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ORIGINAL PAPER

Root suppletion in Swedish as contextual allomorphy

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Abstract
The present article provides a case study of the forms corresponding to the meaning 'small' in Swedish, which exhibit a number-based suppletive alternation: descriptively, *liten* appears in the singular while *små* appears in the plural. We demonstrate that this alternation is best treated as contextual allomorphy, and provide six arguments that favor this account over a plausible alternative, according to which the forms realize two distinct roots with different lexical semantics. We situate a Distributed Morphology-based account of the alternation within the broader context of inflection in the language, and address challenges and complications to the allomorphy approach from outside of the root's 'typical' adjectival contexts, including adverbs and compounding. This study supports the existence of root suppletion conditioned by inflectional features, and has implications for our understanding of locality conditions on root suppletion as well as contextual allomorphy more broadly.

Keywords Suppletion · Roots · Allomorphy · Distributed Morphology · Locality · Inflection

1 Introduction

Recent work within the Distributed Morphology (DM) framework has pursued the idea that what is descriptively called 'root suppletion' is reducible to contextual allomorphy at or involving a root node (Bobaljik 2012, 2015b; Haugen and Siddiqi 2013; Harley 2014a, b, 2015; Arregi and Nevins 2014; Moskal 2015a, b; Toosarvandani 2016; Bobaljik and Harley 2017; Gribanova 2017; Thornton 2019; among others).

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Under this approach, suppletive alternations of roots are treated in the same way as formal alternations of functional morphemes: two (or more) exponents compete for realization postsyntactically, with the competition being resolved via the Elsewhere Condition or the Subset Principle (Halle 1997). This is schematized in (1), where a single root in the syntax (identified abstractly by some index) is realized as the *b* alternant in the context of a feature [β], and as the *a* alternant elsewhere. We refer to this as a 'Same Root Analysis' (SRA).

(1) $\sqrt{\text{ROOT123}} \leftrightarrow b \,/\, [\beta]$
$\sqrt{\text{ROOT123}} \leftrightarrow a$

SRAs have become especially important in DM, as root suppletion has played a role in developing the theory of locality restrictions on contextual allomorphy, and of root individuation in syntax. However, it remains somewhat of a controversy whether root suppletion is best characterized as genuine allomorphy; according to a competing view, roots are individuated by their formal identity, and putative alternants are in fact different roots altogether, identified by their phonological profile (Borer 2014). This latter approach then interestingly diverges from an SRA if the root representations (2) map to differences inherent to their lexical semantics, with these differences accounting for the distributional split between the putative alternants.[1] We refer to this as a 'Different Root Analysis' (DRA).

(2) $\sqrt{\text{ROOT123}} \leftrightarrow b$
$\sqrt{\text{ROOT456}} \leftrightarrow a$

The current study pits these two competing hypotheses against each other for a well-known case of (putative) suppletion in Swedish, the alternation between *liten* 'small.SG' and *små* 'small.PL', by using a set of diagnostics that assess root identity. (See Börjars and Vincent 2011 for an extensive discussion of the historical context of this suppletive pattern, and Corbett 2007 and references therein for discussion of the related pattern in Norwegian dialects, some of which employ a distinct form *vesle* 'small' in definite contexts.) According to an SRA, *liten* and *små* realize the same root, with the choice between allomorphs being conditioned by number features. According to a DRA, the two forms correspond to roots with related meanings that are distinguished by number semantics inherent to the root (e.g., *liten* is inherently specified to mean 'small and atomic').

Special attention is paid to situating the suppletive pattern within the system of inflectional exponence in the language. The study supports an SRA over a DRA, though the SRA is not altogether without challenges, an issue which is often set to the side in other work on suppletion, but which is addressed presently.

Empirically, the current work adduces novel evidence supporting an SRA of an alternation seen with an adjective (and its related derivatives) tracking an agreement feature, namely number. This type of suppletion has been claimed to be exceptional cross-linguistically, as it is sometimes taken to be the case that most instances of

[1] We set to the side the possibility raised by De Belder (2014) that roots can be phonologically individuated while having total overlap in their set of LF instructions. See Harley (2014b) for criticism.

root suppletion track 'inherent' features (e.g., number on nouns); see, for example, Hippisley et al. (2004).

The paper is organized as follows. Section 2 provides background on Swedish adjective inflection and the basic distributional characteristics of *liten* and *små*. Section 3 contrasts an SRA with a DRA, demonstrating that the SRA is favored. Section 4 examines potential challenges to an SRA, and demonstrates how an articulated view of structure, in combination with the SRA and some theoretical refinement, can capture seemingly complex patterns. Section 5 contextualizes the alternation within theories of allomorphy and locality. Section 6 offers concluding remarks.

2 Background

Adjectives in Swedish inflect for gender (common vs. neuter) and number (singular vs. plural) in both predicative and attributive positions (Holmes and Hinchliffe 2020,46). The formal alternation in (3) is the 'strong' pattern. (Exponence of the strong forms is subject to some minor points of morphophonological variation for other adjectives; see Holmes and Hinchliffe 2020,47–50.) As evident from (3), the gender contrast between common and neuter is neutralized in the plural. There is also the 'weak' pattern, which (roughly speaking) arises for modifiers in definite environments. For this pattern, the inflection on prenominal attributive adjectives neutralizes formal alternations for gender and number (4).[2,3]

(3) a. en stor-∅ snigel / stor-a sniglar
a.C.SG *big*-C.SG *snail*.C.SG / *big*-PL *snail*.PL
'a big snail, big snails'

b. ett stor-t bi / stor-a bin
a.N.SG *big*-N.SG *bee*.N.SG / *big*-PL *bee*.PL
'a big bee, big bees'

(4) a. den stor-a snigeln / de stor-a sniglarna
the.C.SG *big*-WK *snail*.C.SG.DEF / *the*.PL *big*-WK *snail*.PL.DEF
'the big snail(s)'

b. det stor-a biet / de stor-a bina
the.N.SG *big*-WK *bee*.N.SG.DEF / *the*.PL *big*-WK *bee*.PL.DEF
'the big bee(s)'

The basic inflectional pattern of adjectives is represented in Tables 1 and 2. Observe that the weak form is identical to the strong plural.

For concreteness, we take the agreement morpheme to be a node sprouted at PF (Kramer 2009; Norris 2014; Adamson 2019a; Choi and Harley 2019; among others), which we label *a*Infl, and which we take to be adjoined to a complex head *a* con-

[2] In addition to standard abbreviations from the Leipzig Glossing Rules, the following abbreviations are used: C = 'common gender'; STR = 'strong'; WK = 'weak'.

[3] There is also a 'masculine' singular *-e* ending in the written variety (and in some spoken varieties) that appears in weak environments, as in *den lill-e mann.en* 'the.C.SG small.SG.WEAK-M.SG man.DEF'—see Holmes and Hinchliffe 2020,53,59. We set masculine forms to the side for present purposes.

Table 1 Strong endings

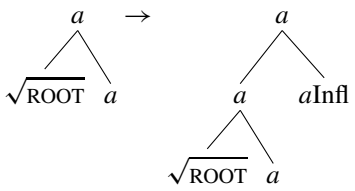
	COMMON	NEUTER
SG	−∅	−t
PL	−a	−a

Table 2 Weak endings

	COMMON	NEUTER
SG	−a	−a
PL	−a	−a

sisting (minimally) of the combination of a $\sqrt{\text{ROOT}}$ with an adjectivizing head (5) (which can be realized as ∅). This formulation is adopted from Adamson (2019a), whereby the adjunction of the inflectional head targets a complex head, specifically a 'Morphological Word' (MWd) in Embick and Noyer's (2001) sense.

(5)



The identity across the weak and plural forms is often taken to indicate that the exponent −*a* is the elsewhere item (Sauerland 1996; Embick 2015). We adopt Sauerland's (1996) analysis (which readily extends from Norwegian to Swedish), whereby gender features are impoverished in weak environments (6), and the inflectional endings correspond to the Vocabulary Items in (7). (See also Julien 2005, and Norris et al. 2014 for a related approach with underspecification).

(6) Gender Impoverishment
[±NEUT] → ∅ / [WK]

(7)
*a*Infl [+NEUT][+SG] ↔ -t
*a*Infl [- NEUT][+SG] ↔ -∅
*a*Infl ↔ -a

We now turn to *liten* and *små*. Observe from Table 3 that *liten* patterns in its singular strong forms with other adjectives that end in unstressed /ɛn/ (see Holmes and Hinchliffe 2020,49), with corresponding morphophonological alternations of the base (i.e., deletion of the nasal for the neuter singular form). However, the expected plural or weak form *litna* does not exist; in weak singular environments, the correct realization is formed from the base *lill*.[4] For the plural, the form *små* appears in both strong and weak environments. The differences in form between strong (8)–(9) and weak (10)–(11) environments are shown below.

[4] That the suffix is distinct from the base is evidenced by the 'masculine' −*e* ending in the written variety (and in some spoken varieties), as in *den lill-e mann.en* 'the.C.SG small.SG.WEAK-M.SG man.DEF' (on which, see Holmes and Hinchliffe 2020,53). It is also evident from the appearance of *lill* without the suffix, as in some compounds, e.g., *lill.finger* 'little finger'. See Sect. 4.4 for more on compounds.

Table 3 The distribution of *liten*~*små*, comparing *mogen* 'mature' and *sliten* 'worn out'

STR C.SG	STR N.SG	STR PL	WK C.SG	WK N.SG	WK PL
mogen	moget	mogna	mogna		
sliten	slitet	slitna	slitna		
liten	litet	små	lilla		små

(8) a. Snigeln är {liten-∅ /*lite-t /*små}.
snail.C.SG.DEF *be*.PRS *small*-C.SG */small*-N.SG */small*.PL
'The snail is small.'
b. Biet är {lite-t /*liten-∅ /*små}.
bee.N.SG.DEF *be*.PRS *small*-N.SG */small*-C.SG */small*.PL
'The bee is small.'
c. Sniglarna/bina är {små /*liten-∅ /*lite-t}.
snail.PL.DEF*/bee*.PL.DEF *be*.PRS *small*.PL */small*-C.SG */small*-N.SG
'The snails/bees are small.'

(9) a. en liten-∅ snigel / ett lite-t bi
a.C.SG *small*-C.SG *snail*.C.SG / *a*.N.SG *small*-N.SG *bee*.N.SG
'a small snail/bee'
b. små {sniglar/bin}
small.PL *snail*.PL*/bee*.PL
'small snails/bees'

(10) a. den {lill-a /*-lite-t /*små} snigeln.
the.C.SG *small*-WK */small*-N.SG */small*.PL *snail*.C.SG.DEF
'the small snail'
b. det {lill-a /*liten-∅ /*små} biet.
the.N.SG *small*-WK */small*-N.SG */small*.PL *bee*.N.SG.DEF
'the small bee'

(11) de {små /#lill-a /*liten-∅ /*lite-t} sniglarna /bina
the.PL *small*.PL */small*-WK */small*-C.SG */small*-N.SG *snail*.PL.DEF */bee*.PL.DEF
'the small snails/bees'[5]

This distribution can be captured with a Same Root Analysis along the lines of (12), where the number feature of *a*Infl conditions the exponence of the root. Analogous to the Vocabulary Items in (7), the singular form is more specific, with *små* being the elsewhere item.

(12) $\sqrt{\text{SMALL}} \leftrightarrow$ liten / [+SG]
$\sqrt{\text{SMALL}} \leftrightarrow$ små

[5] All of our consultants report that the weak form *lilla* is at least marginally acceptable in the definite plural context of (11), but only if it has a diminutive (or affectionate) interpretation. All consultants reject *lilla* in the predicative and strong environments of (8) and (9). See discussion of diminutive interpretations of $\sqrt{\text{SMALL}}$ in compounding and of (11) in Sect. 4.

We adopt the view that *lill* is derived via morphophonological change from the form *liten* (in the sense of Harley and Tubino-Blanco 2013; Embick and Shwayder 2018; among others), in the context of the feature [WK], though the alternation could instead be formulated as contextual allomorphy; nothing crucial will hinge on this. That these are related forms is in line with their shared historical origin: according to the *Svenska Akademiens Ordbok*, they are both descendants of (forms of) Old Swedish *litl*.

The distribution of *liten* and *små* is correctly derived from the Vocabulary Items in (12), and importantly, are consistent with the impoverishment rule in (6), which does not affect number features, and consequently has no impact on the choice between the Vocabulary Items in (12) in weak environments.[6] However, as the system currently stands, it is expected that the plural and weak forms should be *småa*, rather than *små*. There are in fact adjectives with a similar phonological profile, including *blå* 'blue' and *grå* 'gray', which for some speakers have inflected forms *blå-a* and *grå-a*, but optionally allow deletion of the final *-a* (see, e.g., Holmes and Hinchliffe 2020,47). We take the derivation of *små* to involve the same morphophonological deletion, though at least for the speakers we have consulted, the rule in this case is obligatory.

We have established what the SRA would look like for the *liten*∼*små* alternation. Before proceeding, we note that there are at least three motivations that point to an SRA (cf. Borer 2014,351). First, number is a formal feature that affects the realization of adjectival inflection more generally in the language, so the alternation *liten*∼*små* can be treated as a special case of this formal distinction; this is often (though not always) considered a precondition for root suppletion. Second, at least within the domain of adjectives, the forms are in complementary distribution with each other, unlike *little* vs. *small* in English, which are frequently interchangeable. As noted by Harley (2014b), a DRA would treat complementarity as accidental (in terms of form), while it falls naturally out of an SRA, which treats the relation between alternants as systematically related via (allomorphic) competition. Lastly, native speakers have the intuition that the forms are linked to each other, again unlike English *small* vs. *little*. These motivations aside, we can demonstrate that an SRA fares better than a DRA empirically. We now turn to this comparison.

3 Evidence for suppletion

In this section, we contrast a Same Root Analysis of suppletion (SRA) with a Different Root Analysis (DRA) through a study of several phenomena for which the two make distinct predictions, namely for morphological idiosyncrasy, interpretive idiosyncrasy, equative degree constructions, nominal and predicate ellipsis, contradiction tests, and nominalization. While some of these tests are familiar from the literature (Harley 2014a, 2015; among others), not all are, as far as we are aware—particularly equatives,

[6] Note that other analyses of the inflectional exponence may actually run into issues from the *liten*∼*små* alternation. For example, if the impoverishment rule in (6) were to be replaced with a rule that instead deleted number features, then the correct inflectional forms would still surface given the vocabulary in (7), but (given certain assumptions about the timing of impoverishment) this would wrongly predict *små* to come out across all weak contexts.

nominal ellipsis, contradiction, and nominalization. In all such cases, an SRA makes correct predictions while a DRA does not.

Recall that an SRA treats the alternants in terms of contextual allomorphy, as in (12). There are in principle a number of different SRAs that can capture the basic set of alternations, though the specific predictions of such analyses vary in part according to the set of assumptions that are made regarding what is 'visible' for contextual allomorphy. All theories of allomorphy within DM share the view that only local elements can condition the choice between allomorphs, though there is no strong consensus on what constitutes 'local'. Crucially, though, across different theories, if there is no local element to condition the allomorphy, realization will be for the elsewhere item (the 'default').

For concreteness, the SRA we consider throughout is that of (12), which takes the elsewhere realization to be the 'plural' form *små*. This form is thus predicted by our SRA to appear when number features are not present, or when they are not local to the root.

While we do not take the primary objective of the current article to be to advance a specific view of locality, we make our assumptions explicit presently and discuss implications of the *liten*/*små* alternation for theories of locality in Sect. 5. We adopt the view that cyclic derivation from the root outwards constrains allomorph selection (Bobaljik 2000; Embick 2010; Moskal 2015b; among others), and that lexical heads (e.g., *a*, *n*, etc.) are cyclic. More specifically, we adopt the view that allomorph selection cannot 'see' a second cyclic head or above (Embick 2010).[7] We do not adopt, however, Embick's linear condition on allomorphy, which has been challenged by multiple researchers (Smith et al. 2018; among others).

We follow Bobaljik (2012) in taking only elements internal to a complex head (or MWd) to be visible for contextual allomorphy (see also Thornton 2019; Choi and Harley 2019).[8] In terms of adjacency conditions, we follow Choi and Harley (2019) in taking structurally closer elements to take precedence over further elements in allomorph selection (see relatedly Toosarvandani 2016). For both domain and adjacency conditions, we follow the formulations spelled out by Choi and Harley (2019):

(13) a. *The Complex Head Accessibility Domain*
Vocabulary Items can only be conditioned by features contained within a complex X^0 head, not by features across an XP boundary.

b. *Local Allomorph Selection Theorem*
If two vocabulary items are in competition within an X^0 domain and are equally specified with respect to the Subset Principle, the item conditioned by the more hierarchically local feature blocks the item conditioned by the less local feature. (Choi and Harley 2019)

[7] This view is in line with, for example, the robust generalization that denominal verbs in English cannot have an irregular past tense form (Pinker and Prince 1988; Embick 2010; Adamson 2018), which is explained by Tense's separation from a root by two cyclic nodes *n* and *v*.

[8] Bobaljik and Harley (2017) interpret this condition differently from how we do presently; see discussion in Thornton (2019).

We stress that the current focus here is to distinguish between the fundamental predictions of an SRA and a DRA, both of which may have several variants, though the particular SRA we consider throughout is assumed to be subject to the locality conditions on allomorphy detailed here, which prevent number features from conditioning insertion at the node $\sqrt{\text{SMALL}}$ if they are nonlocal. The precise role that cyclicity and the conditions in (13) play in the analysis will become apparent below.

In contrast to an SRA, a DRA takes the alternants to be realizations of altogether different roots, which differ from each other in terms of their lexical semantics. Under this view, each root directly encodes semantic number, or is otherwise only semantically compatible with either singular or plural number. (For comparison, consider that an adjective like 'numerous' is not semantically compatible with a singular noun.) Their complementary distribution would then not be encoded in terms of the morphology, but rather, would owe to their differences in meaning. A sample set of Vocabulary Items for this type of DRA is provided in (14).[9]

Other incarnations of a DRA are conceivable; our diagnostics rule out these alternatives, as well.

(14) $\sqrt{\text{SMALL.NONATOMIC}} \leftrightarrow$ små
$\sqrt{\text{SMALL.ATOMIC}} \leftrightarrow$ liten

We now discuss six types of evidence that support an SRA over a DRA: shared morphological idiosyncrasy 3.1, shared idiosyncratic interpretation 3.2, equative degree constructions 3.3, *n*P and predicate ellipsis 3.4, contradiction tests 3.5, and nominalization 3.6.

3.1 Shared morphological idiosyncrasy

Shared irregular allomorphy or morphophonology provides evidence of morpheme identity (e.g., Aronoff 1976; Creemers et al. 2020). For example, the identity of *stand* in both *with-stand* and *under-stand* is evidenced by the fact that they share an irregular alternation of the base in their past tense (*stood, with-stood, under-stood*), despite their opaque meaning relations to the verb *stand*. In DM, this co-patterning is expected, because the conditioning environments for contextual allomorphy are the same across incarnations of the root $\sqrt{\text{STAND}}$ (under certain perspectives on locality conditions).

This logic can be extended to root-suppletive exponents. If two exponents A and B realize the same root, then putting the root into a context that conditions an irregular

[9] It is somewhat unclear what it would mean for *små* to have an inherently plural lexical semantics. Observe that, like *small* in English, *små* is a distributive predicate over individuals—it is in fact a 'stubbornly' distributive predicate in Schwarzschild's (2011) sense, meaning it does not allow cumulative interpretation of plurals, as evident from (i). This suggests that *små* semantically characterizes singular individuals rather than pluralities. This may cast further doubt on the hypothesis that *liten* and *små* are semantically distinguished along the lines sketched in (14).

(i) Lådorna är små.
box.PL.DEF *be*.PRS *small*.PL
'The boxes are small.' (=✓Each box is small. =✗The total volume of the boxes is small.)

allomorph C should do so in both environments that would otherwise condition A or B (provided that the conditioning element for C is local). This is implicit in Bobaljik's (2012,118–119) treatment of the English adverb *well*, which, like *good*, has the comparative form *bett-er* (**well-er*, **more good(ly)*). Assuming the adverb is built off the comparative, the suppletive relationship can be represented with the Vocabulary Items in (15). Setting aside the non-trivial issue of composition of the adverbial head and the comparative, the suppletive analysis of *good*/*well* captures the formal convergence for the comparative.

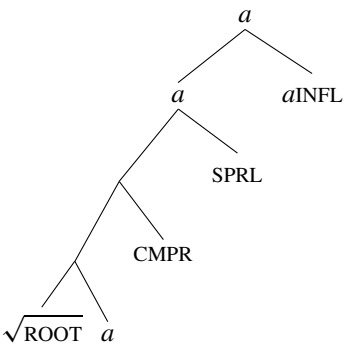
(15) $\sqrt{\text{GOOD}} \leftrightarrow$ well / ADV
$\sqrt{\text{GOOD}} \leftrightarrow$ bett- / CMPR
$\sqrt{\text{GOOD}} \leftrightarrow$ good (adapted from Bobaljik 2012,118)

Turning now to Swedish, we find a comparable convergence of irregular allomorphy for *liten* and *små*. Synthetic comparatives in Swedish are formed with *-(a)re*, and superlatives with *-(a)st*. Thus the positive forms *lätt* 'light', *snabb* 'fast', *vacker* 'beautiful' become respectively *lättare*, *snabbare*, and *vackrare* in the comparative and *lättast*, *snabbast*, and *vackrast* in the superlative (compare also *äldre*/*äldst* 'older, oldest' and *bättre*/*bäst* 'better, best', which have the 'abbreviated' forms *-re* and *-st*). The Vocabulary Items for the comparative and superlative morphemes are given in (16). We follow Bobaljik (2012,34–35) in taking the superlative to contain the comparative, and follow his suggestion (for other languages) that the comparative head is realized as null in the context of the superlative.

Like the positive weak forms, the comparative and superlative do not alternate according to gender and number, though superlatives are inflected (i.e., with *-a*) across feature combinations in attributive positions (e.g., *vackr-ast-a* 'beautiful-SPRL-WK'). When inflectional affixes are present, they are further from the root than the comparative or superlative head. This is represented in the tree in (17). We assume the comparative and superlative heads adjoin to the head *a* (through, for example, post-syntactic merger) prior to the node-sprouting of *a*Infl (see Adamson 2019a). (In the case of the comparative, we assume the *a*Infl node is realized as ∅ when adjacent to the CMPR node.)

(16) [SPRL] ↔ (a)st
[CMPR] ↔ ∅ / [SPRL]
[CMPR] ↔ (a)re

(17)



An SRA predicts that irregular allomorphy of the root in the context of the comparative or the superlative should be shared across singular and plural environments. This should hold because the comparative or superlative morpheme is local to the root, and should therefore be eligible to condition its allomorphy. This contrasts with *a*Infl, which under certain assumptions, cannot condition allomorphy past the intervening CMPR or SPRL heads. Presently, this is captured by the Local Allomorph Selection Theorem, which gives rise to the choice of the comparative/superlative alternant over the singular/plural alternants because the former is more local than the latter; other adjacency-based perspectives on allomorphy similarly derive this difference (Embick 2010; Bobaljik 2012; among others).

The SRA predictions are borne out. The comparative and superlative of $\sqrt{\text{SMALL}}$ are respectively *mindre* and *minst*, regardless of number, as illustrated in (18)–(20).[10]

(18) a. en mind-re snigel / ett mind-re bi
a.C *small*-CMPR *snail*.C.SG / *a*.N *small*-CMPR *bee*.N.SG
'a smaller snail/bee'

[10] Börjars and Vincent, (2011,257) observe that a comparative form *smärre* still exists in Swedish. Our consultants corroborate the data from this work in (i), though they note that the 'size' interpretation is not available for them (ii).

(i) en smärre chock
a.C *small*.CMPR *shock*
'a small shock'
(Börjars and Vincent, 2011, 257)

(ii) #ett smärre forskarteam
a.N *small*.CMPR *research.team*
'a small research team'
(cf. Börjars and Vincent 2011, 257)

According to Börjars and Vincent, *smärre* is not a genuine comparative, but is instead a synonym of *liten*. We agree, and further support this view with the data in (iii), which indicate that it is ungrammatical to have *smärre* appear with a comparative complement. Interestingly, however, *smärre* cannot be put into a comparative, either: speakers accept neither a synthetic form *smärrare* nor a periphrastic expression *mer smärre*.

(iii) Det var en {mindre/*smärre} chock än förväntat.
That was a small.CMPR/*small*.CMPR *shock than expected*
'That was a smaller shock than expected.'

b. mind-re {sniglar / bin}
small-CMPR *snail*.PL / *bee*.PL
'smaller snails/bees'

(19) den mind-re snigeln / det mind-re biet
the.C.SG *small*-CMPR *snail*.C.SG.DEF / *the*.N.SG *small*-CMPR *bee*.N.SG.DEF
/ de mind-re {sniglarna /bina}
/ *the*.PL *small*-CMPR *snail*.PL.DEF /*bee*.PL.DEF
'the smaller snail/bee/snails/bees'

(20) den min-st-a snigeln / det min-st-a
the.C.SG *small*-SPRL-WK *snail*.C.SG.DEF / *the*.N.SG *small*-SPRL-WK
biet / de min-st-a {sniglarna /bina}
bee.N.SG.DEF / *the*.PL *small*-SPRL-WK *snail*.PL.DEF /*bee*.PL.DEF
'the smallest snail/bee/snails/bees'

Under an SRA, the Vocabulary Items for $\sqrt{\text{SMALL}}$ are simply expanded, as in (21), subject to the condition that the more local element (the CMPR/SPRL head) conditions the exponence while the element further away (*a*Infl) cannot.

(21) $\sqrt{\text{SMALL}} \leftrightarrow$ min(d) / CMPR
$\sqrt{\text{SMALL}} \leftrightarrow$ liten / [+SG]

In contrast to an SRA, a DRA does not make correct predictions. A DRA would posit a separate root $\sqrt{\text{MIN(D)}}$, which would have inherently comparative semantics. Blocking the impossible *litnare* and *småare* would be non-trivial, but could be accomplished essentially by making the semantics of distinct roots $\sqrt{\text{LITEN}}$ and $\sqrt{\text{SMÅ}}$ incompatible with comparative semantics.

That a DRA is on the wrong track is indicated by (at least) two comparative environments in which *liten* and *små* do in fact appear: metalinguistic comparatives and analytic comparatives with conjoined adjectives.[11]

Metalinguistic comparatives are known in English to prohibit synthetic forms, as in (22); an analytic comparative with *more* is used instead (DiSciullo and Williams 1987; Embick 2007; among others). The same holds in Swedish with *mer* (23).

(22) It is {more hot /*hott-er} than humid. (Embick 2007,12)

(23) Det är {mer varmt /*varm-are} än fuktigt.
it is more hot /hot-CMPR *than humid*
'It is more hot than humid.'

As the examples in (24) show, the forms *liten* and *små* may appear (with mild degradation) in metalinguistic comparatives, which is inconsistent with the idea that these forms expone distinct roots whose interpretations are incompatible with comparative semantics. For an SRA, the choice of the forms *liten* and *små* over *min(d)* in analytic comparatives is consistent with Bobaljik's (2012,3) Root Suppletion Generalization, according to which root suppletion is conditioned in the context of synthetic—but

[11] We thank an anonymous reviewer for pointing out the relevance of the latter type of evidence.

not analytic—comparatives. This is derived presently by an SRA coupled with the Complex Head Accessibility Domain condition (13), which restricts allomorphic conditioning to complex heads.

(24) a. Dörren är {?mer liten /*mindre} än trång.
door.C.SG.DEF *is more small*.C.SG */small*.CMPR *than narrow*.C.SG
'The door is more small than narrow.'
b. Dörrarna är {?mer små /*mindre} än trånga.
door.PL.DEF *are more small*.PL */small*.CMPR *than narrow*.PL
'The doors are more small than narrow.'

The other construction that points to the same conclusion involves coordinated adjectives. In Swedish, as in English, coordinated adjectives can appear in analytic comparatives even when the conditions for producing a synthetic form are met for one of the adjectives (25) (cf. *sötare* 'cuter'). The choice of allomorphy is again constrained by the Complex Head Accessibility Domain, giving rise to realizations of the root not specified for comparative contexts (26)–(27).

(25) Jag har aldrig sett något mer [perfekt och sött] än den
I have never seen anything more perfect.N.SG *and cute*.N.SG *than the*.C.SG
här kattungen.
here kitten.C.SG
'I have never seen anything more [perfect and cute] than this kitten.'

(26) Jag har aldrig sett något mer [perfekt och litet] än
I have never seen anything more perfect.N.SG *and small*.N.SG *than*
den här kattungen.
the.C.SG *here kitten*.C.SG
'I have never seen anything more [perfect and small] than this kitten.'

(27) Jag har aldrig sett varelser mer [perfekta och små] än de
I have never seen creature.PL *more perfect*.PL *and small*.PL *than the*.C.PL
här kattungarna.
here kitten.C.PL
'I have never seen creatures more [perfect and small] than these kittens.'

The data from the shared irregular comparative and superlative therefore support an SRA for the *liten*∼*små* alternation over a DRA.

3.2 Shared idiosyncrasy in interpretation

As is well-known, idiomatic or idiosyncratic interpretations are licensed within specific syntactic contexts (e.g., Harley 2014a). For example, in English, *go bananas* has an idiomatic interpretation meaning 'become insane' (Choi and Harley 2019). As Choi and Harley point out, while *go* takes an irregular past tense form *went*, its morphological irregularity has no impact on the idiomatic interpretation of the phrase in the past tense *went bananas*. This follows from an SRA-type account that takes

the realizations of *go* and *went* (or perhaps *wen-*) to correspond to the same abstract syntactic element (e.g., $\sqrt{\text{GO}}$), with the idiomatic interpretation licensed in the context of this element. Shared idiosyncratic meaning is not readily derived by a DRA-type account that takes *go* and *went* to correspond to different abstract syntactic objects. (See Choi and Harley 2019 for further discussion in the context of verbal suppletion in Korean and Harley 2015 for discussion of verbal suppletion in Hiaki.)

We may now ask whether *liten* and *små* covary in idiosyncratic interpretations as predicted by an SRA but not a DRA. There exist combinations of *liten* and a noun where *liten* bears an idiosyncratic interpretation, as in (28). That its interpretation is idiosyncratic and requires a particular syntactic context is supported by two facts: i) the noun can be further modified by *stor* 'big' without contradiction, and ii) the reverse order of *stor* and *liten* yields a distinct interpretation (29).

(28) en (stor) liten bokstav
a.C.SG *big*.C.SG *small*.C.SG *letter*.C.SG
'a (big) lowercase letter'

(29) en liten stor bokstav
a *small*.C.SG *big*.C.SG *letter*
'a small uppercase letter/*a big lowercase letter'

The expectation of an SRA is that an idiosyncratic expression with *liten* should retain the morphological alternation, both in weak and plural contexts. This is borne out (30)-(31).[12]

(30) den lilla
the.C.SG *small*.WK
bokstaven
letter.C.SG.DEF
'the lowercase letter'

(31) små bokstäver
small.PL *letter*.PL
'lowercase letters'

It is standard to assume that idiosyncratic interpretations are lexically specific. Thus a DRA fails to capture that *liten*∼*små* alternate in this type of environment, with the idiosyncratic interpretation preserved across contexts.

3.3 Equative Degree Constructions

Consider an equative degree construction like that of (32) (see Anderson and Morzycki 2015 for references and a recent analysis of such constructions in various languages):

[12] A similarly idiosyncratic context involves technical names for musical intervals. In English, a *minor third* corresponds to three half-steps while a *major third* corresponds to four. In Swedish, *en liten ters* literally means 'a small third' and refers to a minor third, while *en stor ters* literally means 'a big third' and refers to a major third. Other musical intervals can also be formed in combination with either *liten* or *stor*. Strong and weak forms with *liten/lilla/små* are all attested with various intervals (e.g., thirds, sevenths, etc.) at https://www.musikipedia.se/ackord, accessed 2022. As expected, the weak and plural forms of $\sqrt{\text{SMALL}}$ retain these meanings.

(32) Du är lika gammal som min bror.
You are as old.C.SG *as my brother*
'You are as old as my brother.' (Holmes and Hinchliffe 2020,158)

Roughly, (32) expresses that there is some degree on a scale of oldness that both individuals picked out by *du* and *min bror* have. Crucially for present purposes, the property of interest is picked out by the adjective for both individuals.

This construction can distinguish between an SRA and a DRA when there is number mismatch between the subject and the equated nominal. An SRA predicts that equative constructions with number mismatch should be felicitous, because the same scale should be picked out regardless of whether the adjective is realized as *liten* or *små*. In contrast, a DRA predicts that, because the lexical semantics of the two forms are distinguished, equatives with number mismatch should be ill-formed, as the property should only hold felicitously of one nominal but not the other. The predictions of the SRA are borne out: mismatch is possible in both directions (33)–(34).

(33) Den här snigeln är lika liten som de andra
the.C.SG *here snail*.C.SG.DEF *be*.PRS *as small*.C.SG *as the*.PL *other*
sniglarna.
snail.PL.DEF.
'This snail is as small as the other snails are.'

(34) De här sniglarna är lika små som den andra
the.PL *here snail*.PL.DEF *be*.PRS *as small*.PL *as the*.C.SG *other*
snigeln.
snail.C.SG.DEF
'These snails are as small as the other snail.'

3.4 *n*P and Predicate Ellipsis

It is known that ellipsis imposes identity conditions between the antecedent and the ellipsis site. Minimally, these conditions are semantic (see Merchant 2001 and much subsequent work). As a consequence, ellipsis can distinguish between an SRA and a DRA (cf. Bobaljik 2015a; Harley 2015; Choi and Harley 2019): given a context of number mismatch between an antecedent and an ellipsis site, an SRA predicts ellipsis to be licensed in both directions when the suppletive root is contained within the ellipsis site, as semantic identity conditions can be satisfied irrespective of number. In contrast, a DRA predicts that ellipsis should fail to be licensed, as the elided root should be semantically incompatible in the mismatched number context.

As in many languages, Swedish allows *n*P ellipsis under numerals. *n*P ellipsis in number mismatch with (focused) numerals is well-formed, as in (35)–(36).

(35) Vill du ha EN stor-∅ snigel eller TVÅ ~~stor-a~~ ~~sniglar~~?
want you have one.C.SG *big*-C.SG *snail*.C.SG *or two big*-PL *snail*.PL
'Do you want one big snail or two?

(36) Vill du ha TVÅ stor-a sniglar eller EN ~~stor~~ ~~snigel.C.SG~~?
want you have two big-PL *snail.*PL *or one.*C.SG *big*-C.SG *snail*
'Do you want two big snails or one stor-a-sniglar?

As predicted by an SRA, ellipsis is licit with number mismatch between the antecedent and the ellipsis site with *liten* and *små* in both directions (37)–(38).[13]

(37) Vill du ha EN liten-∅ snigel eller TVÅ ~~små~~ ~~sniglar~~?
*Want you have one.*C.SG *small*-C.SG *snail.*C.SG *or two small.*PL *snail.*PL
'Do you want one small snail or two small snails?

(38) Vill du ha TVÅ små sniglar eller EN ~~liten-∅~~ ~~snigel~~?
*Want you have two small.*PL *snail.*PL *or one.*C.SG *small*-C.SG *snail.*C.SG
'Do you want two small snails or one small snail?'

Relatedly, disjunction of just the numerals meaning 'one' and 'two' is possible; the numeral disjunction is followed by a plural-marked noun (and plural-agreeing attributive modifiers). *små* is also grammatical here, despite the number mismatch between the disjunct numerals:

(39) en eller två små sniglar
*one.*C.SG *or two small.*PL *snail.*PL
'one or two small snails'

The evidence from *n*P ellipsis therefore favors an SRA, as a DRA instead predicts that *liten* should be semantically incompatible with an elided plural noun, and/or that *små* should be incompatible with an elided singular noun.

The same logic extends to cases of predicate ellipsis. Our consultants report that, while marked, number mismatch between subjects is possible (40))–(41). Number mismatch with predicate ellipsis is licensed in both directions for *liten* and *små* (42)–(43), as expected under an SRA.

(40) Kvinnan är lång, och männen (är det) också.
*Woman.*C.SG.DEF *be.*PRS *tall.*C.SG, *and men.*PL.DEF *(be.*PRS *it) also*
'The woman is tall, and the men are, too.'

(41) Männen är långa, och kvinnan (är det) också.
*man.*PL.DEF *be.*PRS *tall.*PL, *and woman.*SG.DEF *be.*PRS *it also*
'The men are tall, and the woman is, too.'

(42) Kvinnan är liten, och männen (är det) också.
*Woman.*C.SG.DEF *be.*PRS *small.*C.SG, *and men.*PL.DEF *(be.*PRS *it) also*
'The woman is small, and the men are, too.' (e.g., in a fictional context where people have shrunk)

[13] Setting aside ellipsis, the alternation between *liten*∼*sma* is unexpected under a DRA if Ionin and Matushansky (2018) are correct that numerals always combine with semantically singular nouns, with plural marking being due to agreement. This would reinforce the formal (as opposed to semantic) status of the number conditioning (though see Sect. 4.3).

(43) Männen är små, och kvinnan (är det) också.
man.PL.DEF *be*.PRS *small*.PL, *and woman*.SG.DEF *be*.PRS *it* *also*
'The men are small, and the woman is, too.'

3.5 Contradiction

As is well-known, the conjunction of a proposition P with its negation $\neg P$ yields a contradiction. An SRA and a DRA give rise to different predictions with respect to a contradiction test: for an expression with two conjuncts, one with positive *liten* and one with negative *små* (and vice versa) holding of the same set of individuals, the expectation for the SRA is that this should always be contradictory, as this should always be a case of P and $\neg P$. However, this should not necessarily be the case for the DRA, given that the adjectives should have different meanings, giving rise to a possibility of P and $\neg Q$. Such mismatch can be constructed with the use of quantifiers that require singular or plural nouns. Evidence like (44)–(45) then speaks in favor of the SRA over the DRA, as contradiction is unavoidable.

(44) #Varje snigel är liten, men de är inte små.
every snail.C.SG *be*.PRS *small*.C.SG *but* *they be*.PRS *not* *small*.PL
'Every snail is small, but they (the snails) are not small.'

(45) #Alla sniglar är små, men ingen snigel är liten.
all *snail*.PL *be*.PRS *small*.PL, *but* *no* *snail*.C.SG *be*.PRS *small*.C.SG
'All snails are small, but no snail is small.'

There is an important caveat here having to do with two confounds, namely *synonymy* and *polysemy*. A point of comparison with English *little* and *small* illustrates the issues: given that the two are synonyms in English, a contradiction test that switches out one for the other would seem to suggest that the two are suppletive:

(46) a.??/#The snail is small, but it is not little.
b.??/#The snail is little, but it is not small.

Being synonyms rather than suppletive alternants of the same root, *small* and *little* do not overlap entirely in meaning. For example, *little* has the possible interpretation of 'young', which for many speakers is not an interpretation of *small*. Thus it is possible to formulate a non-contradictory sentence such as *I am little but I am not small.* The SRA for *liten*∼*små* then predicts that there are no non-contradictory sentences of this type, since the meanings of *liten* and *små* are identical. As far as we can tell, this is true, thereby supporting the SRA.[14]

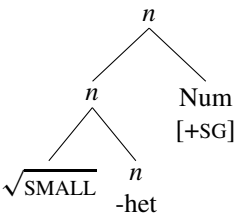
[14] Note, however, that non-contradiction can arise in principle with a root that has multiple meanings. It is possible in English to say *I am little, but I am not little* to mean 'I am young but not small in stature'. Such examples are fairly forced, requiring special prosody to clarify what is intended.

3.6 Nominalization

The nominalizing suffix *-het* applies to bases that appear adjectivally, such as *djärv* ∼*djärvhet* 'bold∼boldness, *svag*∼*svaghet* 'weak∼weakness', and *klar*∼*klarhet* 'clear ∼clarity'. In addition to forms with only one overt morpheme, *-het* can also suffix to elements with overt adjectivizing heads, such as *arbets-lös-het* 'unemployment', *genomför-bar-het* 'feasibility', and *värd-ig-het* 'dignity'. We assume the form *-het* realizes a head *n* that combines either directly with property-denoting roots or with adjectival heads to produce abstract nouns.

Following Ritter (1991), Kramer (2016) and others, we assume Num is a head above *n*P, which we take to Lower onto *n* (in the sense of Embick and Noyer 2001). Swedish realizes plural number on nouns with various suffixes, such as *-or*, *-ar*, *-er*, *-n*, *-s*, and *-∅* (Holmes and Hinchliffe 2020, 33–38), which we take to be overt realizations of Num. The relevance of Num is that, given that the conditions for insertion of *liten* and *små* are dependent on number *features*, we make predictions about the alternation in nominal environments. A *-het* nominalization for $\sqrt{\text{SMALL}}$ is indeed possible, producing a quality nominal *liten-het* (see Arche et al. 2021 and references therein on the classification of 'deadjectival' nominalizations). We take one possible structure to be as in (47) (after Num has been Lowered to *n*).

(47)



Given our current assumptions about locality for contextual allomorphy, the realization of the root in (47) is predicted by an SRA to be *liten* rather than *små*, as the nominal feature on Num is singular and local to the root. This is borne out; as an abstract quality noun, the form of the noun is *litenhet*:[15]

(48) landets {liten-het /*små-het}
land.N.SG.DEF.GEN *small*.SG-NMLZ /*small*.PL-NMLZ
'the land's smallness'

It is the number features combining with the quality noun that matter for realization. Thus a nominal argument of *litenhet* has no effect on the realization of the root; it is *liten*, even when the argument is plural.

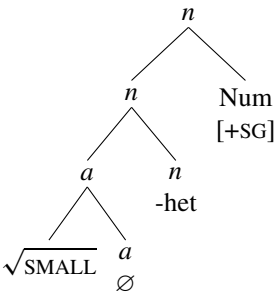
(49) ländernas {liten-het /*små-het}
land.PL.DEF.GEN *small*.SG-NMLZ /*small*.PL-NMLZ
'the lands' smallness'

[15] One speaker allows *småhet* as well, but likes neither nominalization. See further discussion of *småhet* below.

The data in (48)–(49) may be unexpected under a DRA, because the semantic difference between singular and plural predication should manifest itself here, contrary to fact.

Because we are assuming *-het* either combines with property roots or with adjectival heads, a question arises concerning the status of (50).

(50)



In principle, nothing rules out the structure in (50), though if the interpretation is the same as in (47), this structure may be dispreferred on the basis of economy considerations. If the structure is generable, then the prediction of an SRA is that the form should be realized as *småhet*, the reason being that the singular feature on Num is not local to the root, being separated by two cyclic nodes *a* and *n*. The root should therefore be insensitive to the number features on Num for allomorphic purposes.

Corpus data from Språkbanken (Borin et al. 2012, accessed 2020) indicate that *småhet* is indeed attested, albeit in far fewer numbers than *litenhet*. This is what is expected if both (47) and (50) are generable, with the structurally simpler option being preferred. A search for *litenhet* and *småhet*, and their corresponding definite forms yielded the following number of hits in the singular (Table 4).

What are the expectations for plural nominalizations? Before getting into greater detail about interpretation, there is a 'straightforward' prediction: both structures in (47) and (50) with plural features on Num lead to the prediction under an SRA that the realization of the root should be *små* rather than *liten*: in the former case, the local feature on Num is [- SG], and in the latter case, the feature on Num is nonlocal; thus in both cases, the default form *små* should surface. There are few attestations of plural forms from the corpus search (performed at the same time), but the data are by and large in line with what is predicted (Table 5).

A likely cause of the low attestation of the plural is that, because *litenhet* is an abstract quality noun, it does not readily pluralize (see Arche et al. 2021 and references

Table 4 Singular *-het* nominalizations in a corpus

	Form	Hits
SG	litenhet	3578
	småhet	127
SG.DEF	litenheten	420
	småheten	6

Table 5 Plural *-het* nominalizations in a corpus

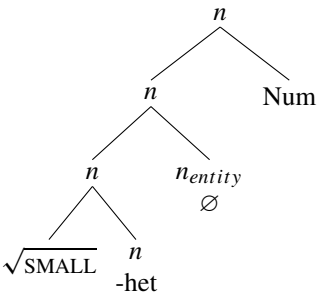
	Form	Hits
PL	litenheter	2
	småheter	18
PL.DEF	litenheterna	0
	småheterna	1

therein). This also makes it difficult to ask consultants whether the plural should be realized as *litenheter* or *småheter*.[16]

However, it is possible for some speakers to interpret a *-het* nominalization as referring to entities that possess the quality of smallness (see relatedly Arche and Marín 2015, 264–265 and Fábregas 2016, 218), which can pluralize (cf. the relationship between *beauty* and *beauties* in English, where the latter only bears the entity reading).

The predictions of an SRA are dependent on the details of how such cases are analyzed. For present purposes, we follow the intuition that the entity interpretation is structurally derived from the corresponding quality nominal (see, e.g., Fábregas 2016, 219), and is therefore more complex. We take the relevant structure to involve denominal nominalization of the type in (51).

(51)



Under the cyclic constraint on locality, the root in (51) could not be conditioned by features on Num across two cyclic *n* nodes. Thus if (51) is on the right track, the prediction of an SRA is that the realization of $\sqrt{\text{SMALL}}$ will be that of the default *små*. This prediction is consistent with the attested use where the noun essentially means 'small thing(s)'; a plural is provided from an online example in

[16] A plural 'measure' reading corresponding to the quality nominalization, which has been observed to be possible for some nominals in other languages (cf. Fábregas 2016,218), is not accepted for *litenhet* (i), though we note that the preference seems to be for a form that includes *små*, as expected by the current account.

(i) Både jordens litenhet och månens är slående jämfört med solens expansiva enormitet... (Both the smallness of the Earth and the smallness of the moon are striking compared to the sun's expansive enormity...

a. *Dock är de två himlakropparna av vitt skilda {småheter /litenheter}.
but are the two celestial.bodies of vastly different small.ness.PL */small.ness*.PL
'But the two celestial bodies are of vastly different smallnesses.'

https://norrlandsoperan.se/ (52); one consultant accepts this example and reports that the corresponding singular *småhet* is also felicitous under the relevant interpretation. (The other consultants disallow this use of *litenhet/småhet* altogether.)

(52) Du kan självklart också äta valfri rätt från à la carte, njuta av
You can of.course also eat any dish from a la carte, enjoy of
små-het-er i bistron...
small-NMLZ-PL *in bistro*.DEF...
'You can of course also eat any dish à la carte, enjoy small things at the bistro...'
Internet example accessed 2020 via https://norrlandsoperan.se

To summarize, the 'basic' data support an SRA over a DRA. Furthermore, with motivated assumptions concerning nominal structure and locality conditions on contextual allomorphy, the more complex conditions are consistent with a default realization of *små*. Having established the superiority of the SRA over the DRA, we now proceed to address potential challenges to the account.

4 Potential challenges to the SRA

We have seen that the evidence favors an analysis of the *liten*∼*små* alternation as contextual allomorphy. Before addressing potential challenges to the account, some clarification is in order regarding the SRA's predictions.

In DM, exponents can be underspecified for the context of their insertion, with the least specified exponent often being referred to as the elsewhere item (or the 'default'). The Vocabulary Items given above in (12) are repeated in (53).

(53) $\sqrt{\text{SMALL}} \leftrightarrow$ liten / [+SG]
$\sqrt{\text{SMALL}} \leftrightarrow$ små

(53) treats *liten* as a special realization that surfaces only in the context of the singular, while *små* is inserted elsewhere. As mentioned in Sect. 2, this ordering between items reflects how specification is claimed to work in the inflection system more broadly, where the singular form is more specific (54), repeated from (7).

(54) *a*Infl [+NEUT][+SG] ↔ -t
*a*Infl [- NEUT][+SG] ↔ -∅
*a*Infl ↔ -a

However, an alternative competition is also conceivable, given certain assumptions about feature representation. It could instead be hypothesized that *små* is a special case inserted only in plural environments, with *liten* being the default:

(55) $\sqrt{\text{SMALL}} \leftrightarrow$ små / [- SG]
$\sqrt{\text{SMALL}} \leftrightarrow$ liten

As discussed in Sect. 2, the choice of SRA makes differing predictions for which exponent (an elsewhere item) is inserted in the absence of local number features.

It is not always appreciated that contextual allomorphy accounts of root suppletion also make predictions for the realization of neighboring morphemes (see discussion in Adamson 2019b). If the formal alternations of (strong) inflection are conditioned in part by number, and the *liten*/*små* alternation is conditioned by number, we expect certain pairings of $\sqrt{\text{SMALL}}$ and inflectional exponents but not others.

With this in mind, the choice of (53) over (55) is favored presently for at least two reasons. First, this relation would parallel the inflectional exponents, which are analyzed in (7) to have the singular forms be the more specific ones. Second, while there are heterogenous distributions for both *liten* and *små* (to be described later in this section), the current account captures the asymmetry in 'clashing' forms: as we investigate below, the form *små-tt* is attested in some environments–-with the plural form of the root and the singular form of the inflection—while *litna*—the singular form of the root and the plural (or weak) form of the inflection—is not. The analysis in (53) captures this asymmetry if *små-tt* appears when the relation between the root and the inflectional marker is nonlocal (if, for example, cyclic structure intervenes), triggering the elsewhere insertion of *små*. This possibility for the reverse state of affairs in (55) could incorrectly derive the form *litna*, which never appears.

We now proceed to address several issues for the SRA. We argue that an SRA can be maintained if the structures in question are analyzed appropriately. We tackle each issue in turn, starting with adverbial predicates 4.1, followed by the Q-adjective *lite* 4.2, semantic agreement 4.3, and compounding 4.4.

4.1 Adverbial *smått*

Börjars and Vincent (2011) point to a striking pattern in which an apparently neuter singular form *smått* surfaces, with the 'plural' form of the adjective (*små*) seemingly being used with singular neuter inflection (*-t*). The example that Börjars and Vincent (2011) give is in Norwegian, but the same holds for Swedish (56).

(56) Förväll broccolin och hacka den små-tt.
Parbroil broccoli.C.SG.DEF *and chop it small*.PL-*t*
'Parbroil broccoli and chop it into small pieces.'
(based on Börjars and Vincent 2011,255)

Börjars and Vincent, (2011, 256) suggest that this usage involves a resultative adjective. However, as they point out, this would be inconsistent with the agreement facts for genuine resultative adjectives, which agree with an argument in gender and number (57).[17]

(57) Koka potatisen {mjuk-∅ /*mjuk-t}.
cook potato.C.SG.DEF *soft*-C.SG */soft*-N.SG
'Cook the potato soft.' (adapted from Börjars and Vincent 2011,256)

[17] Note that the adverbial reading with *mjukt* in (57) has a grammatical but absurd interpretation in which the cooking of the potato is carried out in a soft manner.

(56) is in fact not a resultative adjective. Rather, it is best characterized as a pseudo-resultative predicate or (the related category of) resultative adverb, in the sense of Levinson (2010, 2014). While true resultative adjectives are predicated of a syntactically present nominal argument, pseudo-resultatives are instead predicated of a created entity denoted by the verb. This contrast becomes apparent when looking at the entailments for the English case in (58).

(58) Mary braided her hair tight(%-ly).
a. ↛ Mary's hair was/is/became tight. (Levinson 2010,138–139)
b. → At least one tight braid was created. (Levinson 2010,154)

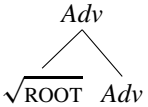
Levinson (2010, 147) demonstrates for Norwegian that resultative predicates exhibit agreement with a nominal while pseudo-resultatives do not. The same contrast is also present in Swedish, as in (59)–(60).

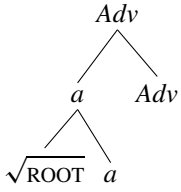
(59) Jag skar kakan tunn-∅.
I cut cake.C.SG.DEF *thin*-C.SG
'I cut the cake down such that the resultant cake was thin.'
(=I created a thin cake by cutting.) Resultative

(60) Jag skar {kakan/kakorna} tun-t.
I cut cake.C.SG.DEF/*the.cake*.PL.DEF *thin-t*
'I cut the cake slices thin.' Pseudo-resultative

Even identifying *smått* as something other than a resultative adjective, it is still not immediately clear why it should appear with *små* rather than *liten*, given that the inflectional ending resembles the neuter singular. We take this use of *smått* to be an adverb, and offer one possibility for its derivation.[18]

Adverbs in Swedish are often identical in form to the neuter singular form of adjectives, though this is not universally the case. For example, some adjectives bearing the adjectivizing suffix *-lig* can take *-en* to form a corresponding adverb, as in *verklig* 'actual'∼*verkligen* 'actually' (see Holmes and Hinchliffe 2020,127–128). Taking this relation to be one of allomorphy at a head *Adv*, we assume adverbs are built directly from roots or from adjectives, as in (61).

(61) a.


b.


[18] Levinson (2010) distinguishes between pseudo-resultatives and resultative adverbs (on which, see Geuder 2000), pointing to the adjectival status of the former in various languages. Given the availability of adverbs for pseudo-resultative-like interpretations in English (as in *tightly braided*), we find the adverbial analysis of the Swedish examples plausible, and do not dwell on the distinction here.

For the identity between the neuter singular and the *Adv* head, we suggest that the synchronic grammar treats this relation as accidental homophony; the realization *-t* is only one among several for adverbial heads, as mentioned above.[19] Adverbs in Swedish do not agree; thus no number features are nearby to condition the allomorphy of $\sqrt{\text{SMALL}}$, and consequently, the default *små* surfaces.[20] (Observe that an SRA with *liten* as the default would derive the wrong result.)

The account predicts that the form *smått* should appear in other adverbial environments. Indeed, adverbial *smått* can modify adjectives, as in (62).

(62) en smått osannolik historia
a.C.SG *slightly implausible*.C.SG *story*.C.SG
'a slightly implausible story' (adapted from Bondarenko 2019,4)

Note, however, that the Q-adjective *lite* 'a little' can also be used in various adverbial environments; we turn now to the issue of *lite*.

4.2 *lite*

There is a form *lite* (with a high-register equivalent *litet*) used to mean 'a small amount/number'. It does not vary according to gender or number of the head noun, as evident from (63).[21]

(63) lite {ost / vatten / grönsaker}
small cheese.C.SG / *water*.N.SG / *vegetable*.PL
'a little cheese/water/vegetables'

Lite is also used adverbially to modify other adjectives (e.g., *lite kallt* 'a little cold'), as well as with comparatives (e.g., *lite äldre* 'a little older'). This supports its status as what is sometimes called an adjective of quantity or Q-adjective (see e.g., Solt 2015 and references therein). That *lite* is lexically related to *liten* is supported by the fact that, like *liten*, it is realized as *lilla* in weak environments (64)–(65).[22]

[19] The morphophonological variation for adverbs is parallel to what is observed for neuter singular adjectives. This is in some sense comparable to the morphophonological changes of the English *-s* for verbs, possessives, and plurals, which are typically not considered to realize the same morpheme.

[20] An alternative is to say that the features [+NEUT][+SG] (and the categorial feature *a*Infl) are inserted on *Adv* head postsyntactically, to account for the shared morphology between the adverb and the neuter singular adjective. Regardless of the number features on this head, if we subscribe to the view that lexical heads are cyclic (e.g., Embick 2010), we could say that adverbs are necessarily built on adjectives. *Adv* and *a* would both be cyclic, and therefore, the features on *Adv* would be inaccessible for allomorphy at the node $\sqrt{\text{SMALL}}$. Consequently, the default *små* surfaces in (56).

[21] The example in (63) was taken from an earlier edition of Holmes and Hinchliffe 2020 and has been checked with native speaker consultants.

[22] Our consultants reject the weak plural with the Q-adjective reading, for reasons we do not currently understand.

(i) *Jag åt de {lilla /lite} grönsaker som var kvar på tallriken.
I ate the.PL *small*.WK */small vegetable*.PL *that were left on plate*.DEF
'I ate the small bit of vegetables that were left on the plate.'

(64) (Jag drack) den lill.a mjölk som var kvar i koppen.
I drank the.C.SG *small*.WK *milk*.C.SG *that was left in cup*.DEF
'(I drank) the small bit of milk that was left in the cup.'

(65) (Jag drack) det lill.a kaffe som var kvar i koppen.
I drank the.N.SG *small*.WK *coffee*.N.SG *that was left in cup*.DEF
'(I drank) the small bit of coffee that was left in the cup.'

We take *lite* to modify an unpronounced noun meaning 'amount' (see Kayne 2005 on the null AMOUNT analysis in English with Q-Adjectives). The null noun AMOUNT is singular and of neuter gender, which captures the fact that even plural nouns occur with the singular form *lite*—as with *grönsaker* in (63). It also accounts for the formal variant of the form being *litet*, with the common-gender form *liten* not occurring with the relevant intepretation.[23]

Lastly, the AMOUNT analysis correctly captures that the null noun, like other nouns, can take a prepositional complement in a partitive construction (66). When definite, the determiner in the partitive appears in the neuter singular form, agreeing with the null AMOUNT (67).

(66) (Jag drack) lite av {din mjölk /ditt kaffe}.
I drank small.WK *of your*.C.SG *milk*.C.SG */your*.N.SG *coffee*.N.SG
'I drank a little of your milk/coffee.'

(67) (Jag drack) det lilla av den mjölk som fanns kvar i
I drank the.N.SG *small*.WK *of the*.C.SG *milk*.C.SG *that remained left in*
din kopp.
your cup
'I drank the small bit of milk that was left in your cup.'

Before proceeding, we would like to clarify one potential issue with this analysis, which we believe ceases to be an issue when properly understood. Observe that the gender agreement on the determiners in (64)–(65) is with the overt noun rather than with the neuter gender of AMOUNT. For comparison, consider the pseudopartitive expression in (68), where the first noun provides a unit of measurement while the second noun provides the measured substance. In such constructions, agreement (e.g., with the determiner) tracks the first noun and not the second (on Danish pseudopartitives, which follow a comparable pattern, see Hankamer and Mikkelsen 2008).

(68) en kopp te
a.C.SG *cup*.C.SG *tea*.N.SG
'a cup of tea'

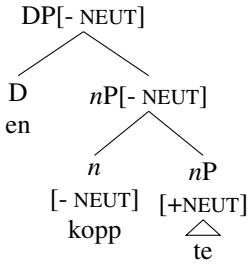
[23] A related point concerns *mycket* 'much/a lot', whose form looks neuter (in that it looks like it is suffixed with *-t*) yet does not vary according to the gender of a noun: compare *mycket mjölk* 'a lot of milk' (common gender) and *mycket kaffe* 'a lot of coffee' (neuter gender). That *mycket* is a neuter form agreeing with a null noun AMOUNT is more difficult to support, given that the contemporary language lacks corresponding common or plural/strong forms *mycken* and *myckna*. However, there is a compound adjective *tyckmycken* 'fastidious', formed from *tycka* 'think' plus *mycket* 'much', and this adjective has the full set of inflections *tyckmycken/tyckmycket/tyckmyckna*.

Is it expected that null AMOUNT should pattern together with *kopp* and other nouns found in pseudopartitive constructions for the purposes of agreement? If so, the divergence in behavior between (64)–(65) on the one hand and (68) on the other is surprising.

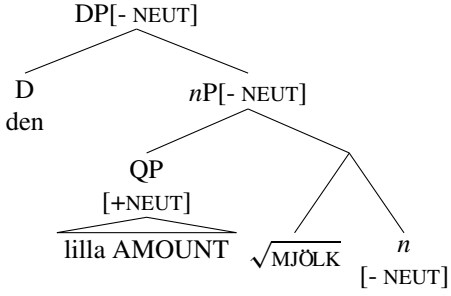
We contend, however, that we do not expect this, because the structures for the two types of expressions are distinct. On the basis of various types of evidence from definiteness marking and other properties, Hankamer and Mikkelsen (2008) argue for an analysis of Danish 'direct' pseudopartitives in which the unit noun is a functional *n* that takes a nominal phrase *complement*; see (69) below. (The properties they describe for Danish pseudopartitives also appear to extend to Swedish.)

This structure crucially differs from the one for Q-Adjectives, which have been taken to occur within specifiers, e.g., within a QP internal to the DP (Solt 2015). This has consequences for agreement: Norris (2014, 2017a, b) points out that specifiers in the nominal domain (e.g., possessors) are routinely ignored for purposes of nominal agreement, and establishes this as a crucial prediction of his system of nominal concord, which does not percolate nominal features from specifiers (see Norris 2014,135–136). Thus agreement (e.g., on the determiner) will reflect agreement with the features of the head noun rather than with AMOUNT. In contrast, the pseudopartitive involves complementation, and is thus expected to behave differently, with agreement targeting the topmost projection with the relevant features (the higher *n* with the gender features associated with *kopp*). This difference is shown in the (simplified) structures in (69) vs. (70), which reflect how gender features are percolated within the nominal domain.

(69)



(70)



It is thus suggested here that the null AMOUNT analysis is not inconsistent with the gender agreement data, as the Q-adjective phrase is expected to be ignored for the purposes of nominal agreement. A full analysis of Q-adjectives and nominal agreement

would go beyond the scope of the current article; the crucial point here is that an SRA can succeed at capturing the use of *lite* when situated within an articulated theory of nominal structure.

4.3 Semantic Agreement and Inflectional 'Clash'

In some languages, it is possible to get 'semantic' number agreement, where the formal features of a subject are distinguished from the semantic features used for agreement, as in the British English example in (71), where demonstrative agreement with a collective noun is singular, but verbal agreement is plural (e.g., Smith 2015, 2017, 2021; among others).

(71) This$_{SG}$ committee are$_{PL}$ deciding on a solution. (Smith 2017,824)

It is not possible to get this type of semantic agreement on adjectival predicates in Swedish when the subject is a singular collective noun (72): inflection on the adjective obligatorily matches the singular feature of the subject, and cannot be plural. Relatedly, it is impossible to get semantic singular agreement with subjects that are *pluralia tantum* (73). This indicates that predicative agreement is formal and not semantic with both collective and *pluralia tantum* nouns.

(72) Gruppen är {begåvad-∅ / *begåvad-e}.
group.C.SG.DEF *be*.PRS *talented*-C.SG / *talented*-PL
'The group is talented.'

(73) Glasögonen ser {vackr-a / *vacker-t} ut.
glass.PL.DEF *look beautiful*-PL / *beautiful*-N.SG *out*
'The (eye)glasses look beautiful.'

Under an SRA, it is in principle possible for either formal or semantic number to condition suppletion, assuming both types of number features can be present at the point of Vocabulary Insertion. As an example of the latter, Harley (2015,7–8) points out that Hiaki suppletive verbs, which are argued to be derived via contextual allomorphy on independent grounds, alternate for both collective and *pluralia tantum* nouns according to semantic rather than formal number.

What does an SRA predict if *formal* number conditions the alternation? The inflectional features of the adjective must be matched with formal and not semantic features (72))–(73), and the same features condition the alternation of the root. Thus singular collective subjects should take singular *liten* while *pluralia tantum* subjects should take plural *små*, in line with what we observe:[24]

(74) Gruppen är {liten-∅ /*små}.
group.C.SG.DEF *be*.PRS *small*-C.SG /*small*.PL

[24] Jonathan Bobaljik (p.c.) suggests that the subject in (73) might still be interpreted as semantically plural if, for example, the number of lenses is counted; see (Acquaviva 2008) on the possible semantic plurality of *pluralia tantum* nouns. Note, however, that only plural agreement is grammatical if the subject in (73) is replaced with *skidglasögonen* 'ski.glasses.DEF', which can refer to a type of glasses where there is just one continuous piece across the upper face. Again, only plural agreement is acceptable.

'The group is small.'

(75) Glasögonen är {små /*liten-∅ /*lite-t}.
glass.PL.DEF *be*.PRS *small*.PL */small*-C.SG */small*-N.SG
'The (eye)glasses are small.'

Under this formal SRA, the inflectional marking on the adjective should covary predictably with the choice of the root. In particular, we should not expect to find plural inflection with *liten* (*litna*) or singular inflection with *små* (e.g., *små-tt*).

However, there is evidence that could challenge the strictly formal SRA. In particular, Börjars and Vincent (2011, 256) report that *små* appears in the neuter singular in contemporary Swedish, albeit less productively than earlier stages of the language. They offer the example in (76), which they describe as 'distributive' in meaning. Our consultants confirm that this is possible, and in fact report that *litet* sounds semantically strange in this context.[25] (Our consultants all remark that they would never use *smått* in these adjectival contexts, and that it sounds marginal at best.) The same holds for a predicative context (77).

(76) {?små-tt /#litet} grus
small-N.SG */small*.N.SG *gravel*.N.SG
'gravel consisting of small stones'
(adapted from Börjars and Vincent 2011,256)

(77) ?Gruset är {små-tt / #lite-t}.
gravel.N.SG.DEF *be*.PRS *small*.PL-N.SG / *small*-N.SG
'The gravel consists of small stones.'

One possibility raised by (76)–(77) is that *smått* can surface with mass nouns that have individuable subparts, where each subpart is small.[26] While our consultants reject *smått* with 'object mass nouns' (or 'fake mass nouns') like *bagage* 'baggage', they do however accept it with what are sometimes called 'granular' mass nouns, e.g., the noun *tegel* 'brick' (78). (See Sutton and Filip 2021 and references therein for extensive discussion of the semantics of object and granular mass nouns.)

(78) ?Vilket små-tt {grus /tegel /godis}!
what.N.SG *small*-N.SG *gravel*.N.SG */brick*.N.SG */candy*.N.SG
'What small gravel stones/bricks/candies!'

In order for an SRA to rule in data like (78), it should countenance the realization of formal (neuter) singular features alongside the realization *små*. One option would be to allow both semantic and formal agreement with granular nouns like *grus*, which could be copied to adjectives through agreement (on semantic agreement, see Smith 2015, 2017, 2021; Wurmbrand 2016, 2017; Adamson and Anagnostopoulou, to appear among others). In this type of account, the formal feature [+SG] would be referenced for

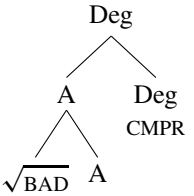
[25] *smått* also occurs in certain fixed phrases such as *smått och gott* which literally means 'small and good' and translates roughly to 'bits and bobs' and *vänta smått*, which literally means 'wait for small' and translates to 'be pregnant'. See Bondarenko (2019) for some discussion of these idioms.

[26] We are grateful to our reviewers for rightly pushing us in this direction on this issue.

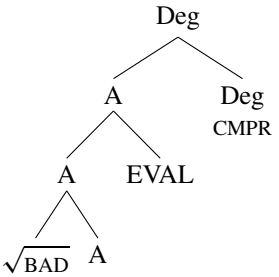
the exponence of the inflection, while the semantic feature [- SG] would be referenced for the exponence of the root (leading to the default exponence *små* in the absence of the singular feature).

An alternative proposal is instead inspired by Arregi and Nevins's (2014,323–324) analysis of *badder*, a comparative form of *bad* in English that appears instead of the suppletive form *worse* when *bad* has a distinct interpretation. As Arregi and Nevins discuss, *bad* and corresponding comparative and superlative *badd-er* and *badd-est* can be used in an evaluative, complimentary sense. They propose that *bad* can appear in the comparative structure in (79), yielding the suppletive form *worse*, but can also appear in in the comparative structure in (80) with an EVAL head, corresponding to the evaluative sense (structures from Arregi and Nevins 2014,322–323). (They connect EVAL to what is observed in Romance languages with diminutivizing suffixes applying to adjectives.) In this case, the environment blocks the suppletive conditioning, such that the realization is *badd-er* rather than *worse*.

(79) *worse*

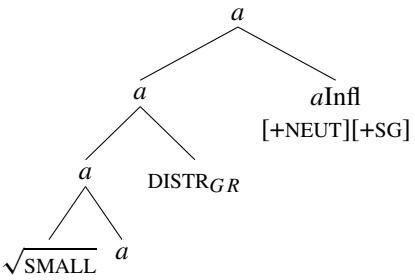


(80) *badder*



We suggest that the realization of *smått* in the above examples constitutes a parallel pattern of blocking between the root $\sqrt{\text{SMALL}}$ and the inflectional affix, leading to the default realization of *små*. In this case, the intervening morpheme is a distributive head DISTR_{GR} (GR for 'granular'), which is required for interpreting the meaning of 'small' with respect to the individual subparts of the aggregate for granular mass nouns. (We note that under our current assumptions, we are forced to say that DISTR_{GR} is cyclic, so that *a*Infl is not visible for the purposes of allomorphy at the node $\sqrt{\text{SMALL}}$.)

(81)



This analysis derives the facts, though a proper evaluation would necessitate a greater understanding of the semantics and morphosyntax of granular mass nouns, a topic well beyond the scope of the current work. Before proceeding, we note that this grammatical option appears to be extremely restricted: only the strong neuter singular form *smått* is felicitous. Strikingly, the weak environment in (82) renders all variants of *små* ungrammatical; aggregate nouns of common gender cannot occur with (variants of) *små*, either (83). The analysis does not readily capture this defectivity, and we leave this issue to future research.[27]

(82) *det {små /små-a /små-tt} grus-et
the.N *small*.PL */small*-WK */small*-N.SG *gravel*-N.SG.DEF
'the small gravel'

(83) *Vilken små(-tt) sand!
what.C.SG *small(*-N.SG*) sand*.C.SG
'What small grains of sand!'

To conclude this subsection, we have observed that an SRA is compatible with basic facts of agreement with collective and *pluralia tantum* nouns, but must be supplemented with auxiliary assumptions to account for marginally acceptable examples of *smått*. While the peripheral use of adjectival *smått* raises a host of theoretically pertinent questions, we contend that it does not undermine the general account of the *liten*∼*små* alternation offered by an SRA. Instead, it reflects how a peripheral option of the grammar can manifest as a marginal option for a speaker.

4.4 Compounding

We now turn to the issue of compounds with √SMALL, where the alternation is more complex, this time between the forms *lill* and *små*. The modest goal is to demonstrate

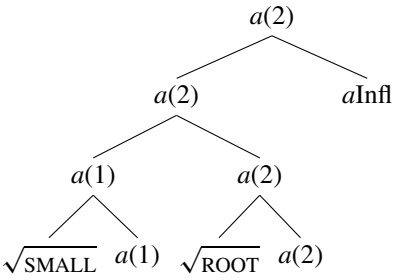
[27] One other consideration is that *smått* appears to be possible for some speakers in non-distributive environments with count nouns, as well ((i)), something about which we have nothing to say:

(i) %Vilket små-tt grus.korn /sand.korn!
what.N.SG *small*-N.SG *gravel.grain*.N.SG */sand.grain*.N.SG
'What a small pebble/grain of sand!'

how an SRA is consistent with the data from compounds, given reasonable auxiliary assumptions about compound formation.

We first situate our predictions within the context of compound structure. Following Harðarson 2017; Embick and Shwayder 2018 and other work, we take primary compounds to be derived via head adjunction. Thus an adjective-adjective compound with $\sqrt{\text{SMALL}}$ in the 'modifier' position would be formed as in (84), following node-sprouting of the inflectional morpheme, as described in Sect. 2.

(84)



Under our current assumptions, because categorizing heads are cyclic, they prevent a root's allomorphy from being sensitive to the context at or above a second categorizing head. This means that number features on *a*Infl should not be visible to the root $\sqrt{\text{SMALL}}$ in (84), and consequently, $\sqrt{\text{SMALL}}$ should always be realized with the elsewhere form *små*. (See however Harðarson 2021 for extensive discussion of compounding and allomorphy in DM; this work comes to distinct conclusions about cyclicity in compounds.)

This is borne out for adjective-adjective compounds, which are fairly productive, e.g., *små-ro.lig* 'small-funny'—meaning 'a little funny' (**lillrolig*) and *små-snygg* 'small-good.looking'—meaning 'a little good-looking'. A corpus search using Språkbanken (Borin et al. 2012) in 2021 lends support to this claim:[28] of the approximately 2200 (type) hits for adjective compounds with the initial part being either *lill* or *små*, fewer than 50 use *lill*, and closer inspection reveals many of these to be mistagged (such as *lille*, an inflected form of the adjective; or *lill-syster*, which is a variant of a noun meaning 'younger sister' discussed below). (An important exception, which is more frequent—with more than 100 tokens in the corpus—we postpone discussion of, as it fits in with the analysis below.)

The expectation that *små* is the correct form in compounds also carries over to adjective-verb combinations, which indeed allow the first member of the compound to be *små* fairly productively, e.g., *små-regna* 'rain a little', and *små-le* 'smile a little', and *små-röka* 'smoke a little'. A corpus search again confirms that *lill* is virtually unattested in such compounds, with fewer than 25 type hits for *lill* of the over 1600 verb types that begin either with *lill* or *små*.

All else being equal, the predictions for adjective-noun compounds would be the same with respect to the form of $\sqrt{\text{SMALL}}$. However, nominal compounds turn out to

[28] For all uses of Språkbanken discussed in this section, the selected corpora were the same as those of Bondarenko (2019,9), who aimed to include more colloquial registers in her search.

exhibit some variation with respect to $\sqrt{\text{SMALL}}$'s realization, as discussed by Börjars and Vincent (2011) and Bondarenko (2019). Broadly, three main options are attested: i) *små* for both singular and plural (85); ii) *lill* for both singular and plural (86); and iii) a form of *lill* in the singular and either *lill* or *små* in the plural (often with one being preferred) (87).[29] Despite this variation, there appear to be no cases where *lill* is only used in the plural or *små* is only used in the singular.[30]

(85) en små.kaka /små.kakor
a.C.SG *small.biscuit*.C.SG */small.biscuit*.PL
'a small cookie /small cookies' (based on Börjars and Vincent 2011,258)

(86) ett lill.finger /lill.fingrar
a.N.SG *small.finger*.N.SG */small.finger*.PL
'a little finger (pinky) / little fingers (pinkies)'

(87) en lill-kusin /{lill-kusiner /små-kusiner}
a.C *small-cousin*.C.SG */small-cousin*.PL */small-cousin*.PL
'a younger cousin / younger cousins

Recent corpus-based work by Alice Bondarenko (2019) has shed light on the distribution of *lill* and *små* within compounds. While Bondarenko frames her analysis within a lexical-semantic approach to the alternation, along the lines we have been arguing against, we contend that the SRA can be maintained, and offer a structural approach instead. To capture the relevant generalizations, we propose three distinct structural options, which derive the observed patterns and have some principled motivations. There may be alternatives to consider; the present objective is simply to establish that an SRA is capable of handling the compounding data.

In what we take to be the 'default' case, compounds formed with $\sqrt{\text{SMALL}}$, such as ((85)), involve the combination of $\sqrt{\text{SMALL}}$ first with an adjectivizing head *a*, as in ((88)). Like the adjective-adjective and adjective-verb compounds, the number features on Num are not accessible to the root because of the two cyclic heads that separate the two. The realization of $\sqrt{\text{SMALL}}$ uses the elsewhere item *små*, regardless of whether the compound is singular or plural.

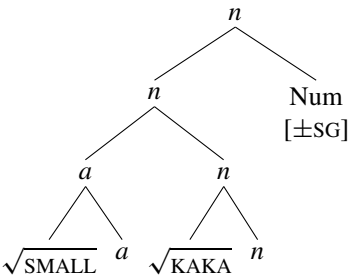
[29] For (iii), the singular can very occasionally occur with some compounds as *små* instead, with concomitant interpretive effects. See discussion below on variation with the same base.

[30] Some compounds with kinship nouns pattern with (87), except that they appear with a weak-inflected form of *lill* (i)–(ii). (See Footnote 3 on the masculine form, which is obligatory for the singular compound in (ii).) We set this additional inflectional marking to the side, and focus instead on the distribution of *lill* vs. *små*.

(i) en lill.a-syster / {lill.a-systrar /små-systrar}
a.C *small*.WK.SG-*sister*.SG / *small*.WK.SG-*sister*.PL *small*.PL-*sister*.PL
'a younger sister / younger sisters'

(ii) en lill.e-bror /{lill.e-bröder /små-bröder}
a.C *small*.WK.M.SG-*brother*.SG */small*.WK.M.SG-*brother*.PL */small*.PL-*brother*.PL
'a younger brother / younger brothers'

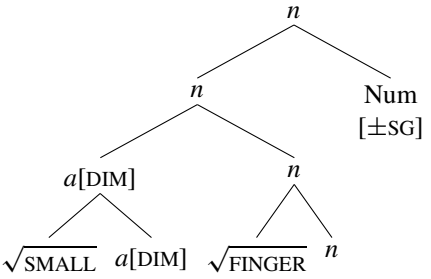
(88)



That *små* is a default option is consistent with the generalization that *lill* seems only to be licensed under special circumstances, which can be characterized as 'diminutive'. For example, Bondarenko reports that when *lill* or *små* appears in a compound that refers to a child, there is often an affectionate sense with *lill* but a neutral or pejorative sense with *små*, as in *lill.tjej* 'little girl' vs. *små.tjej* 'little girl'. The form *lill* is also reportedly used for pets and small body parts belonging to children, such as *lill.katten* 'the little cat' and *lill.handen* 'the little hand'. Perhaps most strikingly, Bondarenko (2019,19–20) points to a contrast where a compound with *små* refers to an object, e.g., *små-kaka* 'small cake', while the corresponding *lill* form can be used endearingly to refer to a child: *lill-kaka* 'small cake' (a contrast confirmed by consultants). These generalizations support a diminutive analysis of the use of *lill*.

Even with this generalization about the diminutive, the SRA does not straightforwardly generate the correct form, and thus requires refinement. For concreteness, we propose that $\sqrt{\text{SMALL}}$ can exceptionally combine with a head *a*[DIM].[31] This use of *a*[DIM] is largely confined to compounding, as in (89).

(89)



Realization as *lill* in the structure in (89) comes from a revision to the Vocabulary Items from (12). The exponent *liten* is inserted in the context of [DIM] as well, a feature which also obligatorily triggers the morphophonological change to *lill* (triggered also by [WK]).

[31] A reviewer wonders about the status of adjectival diminutives, given that diminutives are often thought to apply to nouns. Adjectival diminutives are in fact attested cross-linguistically, including for adjectives meaning 'small' and 'young', e.g., *parvulus* 'very small' in Latin; *jeunet* 'very young' in French (Jurafsky 1996). In Italian, diminutivizing an adjective like *piccol-ino* 'small-DIM' can impart an affectionate meaning (Roberto Petrosino, p.c.).

(90) $\sqrt{\text{SMALL}} \leftrightarrow$ liten / [+SG] or [DIM]
$\sqrt{\text{SMALL}} \leftrightarrow$ små

Realization is expected to be insensitive to number in these compounds: i) the [DIM] feature on *a* is more local than number features that combine with the nominal compound; and ii) two cyclic heads *a* and *n* separate $\sqrt{\text{SMALL}}$ from Num.

There is in fact independent support for *a*[DIM] with $\sqrt{\text{SMALL}}$. As shown in (11), an adjectival modifier in weak plural environments takes the form *små*; however, it is also marginally acceptable to use *lilla*, but only if the meaning is affectionate (91). This indicates that *a*[DIM] can also be found outside of non-compounding contexts.

(91) ?de lill-a {sniglarna /bina}
the.PL *small*-WK *snail*.PL.DEF */bee*.PL.DEF
'the cute little snails/bees'

Another point of support comes from a different kind of compound. Under the current account, it should be possible to have [$\sqrt{\text{SMALL}}$ *a*[DIM]] in other combinations apart from an adjective-noun compound, with a realization of *lill* instead of *små*. In fact, as alluded to above, while adjective-adjective compounds virtually always use *små*, an important exception is *lill-gammal* 'small-old', which translates roughly to 'precocious'. That this is a description used for children is in line with the *a*[DIM] account. (The plural is correctly expected to be *lillgamla*, not *smågamla*.)[32]

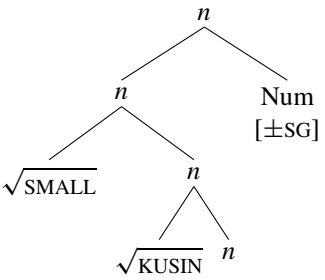
We leave the condition on insertion of *liten* in (90) as disjunctive: it is inserted in the context of either [+SG] or [DIM]. It is worth noting, however, that diminutive morphemes are known cross-linguistically to have an individuating function (Jurafsky 1996). Thus a relation between diminutivization and number features may in fact underlie what looks like two distinct contexts, though we do not attempt a full unification presently.

Taking stock, the structure in (88) yields uniform realization as *små* in the singular and the plural, and the structure in (89) yields uniform realization as *lill* in the singular and the plural. How then would the third option be derived, where *lill* appears in the singular and either form is acceptable in the plural?

We propose to derive this pattern (in part) from a third structure, where there is no adjectivizing head at all in the 'compound', with $\sqrt{\text{SMALL}}$ adjoining directly to *n*—this treats $\sqrt{\text{SMALL}}$ more like a lexical prefix rather than a compounding element. In this environment, Num is sufficiently local to $\sqrt{\text{SMALL}}$, as only one cyclic head intervenes. Thus $\sqrt{\text{SMALL}}$'s realization is dependent on the value of number, being realized as *lill* in the singular and as *små* in the plural.

[32] Neither adjectives nor nouns productively take diminutivizing morphology in Swedish. There is a nominal suffix *-(l)ing* that appears on some nouns, which appears to have a diminutive function (e.g., *gässling* 'gosling', related to *gås* 'goose'). And in colloquial Swedish, there is a suffix *-is* with a diminutive-like, hypocoristic function, used with adjectives like *poppis*, from *populär* 'popular'.

(92)



What happens to the interpretation of $\sqrt{\text{SMALL}}$ in this environment? We adopt the view from Gouskova and Bobaljik (2022) that the interpretation of a root without a categorizing head should be relatively 'bleached', as categorizing heads play a role in determining root interpretation in Distributed Morphology (Marantz 2013; Arad 2003). Gouskova and Bobaljik show how this distinction manifests for diminutive ONOK in Russian, which they argue has a contentful 'baby animal' interpretation with a categorizing head, but an expressive/evaluative interpretation without one, giving rise to differences in how these two environments for ONOK interact for purposes of suppletion, gender, and declension class.

We suggest that $\sqrt{\text{SMALL}}$ in (92) is similarly 'bleached', allowing only a diminutive interpretation which we tentatively associate with age, and not with size or other properties. This reflects the generalization that nouns with singular *lill* that allow *små* in the plural tend to be kinship nouns (see Bondarenko 2019), where $\sqrt{\text{SMALL}}$ provides information about relative age.[33] This makes the prefix use similar in function to $\sqrt{\text{SMALL}}$ when combined with a[DIM], except that we would suggest that the latter specifically has a more contentful diminutive interpretation associated with children (and correspondingly with diminutive size).

The structure in (92) accounts for the realization of *lill* in the singular and *små* in the plural, though it does not output *lill* in the plural. Our suggestion is that, with some kinship roots, speakers may have a choice between the structures in (89) and (92) (with interpretive effects). As discussed above, (89) yields *lill* in the plural. This speaks more generally to variation with head nouns in compounds: given the structures in (88), (89), and (92), we expect that some head nouns will be compatible with multiple structures, yielding distinct possibilities for realization of $\sqrt{\text{SMALL}}$ with the same noun. We believe this to be a positive aspect of our account, since multiple forms of $\sqrt{\text{SMALL}}$ are indeed attested with the same head noun (Bondarenko 2019). The account is nevertheless restrictive in pointing to specific interpretive consequences for each structure.

To conclude this subsection, compounding with $\sqrt{\text{SMALL}}$ yields different forms, which exhibit a complex distributional pattern that is nevertheless constrained. Maintaining an SRA, several structural options for compounding were shown to result in different realizations, with the main components of the account being: i) *små* as the

[33] One outstanding issue for this account is that the preferred compound for the term meaning 'younger sibling' is *små-syskon* for both the singular and the plural (the head noun is syncretic aross singular and plural).

default realization of $\sqrt{\text{SMALL}}$; ii) a diminutive *a* that conditions the insertion of *lill*; and iii) three options for compound formation with nominal heads.

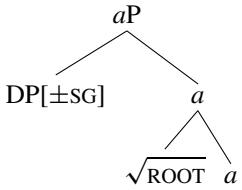
5 Suppletion and Locality

We have argued that the alternation *liten*∼*små* is best treated as contextual allomorphy conditioned by number features. In this section, we reflect on how this suppletive pattern fits into the theory of both root suppletion and contextual allomorphy. We first address domain and adjacency issues, and then proceed to make other related points.

Suppletion and complex heads

First and arguably foremost, the SRA presented here has the form of the root covary with number features internal to the same complex head (or MWd). However, an alternative 'configurational' analysis is conceivable, according to which suppletion is not sensitive to number as an agreement feature, but rather, is sensitive to the features on the subject of predication. For example, assuming the subject is generated internal to an adjectival phrase (in line with the Predicate-Internal Subject Hypothesis), an allomorphic relation could obtain where the root is sensitive to the features of the subject in a structure like (93):

(93)



The two types of accounts can be distinguished from each other in Swedish in that they make different predictions for deadjectival environments. Though adjectival agreement morphology is absent in nominalizations, it is often assumed that subjects of adjectival predication are base-generated internal to adjectival projections in deadjectival nominals (e.g., Alexiadou and Iordăchioaia 2014; Iordăchioaia 2014). For deadjectival nominalizations, we therefore have a situation in which the two accounts are distinguished: a configurational analysis predicts covariation in form by number of a still-present argument, while the agreement morphology analysis predicts formal invariance with respect to the number of the argument. The prediction of the latter theory is borne out (94), repeating (48)–(49).

(94) a. landets {liten-het /*små-het}
*land.*N.SG.DEF.GEN *small.*SG-NMLZ */small.*PL-NMLZ
'the land's smallness'

b. ländernas {liten-het /*små-het}
*land.*PL.DEF.GEN *small.*SG-NMLZ */small.*PL-NMLZ
'the lands' smallness'

Why is this relevant for the theory of allomorphic locality? The current account conforms with the expectations under the Complex Head Accessibility Domain condition; the 'configurational' account is in fact incompatible with it. The reason is that agreement produces a 'word'-internal set of ϕ features to which a root cannot otherwise be sensitive. This gives rise to a more general prediction for root suppletion across languages—one which we cannot verify here:

(95) **Root suppletion prediction**: Contextual allomorphy at a $\sqrt{\text{ROOT}}$ node in an x-categorized structure $[\sqrt{\text{ROOT}}\ x]_x$ can only be conditioned by an argument's ϕ features via agreement for ϕ (or if the argument belongs to the same complex head, e.g., through incorporation).

If correct, this means that agreement is a necessary condition for ϕ suppletion on adjectives and verbs. This generalization has been challenged by Bobaljik and Harley (2017) on the basis of verbal suppletion in Hiaki. They argue that Hiaki verbal suppletion can be conditioned by the features of a DP complement, rather than being mediated through, e.g., an agreement relation between a verb and its object. However, Thornton (2019) criticizes this view, offering an alternative account that appeals to 'verbal number' agreement, a property that manifests itself as reduplication in Hiaki and other languages. As Thornton (2019) suggests, under her analysis, the Hiaki data conform to a prediction like (95); it may be that other alleged counterexamples can similarly be reinterpreted. See also Toosarvandani (2016) for an account of number-based suppletion in Northern Paiute, whose alternations do not conform to the complement-only expectation, as well as Oseki (2016) on Ainu.

Relativized Adjacency

As discussed in Sect. 3.1, *mindre* and *minst* are used respectively for the comparative and superlative forms of $\sqrt{\text{SMALL}}$, rather than a form related to *liten* or *små* (96). Because the conditioning number features are harbored on *a*Infl, which appears exterior to the CMPR/SPRL node (97), the pattern supports the idea that a more local conditioning factor is favored over a less local factor, along similar lines to what is reified by Choi and Harley (2019) as their 'Local Allomorph Selection Theorem'.

(96) min(d) $\leftrightarrow \sqrt{\text{SMALL}}$ / [CMPR]
liten $\leftrightarrow \sqrt{\text{SMALL}}$ / [+SG]
små $\leftrightarrow \sqrt{\text{SMALL}}$

(97) $[[[\sqrt{\text{ROOT}}\ a\ ]\ \text{CMPR}\ ]\ a\text{Infl}[+\text{SG}]\ ]$

Other aspects of locality

We now briefly address various other points, whose interpretation are contingent on the correctness of our proposed structural analyses.

The first point concerns the nominalization *litenhet*, discussed in Sect. 3.6. This alternation as it is presently analyzed requires number features on Num to condition

the realization of the root past an overt, intervening head *n* (-het). If this is on the right track, then linear adjacency cannot be a strict condition on contextual allomorphy, pace Embick (2010), but in line with Smith et al. (2018). Relatedly, given that *-het* also seems to be irrelevant to the conditioning of the alternation, the analysis also speaks against the Span Adjacency Hypothesis from Merchant (2015).

Second, the cyclic status of the lexical heads *a* and *n* are supported, in light of the relationship between derived structures and default realization of $\sqrt{\text{SMALL}}$.

Third, a portmanteau-based theory of suppletion is *not* readily supported (considering, e.g., Siddiqi's 2009 account of fusional exponence in DM, or much of the work in Nanosyntax). Given the decomposition in the singular (for *liten-*∅ and *lite-t*), the portmanteau analysis would treat *små* as being $\sqrt{\text{SMALL}}$ combined with a plural node. Several aspects of the analysis could be correspondingly altered; however, this type of account is not readily compatible with the adverbial use of *smått* (discussed in Sect. 4.1), and it would require additional stipulations for the nominalizations for *litenhet* and *småheter* described in Sect. 3.6.

Lastly, the Swedish pattern is notable in allowing a feature to condition the alternation independently of category (as with the nominalization facts). This is distinct from English plural examples like *goose/geese* and *foot/feet*, where the corresponding verbs fail to alternate in the plural, for example, in *They foot/*feet the bill every time* (a similar observation is made by Preminger 2020). It remains a puzzle what should govern the category-(in)dependence of suppletion (and/or irregular morphophonology), though one speculation would be to attribute it to the choice between agreeing features (e.g., those on *a*Infl) versus base-generated features (e.g., those on Num). Perhaps learners allow implication only in one direction, such that conditioning by an agreement feature implies conditioning by the base-generated counterpart, though not the other way around. This would correctly rule out the English case while ruling in the Swedish one.

6 Conclusion

This work provided arguments in favor of treating the *liten*∼*små* alternation in Swedish as reducible to contextual allomorphy and not to lexical-semantic differences between distinct roots, with evidence from irregular morphology, interpretive idiosyncrasies, equative constructions, ellipsis, contradiction, and nominalization. The analysis did not embrace the common characterization of the alternation, according to which *liten* (along with its variant *lill*) is the singular form while *små* is the plural. We proposed instead that *liten* appears in singular contexts (when number features are local), while *små* is an elsewhere or 'default' form, and we suggested this fits the general pattern of adjectival inflection in the language.

We showed that, with an appropriate understanding of locality conditions on allomorphy and with articulated structural accounts of relevant phenomena, this analysis can derive more challenging facts about the distribution of the alternants, including in cases that appear to be difficult for an allomorphy approach. This was shown in the finer-grained discussion of nominalization, as well as for adverbs, 'Q-adjectives',

modification of granular mass nouns, and various types of compounding. Future work exploring putative instances of suppletion may find utility both in this study's battery of diagnostics distinguishing between allomorphy vs. semantic differentiation, as well as in the arguments made for how a suppletive pattern can extend to more complex settings.

The findings are consistent with an approach to locality that restricts the conditioning of allomorphy within a complex head, privileges more local features over less local features, and is cyclic. That being said, locality conditions on allomorphy continue to be a matter of debate, as do the structural particulars for several kinds of expressions, including nominalizations and compounds. We contend that the arguments that favor the contextual allomorphy approach over the lexical-semantic one are also applicable under alternative theories. The analyses of the more challenging data, however, while well-motivated (we believe), arguably have more fragile components to them, and changes to our understanding either of locality conditions or of these structures may have implications for the account of the suppletive alternation. What is presented here is hopefully an account whose explicitness lends itself to necessary critique and evaluation in this respect.

An amendment was made to the allomorphy analysis in Sect. 4, which suggested that a variant of *liten* also appears in diminutive contexts. This captured otherwise unexpected patterns in nominal compounds (and related cases), though it did so at the cost of adding a disjunctive condition to the Vocabulary Item for *liten*, with both [+SG] and [DIM] yielding the insertion of *liten* rather than *små*. Disjunctive conditions for Vocabulary Items are not often sanctioned in DM, though it was suggested in Sect. 4 that these two separate contexts may in fact be conflated into a single one if more properly understood, given that diminutives often have individuating or singulativizing functions cross-linguistically. The details of this conflation, however, remain to be worked out for the Swedish alternation.

This study is somewhat unique in that it focuses on root suppletion conditioned by an agreement feature of an adjective. This contrasts with recent DM work on root suppletion, which has tended either to examine verbs, nouns, or pronouns (e.g., Moskal 2015b; Smith et al. 2018; Thornton 2019) or to examine adjective alternations conditioned in non-agreement-related environments, namely in comparatives and superlatives (Bobaljik 2012). It has been suggested that adjectival root suppletion conditioned by number in fact belongs to a less common, exceptional type of suppletion involving 'contextual' rather than 'inherent' categories (Hippisley et al. 2004,395–398). This roughly corresponds to what syntacticians may consider, respectively, 'valued by agreement or long-distance dependency' vs. 'part of the same extended projection'. By looking at number features on adjectives, this work offers a detailed case study of one such exceptional 'contextual' pattern. Examining lesser-studied patterns of this sort is, and continues to be, important in our pursuit to understand how root suppletion manifests itself in natural language.

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Declarations

Competing interests The author declares that they have no competing interests.

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