Late Insertion and Root Suppletion

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Abstract. This article proposes a Nanosyntactic approach to root suppletion. We show that within this theory, there is a straightforward way to account for root suppletion within a strictly modular theory of grammar. As a starting point, we first focus on the architectural difficulties that arise in the Distributed Morphology approach to Late Insertion. We then show how Nanosyntax circumvents these problems, and address two potential empirical issues for the Nanosyntactic treatment (multiple exponence and locality), showing how they provide support for the approach proposed.

1 Introduction

There are several good reasons to adopt a syntax-based Late Insertion model as an approach to morphology (see Halle & Marantz 1993, Marantz 1994, Embick & Noyer 2007 for a discussion). We start out by briefly discussing what we take to be the two most important ones of these reasons, universality and modularity. Universality refers to the fact that, in a model that places the lexicon after the syntactic derivation, the syntax no longer has to deal with the arbitrary and language-specific objects that lexical items are. Instead, the atoms of syntax correspond to a universal set of features that refer to syntactically relevant semantic distinctions, like ANIMATE, COUNTABLE, PLURAL, etc. Lexical items, understood as units that involve the unpredictable and language-specific pairing of a set of these features with a phonology, and with (encyclopaedic) meaning that is not syntactically relevant, become available only after syntax, in the process of the 'externalisation' of syntax through lexical insertion.

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The second major advantage of Late Insertion is modularity. By this we mean that Late Insertion offers a way to separate the syntactically relevant from the syntactically not relevant. Under such a modular view, syntax deals with whatever is syntactically relevant, and nothing else. This excludes from the syntactic module everything that is not syntactically relevant, specifically, the phonological and conceptual (Encyclopaedic) information that is associated with lexical items. If the atoms of syntactic derivations were lexical items, then their phonology and conceptual meaning would be necessarily present in syntax as well. This clashes with the insight that neither phonology nor conceptual information play any role in syntax. As Marantz (1996:16) puts it "[n]o phonological properties of roots interact with the principles or computations of syntax, nor do idiosyncratic Encyclopaedic facts about roots show any such interactions" (see also the Principle of Phonology-Free Syntax of Zwicky 1969, Zwicky & Pullum 1986, Miller et al. 1997). Late Insertion does justice to modularity, i.e. it provides an architecture in which the inability of syntax to refer to syntactically irrelevant properties of lexical items like *cat* and *dog*, both in terms of their phonology and conceptual meaning, is not a coincidence.

It has been a common stance in Distributed Morphology (DM) to extend the late insertion approach also to open-class lexical items, so-called roots. As Haugen & Siddiqi (2013) and Harley (2014) have recently argued, this move allows the theory to deal effectively with suppletion, while simultaneously maintaining the two advantages alluded to above. Since suppletive roots have, by definition, several phonologically unrelated forms depending on the context, it must be the case that roots enter the derivation without any phonology, and acquire it only once the appropriate context has been determined.

Within a classical DM architecture (Halle & Marantz 1993, Harley & Noyer 1999), the approach to roots poses two challenges (to be discussed in section 2). The first challenge is linked to the issue of how PF and CF end up selecting the same lexical item for phonological and conceptual interpretation, i.e., why *cat* can never mean DOG. The second challenge is (the lack of) competition between roots. On the one hand, any theory must allow for Free Choice at the level of Vocabulary Insertion (there is no competition between *cat* and *dog*). On the other hand, one must allow for competition among suppletive forms of the same root (*bad* and *worse* are in complementary distribution).

Because of these two issues, some recent approaches adopt the view that individual roots are, after all, differentiated in syntax (e.g. Harley 2014, following Pfau 2000, 2009). While this move solves the two issues noted above, it fails to deliver a fully modular architecture. The reason is the following: if roots are individuated in syntax, and syntax is allowed to access this distinction, we fail to derive the observation quoted above from Marantz' work, which can be summarised in the statement that the syntax is not affected by the difference between *cat* and *dog*. So it must be the case that syntax does not access the properties which differentiate individual roots (like phonology, concept or whatever diacritic is used as a stand in for these), and proposals to introduce these properties into the syntax, in whatever form, represent a violation of modularity. They also represent a step back in the direction of having syntax operate on language-independent objects.

As an alternative to this proposal, we introduce the architecture of Nanosyntax (Starke 2009, 2018) in sections 3 and 4. We show that due to the architecture of the theory and the way lexical insertion works, neither of the two problems mentioned above arise. By demonstrating this, we show that Nanosyntax allows for a late-insertion theory incorporating a syntactic computation that is radically empty of language-specific building blocks. In sections 5 and 6, we defend the approach against two kinds of possible objections. The first objection is that phrasal lexicalisation, on which the theory relies, is not the right tool for suppletion, because it does not allow for multiple exponence. Section 5 argues that it does. The second objection is that it cannot handle non-local conditioning of suppletive roots. Section 6 argues that this is, in fact, a desirable result.

2 Roots and suppletion in DM

In the current section, we discuss two issues that the approach to roots poses for Distributed Morphology.

The first issue is the following. For reasons that are not directly relevant for the current concerns, DM splits the derivation of words into two qualitatively different components. One part of the derivation takes place in the so-called narrow syntax, before the derivation splits into the so-called PF branch and the CF branch. On the PF-branch, various operations take place, beginning with morphological operations, which may add or delete nodes and features, enriching or impoverishing the structure provided by the narrow syntax. Their position on the PF branch is motivated by the fact that they do not affect meaning. Only after post-syntactic operations have finished their job does lexical insertion take place. This is depicted in Figure 1.

It is exactly the position of the lexicon down on the PF-branch that has consequences for late insertion of root morphemes. To see that, consider models such as Halle & Marantz (1993), Marantz (1996), De Belder & Van Craenenbroeck (2015),

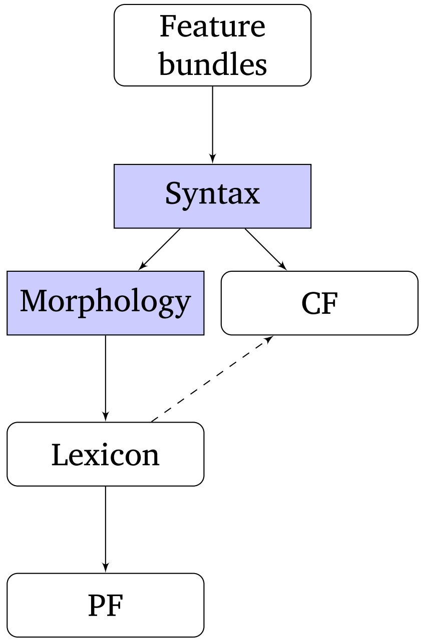


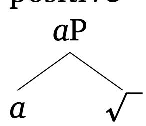
Figure 1: The Distributed Morphology model of grammar

where syntax contains just a single root symbol $\sqrt{\ }$, which is an object devoid of syntactic, phonological or semantic properties, and works as a pure placeholder for the insertion of the morphological root. All root morphemes such as *cat* and *dog* are inserted into such a non-discriminate $\sqrt{\ }$ terminal based on a free choice (Harley & Noyer 1999). Given this setup, the question arises how CF knows what kind of root has been inserted at the PF branch of the derivation, so that if *cat* is inserted, the CF learns about this and the Encyclopaedia provides the right concept at this interface. What must be prevented is that the non-discriminate $\sqrt{\ }$ symbol arrives at CF and CF too has the power to freely select a particular lexical item, so that, in effect, *cat* means DOG. In order to avoid this, a direct communication line (depicted by the dashed arrow) is established between the lexicon and CF. The architectural consequence is that PF and CF communicate both via the syntactic derivation, but also outside of it for the sole purpose of root insertion. The direct communication line between the lexicon (i.e. the PF branch) and CF is a complication that one would prefer to stay without.

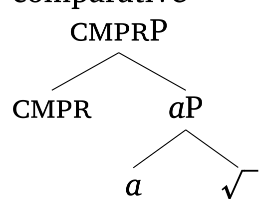
The second unresolved issue pertains to competition between roots. The main point (on which we elaborate below) is the following: in order to prevent the root *bad* from occurring in the comparative **badd-er* (instead of *worse*), the roots *bad* and *worse* must be in competition, in such a way that *bad* comes out as the winner in the positive, and *worse* in the comparative. However, once we acknowledge the existence of competition among roots, we run into problems as well. Briefly put, *worse* will win against *bad* in the comparative, since it is the more specific form. That is in itself unproblematic. The problem is avoiding that *worse* also winst against any other adjective, like *nice*: we do not want the comparative of *nice* to come out as *worse*. To achieve this, we somehow need to leave *nice* (and any other adjective except *bad*) out of the competition with *worse*. This is, however, far from trivial to achieve in the DM framework. The remainder of this section elaborates on this particular issue in the domain of adjectival degree.

To make a number of empirical points about root suppletion, we will be often using the positive and the comparative degree as an example (for a number of reasons, one of them being the fact that this is a well-researched topic, thanks to the work by Bobaljik 2012). The structures we will be initially assuming are as depicted in (1). More specifically, we will be assuming that the positive degree (in (1a)) is contained in the comparative degree (1b), which adds the CMPR head on top (Bobaljik 2012). We will decompose the positive degree into a $\sqrt{\ }$ node and a little *a* node, to maintain easy comparison with existing proposals in the DM literature (but see Vanden Wyngaerd et al. 2020, De Clercq et al. submitted for a radically different type of approach to the bottom of the functional hierarchy).

(1) a. positive



b. comparative



In the DM framework, root suppletion, as in the pair *good-better*, is accounted for by contextual specification of Vocabulary Items (VIs), which insert phonology under the terminals, in this case the $\sqrt{\ }$ node.

(2) a. $\sqrt{\ }$ ⇔ *bett-* / ___] *a*] CMPR]
b. $\sqrt{\ }$ ⇔ *good*

In the positive degree, these VIs are not in competition with each other, as there is no CMPR head there, so that only (2b) meets the structural description, and *good* will be inserted. In the comparative, given in (1b), however, a competition between (2a) and (2b) will arise, since the structure generated in syntax meets the structural description of both rules. The outcome of that competition is determined by the Elsewhere Principle (Kiparsky 1973, Halle 1997:428), which states that a more specific rule takes precedence over a more general one. (2a) thus wins in the competition in the comparative, since it is more specific than (2b). As a result, *bett* is inserted in the comparative. The CMPR head is spelled out as *-er*, yielding the form *bett-er*, little *a* being silent.

Now the VI in (2b) as currently formulated is just a fragment of the English Vocabulary. If left on its own, it will insert *good* under any terminal $\sqrt{\ }$ node. One way of extending our fragment will therefore be to add more roots:

(3) $\sqrt{\ }$ $\Leftrightarrow$ *good, nice, happy, small, intelligent, bad, …*

What this extended rule achieves is that there is a free choice of insertion of a variety of roots in the positive degree under $\sqrt{\ }$. But now a problem arises with respect to the 'suppletive' rule (2a): since it is more specific than (2b), it is also more specific than the extended rule (3) (which is in relevant respects like (2b)). The result is that *bett-* will be inserted under $\sqrt{\ }$ in any comparative structure (outcompeting not only *good*, but also other roots), obviously a wrong result. This problem in the analysis of root suppletion was pointed out by Marantz (1996), and it is a consequence of the format of the rule (2a): it basically says that *any* $\sqrt{\ }$ has the form *bett-* in the context of a comparative.

The issue is still a matter of current research in DM (for an overview of possible options, see Haugen & Siddiqi 2013:514). The earliest solution, suggested by Marantz (1997), held that root suppletion does not exist, except in the functional vocabulary, where the competition problem can be easily solved (see below). More recently, Harley (2014) has argued that $\sqrt{\ }$s are individuated in the syntax, i.e., prior to vocabulary insertion, by means of a numerical index. Once *bett-* is not a comparative of *just any* $\sqrt{\ }$, but a comparative of *one particular* $\sqrt{\ }$ with a unique index, the problem disappears. This proposal has as an additional benefit that post-insertion access to the PF branch by the CF branch of the grammar (i.e. the dotted line in Figure 1) is no longer needed, since the index will be present from the start of the derivation, and be carried through to both PF and CF.[1]

Let us show in some greater detail how these solutions work for both Marantz' and Harley's proposal by considering the VIs for the suppletive pair *good–bett* in

[1] Other solutions are thinkable, but have been shown to be less viable. For example, one could suggest that VIs for $\sqrt{\ }$ nodes do not compete with each other at all (something which is suggested by the free choice rule in (3)), but such a generalised lack of competition at the $\sqrt{\ }$ node would lead to the problem that both *gooder* and *better* are generated (Harley & Noyer 1998).

(4), which are slightly adapted from Bobaljik (2012) to fit the trees in (1) above:

(4) a. $\sqrt{\text{GOOD}}$ ⇔ *bett-* / ___] *a*] CMPR]
b. $\sqrt{\text{GOOD}}$ ⇔ *good*

In Marantz' idea, $\sqrt{\text{GOOD}}$ is a syntactic terminal which is crucially not a contentless $\sqrt{\ }$ node, but a node with at least one functional feature (represented as $\sqrt{\text{GOOD}}$ in (4)). Nonsuppletive adjectives are inserted by the free-choice rule (3) (except that (3) would no longer contain *good* as a choice). As a consequence, the VIs in (4) only compete with each other, not with (3), since the VIs in (4) apply to different syntactic environments than those in (3).

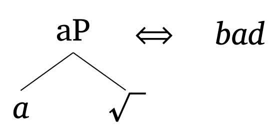
Evidence against this position has been presented by Harley (2014), who argues that suppletive verbs in Hiaki have rich lexical meanings, for which an analysis in terms of functional heads is unlikely (cf. Haugen & Siddiqi 2013). To deal with this issue, she proposes an alternative where $\sqrt{\text{GOOD}}$ in (4) would be written more accurately as $\sqrt{93}$ (or any other kind of index that would uniquely identify this root among all others). The pre-syntactic lexicon in this view contains an infinity of different, individuated, $\sqrt{\ }$s (see also Pfau 2000, 2009). Free choice of a root is then not exercised at the point of insertion (as in Marantz' approach), but at an earlier point, namely in the selection of items for the numeration, i.e., when the elements that will serve as the input to the syntactic computation are selected. At the point of insertion, the competition is consequently restricted to the two VIs in (4), modulo the replacement of $\sqrt{\text{GOOD}}$ by $\sqrt{93}$.

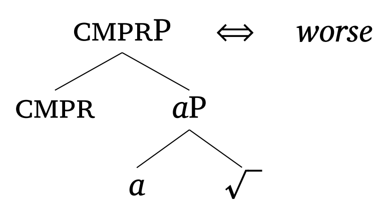
In sum, in order to deal with suppletion, both approaches must somehow identify the unique lexical item that undergoes suppletion, and limit the competition to those VIs which stand in a suppletive relation to this particular item. Marantz (who works with just a single $\sqrt{\ }$) makes suppletive items unique by placing them in the class of 'functional' heads. Harley (2014) proposes that $\sqrt{\ }$s are individuated by an index. We see two potential drawbacks of this latter approach. The first issue is that if $\sqrt{\ }$s really lack any constant *substantive* property, i.e. something more contentful than a mere index, one needs to seriously wonder why they should be differentiated in narrow syntax at all. The second issue is that by differentiating roots in the syntax, Harley in fact allows for a theory where *cat* and *dog* have different syntax. This is because they have a different index, and syntax could be sensitive to this property (since it is present inside it). That, however, goes against the original observation by Marantz that "[n]o phonological properties of roots interact with the principles or computations of syntax, nor do idiosyncratic Encyclopaedic facts about roots show any such interactions." In what follows, we will argue that there is a way to handle root suppletion without the need to differentiate roots in syntax by an arbitrary index.

3 Cyclicity and Phrasal lexicalisation

In this section, we describe the main features of an account that allows for root suppletion with just a single $\sqrt{}$ in syntax (or without any $\sqrt{}$ at all, if $\sqrt{}$s are to be eliminated, as in Ramchand 2008 or Vanden Wyngaerd et al. 2020). What makes such a theory possible is cyclic phrasal lexicalisation, where suppletive items stand in a containment relationship.

In order to present this idea in an accessible way, we will momentarily switch to the suppletive pair *bad—worse*, which has been treated by nonterminal lexicalisation also in Bobaljik (2012). We shall then return to *good—bett-er* in the following section. The relevant lexical entries (with the required containment relation) are given in (5). Regardless of the treatment of *bad* (to which we return), the important point here is that *worse* spells out a nonterminal node properly containing the structure that *bad* spells out.

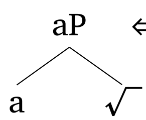
(5) a.


b.


Independent support for (5b) comes from the fact that *worse* lacks the regular CMPR marker *-er*. This is accounted for if its lexical entry pronounces the terminal where *-er* gets usually inserted, as is the case in (5b). Similarly, the reason why *bad* spells out a full phrase is that it shows no overt *a*, differing from adjectives like *risk-y, crapp-y, tin-y* etc.

We will get to the technical details of nonterminal insertion shortly, but the main intuition is this: when syntax builds just the *a*P (corresponding to the positive degree), only *bad* will be inserted, because its lexical entry provides an exact match for the syntactic tree. The lexical item for *worse*, in contrast, is not an exact match: it is too big. ‘Too big’ may be understood either in an absolute sense (it is not a candidate for insertion at all), or in a relative sense (it is a candidate, but it is too big relative to *bad*, with which it is in competition). When syntax builds CMPRP, only *worse* is an exact match and will be inserted, this time because *bad* is too small (either in the absolute or in the relative sense).

There are several ways of formalising the phenomenon that an exact match gets inserted, and not a lexical item which is either too big or too small. For instance, Bobaljik (2012) relies on the Subset Principle, augmented by Radkevich's (2010) Vocabulary Insertion Principle (VIP), which states that the phonological exponent of a vocabulary item is inserted at the minimal node dominating all the features for which the exponent is specified. On this account, the Subset Principle makes sure that *worse* is too big for the positive, and the VIP makes sure that *bad* is too small for CMPRP. Another available option, which we develop and explain later, adopts the Superset Principle (Starke 2009). For now, the main point is that no matter how the 'too big/too small' difference gets encoded, we initially run up against the same conundrum as the terminal-based proposal in section 2. In order to see that, let us once again turn to the fact that there are a number of roots in free competition with *bad*:

(6) 

⟺ *good, nice, kind, small, intelligent, bad, …*

Again, the problem is that once syntax builds the CMPRP, all of these are going to be 'too small' compared to *worse*. The problem resides in the fact that the lexical entry in (5b) says that whenever the syntax combines the √ node with *a* and CMPR, *worse* will be an exact match for such a constituent. Other lexical entries might be candidates for insertion as well, but since they are not an exact match like *worse*, *worse* will win, independently of how the competition is to be implemented.[2]

However, in the new setting based on phrasal lexicalisation, a new type of solution to this problem becomes available, if one more ingredient is added into the mix. The addition that is needed is that the lexicalisation process, which associates a particular phonology with a syntactic structure, proceeds bottom-up, as in Bobaljik (2000, 2002), Embick (2010) or Starke (2009, 2018). We phrase this as (7), noting that (7) need not be seen as an axiom, but rather the consequence of two proposals, which are given in (8).

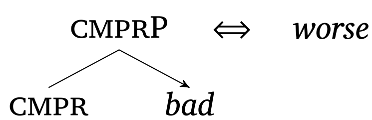
(7) *Bottom-up Lexicalisation*
If AP dominates BP, spell out BP before AP.

(8) a. Merge proceeds bottom up.
b. Lexicalisation applies after every Merge step.

[2]Our discussion of this issue is indebted to Michal Starke (p.c.).

The bottom-up nature of lexicalisation, and the fact that it targets non-terminals is what makes it possible to propose a single-$\sqrt{}$ syntax that can accommodate root suppletion. In order to see this, consider the fact that lexicalisation (as it proceeds to higher and higher nodes) must keep track of what it has done at lower nodes, so that it can ship this information to PF at some relevant point.[3] In this type of architecture, the problem is solved if we require that the phrasal lexical item (5b) can apply at CMPRP *only if* the lower *a*P node has been lexicalised by *bad*. Equivalently, *worse* is inapplicable if (by free choice of root) we have lexicalised *a*P by a different lexical entry than *bad*.

In order to encode this proposal, let us rewrite the lexical entry for *worse* as in (9), where instead of the *a*P node, we write *bad*. Following Starke (2014), we refer to this device as a pointer. The entry reads as follows: lexicalise CMPRP with *worse*, if the sister to CMPRP (i.e., *a*P) has been lexicalised as *bad* at a previous cycle.

(9)


The idea behind (9) presupposes that the process of lexicalisation has at least two parts: matching (lexical search) and pronunciation (shipment to PF). The crucial point is that the lexicalisation procedure may perform multiple searches before the ultimate pronunciation. Specifically, when a matching lexical entry is found for a given node, this does not mean that this lexical entry is immediately shipped to PF for actual realisation. The match is remembered, and it will eventually be sent to PF; but if later on, a lexical item matching a higher node is found, then the first (lower) candidate is not sent to PF at all: only the higher lexicalisation survives. In Nanosyntax, the replacement of a lower match (*bad*) by a higher match (*worse*) is called 'overriding.' As said, overriding means that a matching item at a node XP (*worse*) prevents that any item matching a node contained inside XP (*bad*) is shipped to PF. Overriding is a general property of cyclic bottom-up lexicalisation.

Recall now that from the perspective of a single-$\sqrt{}$ theory, the problem with suppletive lexical items like (5b) was that they could override just any root. The pointer device introduced in (9) is here to restrict unlimited overriding: *worse* can only override *bad*. Caha, De Clercq & Vanden Wyngaerd (2019) encode this by the so-called Faithfulness Restriction:

[3]This could be a phase or some larger chunk of structure relevant for the locality of suppletion, see, e.g. Embick (2010), Merchant (2015), Moskal & Smith (2016).

(10) *Faithfulness Restriction (FR, preliminary)*
A lexicalisation α may override an earlier lexicalisation β iff α contains a pointer to β

To conclude, let us stress the crucial point, which is that we now have a way to account for root suppletion with just a single $\sqrt{\ }$ (or a single A, or, potentially, just functional heads all the way down). To achieve this, we have introduced a bottom-up phrasal lexicalisation procedure. In this kind of system, insertion at the $\sqrt{\ }$ node is free. But once the choice has been made, the Faithfulness Restriction limits the overriding of the initial choice only to lexical items whose lexical structure consists of a pointer to this initial choice. This way, we can restrict *worse* to be the comparative of *bad* using a pointer, rather than an arbitrary index on $\sqrt{\ }$ in the syntax. Neither do we need to restrict suppletion to functional vocabulary items.

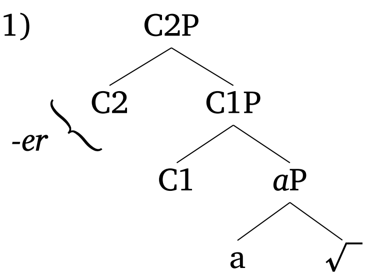
4 Phrasal lexicalisation and multiple exponence

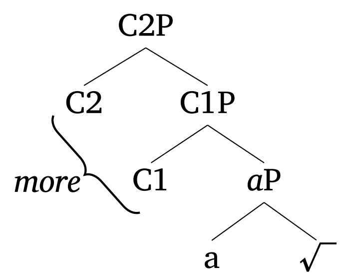
From the perspective of a modular and universal syntax, the zero theory of $\sqrt{\ }$s is that there is only a single $\sqrt{\ }$ (or perhaps no $\sqrt{\ }$ at all, if the bottom of the functional sequence is simply a feature like all the others). In the previous section, we have argued that the problems posed by suppletion can be reconciled with such a modular syntax if cyclic phrasal lexicalisation is adopted. However, an objection that is sometimes raised against the principle of phrasal lexicalisation is that of multiple exponence or double marking, i.e. the phenomenon where suppletion in the root is accompanied by regular marking.[4] This is, for example, the case in a form like *bett-er*, which multiply expones the comparative: once in the root, and once in the suffix. Here our theory faces a conundrum: how can *bett-* spell out CMPRP (as required by the phrasal lexicalisation theory), while at the same time leaving CMPR available for the insertion of *-er*? No such issue arises in a theory with terminal lexicalisation: the suppletive root is an allomorph which is inserted

[4]One solution to this issue, suggested for instance in Haugen & Siddiqi (2016), would be to say that decomposing suppletive forms (like *bett-er*) into two pieces is actually doubtful. Such an approach could be supported by the fact that in degree achievements like *to better something*, the 'comparative' *-er* (if it is one) is retained (unlike in, say, *to cool something*), which may suggest that *-er* could have actually been re-analysed as a part of the root. If that is so, the form *better* would be a nondecomposable comparative form in trivial conformity with the nonterminal-spell-out hypothesis. We do not want to dismiss this approach in its entirety: there are clearly cases where suppletive forms are nondecomposable, and we think that these are suggestive of a solution in terms of nonterminal lexicalisation. However, we do not think that such a solution is universally applicable for reasons that become clear as we proceed.

in the context of the CMPR head, and the CMPR head may itself be realised by a separate suffix.

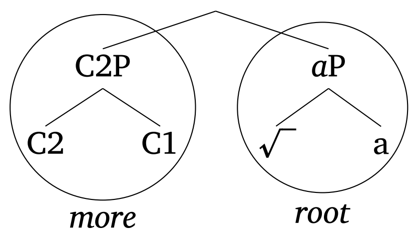
In this section, we suggest a solution to this problem. The solution is based on the observation that in cases where suppletion co-occurs with overt marking, the overt marking tends to be 'reduced', often a substring of a different, nonreduced marker. To see this on an example, let us turn back to English. Here we have *-er* and *more* for the comparative, and *-est* and *most* for the superlative. Clearly, *-er* and *-est* are morphologically reduced compared to *more/most*, if only because they are affixes while *more* and *most* are free-standing items. Further, there are morphological and semantic reasons to think that *mo-re/mo-st* actually contain *-er/-est* as a proper part. Such a containment relation between the two comparative markers can be captured if we decompose the single CMPR node into two heads, C1 and C2, as shown in (11) (cf. Caha et al. 2019). Reduced comparative marking can now be analysed as expressing only C2, as in (11), while full marking spells out both C1 and C2, as in (12).

(11) 

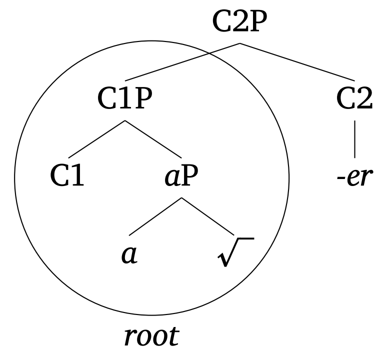
(12) 

We leave it open as to how exactly lexicalisation applies in the case of *more*, as the main focus is on its complement. We only note that phrasal lexicalisation requires C1 and C2 to form a constituent: this could be achieved by head-movement (Matushansky 2013), Local Dislocation (Embick 2007) or by Complex-Spec formation (Caha et al. 2019), as shown in (13). What is crucial is that this type of marking occurs on top of roots which spell out only the *a*P constituent, as shown by the constituent on the right hand side in (13).

(13)



(14)

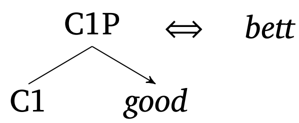


In (14), we show that the reduced marker appears on top of roots which spell out C1P, leaving it again aside how the surface order is derived, as this would take us too far afield (see Caha et al. 2019 for a worked-out proposal). The crucial point here is the size of the constituent spelled out by the root and by the suffix. In particular, given that the number of features is constant, we observe a trade-off between the size of the root and the size of the comparative marker. In particular, we can distinguish between large roots, which spell out C1, and combine with reduced markers. Smaller (*a*P-sized) roots must combine with *more*. The difference between the two classes of roots can be easily encoded in the lexicon (some roots will be specified for C1, others won't).

With the background in place, let us now show how a form like *bett-er* can be derived. As a starting point, consider the observation that suppletive adjectives like *bett-er* only occur with the reduced markers (i.e., *-er*/*-est*) and never with the full markers (i.e., there is no case like **more/most bett*), as observed by Bobaljik (2012). In a theory with a single $\sqrt{}$ using pointers like the one we have sketched above, this observation follows. In particular, the tree in (13) (with full marking) is correctly predicted to be incompatible with suppletion. That is because the root in (13) pronounces a constituent (*a*P) that exactly corresponds to the positive. Under the single $\sqrt{}$ with pointers theory, suppletive roots must stand in a containment relation, one overriding the other. Therefore, the comparative root must spell out at least one extra feature compared to the positive, but such a feature is not available in (13), making it incompatible with suppletion.

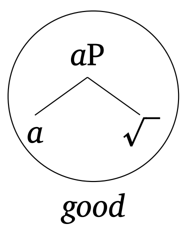
Turning now to (14), this scenario allows for root suppletion on our account, although it does not require it. We first show how root suppletion works, and then we turn to nonsuppletive roots that combine with the reduced marker. Suppletive roots like *bett* will have an entry like (15), with a pointer to a different root.

(15)

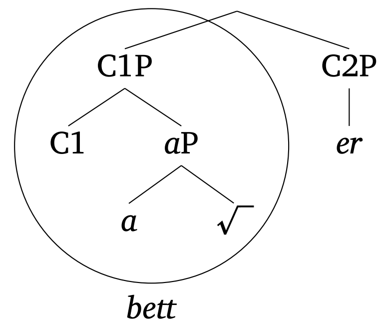


In this case, *good* first spells out the *a*P, as shown in (16), which is a stage of the derivation that corresponds to the positive. If C1 is added, *bett-* is inserted at C1P. This C1P is subsequently merged with C2, yielding the full comparative structure in (17). For concreteness, we place C1P to the left of C2P, reflecting a leftward movement operation of C1P, which we do not discuss in detail here.

(16)



(17)

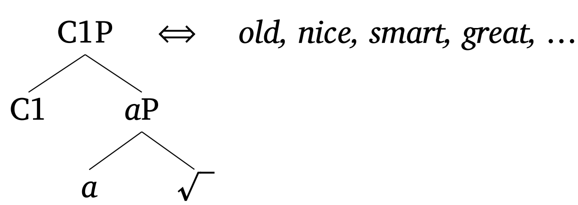


We now turn to nonsuppletive roots that combine with *-er*. In order to show how they are accounted for, we shall diverge from our reliance on a broad spectrum of conceivable approaches to phrasal lexicalisation, and focus on one particular version, due to Starke (2009, 2018). The specific component of this theory which we now need, is a matching procedure based on the Superset Principle.

(18) *The Superset Principle* (Starke 2009)
A lexically stored tree L matches a syntactic node S iff L contains the syntactic tree dominated by S as a subtree

The principle says that if there is an entry like (19), then it can spell out a C1P, as well as *a*P (because *a*P is contained in it).

(19)



If a root has such an entry, it can be used both in the positive (i.e., as an *a*P), and, at the same time, appear with reduced marking in the comparative. In English, the adjectives *old* or *nice* would be examples of such roots. The possibility of entries like (19) is what leads us to say that if a root spells out C1P (and thus occurs with reduced marking in the comparative), it does not have to be necessarily suppletive.

To sum up, the theory sketched up to now has two parameters of variation. The first parameter is related to the absolute size of the (morphological) root: it either spells out *a*P or C1P. At the level of data, this parameter distinguishes between roots that combine with *more* and those that take *-er*. The second parameter distinguishes two classes of roots of the size C1P, i.e., those that combine with *-er*. The difference is whether the entry for the root has a pointer in it or not: suppletive roots like *bett-* do (overriding *good*), nonsuppletive roots like *old* do not.

Before we develop this concept further, we need to refine the Faithfulness Restriction slighty. Notice first that the entry for adjectives like *old* in (19) is very similar to the entry we have originally considered for *worse*, recall (5b), or that for *bett-* in (15). The problem with (5b) was that it could spell out the comparative form of just about any root, which is why we introduced the Faithfulness Restriction in (10). The FR states that overriding at C1P only happens if the overrider has a pointer to the overridee. As a result, the entries of suppletive adjectives will always contain a pointer to another entry. The entry for the adjective *old* in (19) does not contain a pointer, so it is not allowed to override other roots.

However, such roots do raise an issue related to overriding and faithfulness. In a bottom-up cyclic system, the $\sqrt{\ }$ is always spelled out first. Here all lexical items that contain the $\sqrt{\ }$ node are candidates thanks to the Superset Principle, and we let free choice decide. Suppose we choose an entry like *old*. The next step is to merge little *a* with the $\sqrt{\ }$, forming *a*P, and we again try to spell it out. What we need to achieve is that *old* is inserted at *a*P, forming the positive-degree form *old*.

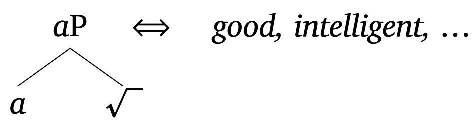
Strictly speaking at this point, the lexicalisation of *a*P as *old* must override the lexicalisation of the $\sqrt{\ }$ node (also *old*), which (due to the Faithfulness Restriction) requires a pointer that *old* lacks. At the same time, we are not literally overwriting one entry by another, since we want to insert at *a*P the very same entry that we inserted at the $\sqrt{\ }$ node. This must be legal, otherwise an entry such as (19) would never get to use its lexicalisation potential. In order to allow this, we augment the FR in the following way:

(20) *Faithfulness Restriction (FR)*
A lexicalisation α may override an earlier lexicalisation β iff
a. α contains a pointer to β

b. $\alpha = \beta$

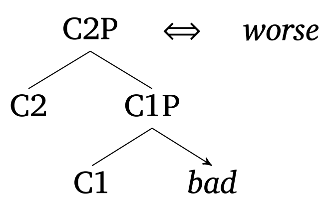
The clause (20b) now allows the entry (19) to keep overriding itself all the way to C1P. When C2 is merged, however, C2P cannot be spelled out by (19), and C2 is lexicalised by *-er*.

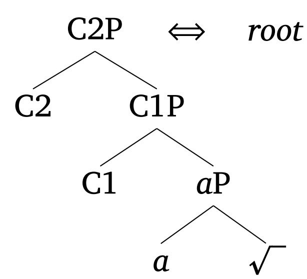
Finally, in order to capture the full spectrum of adjectival roots in English, we must introduce roots of two more sizes. To see that, consider again *a*P sized roots:

(21)


The reason for claiming that these roots spell out the entire *a*P (as opposed to spelling out just the $\sqrt{\ }$) is the existence of morphologically complex positive-degree adjectives, like *slim-y, happ-y, cheek-y,* etc., where arguably, *-y* spells out little *a*. Since the *a*P-sized roots are not further decomposable, but distribute like positive degree adjectives, we treated them as spelling out the aP. But fot the morphologically complex adjectives, where *-y* spells out the little *a*, we must specify the root only for $\sqrt{\ }$.

Another possible type of root is a root that spells out the whole C2P. This root spells out both C1 and C2, and hence it appears with no comparative marking whatsoever. Such roots come again (in principle) in two flavours. One type of such roots has a pointer to a different root, as in (22), and then the root works as a suppletive counterpart of a positive root. A case in point is the entry for *worse*, which contains a pointer to *bad*.

(22)


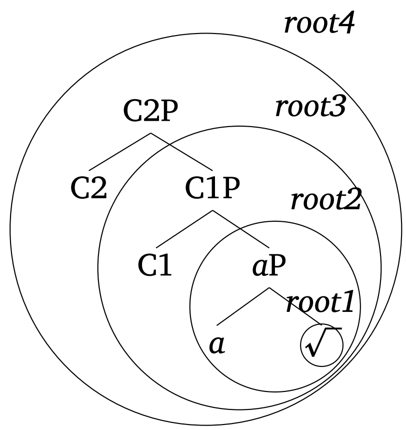
(23)


The other type is as in (23), without a pointer. English has no such adjectives, but we find cases like this in certain varieties of Czech, to be discussed in section 5.1 below.

In sum, the approach sketched in this section distinguished the $\sqrt{\ }$ (a syntactic node) from the morphological root, which spells out the $\sqrt{\ }$ node (or, equivalently, whatever is at the bottom of the functional sequence) and potentially other nodes.

This allows for a variety of roots in the morphological sense, while still maintaining a single $\sqrt{}$ in syntax. The variety of roots that our theory makes available can be visualised as a set of concentric circles, encompassing various sizes of structure, as shown in (24):

(24)



The various types of roots correspond with different types of morphological marking. A size 1 root (*root1* in (24)) appears with an overt little *a* in the positive, and full comparative marking. A size 2 root (*root2*) has no overt marker corresponding to little *a*, and full comparative marking. A size 3 has no overt little *a*, and reduced comparative marking, while a size 4 root has no overt little *a* and no comparative marking

From the perspective of suppletion, we note that roots that reach up to the comparative zone (namely size 3 and 4) may work as suppletive comparatives of positive roots (those of size 2). The crucial theoretical possibility allowed by the split CMPR system is the existence of suppletive roots of size 3, corresponding to *bett-*, since these show the property of multiple exponence. Size 3 roots can both work as suppletive counterparts to positive-degree roots of size 2, and, at the same time, combine with an overt comparative marker, namely *-er*. This extends the reach of our theory to examples where suppletive roots combine with overt markers, i.e. cases of multiple exponence. Note, however, that the impression of multiple exponence is only apparent in our proposal, since the root and the ending expone different features, C1 and C2. It also follows from this analysis that in cases of multiple exponence, we will observe a certain type of 'reduction' of the relevant marker. In the following section, we present two case studies which further illustrate and refine the reduction effect under suppletion.

5 Empirical support

5.1 Czech

The first case study concerns the interaction between comparative marking and suppletion in Czech. We start from the fact that the traditional descriptions recognise three different allomorphs of the comparative (see Dokulil et al. 1986; Karlík et al. 1995; Osolsobě 2016). We give them on the first three rows of (25). Each row starts by the relevant allomorph, followed by the positive, comparative and the superlative. The final morpheme in each form is the agreement marker, which we ignore in extracting the comparative allomorph. Following this approach, the allomorph in (25c,d) is zero (no overt marker).

(25)

	allomorph	POS	CMPR	SPRL	GLOSS
a.	*ějš*	chab-ý	chab-ějš-í	nej-chab-ějš-í	'weak/poor'
b.	*š*	slab-ý	slab- š-í	nej-slab- š-í	'weak'
c.		hez-k-ý	hez-č- -í	nej-hez-č- -í	'pretty'
d.		ostr-ý	ostř -í	nej-ostř -í	'sharp'

On the first two lines, we illustrate the *ějš-í* and *-š-í* allomorphs with two adjectives that are semantically and phonologically similar. We do so to show that the allomorphy is not driven by phonology or semantics. Rather, the distribution is governed by arbitrary root class: *-ějš* is the productive allomorph, while *-š-í* is restricted (occurring with 72 out of 5440 adjectives sampled in Křivan 2012).

On the third and fourth line, we illustrate the zero allomorph, and two facts should be noted. First of all, the positive and the comparative are not homophonous: their morphological identity is obscured by phonological interactions with the agreement markers. Specifically, the agreement marker *-í*, found in the comparative, triggers the palatalisation of the base (*k* goes to *č*), while the elsewhere agreement marker *-ý* does not palatalise the base (see Caha et al. 2019 for a discussion of the palatalisations). As a result, the forms are distinct. The second fact to be noted is that in the standard language, this type of marking only occurs after a particular adjectival marker, namely *-k*. This morpheme is similar to the English *-y* in that it sometimes occurs after nominal roots (e.g., *sliz-k-ý* = 'slim-y') and sometimes after cranberry type of morphemes (e.g., *hez-k-ý* = 'prett-y'). Because of its limited distribution, it is not clear whether the ø allomorph needs to be recognised as a separate marker, or perhaps dismissed as a special realisation of *-š* after *-k*. We do, however, recognise the zero as a relevant allomorph to consider, because in the dialects of North Eastern Bohemia (Bachmannová 2007), one finds it also after nonderived adjectives, as shown on the last row (25d). We note, however, that much of our reasoning is valid even if it turns out that the zero allomorph is an effect of phonology, rather than morphology.

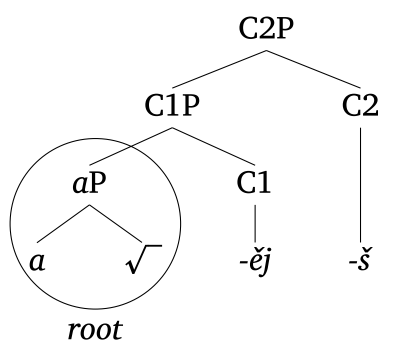
Taking the traditional desciptions at face value, an interesting generalisation is that going from the first to the third line, we see an increasingly ‘reduced’ realisation of the full marker *-ějš-*, seen in (26a). First, we see that *-š* is a substring of *-ějš*. This makes it tempting to decompose *-ějš* into two morphemes, *-ěj* and *-š*, as suggested by Caha et al. (2019). For the lack of a better term, we shall call them C1 and C2.

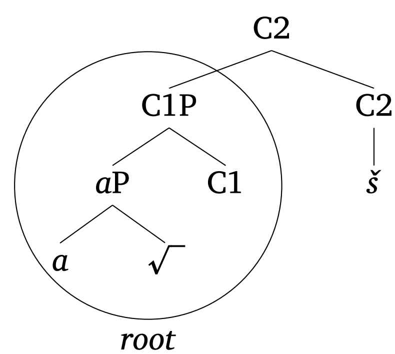
Independent evidence for this analysis comes from comparative adverbs, seen in the second column of (26). Here the *-š*-part of the comparative adjective is systematically missing, while *-ěj* is preserved. This confirms an analysis where *-ěj* and *-š* are independent morphemes.

(26)

CMPR ADJ	CMPR ADV	
chab-ěj-š-í	chab-ěj-i	‘weak’
rychl-ej-š-í	rychl-ej-i	‘fast’
červen-ěj-š-í	červen-ěj-i	‘red’

Given our model with two comparative heads, the facts are easily captured if *-ěj* and *-š* spell out C1 and C2 respectively. With *a*P-sized roots, both markers surface, see (27). With roots of the size C1P, only *-š* appears, as in (28).

(27)


(28)


Zero marking arises when the root spells out all of the projections, as in (23) above. Recall that (23) was presented as a logical option allowed by our system, and though it was not attested in English, we need it to account for *ostr-ý* ‘sharp’ in (25). This concludes our discussion of ‘regular’ comparatives, i.e., those based on the same base as found in the positive, and we now turn to suppletive comparatives.

Given our theory of suppletion where suppletive roots override the base, comparative suppletion requires a root that spells out a different node than the positive. Since the positive spells out *a*P, a suppletive comparative root must be at least of the size C1P. This idea interacts with our account of comparative allomorphy. Specifically, since roots of the size C1P cannot combine with *-ěj-š* (recall (28)), we now predict that suppletive roots should be incompatible with *-ěj-š*. To verify this, the table (29) presents an exhaustive list of suppletive adjectives based on Dokulil et al. (1986:379) and Osolsobě (2016). The table shows that the prediction is borne out: all suppletive adjectives require the 'reduced' *-š* allomorph.

(29)

POS	CMPR	GLOSS	POS	CMPR	GLOSS
dobr-ý	lep-š-í	'good'	špatn-ý	hor-š-í	'bad'
velk-ý	vět-š-í	'big'	mal-ý	men-š-í	'little, small'
dlouh-ý	del-š-í	'long'			

We submit these facts here as an important confirmation of the current model, which predicts that when there are two or more ways of marking the comparative, suppletion is incompatible with the full marker. With reduced markers, we find both suppletive and regular cases, depending on whether the entry of the size C1P has a pointer or not.

It is thanks to phrasal lexicalisation, the mechanism of pointers, and the post-syntactic lexicon that the single $\sqrt{\ }$ approach can be maintained against the surface diversity of morphological roots. Roots can be stored in the lexicon without functional structure, with (more or less) functional structure, and with or without a pointer, resulting in the different types of roots that we observe. Crucially, suppletive forms can be linked to their base form without having to change the properties of $\sqrt{\ }$ as such.

5.2 Latin

Latin provides further evidence for the correlation between reduced marking and suppletion predicted by our theory, but in contrast to Czech, it shows the effect in the superlative. The regular marking of comparative and superlative is shown in (30a).

(30)

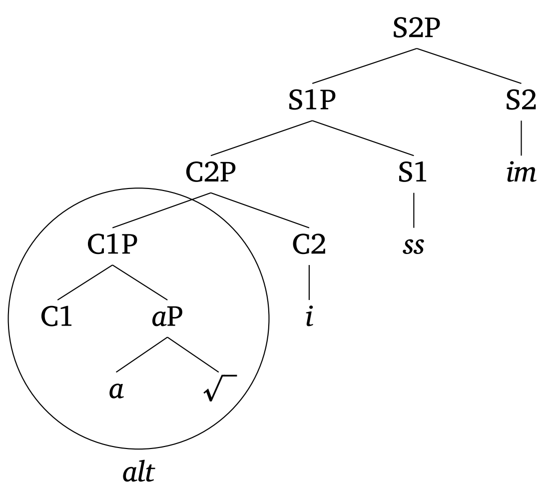
	POS	CMPR	SPRL	GLOSS	marking in SPRL
a.	alt-us	alt-i-or	alt-**i-ss-im**-us	'tall'	full marking
b.	mal-us	pe- or	pe- **ss-im**-us	'bad'	SPRL lacks *-i*
c.	bon-us	mel-i-or	opt- **im**-us	'good'	SPRL lacks *-i-ss*
d.	magn-us	ma-i-or	max- **im**-us	'big'	SPRL lacks *-i-ss*
e.	parv-us	min- or	min- **im**-us	'small'	SPRL lacks *-i-ss*
f.	mult-us	plūs	plūr- **im**-us	'much'	SPRL lacks *-i-ss*

We segment the regular superlative into five morphemes (following De Clercq & Vanden Wyngaerd 2017). The first morpheme is the root (*alt*), and the last one (*-us*) an agreement marker. The reason for treating the three middle markers *-i*, *-ss* and *-im* as separate morphemes is that they can be missing in the irregular forms shown in (30b-f). These represent an exhaustive list of the suppletive cases given by Gildersleeve & Lodge (1903:46).

We analyse *-i* (the first of the post-root superlative morphemes) as a comparative marker, i.e., as a morpheme identical to the *-i* of the comparative *alt-i-or*. We treat *-i* in the same way as the English *-er*, namely as the lexicalisation of C2. Consequently, we analyse *-or*, which follows *-i* in the comparative, as an agreement marker. We do so because the masculine form *alt-i-or* 'taller, M.SG' alternates with the neuter *alt-i-us*. As a C2 marker, *-i* is compatible with suppletion. In (30c), for instance, the positive degree root *bon-* realises *a*P, the suppletive comparative root *mel-* realises C1P, and *-i-* is the marker of C2.

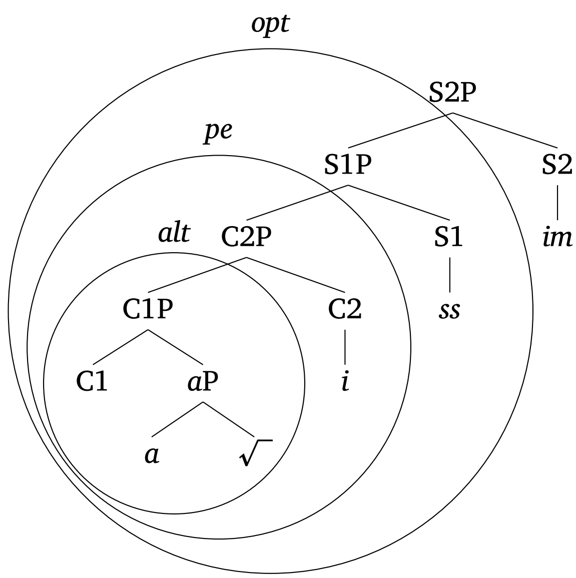
The remaining two morphemes mark the superlative, which we split into S1 and S2, analogously to CMPR. The structure of *alt-i-ss-im(-us)* thus looks as follows:

(31)



Against this background, consider the fact that the superlative marking with suppletive roots is *always* reduced, see (30b-f). There is not a single suppletive root in Latin which keeps all the three pieces in place, as indicated in the final column of (30). Specifically, we see two classes of suppletive roots. The majority of suppletive roots lacks the C2 *-i* as well as the S1 *-ss*, and we would thus analyse them as spelling out S1P. However, *pe-* lacks only the *-i*, which, on the assumption that *-i* is C2, leads to the proposal in (32).

(32)



This picture has implications for the analysis of the comparative. Specifically, all suppletive roots which spell out a projection larger than C1P should make *-i* disappear not only in the superlative, but also in the comparative. This is true for the adjectives *min-or* 'smaller' and *plus* 'more', as well as, arguably, *pe-or* 'worse,' where the glide in the comparative *pe[j]or* results, on our analysis, from phonological factors (hiatus filling). Note that *plus* lacks the agreement marker *-or*, and Gildersleeve & Lodge (1903:46) analyse it as a neuter form, with the masculine cell left blank. Here we treat *plus* as spelling out minimally S1P, lacking *-i* in the comparative, and in the superlative also *-ss*. We leave the reasons for the lack of agreement in the comparative open to interpretation.[5]

The (c) and (d) cases of (30) warrant some further comment, since they have *-i-* in the comparative but lack it in the superlative. This is because they instantiate an ABC-pattern, with two different suppletive roots: one of size C1P (explaining the presence of *-i-* in the comparative), and another of size S1P (explaining the

[5]Note that *plus* and *plur* are two shapes of a single root, with *s* undergoing rhotacism in intervocalic positions, which happens also in the comparative when inflected, cf. *plur-is* 'more, GEN.SG.'

absence of both *-i-* and *-ss-* in the superlative). These suppletive roots successively point to one another, e.g. the lexical entry for *opt-* contains a pointer to *mel-*, which itself contains a pointer to *bon-*.[6]

In sum, this case study also illustrates how $\sqrt{\ }$ and roots should be treated differently. Whilst there is only one $\sqrt{\ }$ in syntax, there are many different types of roots in the lexicon, which store $\sqrt{\ }$ with (or without) other pieces of structure. The trade-off between the size of roots and the superlative degree morphology in Latin shows that suppletion follows from the size of lexical entries of morphological roots and not from the nature of the syntactic $\sqrt{\ }$.

6 Non-local allomorphy

6.1 The issue

In this section, we discuss a case of suppletion in Korean discussed by Chung (2009). Choi & Harley (2019) have argued that this represents a case where allomorphy may be conditioned nonlocally, possibly skipping intervening heads, as long as the conditioning head is contained within the same complex X° head as the node that is the target for insertion (see also Bobaljik 2012). Choi & Harley (2019) operate in a framework where lexical insertion happens under terminal nodes only, and suppletion is a case of contextual allomorphy, as illustrated in (2) above. The abstract situation of non-local allomorphy is one where insertion at a terminal β is suppletive, and triggered by the presence of another head α, separated from β by (one or more) intervening heads X:

(33) [α [X [β]]]

Such cases represent a potential challenge to our analysis. The reason is that in order not to discriminate among roots in syntax, our system relies on pointers and overriding, thereby eliminating the possibility of standard rules of contextual allomorphy, which make reference to a wider context. In our system, the 'trigger' for allomorphy needs to be strictly local, in the sense of 'having to be a part of the

[6] We take *s* in the superlative *maks-im-us* 'biggest' to be a part of the root, given that it is not a geminate like the superlative S1 marker. The comparative *ma-i-or* 'bigger' could arise from the root *mag-*, as suggested in Bobaljik (2012), with the root final *g* first assimilating to *j* (yielding *maj-j-or*), which is then reduced due to degemination. Bobaljik (2012) concludes from this that this adjective has a regular AAA pattern, and hence, that is is irrelevant for suppletion. However, this move requires the parsing of the positive as *mag-nus*, which we see little evidence for. We therefore treat it as an ABC pattern (*magn–ma(g)–maks*).

set of features exponed by the suppletive root.' The set of relevant features can be relatively small, as in the case of *bett-er*, where the suppletive root realises the functional sequence up to and including C1. But it can also be larger, as in the Latin superlative suppletive roots, which go all the way up to S1. But in both cases, the suppletion trigerring feature is a part of the morphological root. A situation like the one depicted in (33), where the presence of a suppletive root is caused by a higher head across an intervening head therefore cannot arise in our system.

What we want to do in this section is illustrate the viability of an approach to apparent non-local cases that goes along the following lines: what appears to be nonlocal is only so under certain assumptions about the structure, but if we enrich the structure, what looked like a case of nonlocal allomorphy starts looking like local allomorphy. In addition, the Korean data discussed in this section also provide support to the idea that double exponence can be captured elegantly by means of phrasal lexicalisation. We will argue that nonlocal conditioning of allomorphy is both unnecessary and undesirable. It is unnecessary once we enrich the structure involved in negation and honorification in Korean. It is also undesirable because it predicts the wrong results once the interaction between negation, causation, and honorification is taken into account.

6.2 A Korean paradox

Korean shows a paradox with respect to the conditioning of allomorphy in the domain of negation and honorification, which was first discussed by Chung (2009), and then taken up again by Choi & Harley (2019). The paradox is summarised in (34).

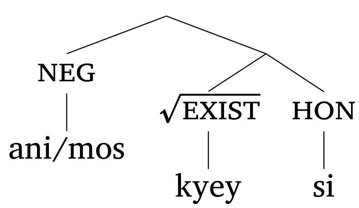
(34)		regular pattern	$\sqrt{\text{EXIST}}$	$\sqrt{\text{KNOW}}$
	a.	$\sqrt{\text{X}}$	**iss**	**al**
	b.	NEG $\sqrt{\text{X}}$	**eps**	**molu**
	c.	$\sqrt{\text{X}}$ HON	**kyey**-si	**al**-si
	d.	NEG $\sqrt{\text{X}}$ HON	ani/mos **kyey**-si	**molu**-si

As the first column of (34) shows, the regular markers of negation and honorification occur each on a different side of the root, so that it is not *a priori* obvious what their hierarchical relation is with respect to the root. Assuming (as we do) that suppletion is always local, the hierarchy of negation and honorification could be determined by looking at the shape of the root in the cell where both are present. This is the last row of the table (34). The paradox is that the facts from suppletion point either way: one verb ($\sqrt{\text{EXIST}}$) suggests that the honorific head is closer to the root, because the root shows the 'honorific' allomorph where both are available. On the other hand, the verb $\sqrt{\text{KNOW}}$ suggests that negation is closer, because it has a suppletive negative form even in the presence of a honorific. Let us now look at the patterns in more detail.

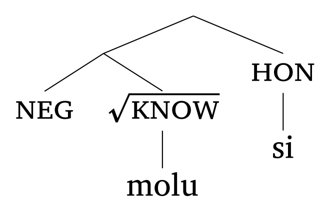
The first verb, *iss* 'exist', has a suppletive form *eps* 'not exist' (34b), which is a portmanteau expressing negation (Chung 2009). It also has a suppletive honorific form *kyeysi* (34c).[7] When negation and honorification co-occur, as in (34d), *kyeysi* is used, suggesting that honorification takes precedence over negation in determining the allomorph of the root (*ani* and *mos* 'not' are analytic negative markers). Assuming that this precedence is a function of greater structural closeness, this suggests the functional hierarchy in (35a), represented treewise in (36a). The second verb in (34) is *al* 'know', which also has a suppletive negative form, the portmanteau *molu* 'not know' (34b). There is no allomorph in the presence of honorification, and the regular honorific marker *(u)si* is expressed on the verb (34c). When honorification and negation co-occur, as in (34d), *molu* appears again, suggesting that negation takes precedence over honorification in determining root allomorphy. In terms of structural closeness to the root, this suggests the opposite conclusion from the one reached earlier, namely (35b)/(36b).

(35) a. NEG $>$ HON $> \sqrt{\text{EXIST}}$
b. HON $>$ NEG $> \sqrt{\text{KNOW}}$

(36) a.



b.



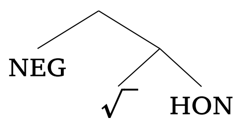
The paradox exists in virtue of the following two assumptions:

[7] *iss*- has three meanings (Martin 1992:319), one of which is 'exist', another is 'stay intentionally', and a third meaning is 'have'. The negation of *iss*- 'stay' is *an(i) iss* (Chung 2009:539, Chung 2007:124-127), while the negation of *iss*- 'exist' and 'have' is *eps*. Chung (2007) argues convincingly that *iss*- 'exist' is adjectival, while *iss*- 'stay' is verbal, showing additional functional morphology on the root in the present tense. We hypothesize that the absence of negative suppletion with *iss*- 'stay' follows from intervening structure between *ani* and the root *iss*- 'stay', violating locality. However, we focus on *iss*- 'exist' in this paper, deferring a detailed account of how the different readings for *iss*- arise to future work.

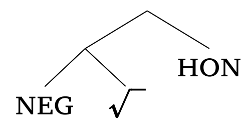
(i) there is only a single functional hierarchy, i.e. (35a) and (35b) cannot both be correct
(ii) allomorphy is conditioned strictly locally (see Bobaljik 2012, Moskal 2013, Merchant 2015, and many others).

The first of these assumptions is uncontroversial. Opinions diverge, however, as to which of the two hierarchies shown in (36) is the correct one. Choi & Harley (2019) assume that the functional hierarchy illustrated in (37a) is the correct one, whereas Chung (2009) argues in favour of (37b):[8]

(37) a.



b.



Regardless of which of these two options is taken, it seems clear that a strict version of (ii) cannot be maintained. In the next section, we discuss a proposal by Choi & Harley (2019) which abandons (ii), and some of the problems that it faces.

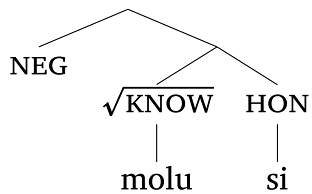
6.3 Non-local allomorphy and causative intervention

Let us now look more closely at the specifics of the account by Choi & Harley (2019). Recall first that they adopt the structure in (37a), where the HON head is local to the root and conditions the allomorphy on *iss-* 'be' in a local fashion, taking precedence over negation when both are present. In order to account for the pattern of suppletion found with *al* 'to know', Choi & Harley (2019) argue that if no suppletive form has been inserted locally, root allomorphy can be conditioned from a distance, as long as the conditioning head is within the complex X° head (Bobaljik 2012). This condition is satisfied for $\sqrt{\text{KNOW}}$, where no suppletive VI exists that is conditioned by HON, so that NEG can condition allomorphy of the root across HON. This is shown in (38), where the suppletive portmanteau *molu* 'not

[8]Choi & Harley's hierarchy is not (only) the consequence of an assumption they make about the functional sequence. Instead, it results from their assumption that honorification is a form of agreement with an honorific subject, which is realised on *v* as a result of a rule of HON-sprouting that applies in the morphological component if a specific configuration is realised, i.e. if the the verb is c-commanded by an NP with [+hon] (cf. Marantz 1991, 1993). The result of this node sprouting rule makes HON lower in the structure than NEG. See Kim & Sells (2007) for arguments to the effect that Korean honorific marking is not to be considered as agreement.

know' is inserted under the root terminal, conditioned by a NEG head separated from it by an intervening HON head.

(38)



In what follows we shall discuss two cases (not discussed by Choi & Harley 2019) that are structurally analogous to (38), but that show different behaviour, in that a higher head is not able to trigger suppletion of the root across an intervening head. We shall refer to these two cases as instances of 'causative intervention', as they involve the intervention of a CAUS head between the root and a higher functional head (HON or NEG). This intervening causative head appears to block the suppletive realisation of the root, unlike what happens in (38). The facts of causative intervention suggest to us that suppletion is strictly local after all. We shall then proceed to develop an alternative account for the case of (38) in section 6.4.

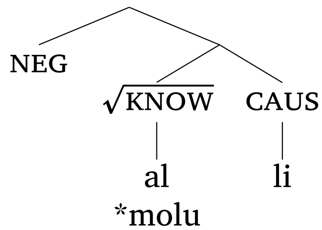
The first case of causative intervention involves negation. Again taking the verb *al* 'know', we see the following pattern (Chung 2007):

(39)

a.	$\sqrt{\text{KNOW}}$	**al**	'know'
b.	NEG $\sqrt{\text{KNOW}}$	**molu**	'not know'
c.	$\sqrt{\text{KNOW}}$ CAUS	**al**-li	'let know, inform'
d.	NEG $\sqrt{\text{KNOW}}$ CAUS	ani/mos **al**-li	'not inform'

The case is similar to the above one in (34), with negation occurring to the left of the verb and the other marker (honorific or causative) to its right, thus yielding a potential ambiguity as to the hierarchical relations. However, in this case the relative scope of the negation and causative marker can be deduced from the meaning. Specifically, in (39d), the meaning is 'not inform' ('not let know') rather than 'cause to not know,' suggesting a scopal hierarchy NEG > CAUS > $\sqrt{\text{KNOW}}$. Given that hierarchy, the structure of (39d) looks as in (40), which is exactly as in (38), modulo the substitution of CAUS for HON. Yet in this case, the NEG head is apparently unable to trigger the insertion of the suppletive negative portmanteau *molu* across the intervening CAUS head, since only the nonsuppletive root *al* 'know' is possible.

(40)



This is unexpected under Choi & Harley's proposal.

The second case of causative intervention in Korean involves honorific suppletion, which is found with a small number of Korean verbs, given in (41) (Kim & Sells 2007:312).[9]

(41)

	ROOT-DECL	ROOT-HON-DECL	ROOT-HON-DECL	
a.	mek-ta	*mek-usi-ta	caps-usi-ta	'eat'
b.	ca-ta	*ca-si-ta	cwum-usi-ta	'sleep'
c.	iss-ta	iss-usi-ta	kyey-si-ta	'be, exist, have'

These show the following pattern in the interaction with causation:[10]

(42)

a.	$\sqrt{\text{EAT}}$	**mek**	'eat'
b.	$\sqrt{\text{EAT}}$ CAUS	**mek**-i	'let eat'
c.	$\sqrt{\text{EAT}}$ HON	**caps**-usi	'eat'
d.	$\sqrt{\text{EAT}}$ CAUS HON	**mek**-i-si	'let eat'

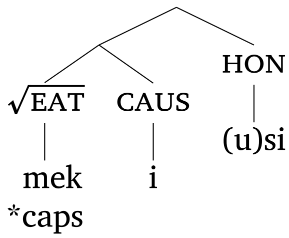
Since the causative and the honorific markers are on the same side of the root, it is easy to derive the hierarchy, which we take to be the mirror image of the linear order, i.e. HON > CAUS > $\sqrt{\ }$.[11] This translates into the following tree structure:

[9]The regular *iss-usi-ta* means 'have', while the suppletive *kyeysi-ta* means 'be/exist' or 'stay' (Martin 1992:217). As already mentioned in footnote 7, this paper focuses on *iss-* 'exist' and the morphological patterns it triggers and leaves the other readings and its associated morphological patterns out of consideration.

[10]The verb *iss* 'be, exist' does not permit causation, so that the interaction of honorification with causation cannot be illustrated for this verb.

[11]The alternation between *-usi-* and *-si-* is phonologically conditioned: -u- is an epenthetic vowel that appears between two heteromorphemic consonants (Chung 2009:543).

(43)



We see the same pattern as in (40) above: HON is not able to trigger the insertion of the suppletive honorific form *caps* 'eat' under the root node across an intervening CAUS head. This is a second case, then, that is unexpected under the approach of Choi & Harley (2019). In these two cases of causative intervention', a CAUS head intervenes between the root and a higher functional head (HON or NEG), and blocks the suppletive realisation of the root. We take the data of causative intervention to cast serious doubt on Choi & Harley's claim that triggers for suppletion can be nonlocal.[12]

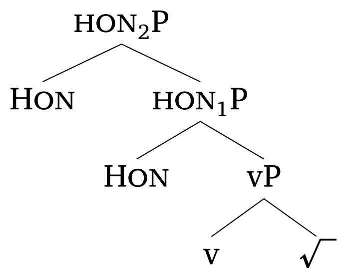
6.4 Towards an alternative: decomposing HON

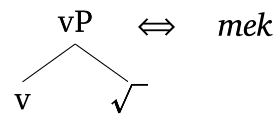
In the light of the preceding discussion, we shall now proceed to develop an alternative analysis of the Korean paradox in terms of phrasal lexicalisation and the strictly local allomorphy requirement that this approach entails. The fundamental ingredient of our alternative is the idea that honorification (like comparative/superlative formation) involves two HON heads. In this section, we explain how assuming two heads yields the relevant honorific forms. In Section 6.5 we add the causative head, and show how it interacts with honorification. In Section 6.6, we pinpoint the NEG head in a particular syntactic position and show how it interacts with causative formation. Finally, with all the ingredients in place, Section 6.7 explains how the two HON heads allow us to resolve the Korean paradox noted in Choi & Harley (2019).

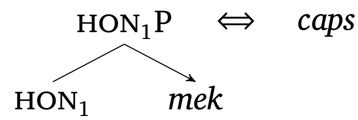
In order to see why assuming two honorific heads is needed, consider the example of the honorific suppletive form *caps-usi* 'eat-HON'. On the one hand, the root has a special honorific shape (the non-honorific shape of the root is *mek* 'eat'); on the other hand, the root is accompanied by an overt honorific marker *-usi* 'HON.'

[12]A possible way out for Choi & Harley (2019) to account for this problem would be to argue that CAUS is a cyclic node, which blocks suppletion. It will be clear that such arbitrary marking of heads as interveners, while deriving the facts, seriously undermines the conceptual appeal of the proposal.

Therefore, just like in the case of *bett-er*, we hypothesise that two honorification-related heads are involved, as in (44). For the lack of a better term, we call them HON_1 and HON_2. The verbal structure these heads come on top of is abbreviated as [v √] in (44).

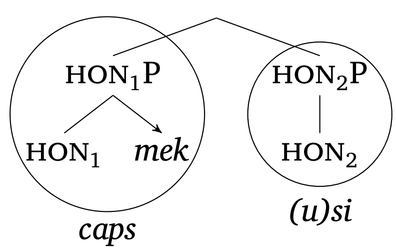
(44)


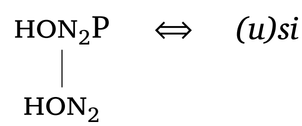
(45)


(46)


In this setting, the co-occurrence of a suppletive root and an overt honorific suffix is easily captured. Specifically, we associate the string *mek* 'eat' with a constituent of the size vP, as in (45), while *caps* 'eat.HON' is a realisation of HON_1P plus whatever features are contained in the verb *mek* 'eat'. The lexical entry of *caps* 'eat.HON' therefore looks as in (46); it basically says that *caps* is the honorific form of *mek* 'eat.'

The structure of the full honorific form *caps-usi* is then as given in (47). We can see that the honorific root *caps* 'eat.HON' applies at HON_1P, overriding the nonsuppletive *mek* 'eat' in the process. The structure further presupposes that the constituent spelled out by *caps* 'eat.HON' moves out of HON_2P, and the honorific marker is inserted as the spellout of the remnant HON_2P. The lexical entry for the honorific *-(u)si* is as in (48).

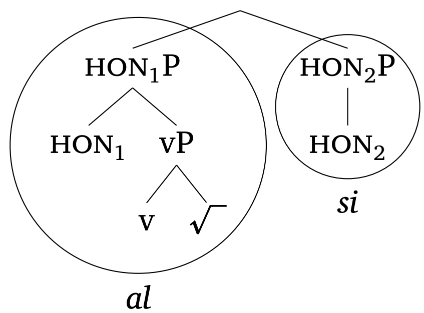
(47)


(48)


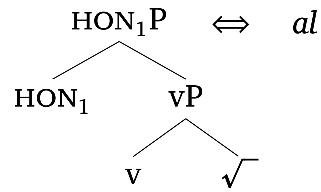
The reader will notice that this account follows the same logic as developed for *bett-er* in Section 4 (*bett-* spells out C1P, *-er* spells out C2). Moving further along the same path, non-suppletive honorifics will be captured in the same way as English non-suppletive forms like *smart-er*. Recall that this root spells out the whole C1P (like *bett*), but it lacks a pointer. Quite parallel to this treatment, we are assuming that Korean non-suppletive roots spell out the whole HON_1P, as shown in (49).

This structure shows the honorific form of the verb *al* 'to know.'

(49)



(50)



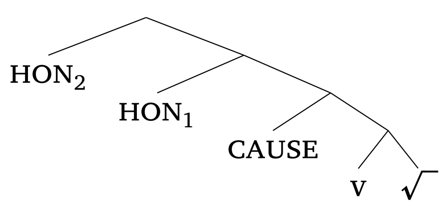
This leads us to posit for *al* 'know' a lexical entry like the one in (50). Because of the Superset Principle, this makes the verb also usable in non-honorific environment, spelling out just the vP. The ambiguity of non-suppletive roots (spelling out either vP or HON_1P) will be important later on.

6.5 Adding causatives

This section introduces the causative head CAUS in the structure. It starts by providing a structure for regular verbs, and then turns to suppletive verbs.

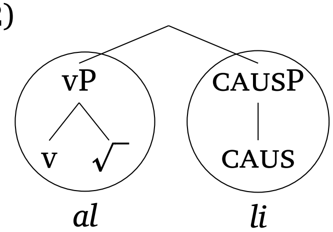
To begin with, we shall place the CAUS head in the tree relative to HON_1 and HON_2. The empirical facts to be discussed suggest that CAUS is below HON_1. The relevant hierarchy is shown in (51).

(51)

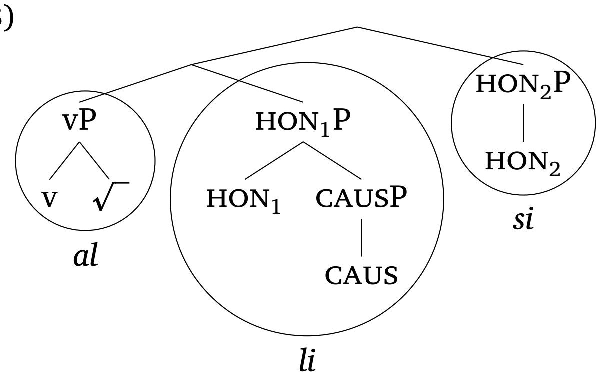


How does the presence of CAUS influence the derivation? The main consequence is that regular verb roots with an entry like (50) (spelling out $\sqrt{}$, v and HON_1) will only be able to spell out $\sqrt{}$ and v, since CAUSE makes it impossible for such a root to also spell out HON_1. As is obvious from (51), CAUS intervenes. The root will therefore spell out just the vP and move to the left; after the movement, the causative suffix *-li* spells out CAUSE, as in (52). We are using the root *al* 'to know' whose entry is in (50).

(52)



(53)



The tree in (52) represents the structure of the non-honorific causative. The honorific causative is derived by adding $\textsc{hon}_1$ and $\textsc{hon}_2$ on top of the non-honorific causative. On the surface, this leads to the addition of *(u)si* to the causative, yielding *al-li-si* 'to let know, honorific.'

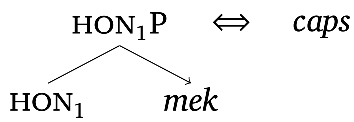
Let us next address the question of what happens to $\textsc{hon}_1$ in the honorific causative. We know that it is not spelled out by *(u)si*, which can realise only $\textsc{hon}_2$. Since the root cannot spell out $\textsc{hon}_1$ either (since CAUS intervenes), we conclude that $\textsc{hon}_1$ is spelled out along with the causative *li*. The full structure we are assuming is therefore as in (53). Note that the causative *li* spells out different structures in (52) and (53) and alternates (in a manner reminiscent of regular roots) between a non-honorific use in (52) and an honorific use in (53). In particular, its lexical entry is specified as containing both $\textsc{hon}_1$ and CAUS, which allows it to spell out either both of these features, or just CAUS.

The interest of this derivation is that it allows us to explain why causativisation blocks honorific suppletion. The relevant facts are as repeated in (54) (originally (42)), and the relevant data point is that the honorific causative in (54d) uses the non-honorific root.

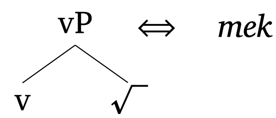
(54)	a.	$\sqrt{\text{EAT}}$	**mek**	'eat'
	b.	$\sqrt{\text{EAT}}$ CAUS	**mek**-i	'let eat'
	c.	$\sqrt{\text{EAT}}$ HON	**caps**-usi	'eat'
	d.	$\sqrt{\text{EAT}}$ CAUS HON	**mek**-i-si	'let eat'

This pattern can be captured by using the entries for 'eat' as proposed in (45) and (46) above. we repeat them in (55) and (56).

(55)

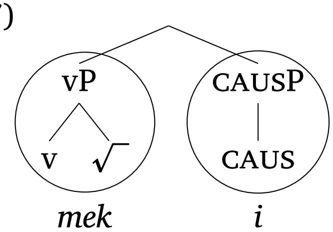


(56)

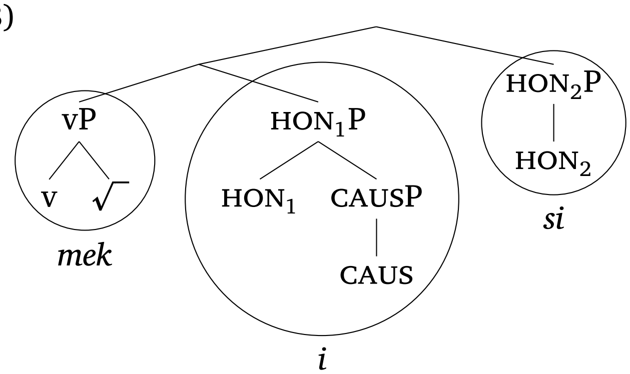


With these lexical entries, both types of causatives (i.e., both the honorific and the non-honorific causative) are correctly expected to be based on the nonsuppletive root *mek* 'eat.' To show that, we give in (57) and (58) the stuctures for the non-honorific and the honorific causative respectively. These structures are the same as those in (52) and (53), only the root is different ('eat').

(57)



(58)



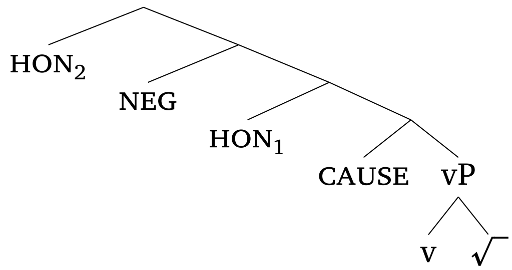
The most relevant thing to look at is the honorific causative in (58). In this structure, the HON$_1$ head is separated from the vP by the CAUS head. Therefore, just like with regular verbs, HON$_1$ cannot be spelled out by *caps* 'eat.HON.' This explains why the root only spells out vP and surfaces as *mek* in the honorific causative.

6.6 Adding negation

This section puts forth a proposal for negative suppletion. We also propose a specific position for the NEG in the tree, paving the way for the solution to the paradoxical interaction between negation and honorification.

Let us begin by proposing a particular position for negation in the tree. Recall first that the existing literature contains diverging opinions on the position of NEG. Some authors place it higher than HON, others place it lower than HON. Our account with split HON allows us to take the good aspects of each of these proposals by placing the NEG head in between the two honorific heads. The full structure we shall be assuming is as in (59).

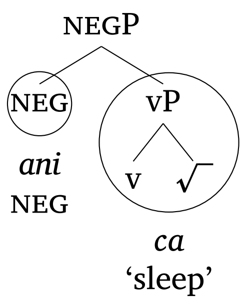
(59)



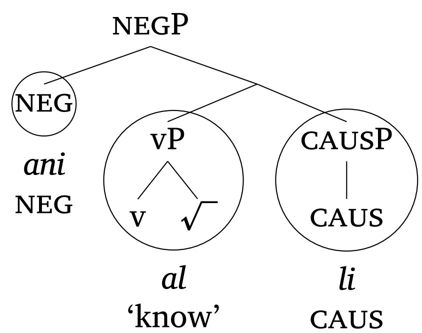
All the heads above vP are assumed to be optional in the sense that they can be either present or absent. The only caveat applies to the two HON heads, which are either both present, or both absent.

As a default, the NEG head is spelled out by one of the two negative markers *ani* or *mos*. The tree (60) shows the negation of a simple verb root *ca* 'sleep.' The tree in (61) shows the negation of a causative.

(60)



(61)



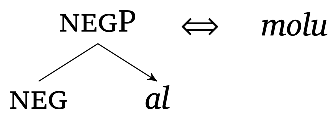
Let us now turn to the verb *al* 'know', which has a negative suppletive form *molu*. The pattern of this verb is repeated in (62) from (39). The most remarkable datapoint is on line (d), showing that the causative blocks the use of *molu*- despite the presence of NEG in the structure, and leading to an analytic marking of negation as *ani* or *mos*.

(62)

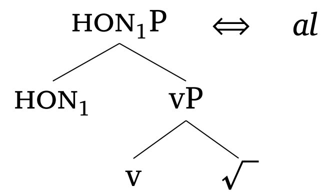
a.	$\sqrt{\text{KNOW}}$	**al**	'know'
b.	NEG $\sqrt{\text{KNOW}}$	**molu**	'not know'
c.	$\sqrt{\text{KNOW}}$ CAUS	**al**-li	'let know, inform'
d.	NEG $\sqrt{\text{KNOW}}$ CAUS	ani/mos **al**-li	'not inform'

To see how our system accounts for this, let us first provide the lexical entry for the suppletive negative form *molu* 'not know,' see (63). The entry contains a pointer to the non-negative verb *al* 'know.' That is, it realises the NEG head and whatever features are realised by *al* 'know.' The entry of *al* is repeated in (64) (recall (50)).

(63)



(64)



Our account correctly predicts that the lexical item in (63) cannot be used in the causative structure as the spellout of NEG and the root *al*. The reason is that CAUS intervenes between NEG and the root. Instead, the vP, the CAUS head, and NEG have to be each spelled out by a distinct morpheme; the relevant structure is shown in (61). It correctly predicts that even though NEG is present in the structure of the negated causative, *molu* is not used.

In sum, the CAUS head is closest to the root. Like all the other functional heads in the above sequence, it is an optional element. When present, it triggers 'causative intervention' both for suppletive negative verbs (as discussed in this section) and suppletive honorific verbs (as discussed in the previous section). The reason for this is the the presence of CAUS blocks the lexicalisation of the the bottom-most vP along with HON_1 or NEG.

6.7 Explaining the paradox

So far, we discussed the interaction between causativisation and negation, and between causativisation and honorification. What we still have not discussed the interaction between negation and honorification, which is precisely the domain where the paradox discussed in section 6.2 arises. For convenience, we repeat the relevant data here.

(34)

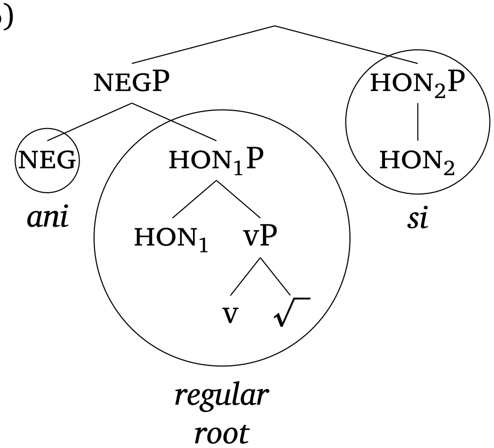
	regular pattern	√EXIST	√KNOW
a.	√X	**iss**	**al**
b.	NEG √X	**eps**	**molu**
c.	√X HON	**kyey**-si	**al**-si
d.	NEG √X HON	ani/mos **kyey**-si	**molu**-si

The paradox is that with the root √EXIST, the presence of the honorific blocks negative suppletion, as shown on line (d). This suggests that HON is closer to the root than NEG. With √KNOW, the honorific does not block negative suppletion, suggesting NEG is closer to the root.

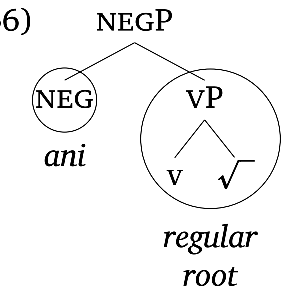
The point of this section is to show that with the two HON heads in the structure, this paradox can be resolved. As a starting point, let us draw the structures for a negated honorific and a negated non-honorific. In the structures, we first focus on deriving the regular pattern as given in the first column on the left. Recall that for the regular roots, we assume that their lexical specification is like the one of *al* 'know.' In other words, like *al*, they spell out HON$_1$P, and the only difference between *al* and regular verbs is that *al* is pointed to by *molu*, its suppletive negative counterpart (see (63) above). Such a suppletive counterpart is simply missing for the regular verbs; they are not pointed to by any item.

The relevant structures are then as given in (65) (negated honorific) and (66) (negated non-honorific).

(65)



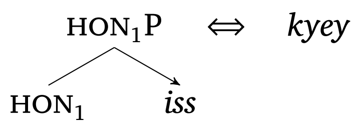
(66)

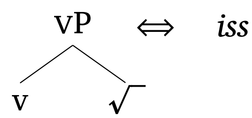


What do these structures predict for *molu* 'NEG.want'? First of all, they predict that *molu-* will be able to spell out the whole structure (66), since we have here NEG and the root *al* 'know' in one constituent.

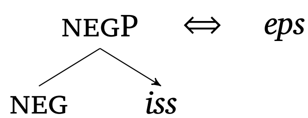
The structures further predict that honorification will not block suppletion. The reason is that the root *al-* 'know' appears as the spellout of both the HON$_1$P in (65) and also as the spellout of vP in (66) (see (64) above). Recall that *molu* has a pointer to whatever *al* spells out, regardless of the size of the structure. Therefore *molu* will always appear whenever a NEG head is merged to a constituent that has been spelled out as *al* on the previous cycle. This consequence represents the very gist of our idea as to how suppletion works in general, and we therefore correctly predict that we find *molu* both in (65) and (66). In other words, with *al* 'know', honorification does **not** block negative suppletion.

We next turn to the verb *iss* 'be, exist.' This verb has three different suppletive allomorphs. It has a suppletive honorific form *kyey*, which spells out HON$_1$P and contains a pointer to *iss*, see (67). The non-honorific form *iss* then spells out just vP, see (68).

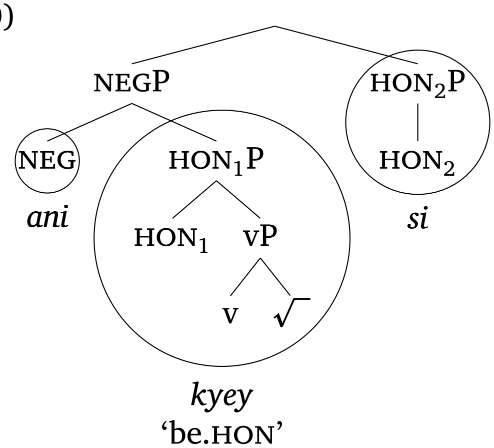
(67) 

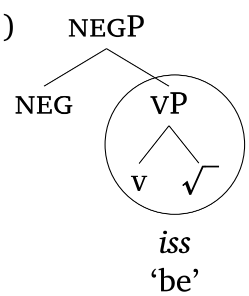
(68) 

Then, *iss* 'be, exist' also has a suppletive negative form *eps* 'not exist', whose lexical entry is as given in (69):

(69) 

What do these entries predict about the interaction between honorification and negation? In order to see that, consider the fact that the applicability of a negative suppletive form is always evaluated at NEGP. The suppletive item applies when NEG has a sister that has been spelled out by a particular lexical item. Therefore, in order to determine the applicability of (69), we need to look at whether the sister to NEG is spelled out by *iss* 'be' or not. The examples in (70) and (71) show the relevant structures.

(70) 

(71) 

What we see here is that in the honorific structure (70), the HON$_1$P is not (in fact cannot) be spelled out by *iss*. Therefore, the negative suppletive *eps* does not match the NEGP in (70), and we correctly get the spellout *ani kyey* 'not be.HON' The consequence is that in this case, the presence of HON does block suppletion. This is different from the non-honorific structure, where *iss* is the only candidate for spellout. Therefore, (71) is correctly predicted to be realised as *eps* 'not be'.

The solution to the paradox thus relies on the most basic essence of the pointer hypothesis: namely that suppletive lexical items point one to the other, and each spells out a structure of a different size. Since suppletive roots spell out structures of different sizes, they never compete with each other: there is no point in the derivation where both *eps* 'not be' and *iss* 'be' can be inserted. Since we do not need competition among suppletive lexical items, we can maintain the idea that whenever multiple roots match, the choice between them is free.

6.8 *Po*-constructions

In our account of the Korean facts, it was crucial that the NEG head is located in between HON_1 and HON_2. This presupposes that forms such as *cwum-usi* 'sleep.HON' can be decomposed into two parts: the honorific root *cwum* spelling out HON_1P and the suffix *(u)si* spelling out HON_2P, recall (70). The reason why this decomposition is crucial is because on our proposal, the structural position of negation has to be in between these two pieces.

In this section, we therefore discuss a problem for this analysis pointed out by Choi & Harley (2019). Contrary to us, they conclude that suppletive honorific forms like *cwumsi* 'sleep.HON' are non-decomposable. We shall first review the relevant facts and summarise the argument provided by Choi & Harley (2019) as to why the forms should not be decomposed. Then we point out potential weaknesses of this proposal, and finally provide a possible analysis of the relevant facts without compromising the idea that suppletive honorific verbs are to be decomposed into a root and a suffix. Ultimately, this section is an aside, since does not influence our account in any way. However, since the decomposability of the suppletive forms is crucial for us, we need to address this issue here.

The reason for a non-decompositional analysis are related to the special behaviour of honorific suppletive verbs in the so-called *po*-construction. *Po*-construction is a multiverb construction, where *po-* is the main verb meaning 'try,' and to its left appears a non-finite verb. The first thing to know is that in *po*-constructions, the complement verb is always marked by a linking element *-e*. We remain agnostic for now as to what *e* exactly contributes, and refer the reader to Lee (1992:Chap 4.2) for discussion and references. The relevant fact is that with non-suppletive embedded verbs, the honorific marker *(u)si* cannot appear on the verb in the presence of *e* (72a). In contrast, with suppletive verbs *(u)si* may be present (72b) (examples from Choi & Harley 2019).

(72) a. Halapeci-kkeyse ku chayk-ul ilk-(***usi**)-e
grandfather-NOM.HON the book-ACC read-HON-E
po-si-ess-ta
try-HON-PST-DECL
'Grandfather tried to read the book.'

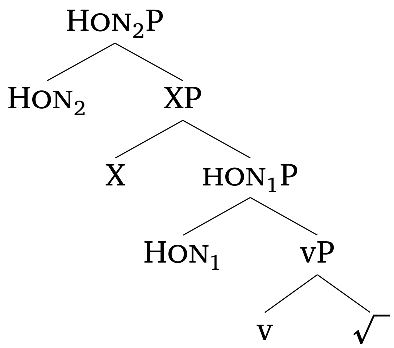
b. Halapeci-kkeyse pang-eyse cwum-**usi**-e po-si-ess-ta
grandfather-NOM.HON room-in sleep-HON-E try-HON-PST-DECL
'Grandfather tried to sleep in the room.'

Choi & Harley (2019) argue that the contrast in (72) indicates that suppletive honorific verbs have been reanalysed and are no longer decomposable. If that is so, there is no *-usi* suffix in (72b), and the whole contrast is resolved.

While clearly resolving the interesting contrast in (72), the proposal raises two issues. The first issue is that all the roots that show honorific suppletion end in *-si*, recall (41). The analysis proposed by Choi & Harley (2019) has to treat this as an accident. The analysis where *(u)si* is treated as a suffix explains this. Second, the proposal forces them adopt an additional rule of exponence, which ensures that HON is ∅ if and only if it is found in the context of *cwumusi, kyeysi, capsusi*, so as to avoid forms like *cwumusi-si* and the like. The fact that this is the only place in the Korean grammar where the two suppletive roots are not in complementary distribution raises further doubts about the need to treat *cwum-usi* 'sleep-HON' as non-decomposable.

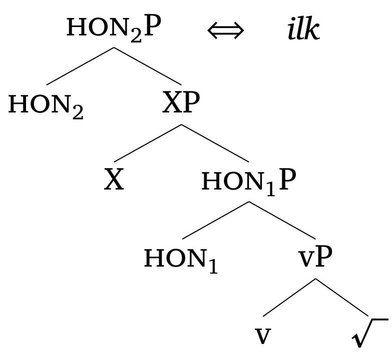
In what follows, we would like to argue that it is possible to provide an account for these facts without the need to admit that the relevant verbs are non-decomposable. The solution has two parts. The first part is that both of the honorific heads are in fact present on the non-finite verb marked by *-e*. The second part of the solution is that the complement of *po-* (and similar verbs like it) has a dedicated non-finiteness feature. We call this non-finiteness feature X and locate it between HON_1 and HON_2, see (73). The tree depicts the structure of the verb marked by *-e* on our account.

(73)



If the structure (73) is adopted, the facts can be neatly implemented relying on specific size and shape of the lexical items involved in pronouncing these features. Let us start by non-suppletive roots. like *ilk* 'read.' The lexical entry we propose for them is as in (74).

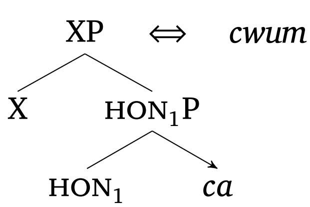
(74)



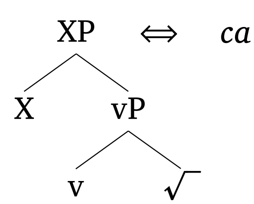
It now follows why **ilk-usi-e* cannot be derived when the verb is non-finite: the lexical item of *ilk* 'read' (74) is big enough to spell out the structure, and blocks the insertion of any independent HON marker. In a finite context, on the other hand, X will either be lacking or there will be an additional finiteness head on top of X. In either case, HON_2 will need to be lexicalised by the independent marker *(u)si*, since the lexical item does not contain the syntactic tree as a subtree.

Let us now turn to the three suppletive verbs. The lexical structure we propose for them is as in (75) and (76).

(75)



(76)



Once such entries are adopted, it follows why *cwum-usi-e* is possible as the non-finite form of this verb. The reason is that *cwum-* 'sleep' can spell out only HON_1 and the non-finite feature *X*; HON_2 must be spelled out by the relevant suffix.

The analysis just proposed therefore captures the facts as discussed in Choi & Harley (2019), and it does so without the need to treat the suppletive verbs as non-decomposable. This has the advantage that we can still explain why all honorific forms end in *(u)si*, and we need no zero allomorph of the relevant HON head. Therefore, the result of this section is that a decompositional analysis of suppletive honorifics can be maintained despite the curious pattern that they exhibit in the complement of *po* 'try.'[13]

7 Conclusion

This paper proposes an approach that reaches an important theoretical goal, namely to allow for root suppletion within a theory of narrow syntax that is phonology/concept free, and which dispenses with indexed $\sqrt{}$s. By dispensing with indexed $\sqrt{}$s, the theory is also compatible with approaches where $\sqrt{}$s are dispensed with all together (Ramchand 2008). What makes this type of theory available is a bottom-up phrasal lexicalisation, where $\sqrt{}$s are kept distinct from morphological roots. The latter come in a variety of classes, each class associated with a particular amount of functional structure.

We have further explained why and how such a theory is compatible with the fact that suppletion often co-occurs with overt marking. In order to test the predictions, we looked at the details of comparative/superlative suppletion in English, Czech and Latin. What we found is that suppletion in these languages is inevitably correlated with the reduction of overt morphology, which supports the empirical predictions of the model.

[13]The account can also explain the fact that suppletive verbs show two different non-finite forms ending in *-e*, while non-suppletive forms only have one. Specifically, the suppletive verb can also use the non-suppletive form, as in (i).

(i) Halapeci-kkeyse cokum cwum-usi-e/ca-a po-si-ess-ta
grandfather-NOM.HON a.little sleep-HON-E/sleep-E try-HON-PST-DECL
'Grandfather tried to sleep a little.'

The idea here is that the non-finite clause may be impoverished, i.e. lack the HON heads. In the absence of HON, suppletive roots fall back on the elsewhere form that appears when HON is absent. When regular roots spell out a structure lacking HON, they do not change their form, but only use a subset of their specification.

We finally discussed a paradox involving suppletion in Korean involving the interaction of negation and honorification in suppletion. Depending on the verb, different patterns are observed, which lead Choi & Harley (2019) to argue that allomorphy can be conditioned non-locally, across an intervening head. We discussed two cases which represent a similar type of configuration, but that does not give rise to allomorphy, and concluded that allomorphy must be conditioned strictly locally after all. Our solution to the Korean paradox consisted in a postulation of two different HON heads, one below and one above negation. The different behaviour of different verbs when negation and honorification interact could then simply be attributed to the different lexical entries for the relevant suppletive roots. Our theory of suppletive roots as involving pointers in lexical entries moreover ensured the correct distribution of suppletive roots, without having to take recourse to indexed $\sqrt{}$ nodes. We could thus maintain a phonology-free syntax, with free choice of the root at the first cycle of insertion.

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