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Ordering 2nd and 3rd conjugation verbs in Spanish through the imperfective

Ordenando os verbos da 2ª e 3ª conjugação em espanhol através do imperfeito

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Abstract: The goal of this article is to order Spanish 2nd conjugation verbs (verbs with a theme vowel '-e') with respect to 3rd conjugation verbs (with '-i' as a theme vowel). I will argue for an ordering 1st-3rd-2nd for Spanish, and I will discuss which evidence we have with respect to whether 1st conjugation verbs (with '-a' as the theme vowel) have the biggest or the smallest verbal exponents. The argumentation will lead me to differentiate two exponents for alternating vowel verbs, which are homophonous under certain phonological conditions.

Keywords: Nanosyntax. Theme vowels. Irregularity. Imperfective. Spanish.

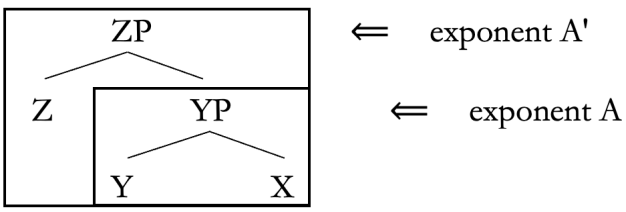
Resumo: O objetivo deste artigo é ordenar os verbos da 2ª conjugação do espanhol (verbos com vogal temática '-e') em relação aos verbos da 3ª conjugação (com '-i' como vogal temática). Defenderei uma ordenação 1ª-3ª-2ª para o espanhol, e discutirei quais evidências temos quanto à questão de se os verbos da 1ª conjugação (com '-a' como vogal temática) possuem os maiores ou os menores expoentes verbais. A argumentação me levará a diferenciar dois expoentes para os verbos com alternância vocálica, que são homófonos sob certas condições fonológicas.

Palavras-chave: Nanossintaxe. Vogais temáticas. Irregularidade. Imperfeito. Espanhol.

1 An analytical promise and a problem

This article deals with the relative structural ordering of the three Theme Vowels (henceforth ThV) in Spanish. In Nanosyntax, the size of the Lexical tree associated to an exponent determines exponent choice in two senses that will be relevant here: first, the size determines suppletion, which given identical low syntactic sequences in one domain forces use of the bigger exponent when extra features appear at the top of the structure (1).

(1)



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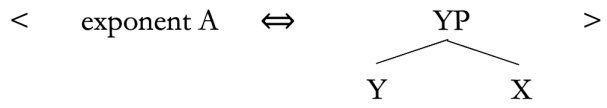
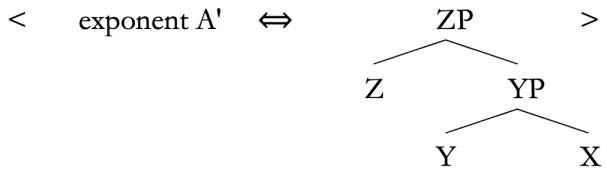
In (1), the exponent A is used whenever the material lexicalised by the exponent is confined to Y and X in the configuration shown in (2-a), and A' is used when the extra feature Z is merged over YP (2-b).

(2) a.



b.



Second, the maximal size of the lower exponent determines which other exponents will be used to lexicalise the higher structure. If the exponent used to lexicalise X reaches up to YP, the next exponent used — all things being equal — will be one whose lowest feature in the Lexical Tree is the head immediately dominating YP, Z in (1). If the low exponent has its top at ZP, unlike what is shown in (2), the next exponent will have the head immediately dominating ZP as its lowest member in the Lexical tree, say W. This effect follows naturally from the Lexicalisation Algorithm (Caha *et al*., 2025), which ensures that lexicalisation will happen after each syntactic Merge operation and proceeds from bottom to top (3).

(3) a. Merge F and lexicalise;
b. If fail, try a spec-to-spec movement and lexicalize;
c. If fail, try a movement of the complement of the newly inserted feature and lexicalize;
d. If fail, go back to the previous cycle and try the next option for that cycle;
e. If fail, spawn a new derivation providing feature X and merge that with the current derivation, projecting feature X to the top node.

Lexicalisation is possible only when the lexical entry of the exponent matches the tree built in the syntax, following the Condition on matching in (4), from Caha *et al*. (2025, p. 12):

(4) **Condition on Matching**
A lexically stored constituent L [=the exponent] matches a syntactic phrase S iff S is identical to L.

In this article, I will apply this methodology to order the three Spanish conjugation classes. I will address apparently contradictory facts in the distribution of the ThVs in 2nd and 3rd conjugation verbs. I will show that the apparent contradiction can be

resolved. The relevant facts can be analyzed by proposing an ordering where the foot of the theme vowel '-i' is between the one for '-a' and the one for '-e', as represented in (5).

(5) Theme vowel A - Theme vowel I - Theme vowel E

Secondarily, I will furthermore discuss the directionality of the ordering: do verbs that take '-a' reach higher or lower than verbs that take the other theme vowels?

The rest of this article is structured as follows. In the rest of this section, I will present some basic facts about Spanish and the central problem that I will deal with. In §2, I will discuss the evidence and consequences of the existence of two types of alternations, phonological and lexical, and motivate that A-verbs are in one of the extremes of the ordering sequence. In §3 I use the imperfective to argue that I-verbs are between A-verbs and E-verbs. In §4, I address the present of alternating I-verbs, and in §5 I present my conclusions and discuss why I favour an account where A-verbs have the smallest root exponents.

1.1 Three conjugation classes in Spanish

As is well known (see for instance Alcoba, 1999), Spanish has three types of verbs distinguished by the thematic formative morpheme they take: the so-called 1st conjugation, characterised by the theme vowel '-a' in the infinitive (from now on, A-verbs; see (6-a)), the 2nd conjugation, with the theme vowel '-e' (from now on, E-verbs; (6-b)), and the 3rd conjugation, with the theme vowel '-i' (from now on, I-verbs; see (6-c)).

(6) a. cant -a -r — A-verbs, 1st conjugation
sing THV -INF
'to sing'

b. beb -e -r — E-verbs, 2nd conjugation
drink THV -INF
'to drink'

c. viv -i -r — I-verbs, 3rd conjugation
live THV -INF
'to live'

While A-verbs is the default class in Spanish, the distribution of verbs across classes is idiosyncratic. There are no systematic syntactic, semantic or phonological properties that predict which theme vowel a given root exponent will take.

E-verbs and I-verbs take the same inflectional exponents in several contexts, in contrast to A-verbs. This happens, for instance, in the exponents used in the imperfective indicative (7a-c) and the present subjunctive (7d-f). In both cases, E-verbs and I-verbs take the same exponent, and A-verbs differ from both classes.

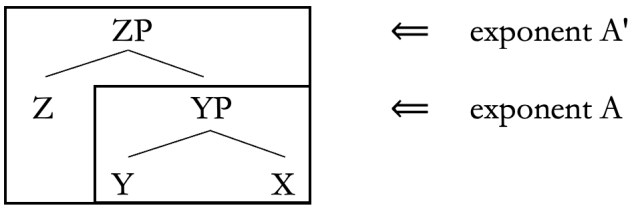
(7) a. cant -a -ba — A-verbs
sing THV -IMPF
'used to sing'

b. beb -í -a E-verbs
drink THV -IMPF
'used to drink'
c. viv -í -a I-verbs
live THV -IMPF
'used to live'
d. cant -e A-verbs
sing SBJ
'that you sing/for you to sing'
e. beb -a E-verbs
drink SBJ
'that you drink/for you to drink'
f. viv -a I-verbs
live SBJ
'that you live/for you to live'

1.2 The promise

Nanosyntax provides two tools to analyse the idiosyncratic choice of theme vowel without morphological diacritics[1]. As we have already seen, Nanosyntax treats suppletion as reflecting a difference in the structural size of the syntactic material lexicalised by that exponent. Given this, in the simplest case two exponents that have the same foot will compete according to their relative sizes: while both will be in principle able to lexicalise the lower part of the tree, only one of them will be able to lexicalise in addition some extra feature on top (8).

(8)



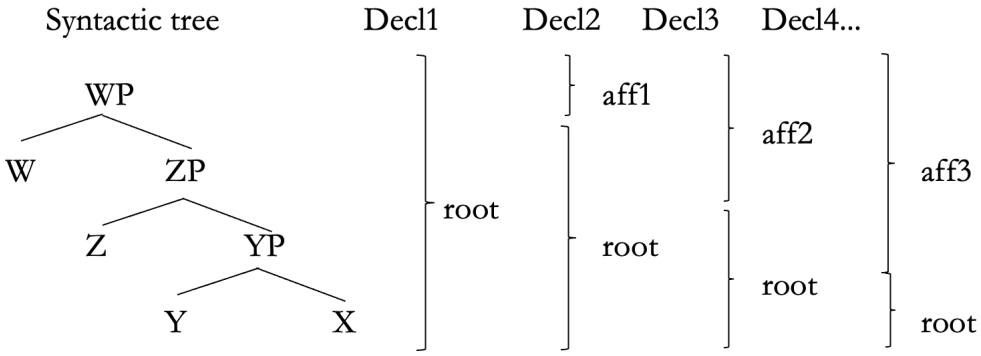
Therefore, when we find suppletion, we conclude that one of the two exponents reaches higher than the other. Which one of the two exponents is bigger, however, must be argued through additional facts.

[1]Diacritics are standardly used to account for ThV selection in Distributed Morphology (Halle and Marantz, 1993) since Oltra-Massuet's (1999) groundbreaking work. In her account, different root exponents carry (as vocabulary items, in PF) diacritics that preconfigure which morpheme materialises the ThV; hence the different ThVs are purely morphologically selected allomorphs of the same morpheme. Beyond conceptual reasons –having diacritics introduces an additional analytic device in the representation, a device that is not independently motivated by syntax, phonology or semantics–, the main problem with such diacritics is that they clash with the DM idea that roots are acategorial: the roots are associated to diacritics that are only interpretable when the root becomes a verb by virtue of the syntactic context.

The consequence is a second useful analytical tool: idiosyncratic selection by different bases of distinct exponents which seem to have the same function can be accounted for through the syntactic size of the base, without morphological diacritics.

Caha (2021) does this for declension classes: different idiosyncratic classes of nouns select different suffixes, which condition in turn some of the exponents used to express gender, number and case. In this type of analysis, within the same syntactic space, which all constituents belonging to the noun category have, the size of the root exponent reaches higher or lower within that syntactic space (9). The lexicalisation of the remaining material, which the root exponent cannot lexicalise, is left to other exponents, like declension markers. There is a complementarity relation between the root exponent and the declension marker: the higher one has its top, the higher the other has its foot.

(9)



The absence of syntactic or semantic effects in the choice of declension class follows if the syntactic space where the two exponents compete in each declension class is identical – that is, composed by the same features, as Caha (2021) shows. The account is lexical, because no rule predicts the size of the material spelled out by the root, but not morphological, because the size of the syntactic material that the root exponent can lexicalise completely determines how much material is left for the declension marker.

The same point can be made about theme vowels in Spanish, Portuguese and other languages, where the choice is devoid of syntactic or semantic effects[2]: see Taraldsen (2021) for Portuguese, Fábregas (2023) for Spanish, and Cortiula (2023) for Friulian. What we need for this is exactly what is represented in (9): the root exponent has a different size in each verb class, reaching more or less into the space lexicalised by theme vowels, and the choice of theme vowel depends on what the lowest feature that each one can lexicalise is.

[2]This is a good moment to point out that we have no guarantee that the object labelled 'theme vowel' in one language lexicalises the same syntactic features as the object that gets the same label in a different language. My reason for mentioning this is that in other languages it has been empirically shown that thematic formatives interact with Aktionsart (Taraldsen Medová and Wiland, 2018) or scalar information (Garet, 2021). As it frequently happens, the labels we have inherited from tradition can be misleading and blur empirical differences across languages, complicating our understanding of basic facts.

1.3 The problem

As we have seen, E-verbs and I-verbs take the same affixes in some contexts, such as imperfective indicative and present subjunctive, always to the exclusion of A-verbs. Given *ABA (Caha, 2009), this already means that the ordering has to be one of the following two:

(10) a. A-verbs - E-verbs - I-verbs
b. A-verbs - I-verbs - E-verbs

It is more difficult to order E-verbs and I-verbs with respect to each other, and the reason is that, on the surface, it seems that we have both cases where the E-verb theme vowel is replaced by the one for I-verbs, and the opposite.

In the imperfective indicative illustrated in (6) above, both E-verbs and I-verbs take the same theme vowel '-i', which on the surface corresponds to the one picked by I-verbs in the infinitive. In (6) above, it can be seen that I-verbs keep their theme vowel, while E-verbs adopt /i/. This replacement of /e/ by /i/ also happens in the participle (11), where E-verbs also replace /e/ with /i/.

(11)

viv- i -do	beb- i -do
live THV -ED	drink THV -ED
'lived'	'drunk'

However, in the present indicative, the /e/ seems to replace the /i/, as can be seen in Table 1 below. Both E-verbs and I-verbs take /e/ in the third persons, and the 2sg.

Table 1 – Conjugation of the regular present indicative of I-verbs and E-verbs

	E-verbs	I-verbs
1sg	beb-o	viv-o
2sg	beb-e-s	viv-e-s
3sg	beb-e	viv-e
1pl	beb-e-mos	viv-i-mos
2pl	beb-e-is	viv-í-(i)s
3pl	beb-e-n	viv-e-n

Source: Elaborated by the author.

This situation complicates ordering the two verb classes with respect to each other: in Nanosyntax, exponents can shrink and lexicalise less material than their lexical entry, for instance, when the presence of an additional feature forces the presence of a suffix whose foot is within the constituent spelt out by the base, but they cannot extend themselves beyond their Lexical Tree. Either '-i' has a lower foot than '-e', in which case we would expect '-i' to replace '-e' always, or '-e' has a lower foot than '-i', with the opposite prediction. If both replace each other, it would seem that their feet are exactly on the same position, contra the general account of conjugation classes, which implies that I-verbs and E-verbs must have different sizes.

2 Background: A-verbs vs. E-verbs and I-verbs and two types of irregularities

This section will build over Fábregas (2022, 2023) and introduce one central argument for the ordering between the A-verbs and the other two classes, based on types of irregularity.

Traditionally, morphology differentiates between phonologically conditioned allomorphy and morphologically conditioned allomorphy (Jakobson, 1948). In the first case, a surface alternation can be fully explained by the application of a phonological principle that either chooses between two versions of one single exponent (Bermúdez-Otero, 2016) or triggers a phonological process. In the second case, the surface alternation really involves two distinct exponents, which compete according to the presence or absence of other affixes.

Interestingly, in Spanish the two types of alternation are asymmetrically distributed across conjugation classes. The first type, which I call 'phonologically-driven alternation' (PDA), can appear in the three verb classes. PDAs are most clearly illustrated with so-called 'diphthongisation verbs': these verbs contain a mid-vowel in their base which, when stress falls on it, become a diphthong. Table 2 illustrates this for the present indicative and present subjunctive of '*cont-a*' 'tell', '*entend-e*' 'understand' and '*discern-i*' 'discern':

Table 2 – Diphthongisation verbs in the present indicative and present subjunctive

	A-verbs		E-verbs		I-verbs	
	ind	sbj	ind	sbj	ind	sbj
1sg	c[ué]nto	c[ué]nte	ent[ié]ndo	ent[ié]nda	disc[ié]rno	disc[ié]rna
2sg	c[ué]ntas	c[ué]ntes	ent[ié]ndes	ent[ié]ndas	disc[ié]rnes	disc[ié]rnas
3sg	c[ué]nta	c[ué]nte	ent[ié]nde	ent[ié]nda	disc[ié]rne	disc[ié]rna
1pl	cont[á]mos	cont[é]mos	entend[é]mos	entend[á]mos	discern[í]mos	discern[á]mos
2pl	cont[á]is	cont[é]is	entend[é]is	entend[á]is	discern[í](i)s	discern[á]is
3pl	c[ué]ntan	c[ué]nten	ent[ié]nden	ent[ié]ndan	disc[ié]rnen	disc[ié]rnan

Source: Elaborated by the author.

The alternation between a diphthongised and a non-diphthongised base is fully determined by phonological properties: the position of stress. In both present indicative and present subjunctive, the diphthongised form appears when stress falls on the base, and the mid-vowel version appears if stress falls on the theme vowel or the subjunctive suffix. The presence or absence of a theme vowel does not have an effect in this alternation[3].

This contrasts with the second type of allomorphy, which I will call 'exponent-conditioned alternation' (ECA). This one involves suppletion triggered by the size of the syntactic material lexicalised by each morpheme. A clear case of ECA is the so-called L-pattern of irregularity (see for instance Maiden, 2018), which puts together the form of the present indicative and all present subjunctive forms, irrespective

[3]I remain neutral with respect to whether this alternation involves a phonological operation or the choice between two structurally-equivalent allomorphs which are phonologically differentiated or emerges through some kind of phonological rule that operates over some segmentally-underspecified root vowels: what is important here is that the forms compete according to a phonological property.

of the position of stress. I illustrate this pattern with the verbs '*cab-e*' 'fit' and '*sal-i*' 'come out' (Table 3). I mark the position of stress so that it can be seen that there is no correlation between this phonological property and the choice of base, unlike in Table 2 above, and provide a segmentation of the forms to let the theme vowel (underlined) be immediately visible.

Table 3 – Present indicative and present subjunctive of L-pattern verbs

	E-verbs		I-verbs	
	ind	sbj	ind	sbj
1sg	qu[é]p-o	qu[é]p-a	s[á]lg-o	s[á]lg-a
2sg	c[á]b-e-s	qu[é]p-a-s	s[á]l-e-s	s[á]lg-a-s
3sg	c[á]b-e	qu[é]p-a	s[á]l-e	s[á]lg-a
1pl	cab-[é]-mos	quep-[á]-mos	sal-[í]-mos	salg-[á]-mos
2pl	cab-[é]-is	quep-[á]-is	sal-[í]-(i)s	salg-[á]-is
3pl	c[a]b-e-n	qu[é]p-a-n	s[a]l-e-n	s[á]lg-a-n

Source: Elaborated by the author.

In contrast with Table 2, here the position of stress (or any other phonological property) provides no information about the alternation between the bases '*quep-/cab-*' and '*sal-/salg-*': both exponents appear in both stressed and unstressed contexts. The generalisation that determines the distribution of the two root exponents is exponent-based: in the presents, the forms '*cab-/sal-*' are always followed by a theme vowel, and the forms '*quep-/salg-*' emerge when there is no theme vowel.

The reader has probably noticed that Table 3 contains no A-verb, while the three classes are represented in Table 2. The reason is that the only surface alternations undergone by the root exponent of A-verbs in the present, imperfective, future, conditional and imperative are PDAs. There are no root exponents that undergo ECAs in these tenses for A-verbs[4].

From a Nanosyntactic perspective, this means that the root exponent of A-verbs must be ordered in one of the extremes of the sequence, either as the biggest or the smallest of the three groups of verbs. ECAs in Nanosyntax mean that the root exponent must change size, either becoming bigger or smaller, and A-verbs do not do this. The argumentation is particularly clear if we focus on the present indicative '-o' exponent, which is used by the three classes of verbs and never co-occurs with the theme vowel[5].

[4]The situation is less obviously true in the perfective forms, but I think that the generalisation also applies there. The verbs '*estar*' 'be-stage level', '*andar*' 'walk' and '*dar*' 'give' have irregular perfectives, respectively '*estuve*', '*anduve*' (in written Spanish; speakers tend to regularise it in spoken language) and '*di*'. In the first two cases, however, the base exponent undergoes no alternation, and an additional morpheme /ub/ is added to them ('*est-uv-e*', '*and-uv-e*'). This morpheme, as well as the inflectional morphemes that appear after it, is surface-identical to the shape adopted by the auxiliary '*haber*' 'have' in the perfective, and I propose that it is in fact the same element, that is, that this morpheme is a perfective auxiliary. Therefore, the root exponent undergoes no ECA here either (additionally, there are reasons to think that '*estar*' is not an A-verb, and its final /a/ is not a theme vowel; see Fábregas 2022: Chapter 2). As for '*dar*', the irregularity is that it inflects as an I- or E-verb in the perfective, taking the exponents of this class; this suggests again that '*dar*' is not an A-verb, and the /a/ is part of a root exponent.

[5]It is unlikely that the absence of a theme vowel is due to a phonological rule: sequences /-ao/, /-eo/ and /-io/ are otherwise possible in forms: '*cre-e*' 'believe' > '*cre-o*' 'I believe', '*vah-a*' 'steam' > '*vah-o*' (/bao/), '*pi-a*' 'tweet' > '*pí-o*'.

(12) a. cant(*-a)-o
b. viv(*-i)-o
c. beb(*-e)-o

Assuming that '-o' is always the same exponent in the three conjugations, the fact that the root of A-verbs never undergoes ECA in this form means that A-verbs do not need to change size to meet with the '-o' exponent. The fact that both I-verbs and E-verbs have members which undergo ECA in this context means that they need to change size here, which involves suppletion when the lexicon happens to store two distinct exponents that differ in size.

The conclusion is the same as the existence of syncretisms between E-verbs and I-verbs suggested: A-verbs must be in one of the extremes of the sequence, being either the biggest or the smallest members.

The directionality of this ordering cannot be determined based on only the distribution of ECAS in these forms, though. A-verbs could be the smallest exponents, in which case '-o' would have a very low foot which forces the root of E-verbs and I-verbs to shrink, or they could be the biggest exponents, so that the root of E-verbs and I-verbs would need to combine with additional morphemes which, in some cases, trigger suppletion through pointers. We will revisit this issue in §5. Now we have a more urgent task, which is to order in the sequence E-verbs and I-verbs with respect to each other.

3 Irregular imperfectives

In order to determine the right ordering, I propose to extend the same argument, but now confined to these verbs. The absence of ECAs in A-verbs in particular contexts orders them in one of the extremes, as the biggest or the smallest of the three. In this section, I will discuss one context where I-verbs have no ECAs, but at least one E-verb has them, determining that I-verbs must be the biggest or the smallest within the remaining two verb classes.

The past imperfective in Spanish is remarkably regular, and it almost never exhibit ECAs. RAE & ASALE (2009, §4.13) cite '*ir*' 'go' and '*ser*' 'be' as the only two irregular verbs in the imperfective, and they are not very useful to build an argument: the verb commonly cited as '*ir*' is in fact a highly suppletive element which in the imperfective has a base 'i-' which is clearly distinct from the I-verb theme vowel, as it takes the A-verb imperfective exponent '*-ba*' ('*i-ba*' 'I went', impf.) and not the expected "-a" (remember (6) above). As for '*ser*' 'be', it uses the suppletive form '*era*', which never appears in other forms of its paradigm, and which at most may be segmentable into '*er-*' and "-a", although it is not obvious whether it should.

However, there is a third, much less commonly cited irregular verb in the imperfective: the E-verb '*ver*' 'see'. This verb behaves in some cases as if the root exponent is '*ve-*', and in other cases as if it is '*v-*'. The following table (Table 4) compares the present indicative and the present subjunctive of this verb with the verb '*prove-e-r*' 'provide', whose root exponent ends in /be/, and '*deb-e*' 'must', for comparison. I colour the cells so that the forms can be directly identified.

Table 4 – Present indicative and present subjunctive of three E-verbs

	prove-e 'provide'		*v-e* 'see'		*deb-e* 'must'	
	ind	sbj	ind	sbj	ind	sbj
1sg	prove-o	prove-a	ve-o	ve-a	deb-o	deb-a
2sg	prove-e-s	prove-a-s	v-e-s	ve-a-s	deb-e-s	deb-a-s
3sg	prove-e	prove-a	v-e	ve-a	deb-e	deb-a
1pl	prove-e-mos	prove-a-mos	v-e-mos	ve-a-mos	deb-e-mos	deb-a-mos
2pl	prove-é-is	prove-á-is	v-e-is	ve-á-is	deb-é-is	deb-á-is
3pl	prove-e-n	prove-a-n	v-e-n	ve-a-n	deb-e-n	deb-a-n

Source: Elaborated by the author.

As can be seen in the case of '*prove-e*', the sequence /e.e/ is phonotactically admissible in the Spanish conjugation. The verb '*ver*' 'see', in contrast, never has this sequence: in all present indicative forms except, its shape is as the one displayed by '*deb-e*', a verb whose root exponent does not end in an /e/ vowel. However, in the present indicative and the present subjunctive, '*ver*' displays the same sequence as '*prove-e*', '*e-o*' and '*e-a*', which is the expected one for a verb whose root exponent ends in '-e', and clearly distinct from '*deb-e*'.

This is a clear case of L-shape pattern where the present indicative and the present subjunctive use '*ve-*', and the rest of the present indicative uses '*v-*'.

Importantly for our purposes, though, the '*ve-*' exponent appears in the past imperfective too. In Table 5 it can be seen that its imperfective patterns with '*prove-e*', not with '*deb-e*'.

Table 5 – Imperfective conjugation of '*ver*' 'see' compared to verbs with and without final /e/

	prove-e 'provide'	*v-e* 'see'	*deb-e* 'must'
1sg	prove-í-a	ve-í-a	deb-í-a
2sg	prove-í-a-s	ve-í-a-s	deb-í-a-s
3sg	prove-í-a	ve-í-a	deb-í-a
1pl	prove-í-a-mos	ve-í-a-mos	deb-í-a-mos
2pl	prove-í-a-is	ve-í-a-is	deb-í-a-is
3pl	prove-í-a-n	ve-í-a.n	deb-í-an

Source: Elaborated by the author.

Crucially, '*ver*' becomes '*ve-í-a*' in the imperfective, using the '*ve-*' exponent that we have seen emerges when the base shrinks. If the base was '*v-*' in these cases, we would get the imperfective '*v-í-a*', in parallel to '*deb-í-a*'.

Note that between the root exponent and the '-a', which is the imperfective marker for E-verbs and I-verbs, there is an extra /i/. This exponent is identical to the theme vowel of I-verbs, such as '*viv-i*' 'live'. There are no I-verbs that undergo ECAs in the imperfective[6]. This is precisely what we expect if the /i/ seen in the imperfective for both E-verbs and I-verbs is the theme vowel of I-verbs, which is able to spell out also the imperfective layer.

[6]Of course, this claim is true only if '*ir*' 'go' is not treated as an I-verb. The facts clearly indicate that it is not an I-verb: the present indicative is '*v-a-s*', '*v-a*', '*v-a-mos*' *etc.*, which shows that the verb is actually an A-verb; the fact that it takes '*-ba*' in the imperfective, as any other A-verb, confirms this diagnostic: the /i/ is not a theme vowel but a suppletive root exponent.

The fact that no I-verb has an ECA in the imperfective is accounted for if the vowel used in this form is already the theme vowel that combines with the maximal structure for I-verb exponents. In such case, the I-verb root exponent will not have to change size in this form, so no suppletion will be triggered.

By the same reasoning, if the E-verb '*ver*' 'see' takes with '-i' the root exponent that has been identified as smaller from the present subjunctive and the present indicative forms, it can only mean that '*-i-*' makes the root of E-verbs change size, triggering suppletion in this case.

Again, this does not tell us the directionality of the ordering, but it does tell us the relative ordering. A-verbs do not change size with '-o' because its base has the right size, while the other two verb classes must adapt its size in this context. The verb '*ver*' 'see' uses in this context a suppletive form '*ve-*'. This same form is used in the imperfective indicative, where there is no single I-verb that undergoes suppletion. Therefore, E-verbs need to adapt their size in the imperfective like both I-verbs and E-verbs need to adapt theirs in the presence of '-o'. This allows us to propose the ordering in (13):

(13) A-verbs - I-verbs - E-verbs

But if this is true, what happens with the present indicative cases where /e/ seems to replace /i/? The next section will address these cases.

4 Present indicatives of I-verbs and E-verbs

In the past imperfective, where '*-i-*' always emerges for both I-verbs and E-verbs, stress falls on the theme vowel, as marked by the '*-í-*' orthographic convention. Table 6 below repeats the present indicative conjugation for a regular I-verb like '*viv-i*' in comparison with a regular E-verb. As can be seen, also here the ThV emerges as '*-i-*' whenever the stress falls on it, and as '*-e-*' otherwise.

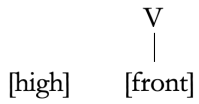
Table 6 – Present indicative of regular I-verbs and E-verbs

	viv-i 'live', I-verb	*beb-e* 'drink', E-verb
1sg	v[í]v-o	b[é]b-o
2sg	v[í]v-e-s	b[é]b-e-s
3sg	v[í]v-e	b[é]b-e
1pl	viv-[í]-mos	beb-[é]-mos
2pl	viv-[í]-(i)s	beb-[é]-is
3pl	v[í]v-e-n	b[é]b-e-n

Source: Elaborated by the author.

The distribution of /i/ and /e/ in I-verbs is a 'phonologically-conditioned alternation' PCA, not an ECA. It matches the position of stress, which is a phonological property, and therefore I will propose a phonological account of it (see also Myler, 2025a, 2025b for germane ideas, although formulated for the perfective forms, and also Roca, 2010, where Spanish theme vowels are minimal segmental features). My proposal is that the theme vowel of I-verbs is not a fully specified /i/, but rather the segmental structure in (14):

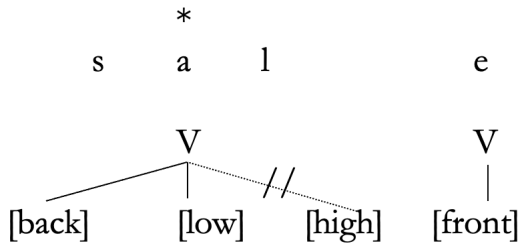
(14)



The exponent for the theme vowel is defined as a front vowel, with a floating [high] feature. The intuition that I will only partially formalise here, pending a better grounded phonological hypothesis, is that the [high] feature must align with the stressed vowel within the prosodic word. This phonological hypothesis is germane to other cases where phonological specifications dock on the most prominent element within a domain, as opposed to a prosodic or structural edge (see, among others, Prince, 1983, Everett, 1988, de Lacy, 1997, 2002, and Kenstowicz, 1997). This type of anchoring may be related to Zoll's (1998/2004) 'positional markedness', which is based on the empirical fact that prominent positions support more contrast between segments than less prominent positions. On the (I believe) standard assumption that contrast involves feature specifications, this means that prominent positions admit more featural specifications (see also Martínez-Paricio, 2013).

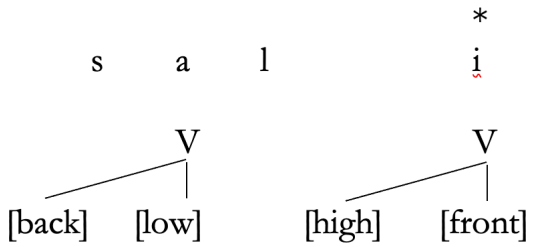
Like this, when the stress falls on the V of the theme vowel exponent, it aligns with it and triggers /i/; when the stress falls in another syllable, the theme vowel emerges only as the front /e/, and the [high] feature attempts docking to the stressed vowel. When the vowel is segmentally specified for height, this has no visible phonological effects on the surface. See, as an illustration, '*sal-i*' 'come out' (15), whose /a/ vowel is specified as [low]. When stress falls on the /a/, [high] attempts docking to it and fails, not emerging on the surface.

(15)



When stress falls on the theme vowel, on the other hand, [high] attempts docking to the vowel position already defined as [front] (16). As this position lacks a height specification, the docking is successful and the vowel emerges as /i/.

(16)



As I will show now, sometimes the docking is successful, triggering a vocalic change on the base that may be confused with exponent allomorphy.

4.1 High-mid alternations in I-verbs

About 25% of I-verbs in Spanish (around 1% of all Spanish verbs; see Boyé and Cabredo Hofherr, 2004) display an irregularity that interacts with the shape of the theme vowel (see also Linares, Rodríguez-Fornells and Clahsen, 2006; Bermúdez-Otero, 2013, 2016, who favour an account with competing exponents that are phonologically selected, as in the case of diphthongisation presented in §2 above). Table 7 illustrates the pattern with the present indicative, the present subjunctive and the imperfective past of the I-verb '*ped-i*' 'ask for'. I mark the position of stress for clarity.

Table 7 – Present indicative, present subjunctive and imperfective of '*pedir*'

	present indicative	present subjunctive	imperfective past
1sg	p[í]d-o	p[í]d-a	ped-[í]-a
2sg	p[í]d-e-s	p[í]d-a-s	ped-[í]-a-s
3sg	p[í]d-e	p[í]d-a	ped-[í]-a
1pl	ped-[í]-mos	pid-[á]-mos	ped-[í]-a-mos
2pl	ped-[í]-(i)s	pid-[á]-is	ped-[í]-a-is
3pl	p[í]d-e-n	p[í]d-a-n	ped-[í]-a-n

Source: Elaborated by the author.

Note that in the present indicative and the imperfective, but not in the present subjunctive, the '*pid-/ped-*' correlates with the position of stress: when stress falls on the theme vowel, it emerges as /i/ and correlatively the base emerges as /ped/; when stress falls on the root exponent, it emerges as /pid/ and correlatively the theme vowel emerges as /e/.

In the present subjunctive, '*pid-*' appears in all cases, irrespective of the position of stress: in the 1pl and the 2pl, stress falls on the subjunctive suffix and still the root exponent emerges as '*pid-*'. The generalisation here, as in the case of '*salg-a*' in the subjunctive (§2), is lexical: there is no theme vowel in these cases. The form '*pid-o*' meets both the phonological property (stress on the root exponent) and the lexical property (no theme vowel), but the existence of L-patterns strongly suggests that it should be treated on a par with the present subjunctive, as I will do.

In what follows, I will propose that the paradigm of '*ped-i*' is mixed because the root exponent has two structure-conditioned exponent that become surface-homophonous in some cases. First, there is a suppletive entry '*pid-*' which has

the right size to combine with the subjunctive morpheme and the '-o'. Second, there is a second entry listing the phonologically deficient exponent '*pVd-*', corresponding to the size of the root exponent when it combines with the I-verb theme vowel.

4.2 A phonological account for a phonological generalisation

I propose that all forms in the present indicative except the are a manifestation of the '*pVd-*' lexical entry. The underspecified vowel emerges as /e/ when the [high] feature does not dock into it because /e/ is clearly the default realisation of an empty vocalic segment[7]. The vowel /e/ is used in epenthetic contexts (Harris, 1969), for instance in loanword adaptations with phonotactically impossible consonant sequences in Spanish:

(17) a. standard
b. /e/ stándar

In Boyé and Cabredo Hofherr's (2004) *corpus* study, all alternating verbs in the present indicative contain the vowel /e/ in the base, confirming the prediction that the alternation only happens when the base vowel is underspecified. Historically, some verbs with the mid-vowel /o/ also underwent this alternation in earlier stages of Spanish, but the vast majority of these verbs have regularised their root exponents to /u/, with only one verb, '*pudrir*' 'to rot', undergoing the alternation for a minority of speakers, who accept the infinitive '*podrir*' (Elvira, 1998).

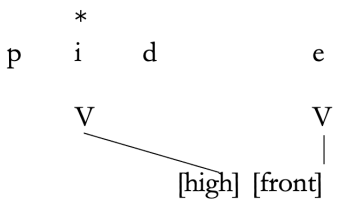
Table 8 – Present indicative of '*pudrir/podrir*'

	present indicative
1sg	p[ú]dr-o
2sg	p[ú]dr-e-s
3sg	p[ú]dr-e
1pl	pudr-[í]-mos or podr-[í]-mos (minoritary)
2pl	pudr-[í]-(i)s or podr-[í]-(i)s (minoritary)
3pl	p[ú]dr-e-n

Source: Elaborated by the author.

The account would work as follows: with the '*pVd-*' exponent, when the stress falls on the root exponent, the [high] feature docks to it, and turns the vowel into /i/:

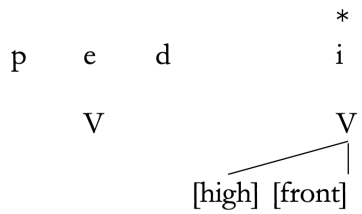
(18)



[7]See Starke and Cortiula (2021) for an account of Brazilian Portuguese mood-marked forms involving also exponents with floating features; the difference between the two accounts is that here I do not propose any exponent that has a subsegmental entry, but we coincide in the essential idea that part of the verbal sequence is lexicalised by exponents whose phonological shape triggers phonological operations which on the surface may look like suppletion.

When stress falls on the theme vowel, [high] docks to it and the underspecified vowel emerges as /e/.

(19)



There is a very small set of I-verbs with an /e/ on the base which do not alternate — 10, according to Boyé and Cabredo Hofherr's (2004) data, such as '*divergir*' 'differ'. For these verbs, the proposal is simply that these verbs are already segmentally specified and have no space for the [high] feature to dock.

4.3 A lexical account for a lexical generalisation

In the present subjunctive, and by correspondence with other L-shaped patterns, in the present indicative, the homophonous '*pid-*' form is not the result of docking of the high feature of the theme vowel, because the theme vowel has never been introduced. In such cases I propose that another exponent is used: as in '*sal-/salg-*', the '-o' exponent and the subjunctive '-a' have their foot at a different position than the I-verb theme vowel, forcing the root exponent to change size.

This proposal makes a very clear prediction: for alternating verbs, there should be cases where the root exponents used in the present indicative and imperfective are different from those used in the present subjunctive. This is precisely what one finds in the I-verb '*decir*' 'say'. This verb meets the phonological conditions to be alternating, and in fact it is, undergoing a '*dec-/dic-*' PCA alternation in the present indicative. Additionally, it is an L-pattern verb which uses a '*dig-*' exponent in the indicative and present subjunctive (Table 9).

Table 9 – Present indicative and present subjunctive of '*decir*'

	present indicative	present subjunctive
1sg	d[í]g-o	d[í]g-a
2sg	d[í]c-e-s	d[í]g-a-s
3sg	d[í]c-e	d[í]g-a
1pl	dec-[í]-mos	dig-[á]-mos
2pl	dec-[í]-(i)s	dig-[á]-is
3pl	d[í]c-e-n	d[í]g-a-n

Source: Elaborated by the author.

Let me, however, readily admit that this situation is very rare, and that in most verbs all alternating verbs in the group use the same exponent in both. This is perhaps not surprising if, during diachronic change, the shape of the lexical allomorphs piggybacked on the phonological alternation of the present indicative one. One could even speculate that the ambiguity of the present indicative form, where the root exponent with /i/ can be both due to phonology and lexical competition, favoured precisely the use of the /i/

shape for the smaller root exponent.

5 Prospects and conclusions

In this article, I have argued that the ordering between the three types of verb root exponents needed to account for the three Spanish ThVs is as in (20).

(20) A-verbs - I-verbs - E-verbs

The reasoning has been as follows: in the presence of '-o', A-verbs never change size, but both I-verbs and E-verbs do. The E-verb '*ver*' 'see' uses a suppletive root exponent in this form, which is also used in the imperfective, showing that it needs to change size in the same direction as the one needed for '-o'. No I-verb changes size in the imperfective, as there is never suppletion there, and the root exponent used in '-o' is never used there.

The ordering in (20) is compatible with the two possible ordering possibilities: that A-verbs are the smallest of them all, and E-verbs are the biggest (Fábregas, 2023) or that A-verbs are the biggest of them all (Taraldsen, 2021, although in his account I-verbs are the smallest, which would not fit for Spanish, and if the phonological account proposed in §4.2 also works in this language, would be unnecessary for Portuguese).

In the first hypothesis, A-verbs are smallest, the '-o' starts exactly where the root exponent of A-verbs finish, and the 1st conjugation subjunctive marker '-e' has a lower foot than the subjunctive marker '-a', which I-verbs and E-verbs take. Both I-verbs and E-verbs can undergo suppletion in the presence of '-o' because in this form the root exponent is confined to the maximal material spelled out by A-verb roots.

In the second hypothesis, the foot of '-o' is much higher, as well as the foot of subjunctive '-e'. I-verbs and E-verbs undergo suppletion because they have to reach a higher space than what their root exponent normally reaches.

As the reader may already imagine, I favour the first hypothesis.

In Fábregas (2023) I pointed out a theoretical reason to treat the ThV of A-verbs as the one with the lowest foot: I proposed that Spanish ThVs spell out the heads that turn an event description into a Davidsonian event that allows aspect, mood and tense modification (Ramchand, 2018); the fact that A-verbs are the default class translate as meaning that, by default, root exponents introduce different descriptions of an event, with Aktionsart and argument structure. The fact that '-a' is the default ThV translates in turn as meaning that '-a' covers the whole syntactic area required to build a proper verb. I also provided an argument to prove that '-a' foots at Voice, the head that intermediates between the event description and the building of a Davidsonian event: '-a', and not other ThVs, is used with nominal bases when they combine with suffixes that require external arguments, but do not become verbs that can be modified by aspect, mood and tense. For instance, from the noun '*intención*' 'intention', the adjective '*intencion-a-do*' 'intended' is formed, even if the verb *'*intencion-a-r*' does not exist; see also '*alcalde*' 'major' > '*alcald-a-ble*' 'that can become a major', in the absence of *'*alcald-a-r*'; these cases are only documented with '*-a-*' as a ThV. However, here I will give a new argument based on the suppletion cases.

As in Nanosyntax exponents can shrink but they cannot go beyond the material that their Lexical tree identifies, the second hypothesis requires E-verbs and I-verbs to combine with additional exponents to reach that space. (21) schematically represents this situation:

(21)

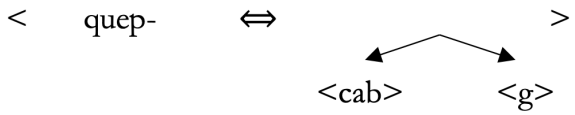
VP	X	X'	Y	Y'	Z	Z'
a. E-verbs	Additional exponent				-o	
b. I-verbs		Additional exponent			-o	

Source: Elaborate by the author.

There are candidates for this additional exponent. For instance, one could treat the '*-g-*' present in some suppletive L-pattern forms like '*dig-o*' 'I say', '*teng-o*' 'I have' or '*pong-o*' 'I put' as this additional exponent. A more fine-grained decomposition of the X feature may even explain why '*-g-*' triggers suppletion with some bases.

This requires treating alternating forms that lack the exponent '*-g-*' or an equivalent one (such as '*quep-o*' 'I fit', from '*cab-e*' 'fit') as related to entries with pointers[8] that declare that 'base+g' gets lexicalised as a special form ((22), see Vanden Wyngaerd, 2018).

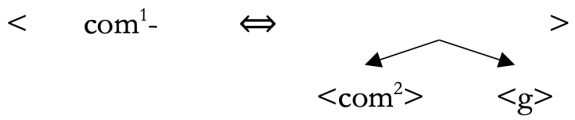
(22)



The problem posed by the extra morpheme emerges with regular I- and E-verbs, such as '*com-o*' 'I eat', from '*com-e*' 'eat'. In the second hypothesis, like the verbs with ECA, these must combine with some exponent. This exponent is not visible on the surface and does not trigger suppletion. This can mean three things. The first is that with them the exponent is null (perhaps regular verbs are bigger or smaller than those that take a visible extra exponent). While this is not impossible in principle, I am not aware of any piece of evidence in favour of this null exponent.

The second is that regular I- and E-verbs have entries like (22), where both the form without '*-g-*' and the form with '*-g-*' are accidentally homophonous (23).

(23)

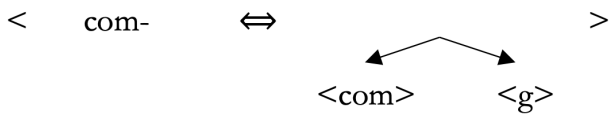


This has the weird effect of treating as deriving from an accidental relation between two

[8]Pointers are used when a lexical item materialises a feature F only in the presence of another exponent; its empirical effect is to restrict the scope of overwritting. On its applications to root suppletion, see Vanden Wyngaerd *et al*. (2022) and De Clercq *et al*. (2023) on adjectival root suppletion.

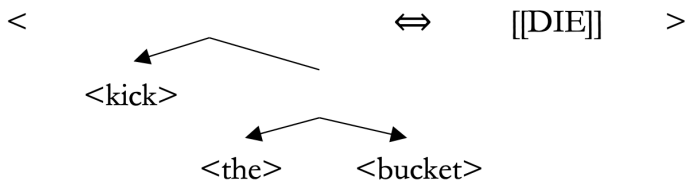
independent entries what in actuality is a regularity that affects the majority of I-verbs and E-verbs. The third possibility is an entry that points to itself, which in essence states that '*com-*' absorbs the '*-g-*' exponent (or equivalent one, this is irrelevant for the argument) (24).

(24)



This third option has a conceptual problem: pointers cannot be ignored from lexical entries (Baunaz and Lander, 2018). If they could, in a phrasal idiom like (25) we could take a part of it and still use the information associated to the lexical entry, with the result that the bucket may mean 'death', 'die', or something equivalent.

(25)



Following the same principle, (24) would mean that '*com-*' cannot be used when '*-g-*' is not present. I cannot think at this point of other ways to make the suppletive exponents grow in a way that does not have technical problems, but of course this does not mean that a technical solution cannot be found. At the present moment, that solution is not clear to me, and that is why I still favour the first hypothesis.

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