

Case-driven plural suppletion in Barguzin Buryat: On case structure, suppletion typology, and morphological competition*

Abstract: This paper examines plural suppletion in Barguzin Buryat (Mongolic, Russia), which occurs only in accusative and genitive noun phrases. The restricted distribution of this process, in particular its impossibility in oblique cases, is significant for recent research on the typology of suppletion and the feature structure of case. For much work in this vein, this plural suppletion would qualify as an “ABA” pattern, which is predicted to be unattested. I argue that the suppletive plural morpheme in Barguzin Buryat is a portmanteau, which superficially has an ABA distribution because it conflicts, for independent reasons, with the morphological requirements of oblique cases. Since the distribution of this plural form is reducible to independent factors, it does not falsify the morphological theories that ban ABA patterns under normal circumstances, but rather reveals a principled exception to them that sharpens our understanding of them.

1 Introduction

This paper examines an instance of plural suppletion in Barguzin Buryat (Mongolic, Russia), which occurs only in accusative and genitive noun phrases. Here we will see that the restricted distribution of this process, in particular its impossibility in oblique case contexts, is significant because it violates the expectations of much recent work about the internal structure of case, and the cross-linguistic typology of possible suppletion patterns. The goal of this paper is to argue that this plural suppletion proves to be unexceptional, once its intricacies are examined in detail.

I use the term *suppletion* to characterize scenarios where one syntactic element corresponds to multiple contextually-determined but phonologically unrelated forms. Various recent works argue that certain generalizations about morpho-syntactically conditioned suppletion stem from the way in which the morphological component of the grammar interacts with the functional hierarchies of syntax. One such generalization is stated in (1) below. Bobaljik (2012) on adjectives, Moskal (2018) on in-/ex-clusivity, and Smith et al. (2019) on suppletion for case and number in pronouns, for instance, all argue with a basis in Distributed Morphology (Halle & Marantz 1993; Harley & Noyer 1999, a.o.) that this generalization holds for the contexts they respectively examine:

(1) **Generalization about suppletion rules in syntactic containment hierarchies**

If an element α undergoes suppletion in the context of a syntactic feature/category β , then α will also undergo suppletion in more complex contexts that entail the presence of β .

By building theories that derive (1), works like those mentioned above make predictions about possible suppletion patterns, and importantly, about impossible ones as well. Among the patterns

*Unless otherwise cited, all Barguzin Buryat data reported here was elicited during the author’s fieldwork with native speakers Ojuna Budaeva and Viktoriya Batorova in Baraghan, Republic of Buryatia (Russia), August 2018.

expected to be impossible is the “ABA” pattern, which describes suppletion failing to occur in an environment that should contain the needed contextual trigger. Many works in this vein argue that ABA patterns are indeed basically absent from human language, though as this paper shows, this claim is not entirely correct.

The generalization in (1) above is only predicted to hold in contexts in which there is an implicational containment hierarchy of syntactic features. Several works have argued that case involves a hierarchy of the relevant type (Blake 1994; Caha 2009, 2013; Zompi 2017; Smith et al. 2019, a.o.). Caha (2009), for instance, argues for the hierarchy in (2) below. This hierarchy states, among other relations, that the feature set corresponding to accusative case properly contains nominative case, but is properly contained by the feature set corresponding to genitive case, and so on:

(2) **Case containment hierarchy**

(Adapted from Caha 2009, p. 24, ex. 38)

[[[[[[NOM] ACC] GEN] DAT] INSTR] COM]

While more articulated than the hierarchy that this paper will use, (2) makes an assertion common to other proposed case hierarchies: that oblique cases are highest in the hierarchy. In (2), for instance, nominative, accusative, and genitive features are all contained by dative case, the lowest oblique case in the hierarchy. Importantly for this paper, when combined with (1) above, a hierarchy like (2) leads to the general prediction in (3):

(3) **Prediction about suppletion in oblique cases under the case containment hypothesis**

Any suppletion process triggered by accusative or genitive case should also be triggered by oblique cases.

In other words, if oblique cases contain accusative / genitive features, then we predict that any suppletion process that accusative / genitive features trigger will also apply in oblique case contexts.

Significantly, Smith et al. (2019) have recently verified a prediction of this nature in their study of case-sensitive pronominal suppletion. They identify a wide variety of suppletion paradigms like those shown in (4) below, where the suppletion process triggered in the accusative is inherited by oblique forms in the way that (3) above predicts. Such paradigms are characterized as “ABB”:

(4) **ABB case-sensitive suppletion in Indo-European 1st person singular pronouns**

(Adapted from Smith et al. 2019, pp. 1042)

	NOM	ACC	DAT
German	ich	mich	mir
Greek	egō	eme	emoi
Latin	ego	mē	mihi
Lithuanian	àš	manè	mán
Russian	ja	menja	mnje

In (4), setting aside various minor phonological differences, we see paradigms where the root of the pronominal form is the same in both accusative and dative contexts. Such paradigms are classified as ABB because the second and third cells of the paradigm are the same as each other, but different from the first cell. In addition to ABB patterns, [Smith et al. \(2019\)](#) also identify AAA patterns, in which a pronoun’s form is consistent across all cases, as well as ABC patterns, in which a pronoun’s form varies for each case. However, Smith et al. importantly observe the absence of ABA suppletion patterns—ones in which, for instance, a suppletion process triggered in accusative cases fails to occur in oblique contexts as well.¹

As we’ll see next, Barguzin Buryat has an instance of suppletion that occurs in accusative and genitive contexts, but not oblique ones. This phenomenon thus instantiates precisely what the body of research summarized above predicts to be impossible—an ABA pattern. The goal of this paper is to show that this ABA pattern is in fact superficial, since it emerges straightforwardly from the interaction of independent facts about Barguzin Buryat with more general principles of morphology.

1.1 Preview of the plural facts

The basic plural suffix in Barguzin Buryat is *-nuud*, which I gloss as “PL1”. This plural marker can appear in nominals of any case—nominative, accusative, genitive, as well as the various obliques. Since the distribution of this plural suffix has no restrictions, I refer to it as the “basic” exponent of plurality in this language. In (5) below we see this morpheme previewed in accusative and genitive contexts, where it is followed by the respective case suffixes:

- (5) a. **Basic plural *-nuud* in a accusative context**
 bi miisgəi-**nuud**-ijjə xaranab
 1SG cat-PL1-ACC see
 ‘I see cats’
- b. **Basic plural *-nuud* in a genitive context**
 ənə bagfa-**nuud**-ain xəʃəʃəl-nuud ʁonin
 this teacher-PL1-GEN lesson-PL1 interesting
 ‘This teacher’s lessons are interesting’

The basic plural *-nuud* contrasts with its more restricted optional variant *-nuufA*, which I gloss as “PL2” to distinguish it from the basic plural. The capital “A” in *-nuufA* represents a harmonizing low vowel. As I discuss in section 3.1 below, Barguzin Buryat has vowel harmony, and this harmonizing vowel /A/ appears in many morphemes. Speakers characterize *-nuufA* as a dialectical or colloquial suffix specific to their regional variety of Buryat (“Barguzinskij”). There is no motivation for a phonological explanation for the alternation between *-nuud* and *-nuufA* (as I discuss in detail in section 4.1 below), nor is there semantic difference between these two plural forms. Therefore I

¹For additional recent work on the *ABA generalization and related topics, see [Caha 2017a,b, 2019](#); [De Clercq & Vanden Wyngaerd 2017](#); [Andersson 2018](#); [Bobaljik & Sauerland 2018](#); [McFadden 2018](#); [van Baal & Don 2018](#); [Baunaz & Lander 2018](#); [Middleton 2020](#).

regard *-nuufA* as a contextually-triggered suppletive allomorph of the plural. Importantly for this paper, while *-nuud* can appear in any context, the *-nuufA* plural is limited to accusative and genitive contexts. These grammatical uses of *-nuufA* are previewed in (6) below:

(6) a. ***-nuufA* plural in an accusative context**

bi miisgəi-**nuufə** xaranab
 1SG cat-PL2.ACC see
 ‘I see cats’

b. ***-nuufA* plural in a genitive context**

miisgəi-**nuufə** χүүл-**nuud** uta
 cat-PL2.GEN tail-PL long
 ‘The cat’s tails are long’

The impossibility of *-nuufA* in nominative contexts is demonstrated in (7a) below. This restriction is not surprising for the theories about case and suppletion summarized above. As mentioned previously, what is more surprising for the relevant theories is the further fact that *-nuufA* also cannot occur with oblique cases, as (7b) below shows in a dative context:

(7) a. **No *-nuufA* plural in nominative contexts**

miisgəi-[**nuud**/***nuufə**]-∅ jərəə
 cat-PL1/PL2-NOM came
 ‘The cats came’

b. **No *-nuufA* plural in oblique contexts**

bi miisgəi-[**nuud**/***nuufə**]-tə mʲaxa ʊgəəb
 1SG cat-PL1/PL2-DAT meat gave
 ‘I gave meat to the cats’

Since *-nuufA* can occur in accusative and genitive contexts, its impossibility in oblique contexts violates the prediction in (3) above. This is the challenge that this paper is concerned with.

Notice that both the *-nuud* and *-nuufA* plurals contain a sub-part *-nuu*. As I show later in section 4.2 below, there is evidence that this is an independent element, since it can be excluded from some plural forms. Therefore I will factor this morpheme out in the final analysis, which I will frame in terms of an alternation between two plural variants *-d* and *-fA*. For simplicity of exposition, I will speak in terms of *-nuud* and *-nuufA* for the first part of the paper, and justify their decomposition later on. Setting this consideration about morpheme boundaries aside for now, the basic facts that this paper is concerned with analyzing are summarized in (8) below. As the analysis of this paper progresses, we will encounter a number of additional empirical intricacies about Barguzin Buryat plural marking, but (8) accurately describes the most central set of facts.

(8) Case and plural marking in Barguzin Buryat

	<i>Basic plural</i>	<i>Suppletive variant</i>
<i>Nominative</i>	N- nuud -∅	*
<i>Accusative</i>	N- nuud -Aiə/iiə	N- nuufA
<i>Genitive</i>	N- nuud -Ain/iin	N- nuufA
<i>Oblique</i>	N- nuud -ABL/COM/DAT/INST...	*

The facts in (8) contain several details that I have not yet discussed, but everything shown here will be addressed in the coming sections.

1.2 Framework for the analysis

The majority of recent literature on the *ABA generalization and related topics uses one of two frameworks—Distributed Morphology, or Nanosyntax (Starke 2009; Caha 2009, a.o.). Though I will discuss a Nanosyntactic approach to these Buryat facts at the end of the paper, I will focus on an implementation using Distributed Morphology. For this approach, the syntactic derivation builds an abstract hierarchical structure and then passes it on to the PF component of the grammar. This component then assigns morpho-phonological form to the terminal nodes of the syntactic tree depending on the features they bear, by referencing a listed set of Vocabulary Insertion (VI) rules.

In classic Distributed Morphology, the process of assigning morpho-phonological form proceeds terminal-by-terminal, and thus in the basic case one morpheme cannot correspond to more than one terminal node. However, there are indeed situations in human language where a single morpheme seems to express the features of multiple terminals. Such morphemes are sometimes termed *portmanteau* morphemes, and these will play a central role in the analysis of this paper.

To achieve portmanteau formation, much literature using Distributed Morphology appeals to a mechanism of *fusion*, which unites multiple terminal nodes into one before morpho-phonological assignment occurs. As previous literature has noted, fusion has the problematic property of requiring the grammar to know which terminal nodes to fuse prior to the application of the relevant VI rule—in other words, a “look-ahead problem” (Chung 2007a,b; Caha 2009, 2018). For this reason, here I will eschew fusion. Instead, I will implement portmanteau formation by *spanning*, which allows a VI rule to target multiple terminal nodes that form a contiguous sequence (Bye & Svenonius 2012; Merchant 2015; Haugen & Siddiqi 2016; Svenonius 2016, a.o.). This allows a single morpheme to sometimes simultaneously express the features of multiple terminals, as needed. We will see these concepts in action later in the paper. For the meantime, let’s first preview the main argument that this paper will develop.

1.3 Preview of the core proposal

As discussed above, if the generalization about suppletion in containment hierarchies (1) and the case containment hypothesis (2) are both correct, we expect the consequence in (3), repeated in (9):

(9) **Prediction about suppletion in oblique cases under the case containment hypothesis**

Any suppletion process triggered by accusative or genitive case should also be triggered by oblique cases.

If we find a paradigm where the above prediction does not hold, maintaining the correctness of (1) and (2) would require identifying some independent factor(s) in the language in question that prevents their interaction from proceeding in the usual way. I argue that this is precisely what we find to be true of the unexpected ABA plural suppletion in Barguzin Buryat.

I argue that *-nuufA* is a portmanteau, whose feature specification overlaps with that of oblique morphology, preventing the two from co-occurring, and yielding a superficial ABA pattern. The portmanteau status of *-nuufA* is revealed by its interaction with accusative / genitive case morphology. Notice that in (5) above, accusative and genitive morphology (here respectively *-ijə* and *-ain*) affix straightforwardly to the basic plural *-nuud*. However, in (6) above, the suppletive plural *-nuufA* appears without the typical accusative or genitive marking that we saw in (5). In fact, combining *-nuufA* with typical accusative or genitive morphology results in an unacceptable form. While there are some phonological considerations that must be addressed when testing the relevant forms, as discussed in section 4 below, this fact is previewed in (10):

(10) a. ***-nuufA* blocks usual accusative morphology**

* bi miisgəi-**nuuf**-əijə xaranab
1SG cat-PL2-ACC see
'I see cats'

b. ***-nuufA* blocks usual genitive morphology**

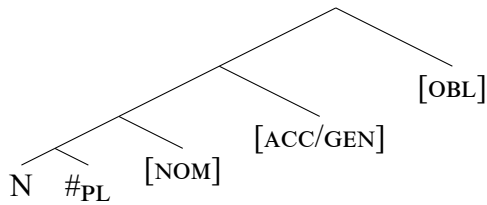
* ʃono-**nuuf**-ain ʃudən xursa
wolf-PL2-GEN tooth sharp
'Wolves teeth are sharp'

I hypothesize that *-nuufA* blocks accusative / genitive case affixes because *-nuufA* is a portmanteau of plural features, and accusative / genitive features. Assuming that a given syntactic feature can only be morphologically expressed once (Bobaljik 2000), since *-nuufA* alone expresses all of these features, independent accusative / genitive marking need not, and cannot, occur with it.

With this hypothesis in mind, notice that according to a case hierarchy like that in (2) above, oblique morphology corresponds to a structure including nominative as well as accusative / genitive features. Correspondingly, in this paper I will posit that oblique markers are portmanteau morphemes that express all of these case features. Importantly, if this is so, then consequently *-nuufA* and oblique morphology overlap in their feature specifications: both must express accusative / genitive features. I argue that for this reason, *-nuufA* and oblique morphology cannot co occur: since each must express features that the other also depends on, they have a complementary distribution. For an initial illustration of this proposal, see (11) and (12) below. In (11), we see the structure of a plural oblique nominal, and in (12), we see a preliminary set of relevant VI rules for Barguzin Buryat. Both (11) and (12) will be slightly modified later on, but these will suffice

to make the central intuition clear. (Note that accusative and genitive cases have been bundled together in (11-12). I justify this choice in section 2 below.)

(11) **Structure for a plural oblique nominal (to be revised)**



(12) **Partial set of VI rules for Barguzin Buryat (to be revised)**

- a. $[\#PL] \Leftrightarrow -nuud$
- b. $[\#PL \text{ NOM ACC}] \Leftrightarrow -nuufA$ (Optionally supersedes the above)
- c. $[NOM] \Leftrightarrow \emptyset$
- d. $[NOM \text{ ACC}] \Leftrightarrow$ Accusative $-(ai/ii)jə$ or genitive $-(ai/ii)n$ suffix
- e. $[NOM \text{ ACC OBL}] \Leftrightarrow$ Oblique suffix: $-tA$ (DAT) / $-tAi$ (COM) / $-AAr$ (INST) / $-aan/-\chi AA$ (ABL)

Several of the VI rules in (12) above describe morphemes that correspond to multiple adjacent terminals—a possibility allowed by the spanning hypothesis, as mentioned above. Importantly, since the rule for $-nuufA$ (12b) and oblique morphology (12e) overlap, I argue that both cannot apply in the same nominal domain. This independent morphological conflict prevents the two from co-occurring, and yields the superficial ABA distribution of $-nuufA$.

In contrast, notice that the VI rule for the basic plural $-nuud$ (12a) and oblique morphology (12e) do not overlap, and hence both can be inserted into an oblique nominal structure like (11). We saw in (7b) above that this is indeed the case in reality, as repeated below (13):

(13) **$-nuud$ plural allowed in oblique contexts**

bi miisgəi-**nuud**-tə m'axa uɣəəb
 1SG cat-PL1-DAT meat gave
 'I gave meat to the cats'

Though we have identified a reason why $-nuufA$ and oblique morphology cannot occur at the same time, inserting $-nuufA$ alone in (11) would successfully express almost every feature in the functional spine of the nominal, aside from the [OBL] node. In this situation, the rule for oblique morphology (12e) could not apply, and we would expect to end up with an oblique nominal containing $-nuufA$ where oblique morphology fails to occur. In reality, such a form is unacceptable (14):

(14) **No lone $-nuufA$ in an oblique nominal**

* bi miisgəi-**nuufə** m'axa uɣəəb
 1SG cat-PL2 meat gave
 'I gave meat to the cats'

In (13), the combination of *-nuud* and oblique morphology successfully expresses all features in the functional spine of the nominal, while use of *-nuufA* alone as in (14) leaves an [OBL] feature unexpressed. I argue that for this reason, forms like (13) are always selected over those like (14) because of a *blocking* effect (Aronoff 1976; Rainer et al. 2019, a.o.). Specifically, I adopt the view of morphological competition in Middleton (2020), who argues for a spanning analysis of patterns in pronominal morphology. Middleton argues that (within a given syntactic cycle) the combination of exponents that is selected is the one that most completely expresses the syntactic structure in question. As I discuss in detail in section 5 below, this theory makes exactly the right predictions.

In summary, independent morphological conflicts prevent *-nuufA* from ever occurring in oblique nominal environments: only the plural *-nuud* ever appears in such situations. Thus *-nuufA* has a superficial ABA distribution. However, since this ABA distribution is reducible to independent factors, it does not falsify the more general theories that ban ABA patterns under normal circumstances. Rather, these facts from Barguzin Buryat revealed a principled way that ABA can exceptionally arise, which does not conflict with the principles that ban ABA more generally. In the remainder of this paper, I lay out in more detail all the facts and reasoning previewed here.

1.4 Contents of the paper

Next, section 2 provides background on the *ABA generalization and theories of case containment. Section 3 describes the relevant facts about Barguzin Buryat morpho-phonology. Section 4 describes the plural morphology of this language in detail, and shows why the *-nuud/-nuufA* alternation is not phonological. Section 5 provides the analysis. In section 6 I also discuss how these facts can be handled in a Nanosyntactic framework. Section 7 contains the concluding remarks.

2 Background on *ABA and case containment

As previewed above, Caha (2009) argues for the case hierarchy in (15a) below. Zompì (2017) and Smith et al. (2019) argue that this hierarchy should be compressed into the structure in (15b), which is organized in terms of the case categories proposed by Marantz (1991). In this simpler hierarchy, oblique cases ([OBL]) contain “dependent” ([DEP]) cases (accusative and ergative), which in turn contain “unmarked” ([UNM]) cases (nominative and absolutive):

(15) Two versions of case containment

- a. [[[[[[NOM] ACC] GEN] DAT] INSTR] COM]
- b. [[[UNM_(=NOM/ABS)] DEP_(=ACC/ERG)] OBL_(=ABL/COM/DAT/INST...)]

While a hierarchy like (15b) will be sufficient for this paper, more must be said about genitive case. In (15a) genitive case is adjacent to (and contains) accusative. Zompì (2017) notes that the nature of genitive morphology is cross-linguistically rather variable, while Smith et al. (2019) exclude

genitive from their study given that for them, the possibility of confounding genitive pronouns with syntactically distinct possessive pronouns is problematic. For these reasons these works mostly set aside genitive case, which is thus omitted from (15b). However, since the suppletion process in Barguzin Buryat that the present paper focuses on is triggered by accusative and genitive cases, as shown in (6) above, this paper must make a hypothesis about the place of genitive in the hierarchy.

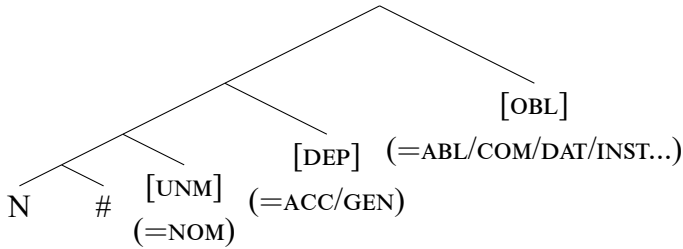
Thus while I will use a hierarchy like (15b) here, I add to (15b) the qualification that genitive case is contained by oblique cases, as encoded in Caha's (15a). I reconcile this concept with (15b) by hypothesizing that in Barguzin Buryat, genitive case is in a natural class with accusative in that it is also a "dependent" case. For the purposes of this paper, I will thus assume that dependent case in Barguzin Buryat is realized with either genitive or accusative morphology depending on syntactic context—the former arising when the relevant NP is embedded in a nominal environment (as in possessive structures), and the latter arising otherwise. See footnotes 2 and 4 for further discussion of why the unification of accusative and genitive is justified for this language.²

With my assumptions about the case hierarchy now stated, consider the hierarchy in the context of the rest of the functional projection of the nominal, as in (16) below. Here the nominal root N and the # node are dominated by the case structure defined by the hierarchy in (15b) above, to which I have added genitive case under the [DEP] node. (I have also removed the irrelevant cases absolutive and ergative) The # node sits between N and the case layer, as seen in the linear surface form of Barguzin Buryat nominals. This structure shows the maximal amount of case nodes, which corresponds to an oblique structure. An NP with accusative or genitive marking would lack the [OBL] node, while a nominative NP would have only the [UNM] node:

²Accusative and genitive case pattern together in Barguzin Buryat not only in that they both allow *-nuuʃA* suppletion, but also in other aspects of their morpho-phonology, as discussed in the next section. Thus it is reasonable to treat these cases as members of one natural class for this language. Classifying these cases as being versions of "dependent" case is one way of achieving this unification. While some works take genitive case to be an "unmarked" case and thus essentially the nominal-internal counterpart of nominative (Marantz 1991; Levin & Preminger 2015, a.o.), cross-linguistically it is common for genitive morphology to be related to or syncretic with "marked" cases like dative and ergative (Comrie 1978; Baker 2015). Baker (2015) points out that the syntax of possession is parallel to the configuration in which dependent ergative case is taken to be assigned in Marantz (1991) and related works, and that thus some instances of genitive case can be considered parallel to dependent ergative. In contrast, Baker argues that genitive is not parallel with dependent accusative case, though he notes two languages where genitive and accusative are syncretic—Martuthunira (Pama-Nyungan) and Karachai-Balkar (Turkic). While the precise nature of genitive case is a subject of ongoing debate (see for instance Harðarson 2016; van Baal & Don 2018), it is clear that there is a well-established relationship between "marked" cases and genitive.

See also Starke (2017), who argues that cross-linguistic variance in the relationship between cases like dative, accusative, and genitive provides evidence for a richer case hierarchy. Specifically Starke argues that there are in essence "small" datives and accusatives which are lower on the hierarchy than genitive, as well as "big" ones which are above genitive. Variance in which part of the hierarchy languages use determines what morphological patterns will be attested in it. Since internal to Barguzin Buryat we arrive at the right results by positing that accusative and genitive have the same position in the hierarchy, I will set richer case hierarchy proposals aside here.

(16) **The case hierarchy in context**



With this structure in mind, consider the simplified VI rules for Barguzin Buryat plural morphology stated in (17) below. (For the moment, for simplicity of exposition I set aside the spanning analysis previewed in the introduction.) In (17a), we see a VI rule for the basic plural *-nuud*, which can occur in nominals of any case. In (17b) we see a rule which describes the fact that the plural *-nuufA* can be used in accusative / genitive cases. As previewed in the introduction, use of *-nuufA* in accusative / genitive contexts is optional, not required. Since free variation is not unheard of in human language, I will simply proceed by assuming that the rule assigning the morpheme *-nuufA* is optional. See section 5 below for more concrete discussion about this optionality. For the moment, what is important is to take note of the distribution that these rules predict.

(17) **Realization rules for plurality in Barguzin Buryat (updated in section 5)**

- a. $\#_{\text{PL}} \Leftrightarrow \text{-nuud}$
- b. $\#_{\text{PL}} \Leftrightarrow \text{-nuufA} / \text{ __ }]_{\text{DEP}(=\text{ACC/GEN})}$ (Optionally supersedes the above)

Importantly, if oblique case structures properly contain accusative / genitive features, as the case hierarchy discussed above states, then we predict that the rule for *-nuufA* in (17b) should be able to apply not only in accusative / genitive contexts, but in oblique ones as well. As we have seen in the introduction, and will see in much more detail in the next section, this prediction is incorrect. It is for this reason that *-nuufA* has an unexpected ABA distribution. As previewed above, however, in this paper I will argue that an examination of the full range of facts about *-nuufA* reveals an independent reason for why this morpheme cannot appear in oblique contexts. This renders its apparent ABA distribution merely superficial.

3 The morpho-phonology of Barguzin Buryat

Here I summarize the basics of Barguzin Buryat morpho-phonology. Since this paper is concerned with a morphological phenomenon, familiarity with the language’s syntax is not vital. It is sufficient to state that Buryat is typical of Mongolic and “Altaic” more broadly, in being strictly head-final and having *pro*-drop, productive scrambling, and suffixing agglutinative morphology. See [Tatevosov et al. \(To appear\)](#) for more information on the syntax of this language.

3.1 Phonology

Analyzing the morphology of Barguzin Buryat requires familiarity with a few phonological processes, reported here following the description in [Staroverov & Zelensky \(To appear\)](#). This paper adopts the transliteration system used in that work (as well as in [Tatevosov et al. To appear](#)), which is an IPA-based representation of the original Cyrillic Buryat orthography. In careful speech the diphthongs transliterated as ⟨ei⟩, ⟨əi⟩, ⟨oi⟩ and ⟨ai⟩ are pronounced as expected following the IPA, but in more natural colloquial speech, the first three diphthongs are simplified to [e:], and the latter to [ɛ:]. This language also has vowel harmony, but the details of this process do not affect the morphological facts under examination here in any significant way. It is only necessary to be aware of the harmonizing low vowel /A/, which is realized as /a/, /ə/, or /o/, depending on the phonological properties of the stem that it affixes to.

The forms created by agglutinating nominal morphology in this language are frequently affected by its two strategies for avoiding hiatus (vowel-vowel sequences). First, when a heavy vocalic segment (long vowel or diphthong, consisting of more than one *mora* [= <μ>]) is adjacent to a short vowel, the short vowel deletes, as shown in (18):

$$(18) \quad V\mu \rightarrow \emptyset / \text{---}V\mu\mu, V\mu\mu\text{---}$$

(Staroverov & Zelensky, ex. 20)

- a. **wolf-ABL**
 ʃono + aan → ʃon~~o~~aan
- b. **ask-IMP**
 gui + A → gui~~A~~

Second, when two heavy vocalic segments are adjacent, neither is deleted. Rather, the segment /g/ (phonetically often [ɣ/ɣ̃]) appears between them, as (19) exemplifies. This is a typologically unusual epenthesis strategy, which is subject to some qualifications as [Staroverov \(2016\)](#) argues, but the level of description in (19) is sufficient for this paper.

$$(19) \quad \emptyset \rightarrow g / V\mu\mu\text{---}V\mu\mu$$

(Staroverov & Zelensky, ex. 21)

- a. **gun-INST**
 buu + AAr → buugaar
- b. **chicken-ABL**
 tax^haa + AAn → tax^haagaan

3.2 Case morphology

As is cross-linguistically frequent, nominative case in Barguzin Buryat is null. Oblique cases involve straightforward suffixation of *-tA* (dative), *-tAi* (comitative), *-AAr* (instrumental), or *-aan/-χAA* (ablative, which has two free variants). We will see these suffixes in many following examples.

In contrast, accusative and genitive marking are more complex, in a way that is phonologically determined. When affixing to a nominal form ending in a long vowel or diphthong, accusative case is *-jə*, while genitive case is *-n*:

(20) **Accusative / genitive when following a heavy vocalic segment**

- a. əʒii-**n**
mother-GEN
- b. noxoi-**n**
dog-GEN
- c. tax'aa-**jə**
chicken-ACC
- d. ʒodoo-**jə**
fir.tree-ACC

However, when suffixing to a nominal form ending in a short vowel or consonant, accusative case marking is *-Aijə/-ijə*, while genitive case marking is *-Ain/-iin*, as we see in (21) below. Since these accusative and genitive forms have an initial heavy vocalic segment, when affixing to a nominal form ending in a short vowel the hiatus avoidance process in (18) above deletes that short vowel, as (21c-d) below show.³

(21) **Accusative / genitive when following a consonant or short vowel**

- a. ail-**ain/iin**
family-GEN
- b. ail-**aijə/ijə**
family-ACC
- c. tarx̄i → tarx-**ain/iin**
head head-GEN
- d. tarx̄i → tarx-**aijə/ijə**
head head-ACC

It is descriptively correct to hypothesize the following: Fundamentally accusative marking is *-jə*, and genitive marking is *-n*. Both of these morphemes must affix to a heavy vocalic segment. When the nominal form being affixed to does not end in a heavy vocalic segment, an epenthetic element *-Ai/ii-* is inserted to satisfy this need.⁴ While alternative analyses of these facts about

³The accusative forms *-Aijə* and *-ijə* are generally in free variation, as are the genitive forms *-Ain* and *-iin*, though for some NPs one variant is judged as preferable. A generalization about when one variant is preferred over the other is not straightforwardly evident. Thus in my best estimation, this is a matter of lexical idiosyncrasy. The variants of accusative and genitive shown in (21) are also sometimes truncated to just *-Ai/-ii-*. Since these additional facts about accusative and genitive marking do not directly relate to the patterns of plural marking that this paper is concerned with, I set them aside for other research.

⁴As described in the previous section, I propose that accusative and genitive in Barguzin Buryat are manifestations of a more abstract case category—“dependent” case. Grouping these cases together yields a straightforward way

accusative and genitive morphology are conceivable, a descriptive level of understanding is all that the present paper will require.

With the relevant morpho-phonological background now laid out, we are prepared to examine in detail the patterns of plural marking that this paper will analyze.

4 The empirical details of Barguzin Buryat plural morphology

As the introduction previewed, the basic plural morpheme in this language is *-nuud*. This morpheme is not context-sensitive, and thus can occur with nouns of any case, as (22) below shows:

(22) ***-nuud* plural occurs with all cases**

a. **Nominative**

miisgəi-**nuud**-∅ mairana

cat-PL1-NOM meow

‘Cats meow’

b. **Accusative**

bi buuza-**nuud-ijə** ədʲəəb

1SG dumpling-PL1-ACC eat

‘I eat dumplings’

c. **Genitive**

galuu-**nuud-ain** dali-**nuud** jəxə

goose-PL1-GEN wing-PL1 big

‘Geese’s wings are big.’

d. **Oblique**

badma xadxuur-**nuud-aar** ədʲəəlnə

Badma fork-PL1-INST ate

‘Badma ate with forks’

In contrast, while the alternative plural form *-nuufA* can occur in accusative and genitive environments (23-24),⁵ it cannot occur in nominative ones (25).

of understanding why only these cases are subject to the plural suppletion process that is the focus of this paper. Furthermore, we can understand why only accusative and genitive case in this language have the requirement to affix to a heavy vocalic segment by defining this as a requirement only of dependent cases. Overall then, in more than one way, accusative and genitive case in Barguzin Buryat behave as members of a natural class as far as morpho-phonology is concerned.

⁵This paper focuses on instances of *-nuufA* on objects and possessors, since these are the most basic environments in the language for accusative and genitive case, respectively. The subjects of embedded clauses can also sometimes be either accusative or genitive (Bondarenko 2018; Tatevosov et al. To appear), and as expected, when such subjects are plural, *-nuufA* is available for them (i):

(23) **-nuufA possible in accusative contexts**

- a. bi buuza-**nuuf**a ədjəəb
1SG dumpling-PL2.ACC ate
'I ate dumplings'
- b. badma əgəfə-**nuuf**ə zolgoo
Badma sister-PL2.ACC met
'Badma met sisters'

(24) **-nuufA possible in genitive contexts**

- a. əgəfə-**nuuf**ə nuxəd χain
sister-PL2.GEN friend nice
'The sisters' friends are nice'
- b. fono-**nuuf**a fudən xursa
wolf-PL2.GEN tooth sharp
'Wolf's teeth are sharp'

(25) **No -nuufA in nominative contexts**

- a. * noxoi-**nuuf**a jərəə
dog-PL2 came
'Dogs came'
- b. * buuza-**nuuf**a amtatai
dumpling-PL2 delicious
'Dumplings are delicious'

Notice that, as (22b/c) above show, typical accusative and genitive marking stack on top of the basic plural. Contrast this with (23) and (24), where we see *-nuufA*, but no accusative or genitive marking: instead, here only *-nuufA* appears. As (26) below shows explicitly, *-nuufA* in fact cannot be combined with typical accusative / genitive marking. Attempting such strings results in unacceptability, a fact which will be important for the coming analysis.

A few notes on the forms tested in (26) are necessary. As mentioned previously, for nominal forms that do not end in a heavy vocalic segment, accusative and genitive marking respectively take on the forms *-Aijə/-ijə* and *-Ain/-iin*. Thus a noun marked with *-nuufA*, which ends in a short vowel /A/, would be expected to use these case forms. These phonologically-conditioned variants

-
- (i) a. ojuna [miisgəi-**nuud-ijə/-nuuf**ə] zaguu ədjəə] gəzə hanana
Ojuna-NOM cat-PL1-ACC/PL2.ACC fish ate C thinks
'Ojuna thinks that the cats ate fish.'
- b. [miisgəi-**nuud-ai/-nuuf**ə] zaguu ədj-ə:f-i:n] sajan-aijə gaaruulaa
cat-PL1-GEN/PL2.GEN fish eat-NML-3POSS Sajana-ACC angered
'That the cats ate the fish angered Sajana.'

Thus this alternation is not about objects or possessors in particular, but accusative and genitive case in general.

of accusative and genitive case begin with a heavy vocalic segment. Therefore stacking such case markers on top of *-nuufA* should cause the final short vowel of *-nuufA* to be deleted given the hiatus avoidance process illustrated in (18) above, which triggers deletion of a short vowel adjacent to a heavy vocalic segment. This expected phonological manipulation is performed in the examples of (26), which are nevertheless unacceptable.⁶

(26) ***-nuufA* is incompatible with typical accusative / genitive marking**

- a. * bi miisgəi-**nuuf-iijə/əijə** xaranab
 1SG cat-PL2-ACC see
 ‘I see cats’
- b. * bi fono-**nuuf-iijə** xaranab
 1SG wolf-PL2-ACC see
 ‘I see wolves’
- c. * miisgəi-**nuuf-əin/iin** xuuł-nuud uta
 cat-PL2-GEN tail-PL1 long
 ‘Cats tails are long’
- d. * fono-**nuuf-ain** fudən xursa
 wolf-PL2-GEN tooth sharp
 ‘Wolves teeth are sharp’

Finally, as previewed in the introduction, *-nuufA* is also distinct from the basic plural marker in that it cannot occur in oblique contexts. This is shown exhaustively in (27) below. Here we see that the basic plural can occur with all oblique cases, and that *-nuufA* is never permitted in oblique case environments, regardless of whether a hiatus avoidance process would have applied or not. Importantly, in (27) we also see that whether oblique morphology is preserved or omitted in the presence of *-nuufA*, the resulting form is unacceptable. Since we’ve seen that *-nuufA* is acceptable in accusative / genitive contexts provided that typical accusative / genitive marking is omitted (23-24, 26), we might have expected *-nuufA* to be acceptable in oblique contexts provided that typical oblique marking is absent. However, we see in (27) that this is not so.⁷ Thus *-nuufA* is evidently completely unable to occur in oblique case environments.

⁶Since /g/-epenthesis only occurs between heavy vocalic segments as shown in (18) above, we do not expect the examples of (26) to be grammatical if /g/ were inserted between *-nuufA* and the accusative/genitive marker, instead of deleting the final short vowel of *-nuufA*. Such examples are indeed unacceptable (i):

- (i) a. * bi miisgəi-**nuufə-gəijə** xaranab
 1SG cat-PL2-ACC saw
 ‘I saw cats’
- b. * miisgəi-**nuufə-gəin** xuuł-nuud uta
 cat-PL2-GEN tail-PL1 long
 ‘The cats tails are long’

⁷The behavior of *-nuufA* is superficially suggestive of this morpheme having a requirement to be aligned to the right edge of the word, and thus not to be followed by any additional suffixes. The interaction of *-nuufA* with possessive

(27) *-nuufA* cannot occur in oblique contexts whether oblique marking is present or not

- a. bi miisgəi-**nuud-tə**/***nuufə-tə**/***nuufə** mʲaxa ʊgəəb
 1SG cat-PL1-DAT/PL2-DAT/PL2 meat gave
 ‘I gave meat to the cats’
- b. bi miisgəi-**nuud-təi**/***nuufə-təi**/***nuufə** xylgana alaab
 1PL cat-PL1-COM/PL2-COM/PL2 mouse killed
 ‘I together with the cats killed the mice’
- c. bi miisgəi-**nuud-χə**/***nuufə-χə**/***nuufə** gʷi-ʒə arilaab
 1PL cat-PL1-ABL/PL2-ABL/PL2 run-CNVB go.away
 ‘I ran away from the cats’
- d. bi miisgəi-**nuud-aan**/***nuuf-aan**/***nuufə-gaan**/***nuufə** gʷi-ʒə arilaab
 1PL cat-PL1-ABL/PL2-ABL/PL2-ABL/PL2 run-CNVB go.away
 ‘I ran away from the cats’
- e. bi miisgəi-**nuud-əər**/***nuuf-əər**/***nuufə-gəər**/***nuufə** omogorxonob
 1PL cat-PL1-INST/PL2-INST/PL2-INST/PL2 be.proud.of
 ‘I’m proud of the cats’

The fact that *-nuufA* causes legal omission of typical accusative / genitive marking, but is unacceptable in oblique environments whether usual oblique marking is present or not, will be central to the coming analysis.

4.1 The plural alternation is not phonological

The alternation between *-nuud* and *-nuufA* is not the result of a phonological process. The most straightforward phonological analysis of these plural forms would be to consider *-nuufA* a form derived from the plural *-nuud* plus a special case morpheme *-fA* that is syncretic for accusative and genitive, whose presence triggers deletion of the final /d/ of *-nuud* due to a phonological process that simplifies the potential [dʃ] cluster. Consistent with such an analysis is the fact that *-nuudfA* is not a possible accusative or genitive form, as (28) shows:

_____ markers indicates that there is no such general rule. In Barguzin Buryat, possessed noun phrases include a suffix agreeing with their possessor. Such possessive marking stacks on top of typical case marking (ia-b). This possessive marking also stacks on top of *-nuufA* (ic-d).

- (i) a. ajmag-ijə-**mni**
 district-ACC-1SG.POSS
 b. noxoi-n-**fni**
 dog-GEN-2SG.POSS
 c. ʃono-nuuf-**iinʲ**
 wolf-PL2.ACC/GEN-3SG.POSS
 d. buuza-nuuf-**iimni**
 dumpling-PL2.ACC/GEN-1SG.POSS

The account of this paper will correctly predict that *-nuufA* interacts only with case marking, but not with other affixes.

(28) **-nuudfA is not a possible plural accusative/genitive form**

- a. xarxur-nuu(*d)fa
fork-PL2.ACC/GEN
- b. galuu-nuu(*d)fa
goose-PL2.ACC/GEN
- c. əgəfə-nuu(*d)fə
girl-PL2.ACC/GEN

However, clusters with a consonant + [ʃ] are generally permitted in Barguzin Buryat, and indeed, forms with [dʃ] are possible outside of contexts like (28). This can be seen by combining the 2nd person singular possessive marker *-fni* with various nominal forms ending in /d/, as in the examples of (29). Most important of these is (29a), where we see the plural *-nuud* combining with such possessive morphology in a transparent way, without any deletion:⁸

(29) **[dʃ] is a possible cluster**

- a. buuza-nuud-fni amtatai
dumpling-PL1-2SG.POSS tasty
'Your dumplings are tasty.'
- b. basaga-d-fni
girl-PL1-2SG.POSS
'Your girls'
- c. buryad-fni ʒaixan
buryat-2SG.POSS beautiful
'Your Buryat (person) is beautiful'

Since [dʃ] is independently permitted by the phonology of this language, there is no non-stipulative phonological explanation for the *-nuud/-nuufA* alternation. Thus I take this alternation to be morpho-syntactically conditioned suppletion. Given this conclusion, this alternation stands as a puzzle for the theories of case containment and suppletion described earlier in this paper.⁹ Before

⁸Example (29b) also involves a plural, but a “short” plural *-d* rather than the full plural form *-nuud*. Since the *-nuu* component of plural forms can sometimes be dropped, I will analyze *-nuu* as being a separate morpheme, as mentioned in the introduction and described in section 4.2 below.

⁹It is worth asking whether *-nuufA* might be derived by affixing the accusative *-jə* to *-nuud*, resulting in a form *-nuudjə* that phonology converts into *-nuufA*. Such an account would describe the facts if we suppose that *-jə* can behave as a syncretic expression of accusative and genitive case in the colloquial grammar (at least in plural contexts). There are several reasons to suspect that such an analysis is not correct.

First, I am aware of no evidence that *-jə* can act as an exponent of genitive case. Though this possibility was not tested during my fieldwork, no examples of this variety are attested in the data available to me.

Second, this hypothesis requires positing that the cluster /dʃ/ is phonologically converted into [ʃ]. As far as I am aware, Barguzin Buryat does not have /Cj/ clusters per se. However, as Staroverov & Zelensky (To appear) describe, this language does have productive consonant palatization, and therefore has a wide variety of forms containing instances of /Cʃ/, which are often phonetically similar to /Cj/ clusters. Importantly, [dʃ] is attested in the language, and is clearly a voiced alveolar plosive combined with palatization (and perhaps a residual glide), rather than a segment anything like [ʃ]. We see this in examples (22b) and (23a) above in the root *ədʒə* (‘eat’), for instance. Since the conver-

proceeding to a solution for this puzzle, next I will consider the morphological decomposition of *-nuud* and *-nuufA* in more detail.

4.2 The morphological decomposition of plural marking

Here I will discuss a final fact about the morphological structure of plural marking in this language. So far, I have spoken in terms of two plural forms *-nuud* and *-nuufA*. These both contain a sub-part *-nuu*. In principle, it is conceivable either that this is a synchronic coincidence (perhaps with a diachronic explanation), or that *-nuu* is in fact a separate morpheme in the synchronic grammar. In fact, there is evidence suggesting that the latter hypothesis is the correct one. In particular, with certain nouns (often animate ones, but not only) *-nuu* may be excluded, leaving behind *-d* as the only morphological expression of plurality. A few such examples are shown in (30). (These are nominative noun phrases, and hence not environments where *-nuufA* would appear, but these examples still illustrate the point that *nuu* can be dropped from *-nuud*.)

(30) *-nuu* can be dropped from *-nuud*

- a. miisgəi-(**nuu**)d mairana
cat-PL1 meow
'Cats meow'
- b. mori-(**nuu**)d χaixan
horse-PL1 pretty
'Horses are pretty'
- c. modo-(**nuu**)d χaixan
tree-PL1 pretty
'Trees are pretty'

This suggests that *nuu* is a separate morpheme, and that the basic plural marker in Barguzin Buryat is in fact *-d*. If this is so, then when we factor out *-nuu*, we come to the conclusion that the *-nuud* / *-nuufA* alternation is more fundamentally an alternation between two elements *-d* and *-fA*. This hypothesis accurately predicts the fact that the short plural *-d* can alternate with an alternative short

sion of /dj/ into [ʃ] would presumably involve a process like palatization, the fact that palatized [d] does not become a palatal fricative suggests that such a phonological process is not at work in the formation of *-nuufA*. Additionally, to derive [ʃ] from /dj/ it would also be necessary to posit the application of devoicing. Since both /ʃ/ and /ʒ/ are productive phonemes in this language, it is unclear what would motivate such devoicing.

Finally and most decisively, there is a straightforward difference between the *-nuufA* plural and the accusative *-jə* which shows that the former is not derived from the latter. For the hypothesis under consideration, the *-fA* component of *-nuufA* is a phonologically modified version of the accusative *-jə*. However, this *-fA* contains a harmonizing low vowel /A/, while the accusative *-jə* contains a non-harmonizing vowel /ə/. The harmonizing property of *-nuufA* can be seen by comparing (23a) and (23b): In the former, *-nuufA* affixes to the noun root *buuza* ('dumpling'), with which *-nuufA* harmonizes to become [nuuʃa]. In the latter, *-nuufA* affixes to the root *əgəʃə* ('sister'), with which *-nuufA* harmonizes and becomes [nuuʃə]. In contrast, the accusative *-jə* is phonologically consistent in all environments, since it does not contain a harmonizing vowel. This morpho-phonological difference demonstrates that *-nuufA* is not derived via affixation of the accusative *-jə* to the plural *-nuud*.

plural form *-fA*, as demonstrated in (31) below. In (31a-b) we see nouns using the short plural *-d* in a nominative context, while in (31c-d), we see the same nouns in an accusative context using a short plural *-fA*.

(31) ***-d/-fA* plural alternation in the absence of *-nuu***

- a. *nʌxə-d* *jəɾəə*
friend-PL1 came
'The friends came'
- b. *maana-d* *jəɾəəbdi*
1P-PL1 came
'We came'
- c. *bi* *nʌxə-fə* *xaranab*
1SG friend-PL2.ACC see
'I see friends'
- d. \emptyset *maana-fa* *duudaa*
3P 1P-PL2.ACC called
'Somebody called us'

Thus we have strong evidence that *-nuud* and *-nuufA* actually contain a separate element *-nuu* that is correlated with plurality but not necessarily a plural marker itself.¹⁰ As a consequence, we discover that the genuine plural markers in Barguzin Buryat are *-d* and *-fA*. I will thus factor *-nuu* out of the coming analysis. This decision does not alter the puzzle that this paper focuses on. Given the relevant theories described earlier in the paper, any morphological process that is available in accusative and genitive cases, but not oblique ones, is unexpected. Since *-nuu* was present in all the plural examples reported in this paper until now, the puzzle that those facts pose is not affected by uniformly factoring out *-nuu*. Once this is done, the relevant puzzle is conceptually the same, though cast in terms of *-d* versus *-fA* rather than *-nuud* versus *-nuufA*.

There are multiple ways of analyzing *-nuu*. For instance, this element could be part of a decomposed structure for number (Harbour 2014, a.o.) or an allomorph of a functional head like n^0 (Embick & Marantz 2008; Embick 2010, a.o.) in plural contexts (though optionally silent for certain nouns, as we've seen). However, the nature of this element does not have a direct bearing on the examination of the *-d / -fA* alternation. Thus in the coming analysis, for simplicity of exposition I will opt to diagram *-nuu* as a sub-part of the noun, beneath the nodes encoding number and case. With this final consideration about morpheme segmentation addressed, we can now summarize the full set of relevant Barguzin Buryat facts as follows:

¹⁰The existence of plural marking consisting of one obligatory component and another optional component is known of in other languages. See for instance De Belder (2018) on Breton, and references therein.

(32) **Case and plural marking in Barguzin Buryat (revised)**

	<i>Basic plural</i>	<i>Suppletive variant</i>
<i>Nominative</i>	N(nuu)- d -∅	*
<i>Accusative</i>	N(nuu)- d -Aijə/ijə	N(nuu)- fA
<i>Genitive</i>	N(nuu)- d -Ain/iin	N(nuu)- fA
<i>Oblique</i>	N(nuu)- d -ABL/COM/DAT/INST...	*

Given the case hierarchy, the fact that the *-fA* plural cannot occur in nominative contexts is expected, since nominative structures do not contain features related to accusative / genitive cases. However, accusative / genitive features are hypothesized to be a sub-part of oblique cases, which is why the impossibility of *-fA* in oblique contexts is surprising. In the next section, I will make explicit the analysis previewed in the introduction—that a morphological conflict is responsible for the fact that oblique morphology, and the *-fA* plural, have a complementary distribution. As a result of this conflict, only the basic plural *-d* is ever seen to co-occur with oblique morphology, and *-fA* superficially appears to have an ABA distribution.

5 The analysis

In this section, I will first state the VI rules that this analysis will depend on, and then show in detail how those rules interact to predict the morphological patterns summarized in (32) above.

5.1 Formulating the necessary VI rules

Defining the VI rules necessary for this analysis will be facilitated by addressing a question for theories of case containment: if a case containment hierarchy like the one I have adopted in this paper holds cross-linguistically, then we must ask why case marking is not internally complex in most languages. [Smith et al. \(2019\)](#) show that case morphology is indeed surface-evidently complex in the expected way for two languages, Khanty and Kalderaš Romani (33), but the fact is that in most languages with overt case morphology, each case is simply expressed by one morpheme.

(33) **Examples of surface-evident case containment**

(Adapted from [Smith et al. 2019](#), pp. 1037)

a. **Khanty**

	NOM	ACC	DAT
1SG	ma	ma:- ne:m	ma:- ne:m-na
3SG	luw	luw- e:l	luw- e:l-na
1PL	muŋ	muŋ- e:w	muŋ- e:w-na

b. Kalderaš Romani

	NOM	ACC	DAT
‘brother’	phral	phral-és	phral-és-kə
‘brothers’	phral-(à)	phral-én	phral-én-gə
‘girl’	rakl-í	rakl-já	rakl-já-kə
‘girls’	rakl-já	rakl-já-n	rakl-já-n-gə

I hypothesize that for mono-morphemic case marking languages, such as Barguzin Buryat, all features of the case hierarchy present in a given nominal structure are expressed by a single portmanteau morpheme.¹¹ This is essentially the view taken in [Caha \(2009, 2013\)](#), whose Nanosyntactic approach to case entails that most case morphemes are mapped to a constituent containing several nodes of the hierarchy. As mentioned in the introduction, this paper will set Nanosyntax aside until section 6 below, instead focusing on a Distributed Morphology account in which portmanteau morphemes are formed by *spanning*—a mechanism that allows a single VI to “stretch” across multiple contiguous terminal nodes bearing relevant features.

Given these proposals, and following the version of the case hierarchy justified in section 2 above, we can state the VI rules for case morphology in Barguzin Buryat as in (34a-c) below. These rules state that nominative case expresses the feature [UNM] (34a), accusative and genitive case express the feature set [UNM DEP] (34b), and oblique cases express the set [UNM DEP OBL] (34c).

In (34d-e), we also see the VI rules I posit for plural morphology. As previewed in the introduction (though now factoring out *-nuu*), I argue that the basic plural *-d* simply expresses a number node specified as plural (34d), while the *-fA* plural is a portmanteau, as we see in (34e). In specific, I argue that *-fA* expresses both a plural feature as well as the features corresponding to accusative / genitive case, which in the context of this account, are the features [UNM DEP]. This proposal accounts for the fact that the *-fA* plural bleeds the appearance of independent accusative / genitive case morphology, but can occur in contexts where those cases are typically assigned, provided that their corresponding morphology is omitted (see (23-24) versus (26) above).

(34) VI rules for Barguzin Buryat case and number (final version)

- a. [UNM] $\Leftrightarrow \emptyset$ (NOM)
- b. [UNM DEP] \Leftrightarrow *-(ai/ii)jə* (ACC) / *-(ai/ii)n* (GEN)
- c. [UNM DEP OBL] \Leftrightarrow *-tA* (DAT) / *-tAi* (COM) / *-AAr* (INST) / *-aan/-χAA* (ABL)
- d. [#PL] \Leftrightarrow *-d*
- e. [#PL NOM ACC] \Leftrightarrow *-fA* (Optionally supersedes the above)

¹¹At the very least, I argue that this hypothesis yields the right results for Barguzin Buryat. It is possible that in other languages no case portmanteau is used, but rather only one feature in the case layer happens to be expressed at any given time for separate reasons.

Next, we will see explicitly how the interaction of these VI rules gives rise to the patterns of Barguzin Buryat plural nominal morphology described here, most importantly including the unexpected ABA distribution of the *-fA* plural.

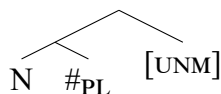
5.2 Superficial ABA due to morphological competition

Here I will discuss the derivation of each plural form one by one, which will lead straightforwardly into my explanation for why the distribution of *-fA* is restricted. For concreteness, I will assume that after a given syntactic structure is built and passed on to the PF component of the grammar, its terminals are then assigned linear order, after which VI rules apply (Embick 2010; Arregi & Nevins 2012). Haugen & Siddiqi (2016) also explicitly argue for this order of operations in the context of a theory in which spanning is possible. This is the perspective on the morpho-phonological branch of the derivation that I adopt here.¹²

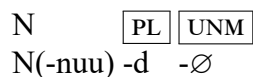
For a plural nominative nominal, the structure in (35a) is built. When completed and evaluated by the morpho-phonological component of the grammar, the linearization of that structure and the application of VI rules to it yields the representation in (35b). Here the plural number node is realized by *-d*, and the lone case node bearing the feature [UNM] is assigned the zero exponent *-∅*, consistent with the fact that nominative case in Barguzin Buryat is systematically null. Note that here and throughout this section I ignore the exponence of N, since this does not interact with the plural facts in focus here.

(35) Plural nominative nominal

a. Structure



b. Linearization and VI



In this context, there is no possibility of using the *-fA* plural. As the VI rules in (34) above state, the features upon which the use of this morpheme depends are not present here. However, use of *-fA* becomes a relevant possibility when we consider accusative / genitive nominals.

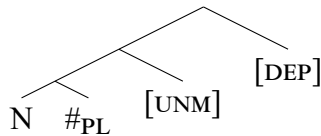
Following the version of the case hierarchy assumed in this paper, a plural accusative or genitive nominal has the same structure as a nominative one, aside from the addition of the next node up in the case hierarchy, which bears the feature [DEP]. This is shown in (36a) below. In (36b), we see the morpho-phonological form that is assigned to this structure in situations where the basic plural *-d* is used. In this context, following the VI rules defined in (34) above, *-d* expresses the plural node, while accusative / genitive morphology is inserted as a span that subsumes the two

¹²See Ostrove (2018) for arguments from Irish in favor of essentially the same system.

case nodes [UNM] and [DEP]. (As discussed in section 2 above, I assume that in this language genitive morphology is essentially a contextual allomorph of accusative that arises when the relevant nominal is embedded in another nominal environment.) The facts have shown us that there is also another way to morpho-phonologically express the nominal structure in (36a). As the VI rules in (34) above state, such a structure can also be expressed by the *-fA* plural portmanteau. This is a span that realizes all of [#_{PL}], [UNM] and [DEP], as (36c) shows:

(36) **Plural accusative / genitive nominal**

a. **Structure**



b. **Linearization and VI: Option 1 with basic plural**

N PL UNM DEP
 N(-nuu) -d -aijə/iijə (ACC) or -ain/iin (GEN)

c. **Linearization and VI: Option 2 with portmanteau plural**

N PL UNM DEP
 N(-nuu) -fA

Both of these strategies for realizing such a nominal structure are grammatical in Barguzin Buryat. I will take a moment to consider this fact further, since it connects to concepts that will play a role in my explanation for the important puzzle that the *-fA* plural cannot arise in oblique contexts.

Human languages sometimes have multiple ways of realizing a given cell in a morphological paradigm—a state of affairs that Thornton (2011, 2012) terms *overabundance*. We can relate this fact to a fundamental axiom of the Distributed Morphology framework—the *subset principle*. This principle states that the morpheme that is chosen to realize a given terminal node is the one that matches the largest subset of that node’s features (Halle & Marantz 1993; Harley & Noyer 1999, a.o.). In principle, multiple morphemes might happen to correspond to equally large subsets of features that a given terminal has, in which case both would be grammatical choices for expressing it (as posited by Hein 2008; Halpert 2016; Driemel 2018). This would give rise to an instance of overabundance. A straightforward situation of this sort is the Barguzin Buryat ablative case, which as described above has two free variants: *-aan* and *-χAA*.

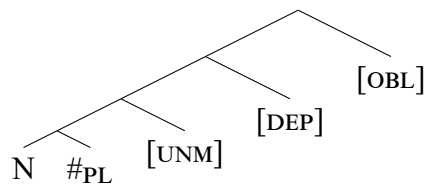
Notice that this way of understanding morphological optionality does not directly fit the state of affairs for the Barguzin Buryat plural forms in (36b-c) above: here we do not see multiple ways of realizing a single terminal, but rather multiple ways of realizing the entire functional spine of the nominal, facilitated by some morphemes spanning across multiple terminals. Middleton (2020) extends the subset principle to situations of precisely this sort, in her spanning analysis of pronominal syncretism patterns. Specifically, Middleton (pp. 59, 68) argues that within a single spell-out domain, such as the functional extend projection of the noun, the combination of exponents (some

of which may be spans) is chosen that most completely realizes the structure in question.¹³ On these grounds, the two Barguzin Buryat forms in (36b-c) are equally good choices, since both involve complete expression of the functional spine of the nominal. As these considerations would lead us to expect, both options in (36b-c) are acceptable in reality. Middleton’s proposals also help explain the impossibility of the *-fA* plural in oblique contexts, as I describe next.

A plural oblique nominal will have a structure like that in (36a) above, but with the addition of the [OBL] feature, yielding a fully articulated case layer. We see this below in (37a). We have seen that this structure can only be realized in one way: with the basic plural *-d* and usual oblique morphology, the latter of which realizes all features present in the case hierarchy, as (37b) shows:

(37) **Plural oblique nominal**

a. **Structure**



b. **Linearization and VI:**

N PL UNM DEP OBL
 N(-nuu) -d -tA (DAT) / -tAi (COM) / -AAr (INST) / -aan/-χAA (ABL)

We saw in the introduction and in section 4 above that two other conceivable ways of realizing this structure are impossible. First, it is not possible for the *-fA* plural to co-occur with oblique morphology, as demonstrated once more in a dative context in (38):

(38) ***-fA* plural does not co-occur with oblique morphology**

* bi miisgəi-**nuufə-tə** m'axa ʊgəəb
 1SG cat-PL2-DAT meat gave
 'I gave meat to the cats'

Assuming that a given feature can only be morphologically expressed once (Bobaljik 2000), I argue that *-fA* and oblique morphology cannot co-occur because they overlap in the features they must express, given the VI rules defined in (34) above. To illustrate this, the relevant VI rules are repeated again in (39), which shows that the features [UNM DEP] are where the overlap occurs:

(39) ***-fA* and oblique morphology both express [UNM, DEP]**

a. **Exponence of plural *-fA* in an oblique structure**

N(-nuu) PL UNM DEP OBL

¹³As Middleton discusses, this extension of the subset principle is in opposition to works like Embick & Marantz (2008), who argue that competition applies only at the level of individual terminals. Such a theory is incompatible with one in which spanning is possible, for which competition beyond individual terminals is necessary.

b. Exponence of oblique morphology

N(-nuu) PL UNM DEP OBL

Second, while $-fA$ and oblique morphology cannot co-occur, in principle it should be possible to assign $-fA$ in the structure in (37a), and then simply not insert oblique morphology. This potential form would avoid the overlap problem just described. However, we have seen in reality that such forms are not possible, as (40) below shows once more in a dative context that lacks a dative suffix:

(40) $-fA$ cannot be permitted in an oblique context by omitting oblique morphology

* bi miisgəi-**nuufə** m'axa ugəəb
1SG cat-PL2 meat gave
'I gave meat to the cats'

I propose that there is no morphological issue with an example like (40) in of itself. Instead, I argue that the proposals of [Middleton \(2020\)](#) that I discussed above are applicable here. Following Middleton, a structure must be expressed by the set of morphemes that most completely realizes its features. This hypothesis accurately rules out the form in (40): here the features [PL UNM DEP] are expressed by $-fA$, but a lone feature [OBL] is left unrealized. This contrasts with the form schematized in (37b) above, which expresses every feature in the functional projection of the noun by combining the basic plural $-d$ with usual oblique morphology. Thus the form in (37b) out-competes and thus blocks a form using only $-fA$ such as (40).¹⁴ This is precisely the pattern of facts in reality.

As a result of the factors just described, $-fA$ is never found in plural oblique contexts in Barguzin Buryat. Rather, such structures are always realized by use of oblique morphology and the basic plural. We have thus explained why $-fA$ has an ABA distribution. Importantly, this ABA distribution is a superficial fact that emerges because the paradigm for $-fA$ is, in essence, defective—morphological competition always blocks the arising of $-fA$ in oblique contexts. For this reason, in reality the distribution of $-fA$ does not falsify the morpho-syntactic theories discussed earlier for which ABA is predicted to be unattested. Rather, this analysis of $-fA$ reveals a principled way in which independent factors can prevent the more general principles of morpho-syntax from interacting in the expected way, resulting in a specific variety of superficial exception.¹⁵

¹⁴Blocking is not the only potential explanation for the unacceptability of forms like (40), but it is likely the simplest one. [Arregi & Nevins \(2014\)](#) propose that certain Spanish verbs lack an elsewhere exponent, and therefore fail to be realized under certain conditions, yielding ungrammaticality. Similarly, we might posit that (40) is illicit because a lone oblique feature lacks an elsewhere exponent, and that its inexpressibility makes the derivation deviant. While there are indeed works arguing that some structures are ungrammatical due to being ineffable ([Coon & Keine 2020](#)), this line of reasoning is fundamentally incompatible with the subset principle, which allows many syntactic features to remain unexpressed due to the under-specification inherent to VI rules. An account appealing to ineffability thus must step into controversial territory, unlike the blocking account I have proposed here following [Middleton \(2020\)](#).

¹⁵A reviewer considers the possibility of an alternative analysis under which $-fA$ is derived from $-d$ by a suffix $/A/$, which realizes [DEP], and includes a floating phonological feature that motivates conversion of $/d/$ into $[ʃ]$. The reviewer points out that this alternative morphological analysis can also derive the ABA pattern, since if $/A/$ expresses [DEP], then the resulting form $-fA$ will still fail to co-occur with oblique morphology. I have not pursued such an analysis for two reasons: The needed floating feature accompanying $/A/$ lacks independent motivation, and this analysis predicts

6 A Nanosyntactic implementation

Much work on the *ABA generalization and related facts uses the Nanosyntax framework (Starke 2009; Caha 2009, 2017b,a, 2018, 2019; De Clercq & Vanden Wyngaerd 2017). For this reason, it will be useful to address how the facts in focus in this paper can be analyzed under Nanosyntax. This is what I will do in this section.

As mentioned above, in classical Distributed Morphology VI rules apply terminal-by-terminal, assigning to each the morpheme that matches the largest subset of features that the terminal in question has. This is as defined by the subset principle. In contrast, Nanosyntax adopts precisely the opposite view, as defined by the *superset principle* and several related axioms. Specifically, Nanosyntax posits that morpho-phonological form can be assigned to non-terminal nodes, and that the morpheme assigned to a given node is the one that matches the smallest superset of the features that node contains. Abstractly, both of these frameworks are designed to force selection of the morpheme that best fits the context of insertion, though in very different ways.

Due to its adoption of the Linear Correspondence Axiom (Kayne 2002), Nanosyntax assumes that syntactic structures are inherently head-initial, and that the material which a suffix attaches to in the linear string moved in order for that suffix to be formed. This entails that a suffix of NP must be formed by NP moving and adjoining to a non-terminal node which contains a subset of the features which that suffixal morpheme is specified for. Thus to derive a noun with a plural suffix and a case suffix in Barguzin Buryat, the following must occur: First, NP must move to the edge of a constituent containing the [PL] node. That constituent can then be expressed as the plural suffix *-d*, as we see in (41) below. In (41), we also see the derivation of an accusative / genitive suffix. To achieve this, the node containing NP and the plural suffix (the boxed #P) moves to a position where its sister is the sub-tree containing the relevant case nodes, here [UNM] and [DEP]. That sub-tree can then be assigned accusative / genitive morphology, as (41) shows.¹⁶

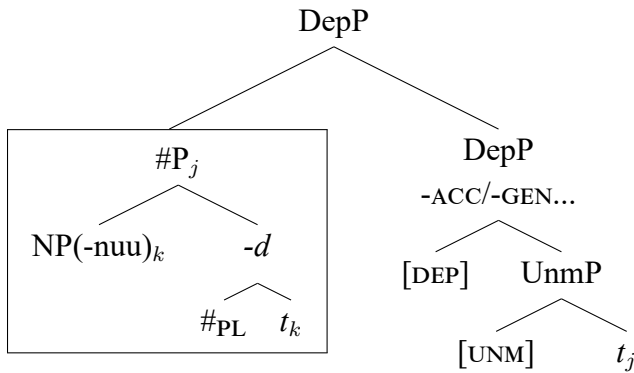
the existence of forms where the assumed morpheme /A/ serves as the expression of [DEP] in singular contexts as well, which I have no evidence for (though I did not have the opportunity to explicitly test this). An analysis of this general shape would be compatible with the argumentation in this section, however.

Another reviewer suggests the possibility that *-nuu* actually realizes [PL], and that *-d* and *-ʃA* are exponents of the nominative feature (for this paper, [UNM]) in the context of a plural feature. The reviewer notes that to account for short plurals, this view would require stating that [PL] need not be expressed when *-d* or *-ʃA* is present. This alternative analysis is also compatible with my arguments: First, if typical accusative / genitive morphology expresses the features [UNM DEP] as I have argued, such morphology will indeed be blocked if *-ʃA* has been inserted to realize [UNM] in a plural accusative / genitive context. Similarly, if oblique morphology expresses the features [UNM DEP OBL] as I have proposed, expression of [UNM] by *-ʃA* in a plural oblique context would block insertion of oblique morphology in the same way.

In sum, though both of these alternative morphological analyses require some additional hypotheses in order to make sense of the full range of facts, but both lead to the same set of core predictions that are the point of this paper.

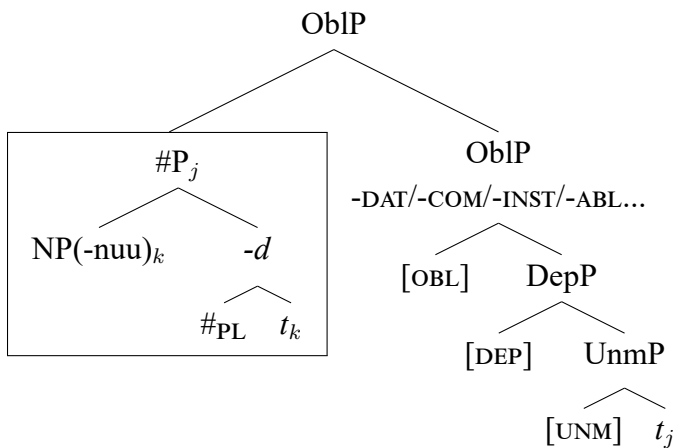
¹⁶Some recent works in Nanosyntax dispense with the concept of *trace* (see for instance De Clercq & Vanden Wyngaerd 2017; Starke 2018; Caha 2019). Nevertheless, I use traces in the following Nanosyntactic diagrams in order to ensure that the intended analysis is clear.

(41) **Plural *-d* with accusative / genitive suffix**



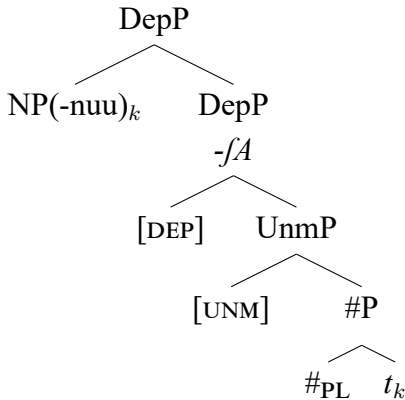
In (42) below we see a similar derivation instead involving an oblique suffix. Here movement of the #P containing NP and the plural suffix lands in a position where its sister is a sub-tree containing the nodes [UNM DEP OBL], which can be expressed with an oblique morpheme.

(42) **Plural *-d* with oblique suffix**



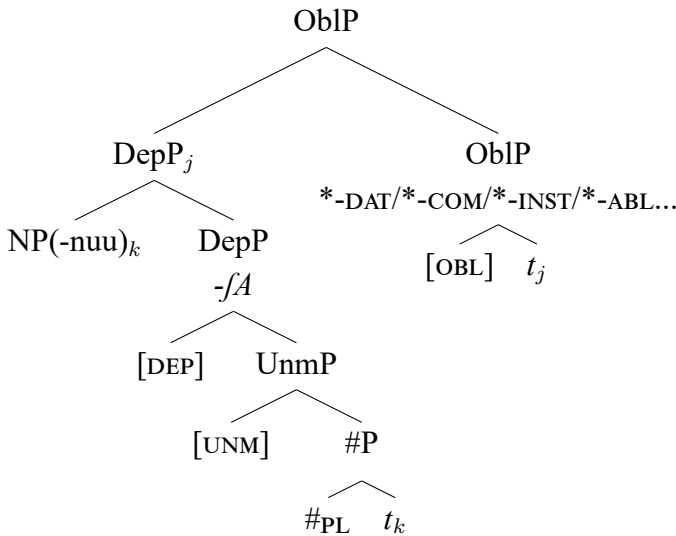
Formation of the *-fA* plural will interact differently with the derivation of case suffixes, however. Since *-fA* is a suffix specified for the feature set [PL UNM DEP], its formation must involve movement of NP to a position whose sister is a node dominating those features, as in (43) below. This example illustrates a licit derivation for an accusative / genitive nominal, where the plural feature and all case features present are expressed together by insertion of *-fA* at an appropriate non-terminal position.

(43) **Licit derivation of an accusative / genitive NP with *-fA***



In (44) below, we see an attempted derivation of a form including *-fA* as well as an oblique suffix. Here all nodes of the case hierarchy are present, since this is an oblique structure. To derive *-fA*, movement of NP to the edge of a constituent dominating [PL UNM DEP] must occur, as we saw in (43) above. However, to derive an oblique suffix while preserving *-fA*, that constituent must then adjoin to a sub-tree which contains [OBL], as we see here in (44). If oblique morphology corresponds to the feature set [UNM DEP OBL] as argued earlier, then given the superset principle of Nanosyntax, an oblique suffix should be able to be assigned to the sub-tree containing just [OBL]:

(44) **Attempted combination of *-fA* and oblique suffix**



However, unlike the derivation in (43), the one in (44) encounters a problem. Specifically, it violates another condition of Nanosyntax argued for by [Caha \(2009\)](#):

(45) **The Anchor Condition** (Caha 2009, p. 89)

In a lexical entry, the feature which is lowest in the functional sequence must be matched against the syntactic structure.

The problem with (44) is as follows. The lowest feature in the case hierarchy is [UNM], and both [UNM] as well as [DEP] were displaced in the process of forming *-fA* here. Since [OBL] thus stands alone without [UNM], the anchor condition prevents oblique morphology from being assigned to that sub-tree.

What has been said so far explains why *-fA* cannot combine with an oblique suffix: just as in the Distributed Morphology account I provided above, the fact that these two compete to express some of the same features prevents them from occurring at the same time. However, the fact that oblique morphology cannot be inserted in (44) does not automatically entail that this derivation should be ungrammatical: that is, we expect (44) to be grammatical, provided that oblique morphology is simply not inserted. However, recall that we have seen in (27) above, among other examples, that a nominal marked with just *-fA* in an oblique context is unacceptable.

At least two considerations are relevant here. On one hand, the *exhaustive lexicalization principle* (Fábregas (2007), a principle of Nanosyntax brought to my attention by a reviewer's comment) will predict the ungrammaticality of (44), since it contains an un-lexicalized [OBL] feature. See Caha (2019) for further use of this principle. On the other hand, the *backtracking* operation adopted in several Nanosyntactic works (De Clercq & Vanden Wyngaerd 2017; Starke 2018; Caha 2019) would allow the derivation in (44) to be reversed and re-attempted until it succeeds. This would have to eventually yield the structure in (42) above containing the basic plural and usual oblique morphology, which is the only licit possibility for a plural oblique nominal in Barguzin Buryat.¹⁷

To conclude this section, the principles of Nanosyntax are able to account for the puzzling distribution of plural morphology in Barguzin Buryat. The shape of this account is, abstractly, very similar to the Distributed Morphology account I focused on in the majority of this paper: the fundamental issue is that an overlap problem prevents *-fA* and oblique morphology from co-occurring, and additional conditions on the morpho-phonological realization of syntactic structures prevent *-fA* alone from successfully expressing such a structure. Importantly, under the accounts of both of these frameworks, the ABA distribution of *-fA* is merely a superficial fact that emerges from independent considerations. Thus nothing about *-fA* falsifies the general theories of morphology that ban ABA patterns under normal circumstances. Rather, this examination of Barguzin Buryat reveals a way that the factors which usually rule out ABA can, under very specific circumstances, be subverted when a portmanteau is involved.

7 Concluding remarks

In this paper, I have described and analyzed an instance plural suppletion in Barguzin Buryat. This phenomenon is significant because it has an ABA distribution, which much recent work on the structure of case and the typology of suppletion predicts to be impossible. I have argued that the

¹⁷A reviewer notes that the possibility of backtracking may open up the possibility of reshuffling derivations in such a way that might over-generate ABA patterns. Since my goal here is not to argue in favor of a Nanosyntactic analysis, but instead demonstrate its feasibility in principle, I will not address this point here.

suppletive plural morpheme in Barguzin Buryat is actually a portmanteau of a plural feature and certain case features, resulting in a conflict with oblique morphology. As a result, for independent reasons this plural morpheme never occurs in oblique contexts, and therefore has an ABA distribution. Since this ABA pattern emerges from the interaction of independent factors, it does not falsify theories that ban ABA patterns under normal circumstances, but rather reveals a principled exception to them which deepens our understanding of them.

This analysis of Barguzin Buryat also supports the case containment hypothesis, since the conflict that this account hinges on would not arise if oblique nominal structures did not contain the features of accusative / genitive cases.

In the current literature, there is a growing body of evidence that ABA suppletion patterns exist, in particular at the sub-word level. See for instance the discussion of Basque adjectival suppletion in Bobaljik (2012), Bulgarian adjectival suppletion in Caha (2017b), as well as the analysis of suppletion in pronominal paradigms in Middleton (2020). Significantly, both Caha and Middleton argue that the presence of portmanteau forms plays a role in creating the instances of ABA they respectively examine, precisely as I have argued for Barguzin Buryat. Thus it is clear that the Buryat pattern I analyze here is not an isolated idiosyncrasy, but rather a manifestation of a more general phenomenon of growing relevance to current morpho-syntactic research: that while ABA patterns may indeed be banned under normal circumstances, they can occur at the sub-word level when part of the word is expressed by a portmanteau form. More generally, these findings constitute an empirically-motivated refinement of the theories that relate syntactic structures to morpho-phonological forms, which clarifies our view of the architecture of grammar.

Glossing conventions

This paper uses the following glossing conventions: ABL = ablative case, ABS = absolutive case, ACC = accusative case, COM = comitative case, DAT = dative case, DEP = dependent case, ERG = ergative case, GEN = genitive case, INST = instrumental case, NOM = nominative case, OBL = oblique case, PL1 = basic plural, PL2 = suppletive colloquial plural, SG = singular, POSS = possessive, UNM = unmarked case.

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