

*ABA in stem-allomorphy and the emptiness of the nominative

Thomas McFadden
*Leibniz-Zentrum für Allgemeine
Sprachwissenschaft (ZAS)*

Abstract

In this paper I examine patterns of irregular allomorphy in nominal stems sensitive to case in a number of nominative-accusative languages. I will argue that the data surveyed reveal a certain regularity in the distribution of irregularity across the cases in that they conform to what I call the Nominative Stem-Allomorphy Generalization. One irregular stem form is always found in the nominative (and in other cases that may be systematically syncretic with it), with all other cases sharing a single other stem form. I will show that this subsumes a clear instance of a *ABA pattern, and in fact is even more restrictive, as it also shows *ABC and (qualified) *AAB. I will situate these findings relative to recent work on *ABA patterns and on case-sensitive irregularity in noun and pronoun suppletion, and then will build on that prior work to propose an account for the generalization in terms of a structured representation of nouns and case categories interacting with locality conditions on allomorphy.

Keywords: stem alternations, allomorphy, case, nominative, *ABA

1 An introduction to the pattern from Tamil

Nouns in the Dravidian language Tamil follow a generally agglutinative pattern in their inflection. As can be seen in Table 1, the case markers are easily segmentable, and the same ones attach to all nouns (with minor differences based on animacy).¹ The form of the noun stem that these suffixes attach to is mostly constant, aside from the application regular rules to ensure phonological well-formedness. E.g. there is frequent epenthesis of *-u* to avoid word-final (non-nasal) obstruents, as in the nominative singular of ‘cotton’, or of *-v-* to avoid hiatus, as in the non-nominative forms of ‘mother’. However, one large class of nouns shows an interesting alternation. These

¹ The paradigms throughout the paper are typically abbreviated, including only a subset of the case forms of the nouns in question sufficient to demonstrate the patterns of interest.

	‘boy’	‘cotton’	‘mother’
Nom	payyan	panju	ammaa
Acc	payyan-ai	panj-ai	ammaav-ai
Dat	payyan-ukku	panj-ukku	ammaav-ukku
Ins	payyan-aale	panj-aale	ammaav-aale
Soc	payyan-ooda	panj-ooda	ammaav-ooda

Table 1: Tamil regular noun declensions.

end in *-am* in the nominative, but replace this with *-att-* before all of the case endings, as is illustrated by ‘tree’ and ‘time’ in Table 2.² Nouns of a second class, exemplified

	‘tree’	‘time’	‘house’
Nom	mar-am	tay-am	viidu
Acc	mar-att-ai	tay-att-ai	viitt-ai
Dat	mar-att-ukku	tay-att-ukku	viitt-ukku
Ins	mar-att-aale	tay-att-aale	viitt-aale
Soc	mar-att-ooda	tay-att-ooda	viitt-ooda

Table 2: Tamil nouns with stem alternations.

by ‘house’ in Table 2, geminate their stem-final obstruent outside the nominative (which then triggers phonologically regular devoicing). These alternations do not correspond to any regular phonological rules or patterns in the language and have no synchronic phonological motivation. At least descriptively we must recognize distinct morphological stems.

In this paper I will show that similar patterns of stem allomorphy are found in a wide selection of languages with non-trivial morphological case marking on nouns, and a survey of the data makes it clear that the distribution of stem irregularities across cases is not arbitrary. Rather, I will argue that at least in nominative-accusative languages, it appears to be subject to a version of the restriction in (1).

(1) **Nominative Stem-Allomorphy Generalization (NSAG)**

When there is (noun) stem allomorphy conditioned by case, it distinguishes the nominative from all other cases.

To the extent that this generalization is accurate, it should tell us something about the morphosyntactic structures involved in case-marking on nouns and about restrictions on the conditioning of allomorphy. Note crucially that the NSAG subsumes an

² Note that this inflection class is productive: *tayam* is a recent borrowing of English *time*, and borrowings from Sanskrit (e.g. *giraamam* ‘village’) very frequently end up in this class as well.

instance of the *ABA pattern that is the focus of this issue: any pattern where the nominative has one stem alternant A, a second case has a different alternant B, and then in a third case the stem reverts to A would involve a stem distinction between two cases outside the nominative, which the NSAG clearly rules out. Indeed, it goes even further in additionally excluding AAB and ABC patterns. This paper will be devoted to making (1) precise, demonstrating that it does indeed hold across a significant number of languages and exploring the theoretical import of the resulting state of affairs. Briefly, I will argue that the stem alternations amount to allomorphy for the little *n* head that is sensitive to the presence of case heads, using a version of [Caha \(2009\)](#)'s theory of the structure of case categories and [Moskal \(2015a\)](#)'s approach to the locality of allomorphy.

2 The empirical basis for and limits of the NSAG

I will begin with an empirical exploration of the NSAG that is meant to achieve two goals. First, I want to provide a basic illustration of the pattern to make an initial case that something systematic is at stake. Second, I want to clarify what the generalization is and is not meant to apply to, showing how and why certain superficially similar phenomena are to be set aside, and making the limits and details of the claims more precise.

2.1 Two types of alternations in Finnish

It is important to understand from the outset that the NSAG is not meant to apply to any imaginable change in a stem in the different case-forms of a noun, but specifically to stem allomorphy. By this I mean are alternations between two (or more) stored morphological formants, to which case-markers are affixed, as opposed to alternations that are the result of phonological processes applying to a single stored formant in the context of case-markers (see for example [Embick 2012; 2016](#), for relevant discussion of the division of labor between phonology and morphology in implementing allomorphy). I will elaborate on some formal aspects of this distinction in Section 6.3, but we can get a good initial understanding of the distinction by considering some Finnish data, presented in Table 3. Like Tamil, Finnish is highly agglutinative, as exemplified by the regular declension of *talo* 'house'. But as *katu* 'street' and *ihminen* 'person' show, we also find stem alternations related to case.

Yet it is important to note that the two nouns show crucially distinct behavior in their alternations. *Katu* reflects a pervasive alternation in Finnish known as 'Consonant Gradation' (CG). CG is found in verbal and other paradigms in addition to nominal ones, so we might not expect it to have anything directly to do with case

	‘house’	‘street’	‘person’
Nom	talo	katu	ihmi-nen
Gen	talo-n	kadu-n	ihmi-se-n
Part	talo-a	katu-a	ihmi-s-tä
Iness	talo-ssa	kadu-ssa	ihmi-se-ssä

Table 3: Three Finnish noun paradigms.

or nominal stems. Its effects can be characterized phonologically in terms of lenition — in this example a difference of voicing, in others of gemination or frication, and its triggering environments can be characterized in (essentially) phonological terms: the weak variant (here *d*) appears in the onset of a closed syllable and the strong one (here *t*) in the onset of an open one.³ On the other hand, what we see in *ihminen* ‘person’ does not reflect any independently attested phonological alternation found in the language. The pattern is fairly common, but it is restricted to a specific class of nouns and adjectives, i.e. we don’t also find it with verbs the way that we do with CG. Most importantly, the difference between *-nen* and *-se-* is not easily described by phonological rule, nor is there any phonological characterization of the triggering environments. Thus while the alternation between *katu-* and *kadu-* could be implemented as phonological readjustment of a single underlying stem, that between *ihmi-nen* and *ihmi-se-* must go beyond the phonology, involving some allomorphy between two distinct underlying stem formants.

Note then that the alternation in *ihminen* is consistent with the NSAG, while that in *katu* would violate it. That is, *ihminen* has the *-nen* stem only in the nominative, versus *-se* everywhere else, but *katu* has *katu-* in both the nominative and the partitive, as against *kadu-* in both the genitive and the inessive, and were we to bring in additional case forms, we would find both of stems sprinkled throughout. This is clearly not nominative versus everything else. What is more, this reflects a general pattern in the language. The only alternations in Finnish that would apparently violate the NSAG are ones of the *katu* type, i.e. ones for which there are indications that they are phonologically implemented. Genuine morphosyntactically implemented stem allomorphy like with *ihminen* always splits the nominative from everything else.

Now, deciding whether a particular alternation is true stem allomorphy or phonological stem readjustment is not trivial. The basic idea, which I will make more precise as we proceed, is as follows. For current purposes, ‘allomorphy’ implies

³ This is a (not entirely innocent) simplification — see e.g. [Karlsson \(1995\)](#). Ultimately some non-phonological information must be taken into account to identify the contexts where CG applies, but its *effects* can be described in purely phonological terms. We will see in Section 6.3 that this is what matters for the NSAG.

that two (or more) distinct exponents alternate for insertion in a single position, conditioned by the morphosyntactic context. This can be contrasted with a single exponent, which after insertion is modified by phonological operations. The term ‘stem’ is used to contrast with root suppletion (as found in *go/went*), and to indicate that the allomorphy involves part of the base to which case attaches rather than the case suffix itself. So in a form like genitive *ihmisen*, we have a root *ihmi-*, followed by a stem-formative allomorph *-se-* (which alternates with *-nen*), followed by a case-marker *-n*. In genitive *kadun*, on the other hand, we have the same stem *katu-* as in N *katu*, but with phonologically implemented voicing of the final consonant, followed by case-marker *-n*.

2.2 Some lessons from the Latin 3rd declension

Latin also has a considerable number of nouns in its 3rd declension with case-sensitive stem alternations, as shown in Table 4. I include *prīnceps* ‘chief’, a regular masculine noun of this declension, for comparison.⁴ Note in particular that there is an overt ending *-s* in the nominative. *Lapis* ‘stone’ has the same endings, but shows a stem alternation — a stem-final *d* that appears elsewhere is missing in the nominative. This, however, can be understood in terms of a regular synchronic phonological rule. All masculine and feminine nouns of the 3rd declension with stems ending in a coronal stop show this alternation. Furthermore, the deletion of the stem-final coronals occurs in a phonologically well-defined environment, immediately before *-s*, and the expected form **lapid-s* would involve a consonant cluster that is otherwise unattested in Latin and is presumably disallowed by its phonology. Other contexts where such a cluster would be expected are also affected by deletion of the *d*, e.g. *rīsī*, perfect of *rīdeō* ‘laugh’, from *rīd-* + *-sī*. We can thus understand this stem alternation as the result of a regular rule deleting coronal stops immediately before *s*. It happens to be consistent with the NSAG, but it is not the type of phenomenon that generalization is intended for, thus it does not count as support.

	‘chief’	‘stone’	‘man’	‘old (man)’
Nom	prīncep-s	lapi-s	hom-ō	senex
Acc	prīncip-em	lapi-d-em	hom-in-em	sen-em
Gen	prīncip-is	lapi-d-is	hom-in-is	sen-is
Dat	prīncip-ī	lapi-d-ī	hom-in-ī	sen-ī

Table 4: Latin 3rd declension masculines.

⁴ The alternation between *e* and *i* in the second syllable is phonologically regular, or at least can be implemented as a regular phonological readjustment, and won’t concern us here.

On the other hand, consider the declension of *homō* ‘man’. The oblique forms have the regular endings added to a stem *homin-*, but the nominative is *homō*. The precise synchronic analysis of this form is tricky, but one way or another it must involve *both* an irregular stem and an irregular suffix, basically either *hom-ō*, or *homō-∅*. Unlike with *lapis*, there is no way that we can derive the surface alternation phonologically from the regular stem *homin-*. If we assumed that it had the regular nominative ending *-s*, so that it would underlyingly be *homin-s*, we would have no reason to expect that both the *n* and the *s* would be deleted, since Latin does allow final *-ns* clusters (e.g. *mīrāns* ‘admiring’). If we assumed that it were (exceptionally for a 3rd declension masculine) endingless, hence underlyingly *homin*, there would be no reason for the *n* to be deleted. Indeed, 3rd declension neuter nouns are (like most neuters) endingless in the nominative singular, and ones with a stem in *-n* surface with that final *n* intact, as e.g. *nōmen* ‘name’, discussed below. Under either assumption, even if we could find a reason to delete the consonant(s), there is no regular source for the final *ō* that surfaces. Thus *homō* is an example of an alternation of the relevant kind, with a stem alternation that must be morphosyntactically triggered. Crucially, it also conforms to the NSAG, with *homō* found only in the nominative, and *homin-* everywhere else.

Now, one could try to argue that the *homō* alternation is somehow down to its highly irregular nominative singular ending, but this won’t work for *senex* ‘old (man)’. Here we find in the oblique cases the regular set of endings attaching to a stem *sen-*, but the nominative form *senex* involves something else. This form must be analyzed as having the regular nominative ending *-s* attached to a stem *senec-*, yielding the cluster /ks/ (which is regularly rendered as *-x* in Latin orthography).⁵ We can compare in this respect regular nouns with a similar stem form like nominative *carnifex*, accusative *carnificem* ‘butcher’. As the inflection of those nouns shows, there is no regular phonological (or other) process that would lead to the deletion of the *-ec-* stem element in the non-nominative cases (though again we do get the phonologically regular *e/i* alternation). Thus we must recognize again a case of morphosyntactically triggered stem alternation. Furthermore, since the nominative

⁵ One could propose that the irregular stem already ends in /ks/, and that we again have an irregular endingless nominative singular, but in the absence of compelling evidence we should assume one irregularity rather than two. In fact, the independent evidence clearly supports the analysis as *-k-s*, not *-ks-∅*. Related words in Latin often include the *-k-* in their stem, but never *-ks-*, e.g. *senecta* ‘period of old age’ and *seneciō* ‘old man’. There is also an interesting relative in Gothic *sineigs* ‘old, elder’, where the *-s* is again the nominative ending rather than part of the stem (note accusative singular *sineig-ana*). It is far from clear that Gothic *-eig-* and Latin *-ec-* in these stems reflect a common inheritance, since they can quite easily have both been added to **sen-* in the independent prehistories of the two languages. Interestingly enough, however, we find a Gothic stem alternation reminiscent of the Latin one in that the *-g-* disappears (quite exceptionally) in the superlative form *sin-ist-s*.

clearly has the regular *-s* ending, the trigger must be the distinction in case categories, not the simple presence or absence of any case suffix.

2.3 Latin neuters and an adjustment for syncretism

The neuter nouns of the Latin third declension provide further examples of interest, as shown in Table 5. We can start from *nōmen* ‘name’, which shows the regular declension without stem alternation (again with the phonologically regular *e/i* alternation), and is like the masculine in the genitive and dative, but endingless in both the nominative and accusative. The first interesting alternation comes in *genus* ‘kind’. This represents a class of neuter nouns which end in *-us* in the nominative/accusative, but have *-er-* in the same position in all other cases, to which the regular case terminations are then added. This *-er-* is clearly a stem-forming

	‘name’	‘kind’	‘journey’
Nom	<i>nōmen</i>	<i>gen-us</i>	<i>it-er</i>
Acc	<i>nōmen</i>	<i>gen-us</i>	<i>it-er</i>
Gen	<i>nōmin-is</i>	<i>gen-er-is</i>	<i>it-iner-is</i>
Dat	<i>nōmin-ī</i>	<i>gen-er-ī</i>	<i>it-iner-ī</i>

Table 5: Latin 3rd declension neuters.

element, as it precedes the normal case endings. The suffix *-us* thus can’t be a case ending, but must also be a stem-forming element, since it alternates in the same position as *-er-* and does not have the right form to be a nominative/accusative neuter singular ending in the language.⁶

The alternation between *-us* and *-er-* is an instance where the historical background is actually fairly clear. A sound change in Old Latin shifted *s* to *r* intervocalically, and the vowels follow an old pattern of ablaut inherited from Proto-Indo-European. This cannot, however, be part of the synchronic phonology. The ablaut pattern is restricted to particular morphological contexts, and forms like *carbasus* ‘flax’ make it clear that the *s > r* change is no longer phonologically active. Again, we must recognize this as a morphological alternation involving stem allomorphy. The same point can be made even more strongly with the noun *iter* ‘journey’. It ends in *-er* in the N and A, but replaces this with *-iner-* in the oblique cases, to which the regular case endings are added. This clearly cannot be the result of any synchronic phonological process (indeed, it’s the (somewhat modified) reflex of an old stem alternation that is clearly a case of allomorphy rather than phonology as far back as we can reconstruct it to Proto-Indo-European).

⁶ The only actual nominative/accusative singular endings in Latin are the *-um* of second declension and the *-d* of a number of pronominal forms. All other neuter nominative/accusatives are endingless.

What is especially interesting about these neuters for present purposes is that their alternations don't exactly respect the NSAG as I stated it in (1). Rather than splitting the nominative from everything else, they put the accusative with the nominative, and split *them* apart from everything else. There is something systematic here, however, in that in these cases, the accusative doesn't just share the same stem as the nominative, but is invariably fully syncretic with it. Furthermore, this is not an accidental syncretism: in Latin (as in all Indo-European languages), the nominative and accusative are universally syncretic in neuters. One way to think about this, at least descriptively, is that with these nouns the accusative form really *is* just the nominative form, and thus we should not be surprised that, in just this case, we find the accusative patterning with the nominative rather than the other cases for purposes of irregular stem allomorphy. We should thus update the NSAG as follows:⁷

- (2) **Nominative Stem-Allomorphy Generalization (NSAG, version 2)**
 When there is stem allomorphy based on case, it distinguishes the nominative (along with any cases systematically syncretic with the nominative) from all other cases.

2.4 How well supported is the NSAG?

We have now seen a series of alternations from Tamil, Finnish and Latin illustrating the patterns described by the NSAG, and we have gotten some idea of additional types of alternations that are somehow similar, but which the NSAG is not meant to apply to. This will hopefully have made it seem reasonable to think that case-based stem alternations obey certain restrictions, and that the NSAG is an accurate description of the restrictions evidenced by the alternations discussed so far. The question is whether this is just an accident of the languages and examples I have discussed to this point, or whether it finds broad, empirical support across a large and diverse collection of languages.

Indeed, in the languages that I have analyzed so far, I have found a sizable collection of case-based stem allomorphy alternations which are consistent with the NSAG. I have also found a number of alternations like that with Finnish *katu*, where the distribution of stem formants would contradict the NSAG, but the details of the alternation itself make it amenable to a phonological analysis, so that the generalization is not expected to apply. Crucially, I have not yet found any clear

⁷ I do not discuss the behavior of vocatives, as their status is a bit uncertain with respect to the other cases, i.e. it is not always clear whether the vocative should be understood as a case or as a different kind of form related to the noun (see [Daniel & Spencer 2009](#), for some discussion).

counterexamples which are not amenable to a reasonable alternative analysis.⁸ An important caveat is that the sample of languages I have considered thus far, while certainly not trivial, is not as large or as diverse typologically and genetically as one would like as the basis for drawing broad generalizations. I have examined Tamil, Finnish, Icelandic, Latin, Estonian, Northern Saami, Sanskrit, Ancient Greek, Gothic and Russian, plus approximately 30 languages which don't show any case-based alternations of the relevant type.

The limitations on size and typological diversity are in large part down to the fact that the relevant kind of stem allomorphy seems to be relatively uncommon cross-linguistically. We are obviously limited to languages that distinguish at least three morphological cases in their noun inflection, plus the language has to have the kind of inflectional morphology that involves stem-forming affixes, which furthermore must interact in non-trivial ways with case affixes. This kind of morphology is richly attested in the Indo-European languages, and is found to a more limited extent in some Finno-Ugric languages, but it is quite uncommon elsewhere. In most case-marking languages, case on nouns at least is marked with easily segmentable affixes that show little to no interaction with the noun stem beyond relatively simple vowel harmony and sandhi phenomena. This is why, as the list above should suggest, the clear majority of languages I have considered simply have no stem alternations of interest, and are thus irrelevant for testing the generalization. An important additional point is that, in order to distinguish the morphological stem-allomorphy alternations that are of interest here from the phonologically triggered ones that are not, one needs to carry out an analysis based on at least a basic understanding of the morphophonology of the language in question. This should be clear from the discussion of Finnish *katu* and Latin *lapis*, *homō* and *genus* above and will be further bolstered by the considerations in Section 6.3 below. What this means is that a quick survey of large numbers of languages, e.g. using existing databases like WALS, is not sufficient. A careful analysis of each language and each alternation is required in order to determine whether it can provide a relevant test of the NSAG (see [Baker 2010](#), for some relevant methodological discussion).

An obvious related question is whether anything similar to the NSAG might be observed in languages with ergative case-marking. We might expect an analogous Absolutive Stem-Allomorphy Generalization, whereby stem allomorphy can only distinguish the absolutive from all other cases, under the idea that the general pattern singles out the unmarked structural case and distinguishes it from all others. Indeed, work by [Smith et al. \(2016\)](#) on the closely related phenomenon of case-based suppletion does find cross-linguistic support for the idea that nominative and

⁸ I have recently become aware of a handful of potential counterexamples in the inflection of certain Ancient Greek adjectives, introduced by [Zompí \(2017\)](#). I will discuss these in Section 6.4.

absolute have a special status as unmarked cases, while ergative and accusative pattern together with the obliques. However, here I cannot make any specific claims, as my examination of ergative languages so far has been less extensive and less systematic and has turned up even fewer alternations of the relevant type than in nominative-accusative languages. I will happily go on record to say that my expectation, based on the account I will propose for the NSAG and my understanding of how ergative case systems relate to accusative ones (on which see e.g. [Baker & Bobaljik to appear](#)), is that something like an ASAG should hold. Indeed, the few relevant alternations I have come across — like the distribution of ‘oblique stems’ in Hindi illustrated in Table 6 — are consistent with this hypothetical generalization. Still, this should only be regarded as suggestive, as the empirical basis for testing that expectation is simply not sufficient yet.

	‘child’
Nom/Abs	bacc-aa
Erg	bacc-ee-ne
Acc/Dat	bacc-ee-ko
Gen	bacc-ee-kaa

Table 6: The Hindi oblique stem alternation.

3 Interpreting the NSAG

It is clear that further empirical work is needed to examine and test the NSAG from a larger collection of languages and to investigate the possibility of a broader generalization encompassing ergative languages. Still, the evidence at this point is sufficient to suggest that there is something real that requires an explanation. If the NSAG turns out to be (essentially) correct, how might we go about understanding it? What makes the nominative special and distinguishes it from all other cases in this way? In this section I will first consider and reject two ways of ‘explaining away’ the effects of the NSAG, then I will discuss the implications of taking it seriously as the description of a constraint on synchronic grammars, laying out precisely which patterns of stem alternation it allows and which it rules out. The sample patterns introduced will serve as the basis for the discussion of my proposals in the remainder of the paper.

3.1 The (ir)relevance of endinglessness

One idea is that what underlies the patterns described by the NSAG is the simple presence of an ending. Note that in Tamil, Finnish and many other languages, the nominative is distinguished by the *absence* of an ending, whereas the other cases generally have overt marking. We could thus imagine that the choice between stem allomorphs tracks not grammatical case categories, but whether or not there is an actual case-marking suffix. The NSAG would then be a misnomer or even misanalysis and should be replaced by something like the Endinglessness Stem-Allomorphy Generalization.

While this may be the correct characterization of some alternations in some languages, it cannot be the general story. We have already seen an irregular stem alternant showing up in a nominative form with an overt *-s* ending in Latin *senex*, and additional data from Tamil and Icelandic make it clear that endinglessness is really orthogonal to the choice of stem forms. Consider first the situation in Tamil. For most nouns, there are two distinct forms that can be used in broadly genitive contexts, marking possessors, part-whole relationships and the like. One form (sometimes called the *sociative*) bears the suffix *-ooḍa*, as in (3-a). The other form, in (3-b), has no overt suffix, but in nouns of the *-am/-att-* class, it crucially uses the non-nominative stem in *-att-*.

- (3) a. mara-tt-ooḍa elai
 tree-OBL-SOC leaf
 ‘the leaf of the tree’
 b. mara-tt-∅ elai
 tree-OBL-GEN leaf
 ‘the leaf of the tree’

In other words, the genitive and nominative forms are both endingless, and differ only in the choice of stem formants. If the non-nominative stem were triggered by the presence of an ending, we would expect it, incorrectly, to be missing in the genitive just as in the nominative. If, however, it depends on some underlying representation of a non-nominative case, then we can analyze (3-b) as having a genitive, which triggers the oblique stem, but happens to have a null exponent.

Icelandic furnishes a different kind of argument that stem alternations do not depend on overt morphophonological endings. In many noun classes, the nominative singular is marked with a non-null ending, e.g. *-ur* in the largest class of masculine nouns, exemplified by *hestur* ‘horse’ in Table 7. At the same time, the accusative singular is often endingless. This means that we simply cannot equate endinglessness with nominative in the language. Nonetheless, when a noun of this inflectional class shows irregular stem alternations, like *maður* ‘man’, it is again the nominative

that is distinguished from all other cases. As with the word for horse, we have an

	‘horse’	‘man’
Nom	hest-ur	mað-ur
Acc	hest	mann
Gen	hest-s	mann-s
Dat	hest-i	mann-i

Table 7: Icelandic ‘horse’ and ‘man’.

overt ending *-ur* in the nominative singular, but here it attaches to an irregular stem *mað-*. All other cases are built on the stem *mann-*, crucially including the endingless accusative. Again, stem selection must be sensitive to a more abstract difference between nominative and the other cases, not to the presence of overt suffixes.

3.2 Markedness and change

Another possibility is that the NSAG is genuine, and is about nominative case, but that it reflects something about markedness relationships and the output of likely pathways of change, rather than expressing a constrain on synchronic grammars. In other words, it’s not that stem allomorphy can only make reference to certain case distinctions and not others, but that stem alternations of the relevant kind are expected to arise diachronically at a lower frequency and to be especially prone to elimination by analogical change when they do arise.

There is some initial plausibility for this idea. Synchronic stem alternations generally arise diachronically from the effects of sound changes which are conditioned to apply in the phonological contexts created by some affixes but not by others. For example, there is a series of English verbs with an alternation in their stem vowel, between /ɪ/ in the present and /ɛ/ in the past, including *sleep/slept*, *leave/left* and *read/read*. These are not cases of Ablaut inherited from Indo-European as in strong verbs like *sing/sang*, *draw/drew*, as *sleep*, *leave* etc. are actually weak verbs. Rather, we have here the survivors of a class of verbs for which the *-de* suffix of the weak past was attached directly to the verb root, without the intervening *-e-* found with most verbs. This created a consonant cluster that triggered a Middle English sound change shortening vowels immediately preceding two consonants (and in many cases also an assimilatory devoicing of the *-d-* in the suffix to *-t-*). In the present, where there was no such *-de-* suffix, the shortening did not apply, and the result is an irregular morphological stem alternation created by regular sound change.

Against this background, we can ask how case-based noun stem alternations are likely to have arisen via phonological processes, and whether this might yield any insight into the distribution of alternants described by the NSAG. Can we expect

nominative forms to be particularly susceptible to phonological meddling? In fact, since the nominative is so frequently endless cross-linguistically, it does often create special phonological environments where specific sound changes might be triggered. That is, it leaves the stem exposed in word-final position where various deformative changes frequently occur, like final devoicing, cluster simplification and loss.⁹ The overt endings of the other cases, by occupying word-final position themselves, can potentially prevent such changes from applying to the stem itself. Something along these lines was clearly involved in the creation of the ancestor of the Latin *homō/homin-* alternation in pre-Proto-Indo-European (see e.g. Ringe 2006: 20f.).

One could then argue that irregular stem alternations, wherever they happen to be created, are most likely to be retained in the nominative. Like any other morphological irregularity, these alternations are liable to analogical leveling, whereby a single stem alternant is generalized to all forms in the paradigm, (re)establishing regular inflection. Of course, while levelling creates regularity of a kind, it is highly irregular in where and when it applies. Nonetheless, there are clear tendencies in where irregularity is tolerated over long stretches of time and where it tends to be eliminated. Generally speaking, morphological irregularity and complexity are more likely to be preserved in highly frequent and unmarked forms and contexts. Thus frequent, basic vocabulary is most likely to show suppletion (e.g. English *go/went* and *good/better*), and inflectional distinctions are most likely to be made within less marked categories (e.g. most English verbs only show agreement contrasts in the present, and Old English verbs only show person distinctions in the singular) (see e.g. Bybee 2007, for several discussions of such frequency effects). In normal nominative-accusative languages, nominative is the least marked case, not just in terms of morphological affixes, but also in terms of syntactic distribution, thus also the most frequent (see e.g. Blake 2001, and much earlier work cited there). We can then expect special forms, like irregular stem alternants, to be more resistant to leveling in the nominative than in any other case. It may then be that irregular stem alternations that contradict the NSAG do sometimes arise, but special alternants in cases outside of the nominative are quickly leveled, so that the only distinction left is between a general stem and an irregular nominative stem.

While all of these points have some individual validity, there is reason to think that the total picture is not sufficient to explain the NSAG. First, regarding the special phonological status of the nominative, the NSAG is heavily supported by

⁹ Consider that the Neogrammarians recognized a special category of sound laws that apply to final syllables, the so-called ‘Auslautgesetze’, simply because both vowels and consonants were treated differently here than in other parts of the word, e.g. in the Germanic languages. Furthermore, even among the Auslautgesetze, distinct laws had to be recognized for the same vowel depending on whether it occurred in absolute final position or was ‘covered’ by a following consonant.

Indo-European languages, which famously have overt nominative endings — even, as we have seen, in many of the nouns showing relevant alternations. It is true that many of those alternations there can be traced back to a phonological quirk of the nominative — the ending **-s*, with no preceding vowel, seems to have wreaked havoc in various ways when attached directly to obstruent-final stems. However, what is special about this ending is its very specific phonological shape, which of course is arbitrary in the Saussurean sense and has no specific connection to the nominative the way that endinglessness does. There are other consonant-initial case endings in Proto-Indo-European which could have, and sometimes did, trigger changes to preceding stem-final consonants, but these never seem to have been morphologized in terms of stem-allomorphy.¹⁰ The same goes for any number of other languages of the world which have something like *-s* as the ending of a particular non-nominative case. While such endings may trigger deformative sound changes that lead to phonological stem alternations, they don't ever seem to be turned into actual morphological allomorphy in the sense intended here. As soon as we get away from the special relationship between the nominative and endinglessness, we no longer have a clear expectation that the diachronic processes creating stem alternations would be particularly associated with that case. Put another way, the fact that irregular stem formants arise in both endingless and endingful nominative forms means that the special status of the nominative is probably not phonological, but grammatical.

More generally, an account of the NSAG based on markedness and likely diachronic developments would predict that it should describe a tendency, allowing some number of clear counterexamples, not an absolute rule. There would be nothing in the synchronic workings of case and nominal stem allomorphy to ban the possibility of irregular stems outside the nominative. These could thus arise under the right circumstances and be retained for some period of time in particular languages. Such developments might be relatively uncommon outside the nominative, and the pressure for the outcome to be leveled might be relatively high, but we would expect alternations violating the NSAG to be found at some low but non-trivial frequency.

However, this is not what I have observed. Again, I have found a series of case-based stem alternations that are consistent with the NSAG, and none that clearly violate it. It is of course possible that the scenario laid out in the previous paragraph is correct, and that the expected frequency is so low that it is unremarkable that I have not yet found a convincing counterexample, given the sample size of languages I have analyzed so far. If so, then it is just a matter of time before such counterexamples are identified, and the NSAG is downgraded to a tendency. In the

¹⁰ I am using the term morphologized here informally to describe developments where an originally phonological alternation survives in a language and is incorporated into its morphological system after the relevant phonological conditions or processes cease to apply synchronically.

absence of such evidence, however, I will adopt the stronger hypothesis that the NSAG holds generally and describes a synchronic constraint on natural languages, and that it can thus tell us something about the grammar of case and allomorphy.

3.3 NSAG patterns and their theoretical implications

Against this background, we can discern two parts of the NSAG, both of which are relevant to recent theoretical discussions and will guide our attempts to devise an account. First, allomorphy for noun-stem formants can clearly be sensitive to case. This tells us something about the structural representation of the pieces that go into building nouns and how they interact with conditions on allomorphy. Second, such allomorphy can be sensitive to *only* the distinction between the nominative and all other cases. No other case distinctions are visible. This could tell us something about the representation of the distinctions among cases.

In order to summarize the findings reported here so that we can situate them with respect to prior research and consider the theoretical relevance of the NSAG in the remainder of this paper, I will close this section by explicitly laying out which abstract patterns of stem alternation we find. To simplify things, we can restrict ourselves to a toy three-case system of nominative, accusative and genitive, and we can use A, B and C to represent distinct stem forms. There are five logical possibilities for how stem forms can be distributed over the three cases, as shown in Table 8. Both the shading and the headers across the top indicate what the NSAG

	AAA	ABB	#AAB	*ABA	*ABC
Nom	A	A	A	A	A
Acc	A	B	A	B	B
Gen	A	B	B	A	C

Table 8: Possible stem distributions in a three-case system.

claims for each of these possibilities. Specifically, only AAA and ABB are possible, except in the special case where A is systematically syncretic with N, in which case AAB is possible as well. ABA and ABC are ruled out.

Now let us consider each of these patterns in turn and discuss its potential theoretical relevance, using the real and invented examples in Table 9 for illustration (where shading highlights when two cases have the same stem form). AAA is the lack of alternation, which we find in the overwhelming majority of nouns in all languages. It is uninformative. ABB is what we find in the Tamil example *maram* ‘tree’, where there is one stem in the nominative and a different one everywhere else. This is important because it tells us that at least some case markers are in a configuration with the noun stem that satisfies the locality restrictions for allomorphy.

This is not trivial, given that other types of irregularity like noun suppletion cannot be sensitive to case, as we will discuss in Section 4.1.

	ABB	AAB	*AAB	*ABA	*ABC
	<i>Tamil</i>	<i>Latin</i>	<i>Inventite</i>	<i>Impossiblish</i>	<i>Hypothese</i>
	'tree'	'kind'	'fever dream'	'abomination'	'longing'
Nom	mar-am	gen-us	ill-ur	paq-il	neg-in-or
Acc	mar-att-ai	gen-us	ill-ur-et	paq-akk-ē	neg-as-em
Gen	mar-att-∅	gen-er-is	ill-in-so	paq-il-an	neg-ut-ad

Table 9: Attested and unattested patterns.

The pattern labelled #AAB in Table 8 is an abbreviation for *AAB, unless the nominative and accusative forms are systematically syncretic. Latin *genus* is an example of the licit variant of AAB, because there is a single, identical form *genus* for both nominative and accusative. The word for 'fever dream' in the invented language Inventite, on the other hand, shows an illicit variant — nominative and accusative share a stem form *illur-*, distinct from the *illin-* found in the genitive, yet they are not syncretic, as the accusative has a distinctive ending *-et* next to the endingless nominative. When compared with ABB, this #AAB constellation gives us the first indication that there is something special about the contrast between the nominative and all other cases.

We then come to the explicit statement that the NSAG subsumes an instance of *ABA, the pattern which has been of great interest in recent work on syncretism and suppletion. The word for 'abomination' in the invented language Impossiblish demonstrates what an ABA pattern would look like, where a stem form *paq-il-* is found in the nominative and then reappears in the genitive, with an irregular stem *paq-akk-* intervening in the accusative. Following Caha (2009); Starke (2009); Bobaljik (2012), such patterns provide evidence for (structural) containment relationships in the representation of the categories involved, as we will discuss in detail in Section 5. This can thus tell us a great deal about how cases are represented.

Finally, the NSAG also implies *ABC. That is, we don't find nouns with a special stem form in the nominative, plus a distinction between two additional stem forms in the non-nominative cases, as the word for 'longing' in the invented language Hypothese would be, were it to exist.¹¹ As we will see, this kind of restriction is not common in other morphological domains the way that *ABA is. To the extent that it is robust, it goes along with #AAB to establish the special status of the nominative and might tell us something about how locality interacts with the structure of case categories.

¹¹ The name of this language rhymes with *Japanese*.

Now that we have laid out these basic patterns for stem allomorphy and how they relate to the NSAG, we are ready to begin constructing our theoretical account. We will approach this in two main parts, by taking each of the two central claims built into the NSAG, exploring how it relates to recent empirical and theoretical work on related phenomena, and adapting proposals made there to the purposes of stem allomorphy. We will start in Section 4 with the fact that noun stem allomorphy can be sensitive to case at all and what that tells us about the structure of nouns. Then in Section 5 we will try to make sense of the fact that it is only the distinction between nominative and everything else that matters. This will lead us to specific proposals about the representation of case categories and locality restrictions on allomorphy.

4 Nominal structures and allomorphy

4.1 A comparison with suppletion in nouns and pronouns

There is an important recent strand of work establishing typological generalizations and theoretical conclusions about suppletion in nouns (Moskal 2015a; b) and pronouns (Smith et al. 2016), taking off from Bobaljik (2012)’s work on suppletion in adjective comparatives and superlatives. In general, nouns can supplete for number (e.g. the Ket word for ‘child’: sg. *dyl*, pl. *kat*) but not for case,¹² while pronouns supplete readily for both, as illustrated by the Icelandic forms in Table 10 and parallel examples myriad other languages. The line pursued in these works is

	1 Sg	1 Pl
Nom	ég	við
Acc	meg	okkur
Dat	mér	okkur

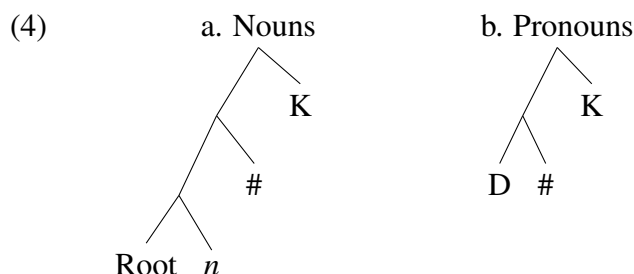
Table 10: Icelandic 1st person pronouns.

that this difference between nouns and pronouns falls out of locality conditions on allomorphy. Suppletion is analyzed as allomorphy for the root, i.e. alternation in the exponent inserted in a root node, which is conditioned by the morphosyntactic environment. It is well established that allomorphy is subject to locality restrictions: only features close enough in some sense to a particular node can be consulted in determining which exponent to insert in that node (see e.g. Carstairs-McCarthy 2001; Embick 2010; Bobaljik 2012; Moskal & Smith 2016, and earlier work cited there). The basic idea is that, while number is sufficiently local to both noun roots and

¹² For the few apparent exceptions, there is reason to believe that a particular structural deficiency of the nouns in question is responsible (Moskal 2015a).

pronominal bases to trigger allomorphy, case is only sufficiently local to pronominal bases. It is too far away from nominal roots, thus they cannot be suppletive for case.

There are different ways to implement this idea. I refer the reader to Moskal (2015a; b); Moskal & Smith (2016); Smith et al. (2016) for discussion of why a number of initially plausible candidates won't do the trick and a selection of viable alternatives. Here I'll simply describe Moskal (2015a)'s version, which is relatively straightforward and turns out to have useful properties when we come back to stem allomorphy. Moskal posits the structure in (4)a for nouns and the one in (4)b for pronouns, including the representation of number and case.



She proposes that the relevant locality condition allows vocabulary insertion to be sensitive to the structure up to and including one node past the next cyclic node.¹³ If, as is commonly assumed, categorizing nodes like *n* are (potentially) cyclic, this yields the right results. For the nominal root in (4)a, the next cyclic node is little *n*, so allomorphy is sensitive to little *n* plus one node beyond — i.e. #. Case is too far away, hence nouns cannot supplete for case. Pronouns, on the other hand, lack little *n*. So for the pronominal base (represented as *D*) in (4)b, there is no cyclic node and thus no locality domain separating it from either # or *K*. Hence pronouns can supplete for both case and number.

4.2 Noun stem alternations are allomorphy for *n*

Consider now how our noun stem alternations fit into this picture. The stem allomorphy described by the NSAG differs from noun suppletion in that a substantial chunk of the noun remains constant, with the alternation affecting only a stem-forming element. It is reasonable to take the constant chunk as the root, meaning that the alternating piece should be the realization of a functional head below number and case. The simplest assumption is that the case-sensitive stem alternations we've

¹³ This is grounded in the idea that nodes are not inherently cyclic, but only potentially so. The highest potentially cyclic node in an extended projection is the one that will in fact be cyclic (see Bobaljik & Wurmbrand 2005). This means that it cannot be determined whether a particular node is cyclic without seeing the next node up, yielding locality domains of a cyclic node plus one. See Moskal (2015a; b).

been looking at boil down to allomorphy for little *n*. This also fits in well with how the elements that engage in the alternations relate to morphologically identifiable classes of nominal lexemes in their languages. Specifically, in many instances the alternation is found in a whole group of nouns, constituting a stem class largely characterized by the alternation itself. E.g. Tamil has a very large and productive class of nouns in *-am*, all showing the alternation with *-att-*; Finnish has an extensive collection of nouns showing the *-nen/-se-* alternation, and Latin has dozens of nouns that inflect similarly to *homō* (with a small number of identifiable sub-classes). Thus it makes sense to take these stem formatives as the realization of functional material involved in implementing or deriving nominal categories.

Crucially, locating stem allomorphy in little *n* also gives us the first part of the story about what can trigger it. Remember that for Moskal, the form of the Root cannot be conditioned by K, because the cyclic node (little *n*) and one node above it (#) intervene. But little *n* itself will not be thus restricted, because there is no (potentially) cyclic node between it and K. We thus correctly predict that noun stem alternations — like pronominal suppletion but unlike nominal suppletion — can be sensitive to case in addition to #. This gives us a good first approximation of an explanation for the first part of the NSAG described above. Noun stem alternations can be sensitive to case because they amount to allomorphy for little *n*, and the structural representation of case is sufficiently local to condition Vocabulary Insertion in that position.

5 Case structures and allomorphy

Now that we've set things up so that we expect K to affect the shape of stem-forming elements in little *n*, the second part of the NSAG becomes all the more acute. If stem alternations can be sensitive to the distinction between nominative and non-nominative, why can't they be sensitive to distinctions *among* the non-nominative cases?

5.1 Bobaljik's CSG and *ABA

At this point it will be useful to make a comparison with other work on *ABA patterns, in particular Bobaljik (2012). Bobaljik makes a typological survey of suppletion in comparative and superlative forms of adjectives, formulating the generalization in (5):

(5) **The Comparative-Superlative Generalization (CSG)**

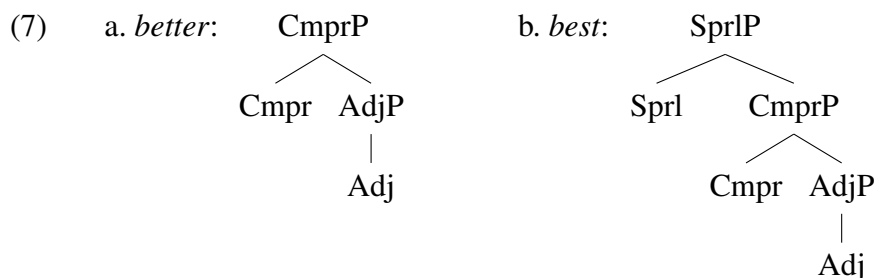
If the comparative degree of an adjective is suppletive, then the superlative is also suppletive (i.e. with respect to the positive). If the superlative degree of

an adjective is suppletive, then the comparative is also suppletive (i.e. with respect to the positive). (Bobaljik 2012, p. 2, formatting mine)

In other words, we find patterns like (6-a) and (6-b), and occasionally ones like (6-e), but not the equivalents of (6-c) or (6-d):

- (6)
- a. small – smaller – smallest (**AAA**)
 - b. good – better – best (**ABB**)
 - c. *good – better – goodest (***ABA**)
 - d. *good – gooder – best (***AAB**)
 - e. bonus – melior – optimus (**ABC**) from Latin

Bobaljik explains the CSG, in particular the *ABA part, by proposing that the structure of the superlative *contains* the structure of the comparative, as in (7):



Again, suppletion is analyzed in terms of allomorphy for Vocabulary Insertion in a root node. If the comparative form of a particular adjective is suppletive, there must be a special vocabulary item specified to realize the relevant root whenever the Cmpr node is present, as in (8-a). The form that shows up in the positive will simply be the elsewhere realization of the root, as in (8-b).

- (8)
- a. $\sqrt{\text{GOOD}} \leftrightarrow \text{be(tt)} / __ \text{Cmpr}$
 - b. $\sqrt{\text{GOOD}} \leftrightarrow \text{good (elsewhere)}$

Crucially, the conditions for (8-a) are also met in the superlative structure in (7)b, because the Cmpr node is present there as well. Suppletion in the comparative thus implies the same suppletion in the superlative, deriving *ABA. I will now propose a similar approach to the differences between cases described by the NSAG.¹⁴

¹⁴ I won't discuss in detail Bobaljik's treatment of the constellation of ABC with *AAB. There are clear parallels to what we must deal with for noun stem alternations, and some similarities in the execution. In particular the idea is that *AAB is ruled out because the relevant element is too far away in some sense to trigger irregularity. But there are also important differences in the implementation because the facts go a different way. Bobaljik's account is complicated by the empirical fact that ABC patterns are attested in comparative-superlative suppletion, so the superlative can't be too far away from the

5.2 Caha's hierarchy and case containment

To do this, we need an additional piece relating to the structural representation of case categories. Note that it is essential to Bobaljik (2012)'s account of the *ABA part of the CSG that there is a containment relationship between the superlative and the comparative. If we want to do something parallel for the NSAG, we will need to assume containment among relevant case categories. Fortunately, we can adapt for this purpose an existing theory that was aimed at capturing a different kind of *ABA in case marking. Caha (2009) argues that attested syncretisms between different cases in a wide array of languages follow a universal hierarchy with a *ABA pattern. This can be illustrated with the three case system of Modern Greek, where there is no syncretism of nominative and genitive to the exclusion of accusative, as shown in Table 11.

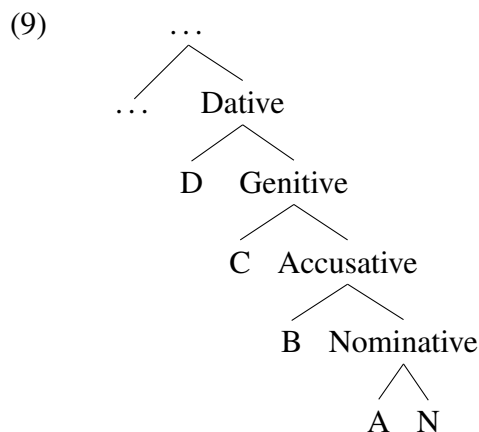
	'fighter'	'fighters'	'alpha'	[not attested]
Nom	maxites	maxitis	alfa	A
Acc	maxites	maxiti	alfa	B
Gen	maxiton	maxiti	alfa	A

Table 11: Case systems in Modern Greek.

Caha thus proposes to derive a version of Blake (2001)'s hierarchy of cases from a structure where each case includes the structure of the next lower case, plus an additional functional head:¹⁵

root in an absolute sense. For case-based stem alternations, we have *ABC alongside *AAB, so I will be able to assume a simpler locality story covering both patterns, which places the genitive (and higher cases) too far away to trigger stem allomorphy.

¹⁵ Caha's trees have the sequence of case heads above D, as is motivated by semantic and sentential-syntactic considerations. When it comes to the form of an actual noun, however, we must eventually end up with a structure more along the lines of (9), where the sequence of case heads appears directly above the structure of the noun itself. There are different ways to derive the latter structure from the former, utilizing movement, Agree, or some combination of the two (Caha 2009, uses movement). Since the form of the noun is what we are concerned with here, I am restricting my attention to these simpler structures.

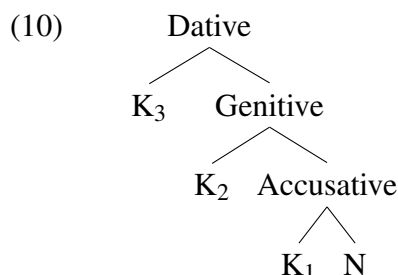


This will provide the basis for locality differences among the different cases. The accusative-defining head B is further away from N than nominative A, and genitive C is further away still. Thus even before we discuss specific theories of the locality of allomorphy, we can see that accusative is more likely to be able to interact with the noun than genitive. Furthermore, because of the containment relationships, we predict implications between the different cases with respect to triggering particular allomorphs. Anything sensitive to the accusative via head B will also be triggered in the genitive and dative, all other things being equal, because B is present there as well. A distinct stem form in a case higher on the hierarchy will only be possible if an additional vocabulary item refers to the relevant higher head, e.g. dative-defining D. That is, if there is a special stem form for the accusative, there is no way to default back to the unmarked nominative stem form in the dative, yielding ABA, because the dative structure includes the head B, which will still trigger the special accusative form. In this way, a version of Caha's system derives the *ABA portion of the NSAG.

5.3 Making the nominative special with H and emptiness

To get the full NSAG, however, including the #AAB and *ABC portions, we need to make the nominative truly special. This will require an explicit theory of locality. What we want is for the head defining the accusative to be relevant for allomorphy on the stem, but nothing above it in the structure. It is this head, after all, that marks the distinction between the nominative and all other cases, so it is what our 'non-nominative' stems must make reference to, and we need to make sure that stem allomorphy cannot refer to genitive head or anything higher. There are a number of concrete ways we could reasonably do this. I will pursue one particular approach that combines Moskal (2015a)'s locality conditions on allomorphy with a modified version of Caha's case structures.

Assume first that nominative is not just the least marked case, but the total absence of case at an abstract level (Bittner & Hale 1996; Asbury 2008; McFadden & Sundaresan 2010; Kornfilt & Preminger 2015). This yields (10), which is like Caha's structure but without a dedicated nominative head, thus making a clear distinction between the nominative and all other cases: nominatives are bare nominal structures, while all other cases involve some additional amount of functional material, providing something for stem allomorphy to be sensitive to.¹⁶



We can integrate this modified version of Caha's account of case with Moskal's approach to locality as follows. The key to making the difference between nominative and the other cases visible, but not the distinctions among those other cases, is to ensure that K_1 and K_2 are on opposite sides of a locality boundary relative to little n , where stem alternations are realized. The presence of K_1 is what all non-nominative cases have in common, identifying them as *not* being nominative. In Moskal's theory, having a locality boundary between K_1 and K_2 means having K_1 as the first head above a cyclic node. Thus we are led to posit such a node — call it H — between $\#$ and K_1 .¹⁷ Putting (4)a together with (10) and adding H yields the structure in (11):

¹⁶ In order to avoid confusion, I used Caha's labels A, B, C for the case heads in his version but am using K_1 , K_2 , K_3 etc. for the heads in mine.

¹⁷ An alternative would be to have $\#$ itself be a (potentially) cyclic node, leaving out H entirely. The concern is that, under the dynamic approach to cyclic domains, this would imply that little n , though still a potentially cyclic node, would not count as an actual one, having an additional potentially cyclic node in $\#$ directly above it. This would eliminate the difference between little n and the nominal root for purposes of locality — $\#$ would end up being the first actually cyclic node above both of them, so we would incorrectly predict that nouns can be suppletive for the nominative-accusative case distinction.

Even if D would create a locality boundary relevant for the K heads above it in a structure like (12-b), it is irrelevant for the K heads directly affixed to the noun, which are *below* it. The head H that creates the locality boundary between those heads and the nominal stem must thus be something further down than D and distinct from #. I will leave open for now what exactly this H could be, simply recognizing that we must posit something here to achieve the desired locality effects.¹⁸

While we could adjust this story to retain Caha's structures with an additional K head for the nominative, the result would be less attractive. This nominative head would have to appear below H, with all the other K heads appearing above, in order to get the locality facts right. The motivation here for the idea that nominative amounts to the lack of case is hence that it lets us have all of the case heads as a block, above the cyclic node H, rather than distributed on either side. A different way to look at it, which is less dependent on the specific assumptions of Moskal's theory of locality, is that stem allomorphy can be sensitive to whether any case heads are present, but not to which specific ones are there. Again, this only makes the right cut if the nominative amounts to the complete lack of case heads.

6 Bringing it all together

In this section I will bring together the various strands of the preceding discussion to illustrate and precisify my account of the NSAG. I will first demonstrate in Section 6.1 how the account covers the patterns described by the NSAG, then in sections 6.2, 6.3 and 6.4 I will deal with three loose ends in the behavior of plurals, the dividing line between stem allomorphy and phonological alternations, and some potential counterexamples to part of the NSAG from Ancient Greek, respectively.

6.1 Deriving the sample patterns

Let us consider then how the account developed in Sections 4 and 5 covers the NSAG, allowing the attested stem allomorphy patterns and ruling out the unattested ones. AAA is the trivial case where little *n* has only one form and requires no further comment. We get ABB when there is a special 'B' exponent of little *n*, specified to

¹⁸ One idea is that H somehow indirectly reflects D at the noun level. Given the repetition of the case sequence at multiple places within the DP, especially clear in languages with concord on adjectives and determiners, one might assume an operation that copies the sequence of Ks, # and other relevant heads from the extended DP onto N and any other words within DP that are to show case and number marking. H could then be the 'morphological copy' of D. If one could further assume that this 'morphological copy' retained the status of being a (potentially) cyclic node for morphological purposes, we could perhaps derive the pattern we want. Making this work would require a worked out theory of such copying and how it interacts with locality.

be inserted in the context of K_1 , e.g. in the vocabulary item in (13-a) for the *-att-* formant in Tamil nouns like *maram*. Since that K_1 head is present in the accusative, genitive, dative and any other cases higher in the hierarchy, this allomorph will be inserted in all of those cases. The corresponding ‘A’ formant, like Tamil *-am-* in (13-b), is simply an elsewhere exponent of little *n*, which will be inserted when K_1 is not present.¹⁹ Given the structure of the cases, this only happens in the nominative.

- (13) a. $[n] \leftrightarrow \text{-att-} / __ K_1$
 b. $[n] \leftrightarrow \text{-am-}$ (elsewhere)

We get *ABA in the standard way from containment. An actual ABA pattern would mean, in our toy three-case system, that one form appears in the accusative, while the nominative and genitive share a different form. The only way to get a special accusative form is by reference to K_1 , and since this head is also present in the genitive, that special form would be triggered there as well. The only way to prevent the accusative form from appearing in the genitive is to set up a more specific genitive form, which makes reference to the K_2 head lacking in the accusative. Assuming for the moment that this were possible, the result would be an explicitly genitive form, not be the reappearance of the unmarked nominative form, since of course the nominative lacks the K_2 head. In this way we could only derive an ‘accidental’ ABA pattern, which is in reality an ABC pattern, where A and C are introduced by distinct rules, but happen to have the same form. This is laid out in (14) for the Impossiblish forms in Table 9. We get the appearance of ABA, because *-il-* shows up in both the nominative and the genitive, distinct from the *-akk-* in the accusative, but these are really two different stem formants introduced by two different rules.

- (14) Impossiblish accidental ABA as crypto ABC
 a. $[n] \leftrightarrow \text{-il-} / __ K_1, K_2$
 b. $[n] \leftrightarrow \text{-akk-} / __ K_1,$
 c. $[n] \leftrightarrow \text{-il-}$ (elsewhere)

Since what we have in (14) is underlyingly an ABC pattern, we can use something parallel to derive surface ABC, e.g. the Hypothese forms in Table 9 via the VIs in (15), but of course, the NSAG excludes ABC, so we need to make sure we prevent systems like this, and this is precisely what our locality account gives us.

- (15) Hypothese ABC
 a. $[n] \leftrightarrow \text{-ut-} / __ K_1, K_2$

¹⁹ Of course the items in (13) need to be further restricted to the class of nouns showing the *-am/-att-* alternation, but this is irrelevant to current purposes so I have left it off for simplicity.

- b. $[n] \leftrightarrow \text{-as-} / __ K_1,$
- c. $[n] \leftrightarrow \text{-in-} \text{ (elsewhere)}$

The presence of the cyclic H node means that allomorphy for little *n* will be able to see one node past H, i.e. to K_1 . Hence VIs like (13-a), (14-b) and (15-b), all of which set up accusative stems by referring to K_1 , will work just fine. However, K_2 and higher K heads will be too far away to be visible for vocabulary insertion at little *n*. Thus VIs like (14-a) and (15-a), which pick out genitives and higher cases by making specific reference to K_2 , will be unstatable or will simply never find anything to apply to. We thus successfully rule out ABC patterns, including accidental ABA like (14). Even if the systems of VIs in (14) and (15) could be set up, they would still just produce ABB. The special VIs making reference to K_2 would never apply, as K_2 , even if present, would be non-local, and the VIs making reference to K_1 would apply in those contexts instead. Note now that it is difficult to see how we could get these results if the different cases corresponded to different features or feature bundles in a single K head, because we do not expect there to be any locality or accessibility differences between the different features in a single bundle. I.e. if the difference between nominative and accusative in that position is legible to allomorphy for little *n*, it is not clear how further case differences could be made illegible.

This basic locality story also extends to *AAB. These differ from *ABC only in that there is no special accusative stem form, still requiring a VI to make reference to K_2 for the special form in the genitive and beyond. This is laid out in (16) for the Inventite forms in Table 9.

- (16) Inventite AAB
- a. $[n] \leftrightarrow \text{-in-} / __ K_1, K_2$
 - b. $[n] \leftrightarrow \text{-ur-} \text{ (elsewhere)}$

Again, locality forbids reference to K_2 , so even if a VI like (16-a) were licit, it would never find a matching context, and so we would get an AAA pattern with the elsewhere formant *-ur-* throughout.²⁰ Of course, the pattern we are trying to model from the NSAG is not exactly *AAB, but #AAB, where AAB is possible as long as there is total and systematic syncretism between the nominative and accusative. As things stand, the locality story here does not provide a way to derive such special

²⁰ There is an additional important issue, which is that pronoun suppletion *does* allow ABC patterns and AAB patterns without syncretism (Smith et al. 2016). For pronoun bases then, there is no locality distinction between K_1 and K_2 . Dealing with this will require further amending our inventory of cyclic nodes, adapting our assumptions about the structure of pronouns, or admitting new ways to circumvent locality boundaries. Since I currently have no way to decide among these options, I simply note the issue and leave it for future research.

AAB patterns, predicting instead strict *AAB, so we need to say something more. The problem, e.g. with the Latin neuters, is that the conditions for the ‘oblique’ stems like *gener-* and *itiner-* seem to be able to distinguish between accusative and genitive. However, under the analysis built up so far, this should not be possible, as the K_2 head responsible for this distinction is not sufficiently local to little n . Indeed, we should be suspicious of the fact that *AAB holds in general, except in the special case where the accusative is syncretic with the nominative.

This last point makes clear, where exactly we should look for a solution to this little problem. Our approach should be that what shows up with these nouns in (syntactic) contexts where we expect accusatives, are structurally nominatives, at least at the point in the derivation when the exponent for n is inserted. In other words, the ‘accusatives’ here also lack the K_1 that normally characterizes the accusative. This is why they do not satisfy the conditions for the oblique alternant of n , but also why they are realized exactly the same as the nominative in all other respects. One way to derive this would be in terms of an operation like Impoverishment, so that these nouns would initially be structurally accusative, but would have the K_1 head deleted before vocabulary insertion. Alternatively, one could assume a kind of Differential Object Marking, such that accusative assignment would simply not apply to the relevant nouns, leaving them caseless, which is equivalent to nominative (see [Richards 2010](#); [Baker 2015](#), for compatible approaches to DOM).

The ‘oblique’ stem form with these nouns, just like the ones with normal ABB, will thus be specified to show up in the context of K_1 , i.e. the accusative-defining head. This will ensure as elsewhere that they also show up in the genitive and all higher cases. It is just that with these nouns, there are no forms that reach VI with K_1 without also having at least K_2 , i.e. there simply are no accusative forms to spell out. This yields an apparent AAB pattern, which in reality is an ABB pattern, but where the accusative B never surfaces. We thus have an account for #AAB that explains why apparent AAB is limited to instances where the nominative and accusative are fully syncretic.

6.2 Lessons from plurals

Until now, I have restricted my discussion to stem alternations in the singular forms of nouns, leaving plurals aside. But what happens with irregular stem allomorphy in the plural has the potential to be quite instructive, given certain ideas about the triggering of allomorphy and what is known about suppletion. Recall from above that while pronouns can supplete for both case and number, nouns supplete only for the former. [Moskal \(2015a\)](#)’s account of this fact depended crucially on the intervention of the # head rendering K non-local to the noun root. There is also a long tradition of arguing that allomorphy requires adjacency of some kind (see

Embick 2010; Bobaljik 2012; Moskal & Smith 2016, and references there), hence we might expect allomorphy of noun stems based on case markers to be blocked by intervening (overt) plural affixes. It will thus be worth our while to see what happens in the plurals of the nouns we’ve been discussing — whether we get ‘nominative’ stems, ‘non-nominative’ stems or a repeat of the alternation.

As it turns out, languages differ in this respect, giving us some evidence for differences in the details of how the alternations are implemented. In Finnish, Latin and Icelandic, plurals have the ‘non-nominative’ stem throughout, even in the nominative, as shown for Finnish and Latin in Table 12. This is somewhat

Finnish			Latin	
	Sg	Pl	Sg	Pl
Nom	ihmi-nen	ihmi-se-t	hom-ō	hom-in-ēs
Gen	ihmi-se-n	ihmi-s-i-en	hom-in-is	hom-in-um

Table 12: Finnish and Latin plurals.

puzzling. We could take it as evidence that, in these languages, the stem formant in the nominative singular is actually the marked one, with explicit restrictions on the context for its insertion, whereas the non-nominative stem is the elsewhere realization of little *n*. This would certainly be in line with the distribution of the two formants. The tricky thing is that, under the kind of analysis being pursued here, there is no distinguishing feature of the nominative singular that could be used to formulate the contextual restriction — the nominative singular is characterized by the *lack* of features in comparison to the non-nominative cases and the plural.²¹ On the other hand, writing a specification for the ‘non-nominative’ stem formant is made difficult by the fact that it appears in a disjunctive context, whenever there is a marked case *or* plural number. One way to deal with this would be to propose that it is not sensitive to the presence of particular heads, but rather to the presence of *any* marked value. The details will depend among other things on whether singular number is represented as a # with an unmarked value or as the simple lack of a # head.

The facts are crucially different in Tamil, as shown in Table 13. Here again, alternation according to case fails to obtain in the plural, but now it is the nominative stem that shows up for all cases.²² Here it is clear that the stem alternant with a marked specification must be the ‘non-nominative’ one, with the ‘nominative’ one

²¹ Note that this point is unaffected if we adopt Caha (2009)’s version, where there is a K head present in nominatives. Even for Caha, the nominative contrasts with all other cases by lacking any of the higher K heads. The head found in the nominative is also found in all higher cases, so it is equally impossible to write a specific rule to apply only to nominatives by referring to this lowest K head.

²² The shift of /m/ to /ŋ/, both here and in Table 14, is due to phonologically regular assimilation.

	Sg	Pl
Nom	mar-am	mar-aŋ-ga
Acc	mar-att-ai	mar-aŋ-ga -ai

Table 13: Tamil plurals.

being the elsewhere. Specifically, we can say that *-att-* is specified to occur in the context of the K_1 head, and then we need to set things up so that the marked plural head interferes with its insertion, e.g. by using hyper-contextual VI-rules along the lines of Moskal & Smith (2016). The ‘nominative’ stem thus appears throughout the plural.

Now, one analysis we might have considered for the facts from the Tamil plural would be that there is a requirement that a case marker can only trigger the marked stem formant when it appears adjacent to it (again following Embick 2010; Bobaljik 2012, and others). The intervening overt plural marker would disrupt the adjacency, thus blocking the triggering of the *-att-* stem, leading to the insertion of unmarked *-am-*. Important facts from the Tamil pronouns, however, show that literal adjacency isn’t required for conditioning allomorphy. They also provide even more direct support for the role of case specifically (as opposed to the mere presence of a suffix) in triggering stem allomorphy. Consider the 2nd person forms in Table 14.²³ The

	2 Sg	2 Pl
Nom	nii	niiŋ-ga
Acc	on-ai	oŋ-ga -ai
Gen	on	oŋ-ga
Dat	on-akku	oŋ-ga -ukku

Table 14: Tamil 2nd person pronouns.

nii(n) alternant appears in the nominative, both singular and plural. But unlike with the nouns, the alternative *on-* is found throughout the obliques, i.e. not just in the singular, but also in the plural. We can analyze this by again having the VI for *on-* be directly sensitive to the presence of the K_1 head, but we must set things up so that, unlike in the nouns, the intervention of the plural # head does not bleed its application. However exactly we ultimately analyze the distinction between nouns and pronouns here — and this will clearly need to be connected to the discussion in footnote 20 — it is clear that in Tamil the allomorphy must be sensitive specifically to case, not just to the presence or absence of structure in general.

²³ Similar patterns are found in the 1st person (exclusive) forms *naan/en* and the anaphor *taan/tann*.

I will conclude this section on plurals with a couple of general and comparative comments. First, the data show that our theory must allow for a certain amount of cross-linguistic variation in case-based stem alternation behaviors in the plural. Second, this variation cannot be reduced, as might have seemed to promising, to differences in the expression of case and number. One might have hoped to tie the behavior in Latin and the other Indo-European languages — where we get ‘non-nominative’ forms throughout the plural — to the fact that case and number are fusional in these languages. This would have fit in with the fact that Tamil — where case and number are marked by distinct, segmentable suffixes — has the ‘nominative’ form throughout the plural. The problem comes from Finnish, which like Tamil has segmentable case and number suffixes, but like Indo-European generalizes the ‘non-nominative’ stem form throughout the plural. Thus it seems that we must attribute the difference in plural behaviors, as I have done here, to differences in what the marked stem formant is specified for — the presence of any following head with a marked value in Latin and Finnish, versus the presence of specifically the K_1 head in Tamil.

Third, even though the VIs for Latin and Finnish may in the end make no direct reference to case in general or the K_1 head in particular, the NSAG is still upheld here. Case is relevant indirectly, as the case heads count, alongside plural number, among the potential satisfiers for the condition of a following head with a marked value. This yields the sensitivity to case, and the specific restrictions of the NSAG still fall out of our locality story, as it is only the K_1 head distinguishing accusative from nominative that will be close enough to be visible. We thus still rule out a more specific VI introducing an additional stem formant in more marked cases. Fourth, note that this furnishes an additional argument for the version of the case hierarchy here, where the nominative is the total lack of K heads. The VI rule for Latin and Finnish only really works if the difference between nominative and everything else amounts to the presence of marked case heads. If we adopted [Caha \(2009\)](#)’s version with a dedicated nominative head, it would be especially difficult to prevent that head from triggering the marked stem formant. Again, the VI for that stem formant cannot be specified to be sensitive specifically to the head distinguishing accusative from nominative, or any other specific case head, because it must also be sensitive to the plural # head.

6.3 Morphologically triggered \neq allomorphy

Now that I have made my analysis of stem allomorphy explicit in terms of the exponence of little n , I can also be more precise about exactly what types of alternations should be subject to the NSAG. In the discussion of Finnish *katu* above, I noted that an alternation with a plausible phonological trigger won’t necessarily respect the

NSAG. However, the analysis proposed here makes it clear that, even if the trigger is morphosyntactic, the NSAG may still not be on the hook. Rather, what really matters is the *implementation* of the alternation. If it is in terms of allomorphy for little *n*, it will be subject to the NSAG, because of how the contextual sensitivity of VI rules is constrained. However, if the alternation is implemented in terms of a phonological element or process — even if morphosyntactically triggered — it will not be subject to the NSAG, but to whatever (apparently less strict) restrictions apply to such phonological processes. Embick (2012) makes the related argument that, if a pattern of morphological alternation seems to violate independently motivated principles for the locality of conditions on allomorphy, this should be taken as evidence that it must be phonologically implemented rather than true allomorphy.

The pattern of consonant gradation in Estonian, historically related to the Finnish *katu* pattern but synchronically distinct in a number of important points, illustrates this nicely. Consider the inflection of ‘story’ in Table 15. On the surface, we have

Nom	jutt
Acc	jut-u
Gen	jut-u
Part	jutt-u

Table 15: Estonian ‘story’.

an alternation that does not respect the NSAG, with one stem *jutt-* found in the nominative and partitive, and another *jut-* in the accusative and genitive. Sound changes have obliterated the original phonological conditioning for the alternation, so the story we told for Finnish consonant gradation won’t work. Rather, it seems that the alternation must indeed be sensitive to the morphosyntactic identity of the case categories involved.

Nonetheless, the effect of the alternation can be understood as a straightforward phonological process. The difference between the two stems amounts to lengthening or shortening of the stem-final consonant, thus it need not be analyzed as allomorphy for little *n*. Indeed, Prince (1980); Caha (2009), propose accounts in terms of a phonological shortening rule, a trigger for which is contained in the suffixes in the accusative and genitive. We thus have no expectation that the NSAG will apply, and the variation we see in the stem shape cannot constitute a counterexample to the generalization. Analyses in a similar spirit can arguably deal with a number of superficially problematic stem alternations in several other languages.²⁴

²⁴ Examples include the more complicated consonant gradation facts in Northern Saami (Svenonius 2008), Ablaut-type alternations in Sanskrit and Ancient Greek (Johnston 1996) and Umlaut-type alternations in the (old) Germanic languages. The general strategy is for the exponence of certain

Of course, if this sort of mechanism were unconstrained, we could use it to ‘explain away’ any recalcitrant facts we come across and void the NSAG of any real empirical content. I will not attempt to formalize the relevant constraints, but the idea is that the morphologically triggered phonological processes are limited to things like lengthening and shortening that can be implemented in terms of autosegmental manipulation of defective material that can be posited as part of the exponence of certain nodes (again, see [Bye & Svenonius 2012](#), for extensive discussion). We can get a sense of the limits by considering cases where such processes applying to a single underlying stem form could not derive the observed alternations, and allomorphy must be posited instead. Note for example that Estonian has a parallel alternation to the one in Finnish *ihminen* in its cognate *inimene*, as shown in Table 16. Again, there is no straightforward operation, motivated in Estonian phonology, or

Nom	inime-ne
Acc	inime-se
Part	inime-se-t

Table 16: Estonian ‘person’.

otherwise formulable in terms of the accommodation of defective floating material, which would change *-ne* to *-se* or vice versa. This means that we must assume that *-ne* and *-se* are distinct exponents, competing for insertion in the little *n* node, with the allomorphy between them sensitive to the case of the noun. As such, we expect it to respect the NSAG, and indeed it does.

Given these criteria, certain alternations which we might have liked to include in the evidentiary basis for the NSAG should actually be set aside as potentially phonologically implemented. E.g. the Tamil alternation in nouns like *viidu/viitt-* is easily described in phonological terms, and there are other alternations involving gemination in the language, which are best analyzed in terms of a floating underspecified consonant slot (see [Sundaresan & McFadden to appear](#), on such an alternation related to transitivity in verbs). Thus, as with Latin *lapis*, though the alternation here would be consistent with the NSAG, it may be phonologically implemented rather than allomorphy for the little *n* head, thus is not actually covered by the generalization and cannot be counted as support for it.

nodes, crucially including case nodes, to include floating, underspecified phonological material (morae, C or V slots, etc.), which is then accommodated autosegmentally, modifying the basic stem shape in various ways. This can derive the appearance that a process is being triggered by a morphosyntactic category or environment. See [Bye & Svenonius \(2012\)](#) for a lengthy treatment of this approach for dealing with apparent morphological processes.

6.4 Potential counterexamples from Ancient Greek

Zompí (2017), in response to an earlier version of the work presented here, introduces some potential counterexamples to the NSAG from Ancient Greek. First, he suggests that the Ablaut patterns shown with a number of nouns like ‘father’, with nominative *patér*, accusative *patér-a*, genitive *patr-ós*, present more of a challenge for the kind of phonological account described in 6.3 than footnote 24 does justice to, in particular because the different stem-vowel configurations don’t just track specific case suffixes, but also depend on the lexical noun. Zompí is correct to note that my suggestion here cannot be fully evaluated in the absence of a worked out analysis, but the prospects for success are arguably considerably better than he suggests. What we need is for the exponents for the different cases to be able to vary in whether they include floating material that triggers the vowel changes of ablaut, depending on the lexical identity of the noun they attach to. So the genitive is *-os* plus a floating trigger for deletion of a stem vowel with *patér*, but *-os* without such a trigger with *astér* ‘star’, which has the genitive form *astér-os*.²⁵ But in the end this is not really different from saying that, with nouns of a certain class including *pólis* ‘city’, the genitive ending has the form *-eōs*. Therefore, I do not see any real obstacle to an analysis along these lines.

Zompí’s second type of potential counterexample is more difficult to defuse. These are so-called heteroclite adjectives, as in Table 17, which show a clear stem alternation that violates the NSAG.²⁶ The word for ‘much’ shows a stem *polý-*, plus

	‘big’	‘much’
Nom	méga-s	polý-s
Acc	méga-n	polý-n
Gen	megál-ū	poll-ū

Table 17: Ancient Greek heteroclites, masculine singular.

the normal endings of a *-y*-stem adjective of the 3rd declension, alternating with a stem *poll-*, plus the normal endings of an adjective of the 1st and 2nd declensions. The word for ‘big’ alternates between *mega-* and *megal-* along with a similar shift in inflection class. The problem, of course, is that the result is in both cases an AAB pattern, but where the nominative and accusative are clearly not syncretic. According to the NSAG, this should not be possible, and for these facts I do not, at the moment, have a secure response. It is thus possible that they constitute genuine

²⁵ With both nouns, the nominative will have a floating trigger for lengthening.

²⁶ I give only a subset of the masculine singular forms. The neuter singulars show the same alternation, while the feminine singular and the entire plural are inflected regularly based on the stems in the genitive singular masculine.

counterexamples and will require revisions to what I have said about the NSAG. I will however note three points which may allow an alternative analysis consistent with my approach, or at the very least limit the changes they will necessitate.

First, it may be relevant that it is not just the form of the stem that is alternating, but also the inflectional class of the following endings. Inflectional classes in general interact heavily with the stem formants, but they are clearly distinct from them, and their representation in the structure must be somewhere between that of the stem formants and the case heads. It is thus conceivable that they could be playing a mediating role to allow the triggering of stem alternations like we see in Table 17, which would otherwise violate locality.²⁷ Second, I have proposed the NSAG as a constraint on stem allomorphy in *nouns*, whereas the heteroclitics in Table 17 are *adjectives*, so technically they aren't counterexamples to the NSAG as stated. This may seem like a weak excuse, especially since the inflection of adjectives is almost entirely parallel to that of nouns like languages like Ancient Greek and Latin. However, there is an important difference, which is that adjectives, unlike nouns, can change aspects of their inflection, including their inflection class, in order to implement gender concord. Again, the expression of gender and inflection class is distinct from the choice of stem formants, but still clearly related. It is thus not unreasonable to think that adjectives might have some additional source of flexibility in the regulation of their stem formants that exempts them from a strict version of the NSAG.

That we might be able to devise an account of the patterns in Table 17 without modifying the NSAG based on the role of inflectional class and gender flexibility in adjectives remains entirely speculative, and will require careful work to flesh out and test. Nonetheless, even if we eventually must recognize those data as legitimate counterexamples to the NSAG, the amount we will have to retreat on the claims made in this paper is limited. This is because, as Zompí (2017) himself notes, they would only demonstrate that the *AAB part was wrong. Even in Ancient Greek, we still find no clear examples of ABC or ABA patterns. Now, the lack of ABC in our data may well be an accident in that case. As Bobaljik (2012) discusses with respect to adjectival comparison, even if they are technically possible, ABC patterns should be far less frequent than the others, as they require two irregularly specified forms rather than one. Furthermore, there are theoretical reasons to think that, if AAB is possible, ABC should be possible as well. If the genitive can trigger a special form to get AAB, it should also be able to trigger a special form in a noun that additionally has a special accusative form, yielding ABC. Thus the fact that we haven't found any clear instances of ABC yet in case-based noun stem allomorphy may just be

²⁷ In other words, we could imagine a sort of successive-cyclic triggering of irregularity, such that the K_2 head found in the genitive and above triggers a particular representation of inflectional class, which in turn triggers a particular allomorph of little *n*.

because our sample size is not large enough. The complete lack of ABA examples would however remain, and this is actually the most important part of the NSAG. The combination of ABB with *ABA already provides the motivation for most of our analysis — the proposal that noun stem alternations amount to allomorphy for little *n*, and the assumption of a representation of case categories involving structural containment. The only part that falls by the wayside without *AAB and *ABC is the positing of a (potentially) cyclic head H immediately below the series of K heads.

7 Conclusion

In this paper I have demonstrated the basic empirical support for the NSAG, the generalization that irregular stem allomorphy on nouns can be sensitive to the distinction between nominative (as well as systematically syncretic cases) and all other cases, but not to any distinctions among the other cases. I have shown that this subsumes a type *ABA pattern, but also *ABC and *AAB (with qualifications), and argued that this tells us something important about both the structure of nouns and their stems and of the representation of case categories. Finally, I have proposed a specific account of the NSAG, where the relevant stem alternations reduce to allomorphy for little *n*, conditioned by the presence of case heads. This is restricted by locality in such a way that while the head distinguishing nominative from all other cases is visible, higher heads marking further distinctions are on the other side of a relevant locality boundary, thus capturing the special status of the nominative. I have left a number of questions open, especially on points of implementational detail in the analysis, but more generally on how the account can be made precise so as to make the right predictions for the related but distinct behavior of pronominal suppletion for case.

Abbreviations

1 = 1st person, 2 = 2nd person, ABS = absolutive, ACC = accusative, DAT = dative, DEF = definite, ERG = ergative, INESS = inessive, INS = instrumental, M = masculine, NOM = nominative, OBL = oblique, PART = partitive, PL = plural, SG = singular, SOC = sociative

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Competing Interests

The author declares that they have no competing interests.

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