-* ‘thoroughly’ + *mon-* ‘warn, advise’; *perterr-* ‘terrify’ = *per-* ‘thoroughly’ + *terr-* ‘scare’.

https://doi.org/10.1017/S002222672610111X Published online by Cambridge University Press

f. commonē**re** 'remind' → commone**facere** 'remind'
g. perterrē**re** 'terrify' → perterre**facere** 'terrify'
h. torrē**re** 'parch' → torre**facere** 'parch'

We see, then, that a great many verbs with *-ē* as their theme vowel form *fac-* causatives. This generalization could be accounted for in a simple and straightforward manner by positing that *fac-* L-selects *-ē*.[13] However, in order to show that *fac-* truly L-SELECTS *-ē*, as opposed to c-selecting theme vowels in general, we must show that *fac-* cannot immediately follow theme vowels other than *-ē*/*-e*.

For the first-conjugation theme vowel, *-ā*, this is straightforwardly surface-true: there are no Latin verbs of the form in (10) (where 'V' stands for a verbal 'stem', descriptively speaking, which could consist of a simplex root or be internally complex). There are also no verbs of the form in (11), which speaks strongly against the possibility that *fac-* CAN immediately follow the first-conjugation theme vowel but the latter must shorten in that circumstance (for whatever reason).[14]

(10) [*]V-**ā**-**fac**-e-r-e
V-TH.I-make-TH.III(I)-PRS.INF-ACT
int. 'make [someone/something] V'

(11) [*]V-**a**-**fac**-e-r-e
V-TH.I-make-TH.III(I)-PRS.INF-ACT
int. 'make [someone/something] V'

What is more, verbs instantiating such structures are, in my (admittedly nonnative) judgment, unacceptable: contrast the attested example in (12) with the unacceptable constructed example in (13).[15] (The symbol '[C]' means 'constructed'.)

(12) postquam mūt-**ā**-ba-t aestus
after change-TH.I-IMPF.IND-3SG tide.NOM
'when the tide began to change' (Tacitus, *Annals* 2.23)

(13) [*]postquam lūna mūt-{**ā**/**a**}-**fac**-iē-ba-t aestum [C]
after moon.NOM change-TH.I-make-TH.III(I)-IMPF.IND-3SG tide.ACC
int. 'when the moon began to make the tide change'[16]

[13] As one of its L-selectional options. On the empirical necessity of disjunctive selection, see Bruening (2019a: 2–3) and Merchant (2019: Section 2.1); see Zyman (2022: Section 7) for related discussion.

[14] These nonexistence claims are based on 1) examination of Hahn (1947) and, more importantly, 2) searches for '*afacio' in *TLL* and the online version of Lewis and Short (1879). Likewise, mutatis mutandis, for the nonexistence claims in (14)–(15).

The *OED* (s.v. *counterfeit*) gives a verb *contrāfacere* 'make in opposition or contrast, make in imitation' (see also *TLL* s.v. *contrāfaciō*). This verb does not counterexemplify the generalization in (10), because *contrā* 'against' here is a P(-like prefix).

[15] The occasional, judicious use of nonnative Latin judgments by researchers who have studied Latin for many years, as an imperfect proxy for native-speaker judgments, is quite standard in the Latin syntax literature (Pillinger 1980; Devine & Stephens 2006: 209, 559; Danckaert 2017a: 38–41; Bertocci & Pinzin 2020: 28, 30–31, 44; Zyman & Kalivoda 2020: 16 fn. 20, 25, a.m.o.). For arguments that this practice is sound, see Pillinger (1980: Section 2), Pfister (1983), Miller (1993: xviii), and references cited there. Any readers who remain skeptical can simply disregard the few starred constructed examples: the unattestedness claims, at least – e.g., (10) – should be uncontroversial.

[16] For concreteness, *-iē* is analyzed here as a contextual allomorph of the theme vowel of the third conjugation, *-i-*stem subtype, namely *-i* (cf. *fac-**iē**-bat* 'he/she/it was making'). Nothing will hinge on this.

https://doi.org/10.1017/S002222672610111X Published online by Cambridge University Press

Turning to the fourth-conjugation theme vowel, *-ī*, there are also no verbs in which this theme vowel immediately precedes *fac-*, i.e., no verbs of the following form:

(14) [*]V-**ī-fac**-e-r-e
V-TH.IV-make-TH.III(I)-PRS.INF-ACT
int. 'make [someone/something] V'

There are some verbs of the form *X-**i**-facere* (or *X-**i**-fierī*: *fierī* is the passive of *facere*), in which the 'make'-element, *fac-/fī-*, is immediately preceded by a short *-i* (Hahn 1947: 301 fn. 1; see also Gradenwitz 1904: 371–372). In all these verbs, however, X is nonverbal: *aedificere* 'build' (cf. *aedēs* 'house'); *compendifacere* 'shorten, abridge' (cf. *compendium* 'savings, profit'); *floccifacere* 'consider unimportant, care nothing for' (cf. *floccus* 'lock of wool, trifle'); *levifacere* 'consider worthless, make light of, pay little attention to' (cf. *levis* 'light, unimportant'); *lucrifacere* 'gain (as profit)' (cf. *lucrum* 'profit'); *lūdifacere* 'make a game of, make fun of' (cf. *lūdus* 'game, play'); *magnifacere* 'make much of, think much of' (cf. *magnus* 'big'); *multifacere* 'make much of, esteem highly' (cf. *multus* 'a lot'); *parvifacere* 'make light of, despise' (cf. *parvus* 'small'); *sūm(p)tifacere* 'lay out, spend, expend' (cf. *sūm(p)tus* 'expense'); *turpifacere* ('do dirty/nasty things', according to Forcellini 1875: 218 and Commelerán y Gómez 1907: 1434; cf. *turpis* 'ugly, shameful').[17]

Since the X in these *X-**i**-facere* verbs is nonverbal, the *-i* immediately following it is not a verbal theme vowel. More specifically, it is not a shortened version of the fourth-conjugation theme vowel *-ī*, nor is it the theme vowel of the third conjugation ('plain' subtype or *-i*-stem subtype).[18] Therefore – contrary, perhaps, to initial appearances – there are no verbs with the following structure:

(15) [*]V-**i-fac**-e-r-e
V-TH.III/III(I)/IV-make-TH.III(I)-PRS.INF-ACT
int. 'make [someone/something] V'

Recapitulating (14)–(15): there are no *fac-* causatives in which *fac-* is immediately preceded by the theme vowel of the fourth conjugation or of the third conjugation ('plain' subtype or *-i*-stem subtype). Here too, verbs instantiating these structures are, in my (admittedly nonnative) judgment, unacceptable: contrast the attested (a)-examples in (16)–(18) with the unacceptable constructed expressions in the corresponding (b)-examples.

[17] *TLL* also gives *rārifaciō* 'I make [something] thin or rare, rarefy [it]' (cf. *rārus* 'rare') as a late variant of *rārefaciō*, and *manifaciō* 'I make [something] by hand' (cf. *manus* 'hand') as a variant of *manūfaciō*. In these two *-i-fac-* verbs too, the element immediately preceding *-i* is nonverbal. Hahn (1947: 301 fn. 1) additionally mentions *linifio* (vowel lengths temporarily suppressed), which is given by Gradenwitz (1904: 372), and which she describes as 'wholly unknown to me'. As it happens, this is not a compound of *fīō* 'I'm made, I become' (the passive of *faciō* 'I make', with a long *ī*) but rather a noun *līnifiō*/*līnyphiō* 'linen-weaver', with a short penultimate vowel (Lewis & Short 1879 s.v. *līnyphus*). *Līnifiō* therefore does not provide an example of *fac-/fī-* L-selecting a theme vowel other than *-ē*.

[18] Rather, as a reviewer notes, it is probably a linking morpheme of some sort, roughly comparable to the linking morphemes in some German compounds. By the general logic of Morphology as Syntax, this *-i* is expected to be a syntactically independent head, a hypothesis that would be well worth testing in the future.

https://doi.org/10.1017/S002222672610111X Published online by Cambridge University Press

(16) *Fourth-conjugation verbs do not form* fac- *causatives*

a. aquam … bull-**ī**-r-e et ēlīdī
water.ACC bubble-TH.IV-PRS.INF-ACT and to.be.forced.out
'that the water … bubbled and was forced out'[19]
(Seneca the Younger, *Natural Questions* 6.31.3)

b. [*]terrae mōtum aquam bull-{**ī**/**i**}-**fac**-e-r-e
earth.GEN movement.ACC water.ACC bubble-TH.IV-make-TH.III(I)-PRS.INF-ACT
et ēlīdere [C]
and to.force.out
int. 'that the earthquake made the water bubble and forced it out'

(17) *Third-conjugation verbs (plain subtype) do not form* fac- *causatives*

a. Hasdrubal … ad Ōceanum flect-**i**-t…
Hasdrubal.NOM to ocean.ACC turn-TH.III-3SG
'Hasdrubal veered (lit. 'veers') toward the ocean…'
(Livy, *Ab Urbe Condita* 28.16.3)

b. [*]Hostēs Hasdrubalem ad Ōceanum flect-**i**-**fac**-i-unt… [C]
enemy.NOM Hasdrubal.ACC to ocean.ACC turn-TH.III-make-TH.III(I)-3PL
int. 'The enemy made (lit. 'make') Hasdrubal veer toward the ocean…'

(18) *Third-conjugation verbs (-*i*-stem subtype) do not form* fac- *causatives*

a. cum=que eī … fug-**i**-unt
when=and they.NOM flee-TH.III(I)-3PL
'and when they … take to their heels' (Cicero, *Philippics* 1.15.37)

b. [*]cum=que (ego) eōs fug-**i**-**fac**-i-ō [C]
when=and (I.NOM) them.ACC flee-TH.III(I)-make-TH.III(I)-1SG
int. 'and when I make them take to their heels'

3.1. Interim summary

Surveying the landscape of *fac-* causatives, then, we find:

(19) a. …many in which *fac-* is immediately preceded by the second-conjugation theme vowel (*-ē*/*-e*).
b. …none in which *fac-* is immediately preceded by the first-conjugation theme vowel (*-ā*/*-a*).
c. …none in which *fac-* is immediately preceded by the fourth-conjugation theme vowel (*-ī*/*-i*).
d. …none in which *fac-* is immediately preceded by the third-conjugation theme vowel (*-i*).[20]

[19] This is an infinitival clause with an accusative subject.
Some attested examples are innocuously simplified for ease of exposition; omissions of inessential material are marked by '…'.

[20] This generalization covers the theme vowel of each of the two subtypes of third-conjugation verbs (plain and *-i*-stem).

https://doi.org/10.1017/S002222672610111X Published online by Cambridge University Press

There is, then, a strong prima facie case that *fac-* does indeed L-select *-ē* (qua structurally lower element) to the exclusion of the other theme vowels. If this is correct, then theme vowels must be present in the syntax, since L-selection is a fundamentally syntactic phenomenon (see Section 2) – i.e., the Syntactic Analysis of theme vowels is to be preferred to the Postsyntactic Analysis.

But in order to be able to adjudicate confidently between the Syntactic and the Postsyntactic Analysis, we need to build each of them up explicitly so that we can see how successfully each of them accounts for the generalizations in (19). In particular, we must determine whether the Postsyntactic Analysis can account for them in terms of some mechanism other than L-selection, and thus remain a viable alternative to the Syntactic Analysis.[21]

4. Developing the Syntactic Analysis

We will begin by developing the Syntactic Analysis explicitly and in detail. Because the Syntactic Analysis relies crucially on the assumption that theme vowels are present in the syntax, fleshing it out will require us to have a clear idea of what the clause structure of Latin is.

4.1. A brief primer on Latin clause structure

A great deal of work has converged on the conclusion that the derivation of an ordinary clause in Latin involves movement of a relatively large (phrasal) verbal category to a fairly high specifier position (Bailey 2010; Danckaert 2012, 2014, 2017a,b; Gianollo 2016; for discussion of such derivations crosslinguistically, see many of the papers in Carnie & Guilfoyle 2000 and Carnie, Harley & Dooley 2005). The present article will adopt the version of this analysis put forth by Zyman and Kalivoda (2020) (henceforth Z&K) and further developed by Zyman (2025a), to which we now turn.

Consider the following verb form:

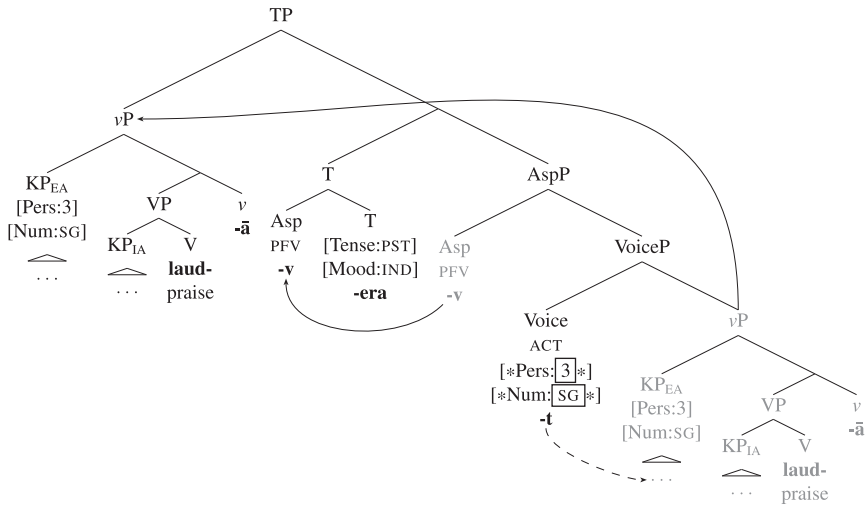
(20) laud-ā-v-era-t
praise-TH.I-PFV-PST-3SG
'he/she/it had praised' (adapted from Z&K: 6)

[21] As just discussed, the *fac-* in a *fac-* causative cannot be immediately preceded by any theme vowel other than second-conjugation *-ē/-e* (19). Intriguingly, there are a few *fac-* causatives formed from the roots of non-second-conjugation verbs – but in these *fac-* causatives, crucially, the theme vowel surfacing between the root and *fac-* is not the one that that root usually cooccurs with but rather *-ē/-e*. Three examples follow: 1) *lab-**ā**-re* 'totter' (first conjugation) → *lab-**e**-facere* 'cause to totter'; 2) *trem-**e**-re* 'tremble' (third conjugation, plain subtype – e.g., *trem**i**mus* 'we tremble') → *trem-**e**-facere* 'cause to tremble'; 3) *quat-**e**-re* 'shake [something]' (third conjugation, *-i-*stem subtype – e.g., *quat**i**mus* 'we shake [something]') → *quat-**e**-facere* 'shake [something]'. For more examples, see Hahn (1947: 307–314 esp. Tables B–C). These verbs raise interesting questions – in particular, how it is possible, in synchronic morphosyntactic terms, for their (innermost) roots to cooccur not with their usual theme vowels but rather with this *-ē/-e* that *fac-* requires so strongly. (The first-conjugation theme vowel *-ā/-a* and the third-conjugation theme vowel *-i* could not be changed to *-ē/-e*, when immediately preceding *fac-*, by the regular phonology.) These questions, though intriguing, are set aside here: since the types of verbs discussed in this footnote do not at all counterexemplify the generalizations in (19), they are not directly relevant to our present goal – namely, to use the L-selection diagnostic in (4) to choose between the Syntactic and the Postsyntactic Analysis of theme vowels.

https://doi.org/10.1017/S002222672610111X Published online by Cambridge University Press

On the analysis adopted here, (20) is derived as in (21). (The nominals are analyzed as K(ase) P(hrase)s; see Lamontagne & Travis 1987; Bittner & Hale 1996; and Norris 2021 and 2022: Section 2.3, a.m.o. *EA* and *IA* stand for 'external argument' and 'internal argument'.)

(21) *Derivation of* laudāverat *'he/she/it had praised'* (adapted from Z&K: 6[22])



In (21), Voice bears two unvalued probe features: a Person feature and a Number feature. (Following Heck & Müller 2007, unvalued probe features are notated [∗F:□∗], and probe features that have successfully probed for a value are notated [∗F : VAL ∗].) Voice values these two features by entering into an Agree relation (dotted arrow) with the structurally most prominent nominal within its c-command domain. Finally, two further operations are crucially involved in giving rise to the constituent/morpheme order observed: 1) Asp undergoes head movement to T, and 2) *v*P moves to [Spec,TP].[23]

Before proceeding, let us see how one more verb form is derived:

(22) laud-**ē**-t-**ur**
praise-PRS.SBJV-3SG-PASS
'(that) he/she/it may be praised' (adapted from Z&K: 8)

In (22), the passive Voice morpheme *-ur* occurs farther away from the root than does the element *-ē*, a portmanteau exponing present tense and subjunctive mood – even though Voice is crosslinguistically lower syntactically than Tense(/Mood). The form in

[22] The head of the complement of *v* is dubbed 'V' by Z&K (p. 2 fn. 2) but treated as a categoryless root (Marantz 1997, a.m.o.) by Zyman (2025a: 327 fn. 19). 'V' is used here; nothing will hinge on this.

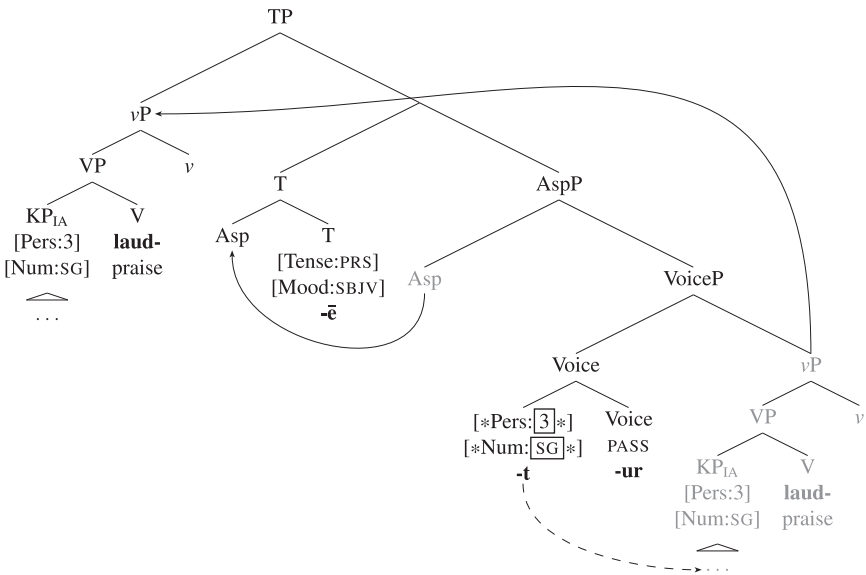
[23] In (21), the VP, containing the internal argument, is sister to *v*, following Chomsky (1995: 331, (146)), Merchant (2013), and Collins (2024: Chapter 8), among others. Z&K (p. 20 fn. 12) write, 'we assume that VP is linearized to the left of *v*, since this derives the default SOV order without further ado […] V might undergo string-vacuous head movement to *v*, but, lacking evidence for this, we assume it does not'. Those assumptions are adopted here as well.

https://doi.org/10.1017/S002222672610111X Published online by Cambridge University Press

(22) therefore appears – along with many other passive verb forms in Latin – to violate Baker's (1985: 375) Mirror Generalization (Cinque 1999: 197, citing Calabrese 1985; Embick 2000: 196–199; Baker 2014: 8–9; Calabrese 2019: Section 3.4.4.2).

On the present analysis, however, the derivation of (22) is virtually identical to that of (20):

(23) *Derivation of* laudētur *'(that) he/she/it may be praised'* (adapted from Z&K: 9)



This derivation has the same three main steps as the one in (21): 1) the unvalued *φ*-features of Voice are valued under Agree[24]; 2) Asp undergoes head movement to T (the former happens to be silent in this form); and 3) *v*P moves to [Spec,TP].[25]

Z&K argue that this type of derivation – whose most crucial components are Asp-to-T head movement and *v*P-movement to [Spec,TP]; see their pp. 7–8 for discussion – successfully accounts for the morpheme order in all Latin finite verb forms, and extends straightforwardly to nonfinite and even nonverbal forms, regardless of whether they obey the Mirror Generalization (like *laud-ā-**v**-**era**-t* 'he/she/it had praised' in (20)) or superficially appear to

[24] Since the third-person singular *φ*-features and passive Voice proper have separate (but adjacent) exponents in this form – *-t* and *-ur*, respectively – Z&K (see esp. pp. 7, 9) posit that $\text{Voice}_{\text{PASS}}$ undergoes postsyntactic Fission when it ends up bearing certain combinations of features. (The result of Fission is shown anticipatorily in (23).) In positing Fission, Z&K's analysis departs from the Morphology as Syntax 'ideal', though it is otherwise very much in keeping with a version of Morphology as Syntax. As alluded to by Zyman (2025a: 328 fn. 21), it may be possible to eliminate the Fission component of Z&K's analysis by positing that the unvalued Person and Number probes are actually on an Agr head just above Voice – as Lemon (2024) argues they are in Uab Meto. Although this move would be theoretically attractive and, as mentioned, would receive independent crosslinguistic support, the issue is set aside here as not directly relevant for present purposes.

[25] In (22)/(23), *v* is not realized as the first-conjugation theme vowel *-ā*/*-a*; in fact, it does not surface overtly at all. The first-conjugation theme vowel – unlike those of the second and fourth conjugations, and the third (*-i*-stem subtype) – never surfaces overtly when it would immediately precede another vowel. Whether this is a phonological effect or the result of contextual allomorphy (regulated by the mechanisms described in Z&K: Sections 3.4, 4.3) will not be directly relevant here.

https://doi.org/10.1017/S002222672610111X Published online by Cambridge University Press

violate it, like the form in (22)/(23). See Z&K (appendix) on how the analysis generates all these forms; Z&K (Section 5) for several bodies of independent syntactic evidence for the analysis; and Zyman (2025a: Section 4.1) for further discussion of the analysis.

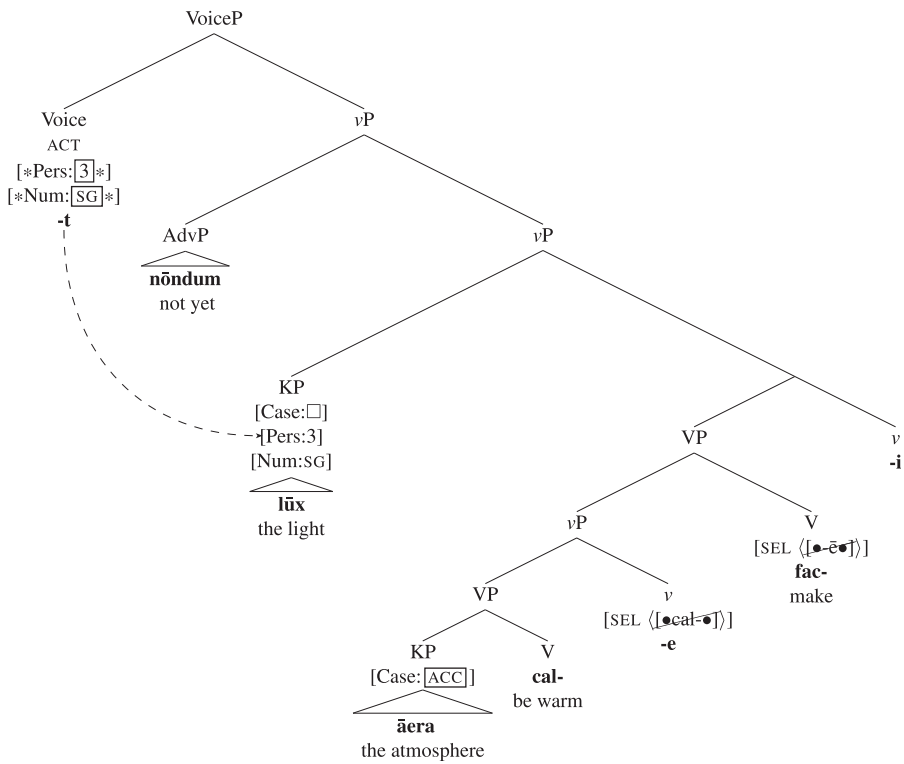
4.2. The Syntactic Analysis of theme vowels and their interactions with fac- *causatives*

With those basics of Latin clause structure established, we can now develop in detail the Syntactic Analysis of theme vowels and how they interact with other subconstituents of *fac*-causatives. Consider (24):

(24) …lūx nōndum āera cal-**e**-**fac**-i-t…
light.NOM not.yet atmosphere.ACC be.warm-TH.II-make-TH.III(I)-3SG
'…the light … does not yet make the atmosphere warm…'
(Seneca the Younger, *Natural Questions* 5.9.3)

On the Syntactic Analysis, (24) is derived as follows. First, the structure in (25) is built:

(25) *Derivation of (24), part 1*



https://doi.org/10.1017/S002222672610111X Published online by Cambridge University Press

In (25), the V *cal-* 'be warm' takes as its complement the KP *āera* 'the atmosphere', forming a VP. This VP in turn serves as the complement of the second-conjugation theme vowel *-ē/-e*, which is crucially a syntactically present head (the central claim of the Syntactic Analysis), here taken to be a *v* head.[26] The reason that the *v* head *-ē/-e* is able to externally merge with [$_{VP}$ *āera cal-*] 'the atmosphere be warm' is that the former L-selects the head of the latter. (More precisely, *-ē/-e* L-selects disjunctively: it must externally merge with [a constituent headed by] ONE of the Vs that it L-selects. These include not only *cal-* 'be warm' but also *doc-* 'teach', *mon-* 'warn', and many others. For legibility's sake, the disjunctive nature of *-ē/-e*'s L-selectional requirements is not shown in (25); disjunctive selection is discussed further in the works cited in fn. 13. To be a second-conjugation V, then, just is to be a V that is L-selected by *-ē/-e.*) Following Heck and Müller (2007), selectional features – i.e., features that trigger (External or Internal) Merge – are notated as bullet features [•F•]. Satisfied selectional features are struck through: [~~•F•~~]. For much more explicit and formally rigorous discussion of the satisfaction of selectional features, see Zyman (2024, esp. Section 4; 2025b, esp. Sections 3–4 and appendix).

The next step in the derivation is the most important for present purposes: the constituent headed by *-ē/-e*, [$_{vP}$ *āera cale-*] 'the atmosphere be warm', merges with the V *fac-* 'make' and becomes its complement (building in part on an idea from Corssen 1870: 514). This application of External Merge, just like the previous one discussed, is triggered/licensed by an L-selectional requirement: *fac-* 'make' L-selects *-ē/-e*,[27] so it is able to merge with a constituent headed by *-ē/-e.* Crucially, *fac-* does not L-select any other theme vowel – first-conjugation *-ā/-a*, fourth-conjugation *-ī/-i*, or the *-i* that is the theme vowel of both subtypes of third-conjugation verbs (19) – so it cannot merge with a *v*P headed by any of those.

The syntactic operations that build the rest of the structure in (25) are routine. The constituent [$_{VP}$ *āera calefac-*] 'make the atmosphere warm' merges as the complement of the third-conjugation (*-i*-stem subtype) theme vowel *-i* – also taken here to be a *v* head – and the external-argument KP *lūx* 'the light' merges in as the specifier of this *v.*[28] The adverbial *nōndum* 'not yet' adjoins to *v*P. Finally, Voice merges in and values its unvalued Person and Number features under Agree, as usual.

[26] This last analytic move is discussed further, and arguments against it are addressed, in the second-to-last paragraph of this section.

[27] As one of its selectional possibilities. *Fac-* 'make' also selects disjunctively (see fn. 13), irrelevantly for present purposes.

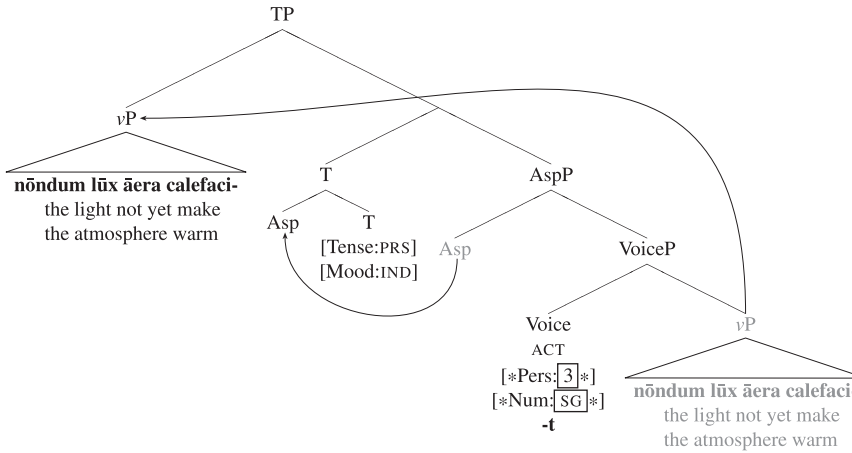
[28] All applications of (External and Internal) Merge are taken here to be triggered by bullet features [•F•], following Heck and Müller (2007) and, in essence, Collins and Stabler (2016); for more references, see Hewett (2023: 174), Müller (2023: 14 fn. 10), and Zyman (2024: supporting information). Bullet features (and other features) that are not central to the analysis are, however, suppressed from the trees for legibility.

The question of how case is assigned/licensed is set aside here as not directly relevant for present purposes.

https://doi.org/10.1017/S002222672610111X Published online by Cambridge University Press

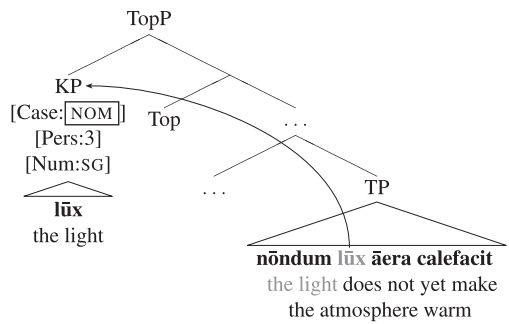
The derivation continues as follows:

(26) *Derivation of (24), part 2*



In (26), Asp undergoes head movement to T, and *v*P moves to [Spec,TP], as usual. The final portion of the derivation then unfolds as follows:

(27) *Derivation of (24), part 3*



In (27), [$_{KP}$ *lūx*] 'the light' is topicalized, yielding the constituent order observed in the example at hand (24).[29] Topicalization is taken here for concreteness to involve movement to the specifier of a left-peripheral Top(ic) head, à la Rizzi (1997: 286) and, for Latin, Devine and Stephens (2006: 25–26, 28), Danckaert (2012), and Z&K (Section 5.1.1), but that is not crucial: essentially any approach to topicalization would be compatible with the overall analysis developed here.

Before we conclude this section, a few brief remarks are in order about the categorial feature of the syntactic node that a theme vowel realizes, on the analysis just developed. Such

[29] That *lūx* 'the light' occupies a left-peripheral position in (24) is strongly suggested by the fact that, in the attested example from which (24) is simplified, it immediately precedes the left-peripheral particle *enim* 'for, because'.

Lūx 'the light' in (27) moves from within *v*P, which has itself moved to [Spec,TP]; for detailed arguments that this is unproblematic, see Z&K (p. 28 fn. 34), Zyman (2025a: 332–333 fn. 26), and works cited in the latter.

https://doi.org/10.1017/S002222672610111X Published online by Cambridge University Press

nodes were taken above to be *v* nodes. This idea – along with the Syntactic Analysis more generally – is sometimes objected to (Oltra-Massuet 1999a: Section 3.3, 1999b: Section 3.3; Pomino & Remberger 2022a: 3 fn. 3; see Z&K: 8 fn. 12 and Bertocci & Pinzin 2021: 19–20 fn. 12 for references and discussion) on the grounds that theme vowels in Latin can cooccur with overt verbalizers such as *-fic* 'make', as in *ampli-**fic**-**ā**-re* 'widen' (see Aronoff 1994: 46; Calabrese 2019: 9; and Calabrese 2023: 422 for more examples), and there is something suspect about positing a double-*v*P configuration. This objection has little force, however, for several reasons. First, as alluded to by Z&K (p. 8 fn. 12), it is not obvious that overt verbalizers such as *-fic* are *v* heads; they might instead be Vs (cf. Bruening 2016), in which case verbs such as *ampli-**fic**-**ā**-re* 'widen' would not involve a double-*v*P configuration. Secondly, if overt verbalizers in Latin ARE *v* heads, leading us to posit double-*v*P configurations for the relevant verbs after all, that may conceivably not dovetail very naturally with highly rigid approaches to clause structure (Sportiche 1995, Starke 1995, Cinque 1999), but it would be entirely unproblematic for more flexible ones (Wexler 1994; Rizzi 1997: 314–315; Starke 2004: Sections 2.1–2.2; Adger 2010; Bošković 2016: 42, 2022: 8–9, 2023, 2024a,b; Erlewine 2016: 475; Bertocci & Pinzin 2020: 33 fn. 13; see also Z&K: 17), particularly approaches on which 'functional sequences' (Starke 2004) or 'extended projections' (Grimshaw 2000; Brodkin 2023, 2025: Chapter 5) are emergent effects of (categorial or lexical) selection (Di Sciullo & Isac 2008; Lebowski 2018, 2025: Section 3.2.2; Bruening 2019a; Zyman 2021: 536 fn. 29; Hewett 2023: 354; see also Surányi 2010: 174–175, esp. fn. 12, for a distinct but related view). Third and finally, if overt verbalizers in Latin are *v* heads rather than Vs AND positing a double-*v*P configuration turns out to be problematic for whatever reason, we can simply posit that the syntactic head that a theme vowel realizes is not a *v* but instead bears some other categorial feature – say, [CAT Th]. Such a move would spur us to revisit and possibly rethink the geometry of the verbal domain LOWER than the theme vowel, but it would not at all threaten the idea at the core of the Syntactic Analysis of theme vowels defended here: that theme vowels realize heads that are present in the narrow syntax and can hence be L-selected by higher heads.

Recapitulating, this section has developed the Syntactic Analysis of theme vowels in detail, and shown that it can indeed successfully account for the generalization that, in a *fac-*causative, *fac-* can be immediately preceded by the second-conjugation theme vowel *-ē/-e* but not by any other theme vowel (19). On the Syntactic Analysis, this is a straightforward effect of L-selection, entirely parallel to L-selection for a particular P (1).

5. Developing the Postsyntactic Analysis

Things look good for the Syntactic Analysis, then. But we cannot yet conclude confidently that it is correct, because we have not yet developed the Postsyntactic Analysis in detail and evaluated it. It is to this task that we now turn.

This portion of the investigation will proceed in stages, because there are two different versions of the Postsyntactic Analysis worth considering.

5.1. The Postsyntactic Analysis, version 1

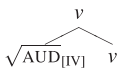
Embick (2010: Section 3.1.2) presents a partial analysis of Latin verbal morphology that is a version of the Postsyntactic Analysis – i.e., it incorporates the assumption (from Oltra-

https://doi.org/10.1017/S002222672610111X Published online by Cambridge University Press

Massuet 1999b) that theme vowels realize nodes added postsyntactically. This assumption is motivated by Embick's view that 'Theme morphemes are, in general, "ornamental" pieces of morphology, items that are apparently relevant for morphological well-formedness, but not part of syntax' (p. 75).

Embick (p. 76) illustrates this portion of the analysis using a subpart of (forms of) the fourth-conjugation verb *audīre* 'hear' (theme vowel *-ī*). On Embick's analysis, the (relevant portion of the) syntactic structure that is transferred to the postsyntactic morphological component initially looks as follows (the feature [IV] is a conjugation-class diacritic):

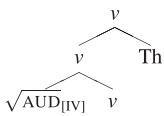
(28)



(slightly adapted from Embick 2010: 76)

Following Oltra-Massuet (1999b), Embick assumes that a Th(eme) element is added to the constituent in (28) postsyntactically, yielding (29):

(29)



(slightly adapted from Embick 2010: 76)

Embick posits that the structure in (29) is linearized before Vocabulary Insertion. The (null) terminal *v* node is pruned, and the root and Th are concatenated; once this happens, the Th node is adjacent to an element bearing [IV] (namely, the root). In this derivation, Th is realized by the following Vocabulary Item:

(30) Th ↔ -ī- / [IV] ⁀ _ (slightly adapted from Embick 2010: 76)

The realization of Th, then, is conditioned by the conjugation-class feature on the root.

Before we attempt to extend this analysis to account for the interactions between theme vowels and *fac-* causatives, we need to address an important question about Embick's conjugation-class diacritics: are they features of roots themselves (qua abstract feature bundles present in the narrow syntax), as in $\sqrt{\text{AUD}}_{[\text{IV}]}$, or do they belong to exponents inserted into the structure by Vocabulary Insertion, as in *aud-*$_{[\text{IV}]}$? (Call these the Diacritics-on-Roots Hypothesis and the Diacritics-on-Exponents Hypothesis, respectively.[30]) Embick himself (p. 76) makes the former assumption – but both possibilities are worth considering, particularly in view of the following hypothesis, which appears to play a prominent role in much reasoning within Distributed Morphology:

(31) *Feature Disjointness*
Features that are phonological, or purely morphological, or arbitrary properties of vocabulary items, are not present in the syntax; syntacticosemantic features are not inserted in morphology. (Embick 2000: 188)

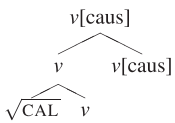
[30] For further discussion, see Oltra-Massuet (2020: Section 3) and references therein.

https://doi.org/10.1017/S002222672610111X Published online by Cambridge University Press

Embick (2010: 76) states that a conjugation-class feature like [IV] is not 'an uninterpretable feature in the sense familiar from syntactic theory. Rather, it is a diacritic with effects that are seen in the PF derivation'. If so, Feature Disjointness (31) suggests it should not be present in the syntax but only in the postsyntactic morphological component, where it presumably 'comes in' as part of an exponent like *aud*-$_{[IV]}$. This subsection will provisionally adopt that conclusion (the Diacritics-on-Exponents Hypothesis),[31] particularly because Embick (2000: 215 fn. 50) argues that 'Feature Disjointness should be maintained to the fullest possible extent'.[32] The alternative – the Diacritics-on-Roots Hypothesis (Embick 2010: 76) – is considered in Section 5.2.

On this slightly modified version of Embick's analysis, then – which crucially incorporates the Diacritics-on-Exponents Hypothesis – the derivation of a form such as *cal-**e**-**fac**-ere* 'warm [something]' will unfold in such a way that, at some point, the morphological component will receive (at least) the following structure[33]:

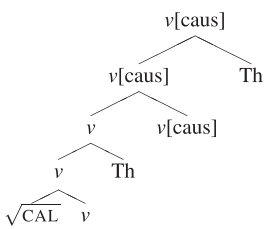
(32)



The highest terminal node in (32) will eventually be realized as *fac-*. It could alternatively have been represented as a root – but because it is unclear whether Embick's (2010) system would allow a root to take a complement and project (or, more theory-neutrally, to appear in the relevant position in (32)), this element is analyzed here as a causative *v*, *v*[caus], on analogy with Embick's (2010: 77) treatment of the Latin morpheme *-ess* as a desiderative *v*, *v*[des] (though see fn. 32).

Following Embick (2010: 76), a Th node is attached to the maximal projection of every terminal *v* node in (32), yielding (33):

(33)



[31] This will also involve assuming that the phonological content of roots, like that of nonroot syntactic elements, is inserted late (Haugen & Siddiqi 2013, Harley 2014), contra Embick (2010: 193 n. 1) (see also Embick 2000) – an issue revisited in fn. 34.

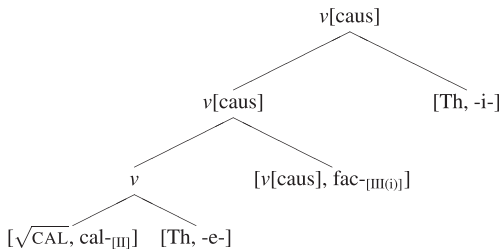
[32] Indeed, Embick (2010: 77) argues that an abstract syntactic feature bundle that he analyzes as a desiderative *v*, *v*[des], is realized by an EXPONENT *-ess* bearing the conjugation-class feature [III] – so his system already permits exponents to bear conjugation-class features (and not only abstract syntactic feature bundles). (Aronoff 1994: 46 and Calabrese 2019: 9 describe *-ess* as an intensive rather than a desiderative suffix. This morpheme is found in, e.g., *cap-**ess**-ere* 'take/seize eagerly' [cf. *cap-ere* 'take, seize'] and *fac-**ess**-ere* 'do eagerly' [cf. *fac-ere* 'make, do'].)

[33] This and the following subsection abstract away from cyclic spellout (despite the important role it plays in Embick 2010), because nothing here will hinge on it.

https://doi.org/10.1017/S002222672610111X Published online by Cambridge University Press

The structure is linearized; the (null) *v* that is sister to $\sqrt{\text{CAL}}$ is pruned; and Vocabulary Insertion occurs from the inside out (Embick 2010: 42), yielding (34). Following Embick (2010: 77), when a terminal node X is realized by an exponent Y, the result is notated [X, Y]:

(34)



In (34), $\sqrt{\text{CAL}}$ is realized by the exponent *cal*-$_{[\text{II}]}$. Since this exponent bears the conjugation-class feature [II] (in keeping with the Diacritics-on-Exponents Hypothesis), it causes the lower Th node to be realized by the second-conjugation theme vowel *-ē-/-e-*. That is, the conjugation-class feature on the exponent of the root conditions the realization of the Th node adjacent to the root node. The *v*[caus] node is realized by the exponent *fac*-$_{[\text{III(i)}]}$ (recall from fn. 9 that *fac-* itself belongs to the third conjugation, *-i-*stem subtype). This exponent conditions the realization of the right-adjacent Th node, which is realized as *-i-*, the theme vowel of the third conjugation (*-i-*stem subtype) according to Embick's analysis (p. 76). This *-i-* will surface unchanged in many forms (e.g., *calefac**i**t* 'he/she/it is warming [something]'), but it will become *-e* when immediately preceding *-r*, as in the infinitive *calefac**e**re* 'warm [something]'.

So far, so good: our slightly modified version of Embick's (2010: Section 3.1.2) analysis, which crucially incorporates the Diacritics-on-Exponents Hypothesis (in keeping with Feature Disjointness), successfully generates *fac-* causatives such as *calefacere* 'warm [something]'.

There is a serious problem, however. In a *fac-* causative, as established in Section 3, *fac-* cannot be immediately preceded by any theme vowel other than second-conjugation *-ē-/-e.* But the version of the Postsyntactic Analysis developed in this subsection has the consequence that, when the narrow syntax is merging in (or not merging in) the lexical item *v*[caus], which will eventually be realized as *fac-*, no information is yet available about what theme vowel will eventually immediately precede it. The Th node has not yet been added, let alone realized, since both of those steps occur postsyntactically. And the root, though present syntactically, gives no indications as to what conjugation class its eventual exponent will belong to, since, by hypothesis, conjugation-class features belong to (postsyntactically inserted) exponents, not to syntactically present abstract feature bundles. Thus, the version of the Postsyntactic Analysis developed in this subsection massively overgenerates; in particular, it generates *fac-* causatives such as [*]*mūt**a**faciēbat* 'was making [something] change' (13), [*]*bull**i**facere* 'make [something] bubble' (16b), [*]*flect**i**faciunt* 'make [someone] veer [somewhere]' (17b), and [*]*fug**i**faciō* 'I make [someone] flee' (18b).

Recapitulating, this subsection developed a version of the Postsyntactic Analysis that was closely based on Embick's (2010: Section 3.1.2) analysis of Latin theme vowels, but departed from it in that it crucially incorporated the Diacritics-on-Exponents Hypothesis. This seemed like a natural and conceptually appealing move (in the Distributed Morphology

https://doi.org/10.1017/S002222672610111X Published online by Cambridge University Press

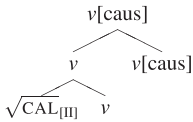
context), because it was directly motivated by Feature Disjointness (31). Unfortunately, the analysis turned out to be empirically untenable.

5.2. The Postsyntactic Analysis, version 2

All is not lost for the Postsyntactic Analysis, however. A straightforward response to the problem encountered in Section 5.1 is to modify it by pivoting from the Diacritics-on-Exponents Hypothesis to the Diacritics-on-Roots Hypothesis (despite the former's theoretical attractiveness in the Distributed Morphology context), thereby incidentally bringing the analysis closer to Embick's (2010: Section 3.1.2) original analysis of Latin theme vowels. Let us do that, then – i.e., assume that conjugation-class diacritics belong not to postsyntactically inserted exponents of roots but rather to the abstract syntactic feature bundles constituting roots in the narrow syntax.[34]

If we make that assumption, and hold constant all our other relevant assumptions from Section 5.1, then, at some point before the Th nodes are added and the exponents inserted, we will have (35):

(35)



As above, the terminal node *v*[caus] will eventually be realized as *fac-*.

Crucially, although Vocabulary Insertion has not occurred yet, the root √CAL 'be warm' already bears the conjugation-class diacritic [II], because we are adopting the Diacritics-on-Roots Hypothesis. That is, we are assuming, with Embick (2010: 76), that conjugation-class diacritics are present on roots from the beginning of the narrow-syntactic derivation (indeed, in the presyntactic lexicon, List A; see Harley & Noyer 1999: 3). This is auspicious, because it brings us a step closer to being able to account for the tight link between being a second-conjugation verb and being able to form a *fac-* causative. The natural way to do this is to follow the Syntactic Analysis developed in Section 4 (in this respect) and posit that the link is an effect of L-selection: *v*[caus] L-selects lexical items that bear the conjugation-class feature [II]. (This is analogous to the ability of the finite C *that* to L-select any T that bears the finiteness specification [FIN:+] – i.e., T_{PRES}, T_{PAST}, or any of the modals – but not the T *to*, which bears [FIN:–], at least on one analysis of these lexical items and the relations thereamong. On L-selection for particular features as opposed to an entire lexical item, see Merchant 2019: 325–326 and Hewett 2023: 240–241, 475.)

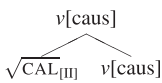
There is a problem, though: given the structure in (35), *v*[caus] cannot L-select certain roots (those bearing [II]) to the exclusion of others, because *v* is in the way. (Embick 2000: 201 and Embick 2010: 71 take Latin verb words – such as (35) would be a subconstituent of – to be complex heads, contra the analysis adopted in Section 4.1. But the point remains, because, in the underlying structure from which the complex head in (35) would be assembled on Embick's analysis, *v* would structurally intervene between *v*[caus] and the root.) There is thus a locality-of-selection problem (see Section 2 and references cited there for discussion).

[34] This will enable us to be agnostic about whether the phonological content of roots is inserted early or late (see fn. 31).

https://doi.org/10.1017/S002222672610111X Published online by Cambridge University Press

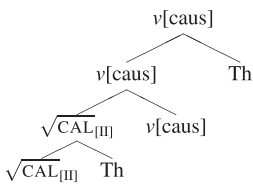
There is a logically possible, if unconventional, way to solve this problem: to get rid of the structural intervener, *v*, by positing that it is simply not there (it is never merged in in the first place). If that is so, then (35) should be revised as follows:

(36)



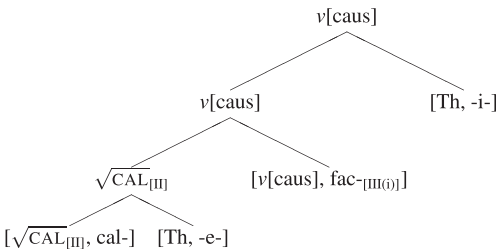
Just what is unconventional about (36) will be discussed in detail below. But first, let us see explicitly how the rest of the derivation unfolds. When (36) reaches the postsyntactic morphological component, one Th node is attached to the root and another one to the maximal projection of *v*[caus]. (In attaching the hierarchically lower Th node to the root rather than to a noncausative *v*, this analysis departs from Oltra-Massuet's [1999b] and Embick's [2010: 76] original analyses – in the obvious and essentially necessary way, since we have posited that there is no noncausative *v* in (36).[35]) This yields (37):

(37)



The structure is linearized, and Vocabulary Insertion occurs from the inside out, producing (38):

(38)



In (38), the root is realized by the exponent *cal-*. The lower Th node is right-adjacent to an element bearing the conjugation-class feature [II] (namely, the root), and is accordingly realized as *-ē-/-e-*, the second-conjugation theme vowel. The terminal node *v*[caus] is realized by the exponent *fac-*, which bears the conjugation-class feature [III(i)]. (This is analogous to Embick's treatment of his head *v*[des], on which it is realized by the exponent *-ess*[III]; see fn. 32. Alternatively, *v*[caus] could be replaced by a root $\sqrt{\text{FAC}}_{[\text{III(i)}]}$, in which case the relevant conjugation-class feature would already be present in the narrow syntax and

[35] This move is not innocent, since it opens up the possibility that, in verbs that DO contain a noncausative *v* (e.g., *calēre* 'be warm'), a Th node might be added to the maximal projection of the noncausative *v* and another one to the root, which might incorrectly predict that verbs like *calēre* 'be warm' should contain two theme vowels rather than one. For space reasons, this issue is set aside here: the version of the Postsyntactic Analysis currently being developed will ultimately be argued against on other grounds.

https://doi.org/10.1017/S002222672610111X Published online by Cambridge University Press

indeed in List A.) Finally, the higher Th node, being right-adjacent to an element bearing the conjugation-class feature [III(i)], is realized as *-i-*, the theme vowel of the third conjugation (*-i-*stem subtype). This derives the desired linear output: *cal-e-fac-i-*, as in *calefacit* 'he/she/it warms [something]'. As mentioned under (34), the theme vowel *-i* becomes *-e* when immediately preceding *-r*, as in the infinitive *calefacere* 'warm [something]'.

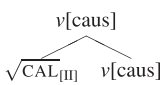
This version of the Postsyntactic Analysis, then – like the one developed in Section 5.1 – correctly derives *fac-* causatives like *calefacere* 'warm [something]'. But it improves significantly on the previous version of the Postsyntactic Analysis in that it can account for the link between being a second-conjugation verb and being able to form a *fac-* causative: *v*[caus] (what will be realized as *fac-*) only L-selects roots bearing the conjugation-class feature [II], so *fac-* will only ever immediately follow the second-conjugation theme vowel *-ē-*/*-e-*, and never any other theme vowel (19).

5.3. Evaluating the Postsyntactic Analysis (version 2)

Despite this success, the version of the Postsyntactic Analysis developed in Section 5.2 has at least two features that might give one pause. The first is an analytic oddity whose significance is not entirely clear, but the second is a major conceptual shortcoming. Let us take up each of them in turn.

It was mentioned above that the structure in (36) – repeated below – is unconventional:

(39)



This is because there is fairly good reason to think that, insofar as the structure in (39) is correct, the root in this structure is not categorized. It might initially seem as though it is, because it is sister to *v*[caus], whose name suggests it is a subtype of *v.* But '*v*[caus]' is just a convenient label, modeled after Embick's '*v*[des]' (see fn. 32). As mentioned above, we have no more reason to think *fac-* realizes '*v*[caus]' than that it realizes a root √FAC 'make'.

But suppose we tried to reconcile (39) with the view that all roots must be categorized (Embick & Noyer 2007: 296) by positing that *v*[caus] (the element ultimately realized as *fac-*) is a categorizer, and it is what categorizes the root in (39). A consequence of this hypothesis is that, in both *cale-**fac**-ere* 'warm [something]' (cf. *calēre* 'be warm') and *satis-**fac**-ere* 'satisfy' (cf. *satis* 'enough'), *fac-* is the lowest element that verbalizes the structure. (Alongside *satisfacere* 'satisfy' here can be cited the *-i-facere* verbs listed under (14), which also display no evidence of verbal structure below *fac-*.) That is, there is no sense in which *cale-**fac**-ere* 'warm [something]' is deverbal but *satis-**fac**-ere* 'satisfy' is not. This seems like a highly counterintuitive consequence.

That being so – i.e., since analyzing *v*[caus] in (39) as a categorizer does not seem to buy us much – the advocate of the Postsyntactic Analysis (and hence of (39)) might well be inclined to bite the bullet and simply accept the idea that the root in (39) is not categorized, contra Embick and Noyer's (2007: 296) assumption that all roots must be.[36] Whether this conclusion is problematic and, if so, how it might be avoided in a principled and otherwise

[36] The view that certain roots are not categorized is argued for by Hu and Perry (2018), Wang and Holmberg (2021), and authors they cite.

https://doi.org/10.1017/S002222672610111X Published online by Cambridge University Press

satisfactory way are questions that would be best answered by advocates of the Postsyntactic Analysis (and, plausibly, of Distributed Morphology more broadly). On the Syntactic Analysis, by contrast, this issue does not even arise: what *fac-* L-selects is *-ē/-e* itself, which is possible because theme vowels realize syntactically present nodes – and because those nodes were analyzed in Section 4 as *v* nodes, there is no need to posit that the innermost root in a *fac-* causative is never in a local configuration with a categorizing head.[37]

Now, let us leave that somewhat inconclusive discussion behind and turn our attention to something much clearer and more concrete.

As is emphasized by advocates of the various versions of Morphology as Syntax (see the works cited in the introduction, especially Collins & Kayne 2023: Section 4.5 and Zyman 2025a), any putative grammatical operation that overlaps in its effects with (External or Internal) Merge[38] is suspect on grounds of theoretical unparsimoniousness. Such operations immediately raise the question of whether they could not in fact be eliminated, and their putative effects attributed to Merge instead. They therefore bear a heavy burden of proof.

The putative operation of insertion of dissociated or ornamental morphemes (Embick 1997) – commonly taken in Distributed Morphology to be responsible for the existence of theme vowels (see the introduction for references) – is, as noted by Collins and Kayne (2023: Section 4.5), an operation of just this sort. This putative operation combines elements that will (sometimes) be overt by derivation's end – as does Merge. The question, then, is whether there are strong arguments for incorporating this operation into the theory alongside Merge. Focusing on theme vowels specifically, the main motivation for analyzing theme vowels as realizations of postsyntactically added dissociated nodes seems to be the analytic intuition that theme vowels are purely morpho(phono)logical, and hence of no syntactic significance (see the quotes reproduced in the introduction). It is worth noting that even this consideration does not strongly support the Postsyntactic Analysis: even if theme vowels appeared to be inert syntactically, it would not follow that they could not be introduced in the narrow syntax – so we would not have a decisive, or even a particularly strong, argument for positing dissociated-node insertion in addition to Merge.

But we can go beyond that relatively conceptual argument against the Postsyntactic Analysis (and for the Syntactic Analysis) and formulate a more targeted, more empirical one. As just mentioned, the Postsyntactic Analysis is motivated by the analytic intuition that theme vowels are fundamentally morphological and hence syntactically irrelevant. Crucially, though, this section has argued that the only way the Postsyntactic Analysis of theme vowels can be reconciled with the empirical observations about *fac-* causatives presented here is if the putative dissociated nodes have 'precursors' in the narrow syntax, namely conjugation-class features on roots. Differently put, the Diacritics-on-Roots Hypothesis

[37] That said, if some (categoryless) roots indeed never end up in a local configuration with a categorizing head (cf. fn. 36), that will not be problematic for the version of Morphology as Syntax defended in this article. (See Kayne 2008: 7 fn. 14 for a somewhat similar idea, expressed in the context of a relatively different framework.) A putative requirement that all roots end up in a local configuration with a categorizing head would not seem to follow from any deep and well-justified principle of the theory of grammar (contra Chomsky's [2015: 15] claim that the root of a verb 'universally raises to v* for principled reasons of root-categorization'). Thus, the expectation – in the context of a radically minimalist approach such as the version of Morphology as Syntax adopted here – is that there should be no such requirement. The question raised (and left open) in the main text, though, is whether uncategorized roots would pose a problem for Distributed Morphology.

[38] Or Adjoin (which is not immediately relevant to the main phenomena investigated here). On various approaches to Adjoin/adjunction, see Zyman (2025b) and references therein.

https://doi.org/10.1017/S002222672610111X Published online by Cambridge University Press

(as distinguished from the Diacritics-on-Exponents Hypothesis) is not an inessential component of Embick's (2010: Section 3.1.2) analysis of Latin theme vowels: it is indispensable if the Postsyntactic Analysis is to achieve empirical adequacy. But the assumption that roots bear conjugation-class features in the syntax arguably deprives the claim that theme vowels realize postsyntactically added dissociated nodes of much of its empirical content; at any rate, it seriously undermines the conceptual motivation for that claim. The Postsyntactic Analysis is intended to be an outworking of the intuition that theme vowels are fundamentally morphological, not syntactic – but it cannot reflect that intuition, or cash it out, because it needs to posit that theme vowels have 'precursors' (conjugation-class features on roots) that are ineluctably narrow-syntactic. The Postsyntactic Analysis thus comes close to being a notational variant of the Syntactic Analysis.

That being so, the natural move, in a minimalist context, is to do away with circuitous derivations involving (syntactically present) conjugation-class features on roots conditioning the realization of postsyntactically added Th nodes, and simply introduce the nodes corresponding to the theme vowels in the narrow syntax to begin with.[39] That move additionally pays another significant analytic dividend: it enables us to replace dissociated-node insertion, in the analysis, with (External) Merge, a fundamental syntactic operation that it strongly resembles. The elimination of such suspicious duplications in the theory is, of course, in keeping with minimalist goals.[40]

6. Conclusion

A major topic of debate in morphosyntactic theory has been whether there is a (postsyntactic) morphological component distinct from the narrow syntax and, if so, how rich and internally complex it is. In Distributed Morphology, it is crucially assumed that there is such a component, and its internal structure is sometimes taken to be rich and elaborate. In the

[39] Although the arguments in this subsection in favor of the Syntactic Analysis and against the Postsyntactic Analysis took as their point of reference for the latter Embick's (2010: Section 3.1.2) analysis of Latin theme vowels, they carry over to Postsyntactic Analyses of Latin theme vowels in general, including those of Embick and Halle (2005), Calabrese (2015, 2019, 2023), and Calabrese and Petrosino (2023).

It might initially seem that the tight link between being a second-conjugation verb and being able to form a *fac*-causative could alternatively be accounted for on an approach incorporating the Lexicalist Hypothesis (Di Sciullo & Williams 1987, Bresnan & Mchombo 1995): *fac*- L-selects the theme vowel *-ē*/*-e* in a presyntactic morphological component (so neither of those elements is a syntactic head, the *fac*- causative as a whole being syntactically atomic). But although space precludes detailed discussion, that alternative seems unpromising, because the *-ē*/*-e*-final 'stem' and *fac*- can be separated by other elements that are traditionally considered syntactically freestanding (i), and can even be reversed (ii), strongly suggesting that Latin theme vowels head syntactic constituents that can undergo Internal Merge. See Hahn (1947: 322–323) for more examples (and Bruening 2018a,b for numerous arguments against the Lexicalist Hypothesis).

(i) Posteā **ferv-e** bene **fac-i-tō**.
afterwards boil-TH.II well make-TH.III(I)-FUT.IMP
'Then let it boil thoroughly.' (Cato the Elder, *On Agriculture* 157.9)

(ii) …tenellum enim citō **fac-i-t** **putr-e**.
…tender.DIM because quickly make-TH.III(I)-3SG be.rotten-TH.II
'…because it quickly makes the tender shoot decay.' (Varro, *De Re Rustica* 1.41.2)

[40] Three additional alternative analyses are discussed and evaluated in the supplementary material.

https://doi.org/10.1017/S002222672610111X Published online by Cambridge University Press

various versions of Morphology as Syntax, by contrast, either the existence of such a component is denied outright or, at the very least, its role is greatly reduced.

Theme vowels are highly relevant to this debate because there is a persistent analytic intuition that they are fundamentally morpho(phono)logical in nature, and hence syntactically irrelevant; as a result, they are often taken, in Distributed Morphology, to be realizations of dissociated nodes added postsyntactically (the Postsyntactic Analysis). A competing strand of work, however, analyzes theme vowels as realizations of nodes, or larger structures, that are present in the narrow syntax (the Syntactic Analysis).

To help adjudicate between the Syntactic and the Postsyntactic Analysis, this article introduced a diagnostic designed to shed light on the derivational origin of theme vowels – one based on L-selection. The diagnostic is that if a theme vowel is L-selected (to the exclusion of others) by a higher head, then it is the realization of a head present in the narrow syntax (supporting the Syntactic Analysis), since L-selection is a fundamentally syntactic phenomenon – but if not, no conclusion can be drawn (4). It was then argued that the former situation obtains in Latin: in a *fac-* causative, *fac-* 'make' can be immediately preceded by *-ē/-e*, the second-conjugation theme vowel, but not by any other theme vowel (19).

A version of the Syntactic Analysis was developed in detail that accounts for this observation. That analysis crucially posits that theme vowels realize syntactic heads; as a result, *fac-* can directly L-select *-ē/-e* to the exclusion of other theme vowels in Latin, exactly as a V can L-select one or two Ps in a language to the exclusion of all the others (1).

We then turned our attention to the Postsyntactic Analysis of theme vowels, to determine whether it too could account for the interactions between theme vowels and *fac-* causatives. An initial version of the Postsyntactic Analysis incorporating the Diacritics-on-Exponents Hypothesis – i.e., assuming that conjugation-class diacritics are borne by postsyntactically inserted exponents – was empirically unsuccessful. A revised version of the Postsyntactic Analysis incorporating the Diacritics-on-Roots Hypothesis – i.e., assuming, with Embick (2010: 76), that conjugation-class features are present on roots in the narrow syntax – was able to achieve empirical adequacy. It required, however, the unconventional assumption that, in a *fac-* causative, there is no categorizing *v* head between the innermost root and *fac-* 'make'.

More importantly, this revised version of the Postsyntactic Analysis faces a significant conceptual shortcoming. The Postsyntactic Analysis is motivated by the analytic intuition that theme vowels are purely morpho(phono)logical in nature, and hence of no syntactic significance. But the relevant empirical observations about Latin theme vowels and their interactions with *fac-* causatives (19) require the Postsyntactic Analysis to crucially incorporate the assumption that the putative dissociated nodes, which are supposedly added postsyntactically, have narrow-syntactic 'precursors' in the form of conjugation-class features on roots – i.e., one of the ingredients of a theme vowel is inescapably narrow-syntactic. This seriously undermines the conceptual rationale for the Postsyntactic Analysis, because it means that the latter cannot in fact reflect the analytic intuition that theme vowels are purely morphological in nature.

That being so, the Postsyntactic Analysis ends up being little more than an unwieldy notational variant of the Syntactic Analysis. It is then natural, in a minimalist context, to do away with the former's circuitous derivations – in which syntactically present conjugation-class diacritics on roots condition the realization of postsyntactically added dissociated Th nodes – and simply replace them with the derivations that the Syntactic Analysis posits. These derivations allow the Syntactic Analysis to account directly for the two insights that

https://doi.org/10.1017/S002222672610111X Published online by Cambridge University Press

the Postsyntactic Analysis is forced to account for indirectly: that L-selection plays a crucial role in determining what theme vowels can and cannot immediately precede *fac-*, and that theme vowels are ineliminably (at least partially) syntactic in nature.

Choosing the Syntactic Analysis also enables us to posit that theme vowels are introduced not by the putative operation of dissociated-node insertion but by the fundamental, and very similar, syntactic operation of (External) Merge.[41] Insofar as we can refrain from appealing to putative postsyntactic operations such as dissociated-node insertion that closely resemble Merge but are not identical to it, suspicious duplications in the theory are avoided, in line with the minimalist imperative.

Supplementary material. The supplementary material for this article can be found at http://doi.org/10.1017/S002222672610111X.

Acknowledgments. Many thanks, for valuable discussion, to Dan Brodkin, Alex Chuang, Chris Collins, Anton Fleissner, Bob Freidin, Matt Hewett, Nick Kalivoda, Aditya Krishna, Zach Lebowski, Azuri Lorig, Jason Merchant, Gereon Müller, Ross Rauber, Reagan Sparks, Oliver Sweet, three anonymous *JL* reviewers, and *JL* Editor Adam Ledgeway. The usual disclaimers apply.

Funding statement. This work was generously supported by a Faculty Residential Fellowship (2023–2024) from the Franke Institute for the Humanities at the University of Chicago.

Competing interests. The author declares none.

References

Adger, David. 2010. A Minimalist theory of feature structure. In Anna Kibort & Greville G. Corbett (eds.), *Features: Perspectives on a key notion in linguistics*, 185–218. Oxford: Oxford University Press.

Aronoff, Mark. 1994. *Morphology by itself: Stems and inflectional classes*. Cambridge, MA: MIT Press.

Arregi, Karlos & Andrew Nevins. 2012. *Morphotactics: Basque auxiliaries and the structure of Spellout*. Dordrecht: Springer.

Bailey, Laura. 2010. Latin word order and the EPP, 12 pp. https://kent.academia.edu/LauraBailey (accessed 7 November 2023).

Baker, James. 2014. *Aspects of the evolution of the Latin/Romance verbal system*. Master's thesis, Trinity Hall.

Baker, Mark. 1985. The Mirror Principle and morphosyntactic explanation. *Linguistic Inquiry.* 16. 373–415.

Bertocci, Davide & Francesco Pinzin. 2020. Two kinds of verbal roots in Latin: Evidence from thematic vowels and word-formation processes. *Lingue Antiche e Moderne.* 9. 23–56.

Bertocci, Davide & Francesco Pinzin. 2021. Morphology in action: Some issues in the formation of the Latin perfect. In Antonio María Martín Rodríguez (ed.), *Linguisticae Dissertationes: Current perspectives on Latin grammar, lexicon and pragmatics*, 13–32. Madrid: Ediciones Clásicas.

Bittner, Maria & Ken Hale. 1996. The structural determination of case and agreement. *Linguistic Inquiry.* 27. 1–68.

Bošković, Željko. 2016. On the timing of labeling: Deducing Comp-trace effects, the Subject Condition, the Adjunct Condition, and tucking in from labeling. *The Linguistic Review.* 33(1). 17–66.

Bošković, Željko. 2022. Formalism and, not vs, functionalism, 39 pp. https://ling.auf.net/lingbuzz/006337 (accessed 15 November 2023).

Bošković, Željko. 2023. Merge, Move, and contextuality of syntax: The role of labeling, successive-cyclicity, and EPP effects. [To appear in Kleanthes Grohmann & Evelina Leivada (eds.), *The Cambridge handbook of Minimalism*. Cambridge: Cambridge University Press.]

Bošković, Željko. 2024a. On wh and subject positions, the EPP, and contextuality of syntax. *The Linguistic Review.* 41(1). 7–58.

[41] This article has, for space reasons, focused on theme vowels in Latin. Determining whether Postsyntactic Analyses of theme vowels in other languages can also be profitably replaced with versions of the Syntactic Analysis will be an important task for future research.

https://doi.org/10.1017/S002222672610111X Published online by Cambridge University Press

Bošković, Željko. 2024b. The Comp-trace effect and contextuality of the EPP. In Robert Autry, Gabriela de la Cruz, Luis A. Irizarry Figueroa, Kristina Mihajlovic, Tianyi Ni, Ryan Smith & Heidi Harley (eds.), *Proceedings of the 39th West Coast Conference on Formal Linguistics (WCCFL 39)*, 71–81. Somerville, MA: Cascadilla Proceedings Project.

Bresnan, Joan & Sam Mchombo. 1995. The lexical integrity principle: Evidence from Bantu. *Natural Language and Linguistic Theory.* 13. 181–254.

Brodkin, Dan. 2021. Mandar anaphors. Ms., University of California, Santa Cruz.

Brodkin, Dan. 2023. Locality and extraction in Mandar. Presented at Linguistics at Santa Cruz, University of California, Santa Cruz.

Brodkin, Dan. 2025. *A-syntax at the edge: Priority and suspension in Mandar.* Ph.D. dissertation, University of California, Santa Cruz.

Brucale, Luisa. 2012. Latin compounds. *Probus.* 24(1). 93–117.

Brucale, Luisa & Egle Mocciaro. 2016. Composizione verbale in latino: il caso dei verbi in *-facio*, *-fico*. In Paolo Poccetti (ed.), *Latinitatis rationes: Descriptive and historical accounts for the Latin language*, 279–297. Berlin: De Gruyter.

Bruening, Benjamin. 2016. Light verbs are just regular verbs. In *Proceedings of the 39th Annual Penn Linguistics Conference* (University of Pennsylvania Working Papers in Linguistics 22(1)), 51–60.

Bruening, Benjamin. 2018a. The lexicalist hypothesis: Both wrong and superfluous. *Language.* 94(1). 1–42.

Bruening, Benjamin. 2018b. Brief response to Müller. *Language.* 94(1). e67–e73.

Bruening, Benjamin. 2019a. Disjunctive selection is necessary for "Hierarchy of Projections" and it accounts for transitivity failures, 7 pp. https://udel.edu/~bruening/Downloads/DisjunctiveSelection1.pdf (accessed 4 November 2023).

Bruening, Benjamin. 2019b. On the motivation for phonology-free syntax and multiple levels in a derivational grammar, 8 pp. https://udel.edu/~bruening/Downloads/PhonFreeSyntax1.pdf (accessed 1 November 2023).

Calabrese, Andrea. 1985. The Mirror Principle and the Latin passive. Ms., MIT.

Calabrese, Andrea. 2015. Irregular morphology and athematic verbs in Italo-Romance. *Isogloss* Special Issue on Italo-Romance Morphosyntax, 69–102.

Calabrese, Andrea. 2019. Morphophonological investigations: A theory of PF. https://drive.google.com/drive/folders/1cHAra3YiAsUR9marF5wquJN0NUcPQ0YT (accessed 31 October 2023).

Calabrese, Andrea. 2023. Latin verbal morphology and the diachronic development of its thematic and athematic constructions. *Probus.* 35(2). 399–480.

Calabrese, Andrea & Roberto Petrosino. 2023. Root-adjacent exponence in the Sanskrit, Ancient Greek, and Latin verbal systems. *Glossa.* 8(1). 1–50.

Carnie, Andrew & Eithne Guilfoyle (eds.). 2000. *The syntax of verb initial languages*. Oxford: Oxford University Press.

Carnie, Andrew, Heidi Harley & Sheila Ann Dooley. 2005. *Verb first: On the syntax of verb-initial languages*. Amsterdam: Benjamins.

Chomsky, Noam. 1995. *The minimalist program*. Cambridge, MA: MIT Press.

Chomsky, Noam. 2015. Problems of projection: Extensions. In Elisa Di Domenico, Cornelia Hamann & Simona Matteini (eds.), *Structures, strategies, and beyond: Studies in honour of Adriana Belletti*, 3–16. Amsterdam: Benjamins.

Cinque, Guglielmo. 1999. *Adverbs and functional heads: A cross-linguistic perspective*. New York, NY: Oxford University Press.

Collins, Chris. 2024. *Principles of argument structure: A Merge-based approach*. Cambridge, MA: MIT Press.

Collins, Chris & Richard S. Kayne. 2023. Towards a theory of morphology as syntax. *Studies in Chinese Linguistics.* 44(1). 1–32.

Collins, Chris & Edward Stabler. 2016. A formalization of minimalist syntax. *Syntax.* 19(1). 43–78.

Commelerán y Gómez, D. Francisco A. 1907. *Diccionario clásico-etimológico latino-español*, 2nd edn. Madrid: Perlado, Páez y Compañía.

Corssen, Wilhelm Paul. 1870. *Über Aussprache, Vokalismus und Betonung der lateinischen Sprache*, vol. 2. Leipzig: B. G. Teubner.

Crippen, James A. 2023. Tlingit verb morphology is syntax. Presented at Morphology as Syntax 3, Université du Québec à Montréal.

Danckaert, Lieven. 2012. *Latin embedded clauses: The left periphery.* Amsterdam: Benjamins.

https://doi.org/10.1017/S002222672610111X Published online by Cambridge University Press

Danckaert, Lieven. 2014. The derivation of Classical Latin Aux-final clauses: Implications for the internal structure of the verb phrase. In Karen Lahousse & Stefania Marzo (eds.), *Romance Languages and Linguistic Theory* 2012, 141–160. Amsterdam: Benjamins.
Danckaert, Lieven. 2017a. *The development of Latin clause structure: A study of the extended verb phrase*. Oxford: Oxford University Press.
Danckaert, Lieven. 2017b. Subject placement in the history of Latin. *Catalan Journal of Linguistics.* 16. 125–161.
Devine, Andrew M. & Laurence D. Stephens. 2006. *Latin word order: Structured meaning and information*. Oxford: Oxford University Press.
Di Sciullo, Anna Maria & Edwin Williams. 1987. *On the definition of word*. Cambridge, MA: MIT Press.
Di Sciullo, Anna Maria & Daniela Isac. 2008. The asymmetry of Merge. *Biolinguistics.* 2(4). 260–290.
Dolatian, Hossep. 2022. Output-conditioned and non-local allomorphy in Armenian theme vowels. *The Linguistic Review.* 40(1). 1–42.
Dolatian, Hossep & Peter Guekguezian. 2023. Relativized locality: Phases and tiers in long-distance allomorphy in Armenian. *Linguistic Inquiry.* 54(3). 505–545.
Embick, David. 1997. *Voice and the interfaces of syntax.* Ph.D. dissertation, University of Pennsylvania.
Embick, David. 2000. Features, syntax, and categories in the Latin perfect. *Linguistic Inquiry.* 31(2). 185–230.
Embick, David. 2010. *Localism versus globalism in morphology and phonology.* Cambridge, MA: MIT Press.
Embick, David & Morris Halle. 2005. On the status of stems in morphological theory. In Twan Geerts, Ivo van Ginneken & Haike Jacobs (eds.), *Romance Languages and Linguistic Theory* 2003, 59–88. Amsterdam: Benjamins.
Embick, David & Rolf Noyer. 2001. Movement operations after syntax. *Linguistic Inquiry.* 32(4). 555–595.
Embick, David & Rolf Noyer. 2007. Distributed Morphology and the syntax–morphology interface. In Gillian Ramchand & Charles Reiss (eds.), *The Oxford handbook of linguistic interfaces*, 289–324. Oxford: Oxford University Press.
Erlewine, Michael Yoshitaka. 2016. Anti-locality and optimality in Kaqchikel Agent Focus. *Natural Language and Linguistic Theory.* 34. 429–479.
Fábregas, Antonio. 2019. Theme vowels are verbs. In Pavel Caha, Karen De Clercq & Guido Vanden Wyngaerd (eds.), *The unpublished manuscript.* https://ling.auf.net/lingbuzz/003993 (accessed 18 October 2023).
Fábregas, Antonio. 2022. What 1sg forms tell us about Spanish theme vowels. *Glossa.* 7(1). 1–40.
Forcellini, Egidio. 1875. *Totius Latinitatis lexicon*, vol. 6. Prato: Aldina.
Fruyt, Michèle. 2001. Réflexions sur la notion de *mot* en latin : Les verbes du type *calefacio*. In Claude Moussy (ed.), *De lingua latina novae quaestiones*, 81–94. Peeters: Louvain-la-Neuve.
Fruyt, Michèle. 2005. La (dés)-intensification dans les adjectifs latins : les morphèmes de degré. *Journal of Latin Linguistics.* 9(2). 231–243.
Gianollo, Chiara. 2016. The Latin system of negation at the syntax-semantics interface. *Rivista di Grammatica Generativa*. 38. 115–135.
Gradenwitz, Otto. 1904. *Laterculi vocum Latinarum*. Leipzig: S. Hirzel.
Grestenberger, Laura. 2023. The diachrony of verbalizers in Indo-European: Where does *v* come from? *Journal of Historical Syntax.* 7. 1–40.
Gribanova, Vera. 2015. Exponence and morphosyntactically triggered phonological processes in the Russian verbal complex. *Journal of Linguistics.* 51. 519–561.
Grimshaw, Jane. 2000. Locality and extended projection. In Peter Coopmans, Martin Everaert & Jane Grimshaw (eds.), *Lexical specification and insertion*, 115–134. Amsterdam: Benjamins.
Güntert, Hermann. 1917. Zur Herkunft und Bildung des italischen Imperfekts: Eine sprachwissenschaftliche Untersuchung. *Sitzungsberichte der Heidelberger Akademie der Wissenschaften, Philosophisch-historische Klasse* 8.
Haegeman, Liliane, Ángel L. Jiménez-Fernández & Andrew Radford. 2014. Deconstructing the Subject Condition in terms of cumulative constraint violation. *The Linguistic Review.* 31(1). 73–150.
Hahn, E. Adelaide. 1947. The type *calefacio*. *Transactions and Proceedings of the American Philological Association.* 78. 301–335.
Halle, Morris & Alec Marantz. 1993. Distributed Morphology and the pieces of inflection. In Kenneth Hale & Samuel Jay Keyser (eds.), *The view from Building 20: Essays in linguistics in honor of Sylvain Bromberger*, 111–176. Cambridge, MA: MIT Press.
Halle, Morris & Alec Marantz. 1994. Some key features of Distributed Morphology. *MIT Working Papers in Linguistics.* 21. 275–288.
Harley, Heidi. 2014. On the identity of roots. *Theoretical Linguistics.* 40(3/4). 225–276.

https://doi.org/10.1017/S002222672610111X Published online by Cambridge University Press

Harley, Heidi & Rolf Noyer. 1999. Distributed Morphology. *Glot International.* 4(4). 3–9.
Haugen, Jason D. & Daniel Siddiqi. 2013. Roots and the derivation. *Linguistic Inquiry.* 44(3). 493–517.
Haugen, Jason D. & Daniel Siddiqi. 2016. Towards a Restricted Realization Theory: Multimorphemic monolistemicity, portmanteaux, and post-linearization spanning. In Daniel Siddiqi & Heidi Harley (eds.), *Morphological metatheory*, 343–385. Amsterdam: Benjamins.
Heck, Fabian & Gereon Müller. 2007. Extremely local optimization. In Erin Bainbridge & Brian Agbayani (eds.), *Proceedings of the 34th Western Conference on Linguistics*, 170–183. Fresno, CA: Department of Linguistics, California State University.
Hewett, Matthew. 2023. *Types of resumptive Ā-dependencies.* Ph.D. dissertation, University of Chicago.
Hewett, Matthew. 2025. What's in a parasitic gap?, 63 pp. https://drive.google.com/file/d/1J3qzwGBK8D8V2FTr_q_8VHo_9nEHj6Il/view (accessed 28 August 2025).
Hu, Xuhui & J. Joseph Perry. 2018. The syntax and phonology of non-compositional compounds in Yixing Chinese. *Natural Language and Linguistic Theory.* 36. 701–742.
Jabłońska, Patrycja. 2004. When the prefixes meet the suffixes. *Nordlyd.* 32(2). 363–401.
Jabłońska, Patrycja. 2007. *Radical decomposition and argument structure.* Ph.D. dissertation, University of Tromsø.
Julien, Marit. 2022. Nominal paradigms in North Sámi. Presented at Morphology as Syntax II, UCLA (virtual).
Kayne, Richard S. 2008. Antisymmetry and the lexicon. *Linguistic Variation Yearbook.* 8. 1–31.
Kayne, Richard S. 2018. The syntax of suppletion, 14 pp. https://ling.auf.net/lingbuzz/004366 (accessed 21 October 2023).
Kayne, Richard S. 2019. What is suppletion? On **goed* and on *went* in Modern English. *Transactions of the Philological Society.* 117(3), Special Issue on the Life-Cycle of Suppletion. 434–454.
Kayne, Richard S. 2019–2020. The place of linear order in the language faculty. *Linguistic Analysis.* 42. 441–471.
Koopman, Hilda. 2020. Towards a direct syntax phonology interface: A case study of Huave morphology-as-syntax. Presented at the Syntactic Approaches to Morphology workshop, NYU (virtual).
Kretschmer, Paul. 1929. Das mit *-b-* gebildete lateinische Futurum und Imperfektum. *Glotta.* 17. 46–56.
Lamontagne, Greg & Lisa Travis. 1987. The syntax of adjacency. In Megan Crowhurst (ed.), *Proceedings of the Sixth West Coast Conference on Formal Linguistics*, 173–186. Stanford, CA: CSLI Publications.
Landau, Idan. 2007. EPP extensions. *Linguistic Inquiry* 38(3), 485–523.
Lebowski, Zach. 2018. Ought to select. Ms., San Francisco, CA.
Lebowski, Zach. 2025. *Intermediate constituents.* Ph.D. dissertation, University of Chicago.
Lemon, Tyler. 2024. Low nominative agreement in Uab Meto. In Robert Autry, Gabriela de la Cruz, Luis A. Irizarry Figueroa, Kristina Mihajlovic, Tianyi Ni, Ryan Smith & Heidi Harley (eds.), *Proceedings of the 39th West Coast Conference on Formal Linguistics (WCCFL* 39), vol. 2, 600–608. Somerville, MA: Cascadilla Proceedings Project.
Lewis, Charlton Thomas, and Charles Short. 1879. *A Latin dictionary*. Oxford: Clarendon Press.
Lindsay, Wallace Martin. 1894. *The Latin language: An historical account of Latin sounds, stems, and flexions*. Oxford: Clarendon Press.
Manzato, Riccardo. 2023. *Variations on a theme: The view from generative morphology on verbal theme vowels.* Master's thesis, Università degli Studi di Padova.
Marantz, Alec. 1997. No escape from syntax: Don't try morphological analysis in the privacy of your own lexicon. In *Proceedings of the 21st Annual Penn Linguistics Colloquium* (University of Pennsylvania Working Papers in Linguistics 4), 201–225.
Marantz, Alec. 2019. Teaching Halle & Marantz (1993). https://wp.nyu.edu/morphlab/2019/08/10/teaching-halle-marantz-1993 (accessed 31 October 2023).
Mateu, Jaume. 2017. State and change of state in Latin: A view from the Lexicon-Syntax interface. In Olga Fernández-Soriano, Elena Castroviejo & Isabel Pérez-Jiménez (eds.), *Boundaries, phases and interfaces: Case studies in honor of Violeta Demonte*. Amsterdam: Benjamins.
Meillet, Antoine & Joseph Vendryes. 1968. *Traité de grammaire comparée des langues classiques*, 4th edn. Paris: Librairie Ancienne Honoré Champion.
Merchant, Jason. 2013. Voice and ellipsis. *Linguistic Inquiry.* 44(1). 77–108.
Merchant, Jason. 2019. Roots don't select, categorial heads do: Lexical-selection of PPs may vary by category. *The Linguistic Review.* 36(3). 325–341.
Miller, D. Gary. 1993. *Complex verb formation*. Amsterdam: Benjamins.
Müller, Gereon. 2023. Challenges for cyclicity. In Mariia Privizentseva, Felicitas Andermann & Gereon Müller (eds.), *Cyclicity*, 3–72. Institut für Linguistik, Universität Leipzig.

https://doi.org/10.1017/S002222672610111X Published online by Cambridge University Press

Myler, Neil. 2025. Romance conjugation class features could be syntactic (and on certain assumptions must be). Presented at the CRISSP Seminar on Theme Vowels, Categories, and Categorization (TCC), KU Leuven (virtual).
Norris, Mark. 2021. Case and K. https://morphosyntax.org/lx-theory/case-and-k (accessed 7 November 2023).
Norris, Mark. 2022. Nominal inflection in Distributed Morphology. [To appear in Artemis Alexiadou, Ruth Kramer, Alec Marantz & Isabel Oltra-Massuet (eds.), *The Cambridge handbook of Distributed Morphology*. Cambridge: Cambridge University Press.]
Ntelitheos, Dimitrios. 2022. Compounding in Greek as phrasal syntax. *Languages.* 7. 1–22.
Oltra-Massuet, Isabel. 1999a. On the constituent structure of Catalan verbs. *MIT Working Papers in Linguistics.* 33. 279–322.
Oltra-Massuet, Isabel. 1999b. *On the notion of theme vowel: A new approach to Catalan verbal morphology.* M.Sc. thesis, MIT.
Oltra-Massuet, Isabel. 2020. Conjugation class. In *The Oxford research encyclopedia of linguistics*, 1–26. Oxford: Oxford University Press.
Oltra-Massuet, Isabel & Karlos Arregi. 2005. Stress-by-structure in Spanish. *Linguistic Inquiry.* 36(1). 43–84.
Paucker, Carl von. 1872. *Addenda lexicis Latinis.* Dorpat (now Tartu): Glaeser.
Pesetsky, David. 1991. Zero syntax, vol. 2: Infinitives, 196 pp. http://lingphil.mit.edu/papers/pesetsk/infins.pdf (accessed 2 November 2023).
Pfister, Raimund. 1983. Kompetenz in der lateinischen Syntax. In Harm Pinkster (ed.), *Latin linguistics and linguistic theory: Proceedings of the 1st International Colloquium on Latin Linguistics*. Amsterdam: Benjamins.
Picallo, M. Carme. 1991. Nominals and nominalizations in Catalan. *Probus.* 3(3). 279–316.
Pillinger, O. Stephen. 1980. The accusative and infinitive in Latin: A refractory complement clause. *Journal of Linguistics.* 16(1). 55–83.
Pomino, Natascha & Eva-Maria Remberger. 2019. Verbal suppletion in Romance synchrony and diachrony: The perspective of Distributed Morphology. *Transactions of the Philological Society.* 117(3), Special Issue on the Life-Cycle of Suppletion. 471–497.
Pomino, Natascha & Eva-Maria Remberger. 2022a. Does French have theme vowels? *Glossa.* 47(1). 1–32.
Pomino, Natascha & Eva-Maria Remberger. 2022b. The link between athematicity and irregularity in French verbal inflection. In Markéta Janebová, Joseph Emonds & Ludmila Veselovská (eds.), *Language use and linguistic structure: Proceedings of the Olomouc Linguistics Colloquium* 2021, 78–95. Olomouc: Palacký University.
Pomino, Natascha & Eva-Maria Remberger. 2022c. Romance root suppletion and cumulative exponence: Fusion, pruning, spanning. *Languages.* 7. 1–25.
Pomino, Natascha & Eva-Maria Remberger. 2025. Small syntactic terminal nodes, large Vocabulary Items: A spanning approach to irregular Romance verb inflection. *Glossa.* 10(1). 1–44.
Rizzi, Luigi. 1997. The fine structure of the left periphery. In Liliane Haegeman (ed.), *Elements of grammar*, 281–337. Dordrecht: Kluwer.
Schmidt, Johannes. 1883. Das suffix des participium perfecti activi. *Zeitschrift für vergleichende Sprachforschung auf dem Gebiete der Indogermanischen Sprachen.* 26. 329–400.
Serova, Kutay. 2023. Right Edge Restriction is non-uniform: Evidence from Turkish. [To appear in *Proceedings of the 16th Workshop on Altaic Formal Linguistics.*]
Skutsch, Franz. 1901. Calē-facere. *Zeitschrift für die österreichischen Gymnasien.* 52. 195–197.
Skutsch, Franz. 1914. *Kleine Schriften*. Leipzig/Berlin: B. G. Teubner.
Sommer, Ferdinand. 1902. *Handbuch der lateinischen Laut- und Formenlehre*. Heidelberg: Carl Winters Universitätsbuchhandlung.
Sommer, Ferdinand. 1914. *Kritische Erläuterungen zur lateinischen Laut- und Formenlehre*. Heidelberg: Carl Winters Universitätsbuchhandlung.
Sonnenburg, P. E. 1901. Zur Ableitung von *calefacio* und *calebam*. *Indogermanische Forschungen.* 12. 386–388.
Sportiche, Dominique. 1995. Sketch of a reductionist approach to syntactic variation and dependencies. In Héctor Campos & Paula Kempchinsky (eds.), *Evolution and revolution in linguistic theory*, 356–398. Washington, DC: Georgetown University Press.
Spyropoulos, Vassilios, Anthi Revithiadou & Phoevos Panagiotidis. 2015. Verbalizers leave marks: Evidence from Greek. *Morphology.* 25. 299–325.
Starke, Michal. 1995. On the format for small clauses. In Anna Cardinaletti & Maria Teresa Guasti (eds.), *Small clauses*, 237–269. New York: Academic Press.
Starke, Michal. 2004. On the inexistence of specifiers and the nature of heads. In Adriana Belletti (ed.), *Structures and beyond*, 252–265. Oxford: Oxford University Press.

https://doi.org/10.1017/S002222672610111X Published online by Cambridge University Press

Starke, Michal. 2009. Nanosyntax: A short primer to a new approach to language. *Nordlyd.* 36(1). 1–6.
Storment, John David. 2025. Agreement variation and optionality in Spanish existential clauses, 54 pp. https://ling.auf.net/lingbuzz/009223 (accessed 12 August 2025).
Stowasser, Joseph Maria. 1901. Calē-facere. *Zeitschrift für die österreichischen Gymnasien.* 52. 193–195.
Surányi, Balász. 2010. Toward a strongly derivational syntax. In Michael T. Putnam (ed.), *Exploring crash-proof grammars*, 167–212. Amsterdam: Benjamins.
Svenonius, Peter. 2004a. Slavic prefixes and morphology: An introduction to the *Nordlyd* volume. *Nordlyd.* 32(2). 177–204.
Svenonius, Peter. 2004b. Slavic prefixes inside and outside VP. *Nordlyd.* 32(2). 205–253.
Svenonius, Peter. 2018. Delimiting the syntactic word, 35 pp. https://ling.auf.net/lingbuzz/003934 (accessed 2 November 2023).
Taraldsen Medová, Lucie & Bartosz Wiland. 2019. Semelfactives are bigger than degree achievements: The nanosyntax of Czech and Polish semelfactive and degree achievement verb stems. *Natural Language and Linguistic Theory.* 37. 1463–1513.
Thesaurus Linguae Latinae. 1900–. Berlin (formerly Leipzig): De Gruyter (formerly Teubner). https://tll.degruyter.com (accessed 17 November 2023).
Tyler, Matthew. 2023. A uniform syntax for non-valency-increasing causatives. [To appear in *Syntax.*]
Wang, Qi & Anders Holmberg. 2021. Reduplication and the structure of nouns in Xining Chinese. *Natural Language and Linguistic Theory.* 39. 923–958.
Wexler, Ken. 1994. Optional infinitives, head movement, and economy of derivation. In Norbert Hornstein & David Lightfoot (eds.), *Verb movement*, 305–350. Cambridge: Cambridge University Press.
Wiland, Bartosz. 2009. *Aspects of order preservation in Polish and English.* Ph.D. dissertation, Adam Mickiewicz University.
Zyman, Erik. 2020. Morphology as Syntax: A case study of the syntactic autonomy of prefixes. Presented at the Syntactic Approaches to Morphology workshop, NYU (virtual).
Zyman, Erik. 2021. Antilocality at the phase edge. *Syntax.* 24(4). 510–556.
Zyman, Erik. 2022. Proleptic PPs are arguments: Consequences for the argument/adjunct distinction and for selectional switch. *The Linguistic Review.* 39(1). 129–158.
Zyman, Erik. 2024. On the definition of Merge. *Syntax.* 27(4). 653–689.
Zyman, Erik. 2025a. Radical tmesis is Internal Merge. *Probus.* 37(2). 313–353.
Zyman, Erik. 2025b. On the symmetry between Merge and Adjoin, 38 pp. https://drive.google.com/file/d/1Bgc6k3tS-bmFo58Oko2U1i_fmOOrWKA/view (accessed 13 January 2026).
Zyman, Erik & Nick Kalivoda. 2020. XP- and X^0-movement in the Latin verb: Evidence from mirroring and anti-mirroring. *Glossa.* 5(1). 1–38.

Cite this article: Zyman, Erik. 2026. "On the syntactic autonomy of theme vowels." *Journal of Linguistics*. doi:10.1017/S002222672610111X

https://doi.org/10.1017/S002222672610111X Published online by Cambridge University Press