

# Non-syncretic mismatches in ATB-movement—why the genitive of negation is special

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## 1. Introduction

This paper investigates the interaction between case matching in ATB-movement and genitive of negation in Russian. We will show that while ATB-movement is normally subject to a case-matching requirement, certain non-syncretic mismatches are exceptionally possible with the genitive of negation. Based on new data from Russian, we will propose an account that involves case decomposition and multiple case assignment. We will argue that non-syncretic mismatches are possible under these assumptions because the genitive featureally contains the accusative (but not other cases). We further show that the data require an asymmetric approach to ATB-movement, and we will present an account in terms of Sideward Movement (Nunes 2004).

We will proceed as follows: In section 2, we provide the background on case matching in ATB-movement and then on genitive of negation in Russian. In section 3, we present novel data on possible non-syncretic mismatches involving the genitive of negation. Section 4 lays out the assumptions that the analysis relies on and provides the derivations. In section 5, we demonstrate how the proposal extends to grammatical syncretic mismatches. Finally, section 6 explores the implications for theories of ATB-movement, and section 7 concludes.

## 2. Background

### 2.1 Case-matching in ATB-movement

It is a well-known fact since Ross (1967) that extraction from a coordination is very restricted: On the one hand, extraction from a single conjunct of a coordination is ungrammatical:

- (1) a. \*What did John buy \_\_ and Mary sell magazines?  
b. \*What did John buy magazines and Mary sell \_\_?

On the other hand, extraction from a coordination is possible if the extraction affects all conjuncts simultaneously, i.e., if there is a gap in each conjunct. Extraction of this type is referred to as *Across-the-board* (ATB)-movement:

- (2) What did John buy \_\_ and Mary sell \_\_?

ATB-movement itself is also subject to specific constraints. The most important one is that, cross-linguistically, ATB-movement is subject to case-matching, see, e.g., Dyła (1984). As the following pair from Russian illustrates, ATB-movement is grammatical if the verbs both assign the same case, (3a), but ungrammatical if they assign different cases, (3b):<sup>1,2</sup>

- (3) a. [Kakogo aktëra] Ira ljubut \_\_ i Galja obožæet \_\_?  
 which.ACC actor.ACC Ira loves and Galya adores  
 ‘Which actor does Ira love and Galya adore?’ ACC & ACC
- b. \*[Kakoj mašinoj] Ira pol’sovalas’ \_\_, a Galja kupila \_\_?  
 which.INS car.INS Ira used but Galya bought  
 ‘Which car did Ira use but Galya buy?’ INS & ACC

Case-mismatches are normally only possible when a syncretic marker is available, see, e.g., Borsley (1983), Dyła (1984), Franks (1993, 1995), Bondaruk (2003), Citko (2005, 2011), Hartmann et al. (2016), Hein and Murphy (2020), Citko and Gračanin-Yuksek (2021). In the following examples, the verbs assign accusative and nominative, respectively. Since the filler bears a syncretic form that is compatible with both cases, the result is grammatical:

- (4) [Kakoe pis’mo] Maša otpravila \_\_ na prošloj nedele i  
 which.N.NOM/ACC letter.NOM/ACC Masha sent at last week and  
 uže \_\_ ležit na počte?  
 already lies at post  
 ‘Which letter has Masha sent last week and is already lying in the post office?’  
 ACC & NOM

One of the main contributions of this paper will be to show that Russian allows non-syncretic mismatches in one very specific case, namely when the genitive of negation is involved.

<sup>1</sup>Data without reference were constructed by the native speaker co-author; critical data points were judged by another 5 Russian native speakers.

<sup>2</sup>In addition to case-matching, ATB-movement requires some sort of parallelism. Its exact nature is still debated. Sometimes, it is taken to be parallelism regarding thematic prominence (Franks 1993:515; see Bondaruk 2003 for critical discussion), sometimes, it is taken to be structural parallelism, i.e., the extraction sites must be in the same structural position (e.g., complement of V), see, e.g., Hein and Murphy (2020), Citko and Gračanin-Yuksek (2021). All the examples in this paper satisfy both types of parallelism requirement.

## 2.2 The genitive of negation

In Russian as in some other (Balto-)Slavic languages, the regular case that normally appears on an argument is replaced by genitive in the presence of sentential negation. This genitive is referred to as the genitive of negation (GenNeg).

Descriptively, there are two contexts where genitive of negation occurs. First, it appears on direct objects of transitive verbs, replacing accusative case:

- (5) Anna ne kupila žurnal / žurnala.  
Anna NEG bought magazine.ACC magazine.GEN  
'Anna didn't buy a magazine.' Harves (2013:647)

It also occurs on unaccusative and passive subjects of intransitive verbs (but not on unergative and transitive subjects), replacing nominative case (in which case we find default neuter subject agreement on the verb):

- (6) a. Otvét iz polka ne prišél.  
answer.NOM from regiment NEG arrived.M.SG  
'The answer from the regiment did not arrive.'  
b. Otveta iz polka ne prišlo.  
answer.GEN from regiment NEG arrived.N.SG  
'No answer from the regiment arrived.' Harves (2013:647)

Russian differs from languages like Polish or Lithuanian (Sigurðsson and Šereikaitė 2024) in that genitive of negation is optional and is associated with several semantic effects (see Babby 1980, Partee and Borschev 2004). The exact conditions for the appearance are hard to pin down and they differ between accusative and nominative-based genitive of negation (see Harves 2013) and also seem to be subject to some degree of inter-speaker variation. Simplifying somewhat, the genitive of negation is most likely to occur when a NP is a non-specific indefinite, comes without an existence presupposition. These semantic factors will not play a role in what follows.

## 3. Non-syncretic mismatches with the genitive of negation

In this section we will introduce new data from Russian showing that ATB-movement is grammatical with non-syncretic mismatches. In the first configuration to be discussed, genitive of negation replaces accusative and the filler is a direct object in both conjuncts. A non-syncretic mismatch is possible with a genitive filler if sentential negation is located in the first conjunct, (7a) but not in the second, (7b):<sup>3</sup>

<sup>3</sup>Non-syncretic mismatches involving the genitive of negation have been previously documented for Polish, see Bondaruk (2003:231f.), Rothert (2022). Both find that that mismatches are grammatical in the GenNeg(<Acc)–Acc configuration as long as the filler matches the case requirements of the first conjunct, while a filler matching the requirements of the second conjunct is judged as ungrammatical/degraded. Bondaruk (2003:231f.) additionally claims that the Acc-GenNeg(<Acc) order is grammatical with an accusative

- (7) a. [Kakix knjig] Katja daže ne videla \_\_, a Maša uže  
 which.PL.GEN book.PL.GEN Katja even not saw but Masha already  
 čitala \_\_?  
 read  
 ‘Which books has Katja not even seen but Masha already read?’  
 GENNEG(↯ACC) & ACC
- b. \*[Kakix knjig] Maša uže čitala \_\_, a Katja daže ne  
 which.PL.GEN book.PL.GEN Masha already read but Katja even not  
 videla \_\_?  
 saw  
 ‘Which books has Masha already read but Katja not even seen?’  
 ACC & GENNEG(↯ACC)

Thus, the result is grammatical if the filler meets the requirements of the first conjunct, where one expects the direct object to surface with genitive.<sup>4</sup>

In the second configuration genitive of negation replaces nominative and the filler corresponds to a subject in both conjuncts. Interestingly, and hitherto unobserved, non-syncretic mismatches are not possible if the genitive of negation on a subject is combined with nominative in the other conjunct, irrespective of the order:

- (8) a. \*Kakix pisem eščë ne prišlo \_\_, no byli otpravleny \_\_  
 which.PL.GEN letter.PL.GEN yet not arrived but were sent  
 nedelju nazad?  
 week ago  
 ‘Which letters have not arrived yet, but have been sent a week ago?’  
 GENNEG(↯NOM) & NOM
- b. \*Kakix pisem byli otpravleny \_\_ nedeju nazad, no eščë ne  
 which.PL.GEN letter.PL.GEN were sent week ago not yet not  
 prišlo \_\_?  
 arrived  
 ‘Which letters have been sent a week ago, but have not arrived yet?’  
 NOM & GENNEG(↯NOM)

Thus, at a pretheoretical level, the genitive of negation on a direct object seems to count as an accusative regarding the case matching requirement, while the genitive of negation on a nominative—unexpectedly—does not. This key difference will motivate crucial aspects of our analysis which is to be introduced in the next section.

filler, but not with a genitive filler. Neither of the papers provides an analysis of the facts; in addition, ATB-examples with the genitive of negation based on nominative are not addressed.

<sup>4</sup>Investigating what happens with accusative fillers is uninformative in Russian because the genitive of negation is optional. Hence, an accusative filler will always be grammatical irrespective of the location of sentential negation. In principle, only accusative can be assigned in both conjuncts and as a consequence, ATB-movement is expected to be grammatical with accusative fillers.

## 4. Analysis

In this section, we will first spell out our assumptions before providing explicit derivations for the four configurations introduced in the previous section.

### 4.1 Assumptions

Our analysis contains five ingredients:

#### 1. Case decomposition and partial case containment

The key to understand the possible mismatches is partial case containment. We assume that case features are decomposed into simpler privative features and propose that the accusative is featurally contained in the genitive, while there is no containment among other cases, i.e., neither accusative nor genitive contains nominative.

$$(9) \quad \text{NOM} - [\alpha], \text{ACC} - [\beta], \text{GEN} - [\beta, \gamma]$$

The proposal thus does not pursue the idea of full case containment commonly assumed in morphology at least since Caha (2009). Instead, it aligns with syntactically motivated case decompositions, under which cases typically have only overlapping feature specifications (see Neidle 1988, Akkuş et al. 2025). Such systems without full containment were also shown to successfully account for case syncretisms in morphology; see, e.g., Jakobson (1936/1984), Halle (1997), Halle and Vaux (1998) for accounts without containment and Calabrese (2008), Harðarson (2016), Christopoulos and Zompì (2022) for accounts with weak case containment.

#### 2. Case assignment

First, we follow some previous literature in assuming that the genitive is directly assigned by negation (see also Harves 2002, Matushansky 2010b,<sup>5</sup> Richards 2013). We assume negation is located between T and vP. Since the genitive of negation is optional in Russian, we will assume that case assignment by Neg is optional (which can be implemented in different ways, e.g., by assuming that the case probe on Neg is optional). Secondly, structural accusative is assigned as well but the genitive of negation is added on top of it. Third, we assume that nominative is not assigned in GenNeg contexts, its assignment to unaccusative/passive subjects is optional; nominative is only assigned if an NP has not been assigned a case in the same clause (TP) to avoid a violation of the Case filter. The genitive of negation will thus bleed assignment of nominative in negated unaccusative/passive sentences. This does not extend to unergative/transitive subjects that obligatorily get nominative. To capture this asymmetry between unaccusative/passive subjects on the one hand and unergative/transitive subjects on the other hand, we assume that arguments base-generated in Spec,vP receive a feature from *v* that enforces subsequent nominative assignment later in the derivation. Naturally, if a subject is first merged in a position other than Spec,vP, it

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<sup>5</sup>More precisely, Matushansky (2010b) assumes that negation assigns a q-feature that is part of genitive's featural make-up.

does not receive this feature. Consequently, provided that it receives some other case in the course of the derivation and does not violate the Case Filter, it does not need to be assigned nominative.

### 3. Multiple case assignment

First, we assume that multiple case assignment is possible in the language; thus, an NP does not become invisible for further Case-Agree once it has been assigned a case (cf. also Matushansky 2010b,a, Richards 2013, Levin 2017). Secondly, we assume that Case features can be added to an existing feature set (of an NP that has already received a case) only if they are a superset, e.g.,  $[\beta, \gamma]$  can be added to  $[\beta]$  (cf. also Neidle 1988). If the features to be added only constitute a subset or are different from the existing feature (set) on an NP, a new feature set is created on the NP. Thus,  $[\beta]$  cannot be added to  $[\beta, \gamma]$ ,  $[\beta, \gamma]$  cannot be added to  $[\alpha]$ , and  $[\alpha]$  cannot be added to  $[\beta, \gamma]$ .

### 4. Morphological realization

Concerning morphological realization we adopt the standard assumption that, if an NP bears a single case feature set, it is realized by the best matching exponent (based on the Subset Principle, Halle 1997). In case there are two feature sets on a NP, the derivation only converges if the same exponent is the best match for both feature sets (cf. Asarina 2011, Coon and Keine 2021). This will be the case if the Vocabulary item is syncretic/underspecified. We will return to the details of morphological realization in section 5.

### 5. Account of ATB-movement

Concerning the implementation of ATB-movement, we adopt a partially asymmetric approach to ATB-movement based on Sideward Movement (Nunes 2004): The filler is merged and assigned case in the second conjunct, then copied to the first conjunct, where it is assigned another case; finally, there is A'-movement from the first conjunct to the landing site outside of coordination.

## 4.2 Derivations

In this section, we demonstrate how the assumptions outlined above account for the data. We begin with the full case-matching configuration, as in example (3a), where accusative case is assigned in both conjuncts. The derivation is given in (10). It proceeds by first constructing the second conjunct: the filler occupies the direct object position, and  $v$  assigns accusative case— $[\beta]$  under our case decomposition. The filler is then copied into the first conjunct. Following movement, it again occupies the direct object position and receives accusative/ $[\beta]$  from  $v$ .

The case feature assigned in the first conjunct is a superset (an improper superset, but still a superset) of the features assigned in the second conjunct, so no new feature set is created. Consequently, when the structure is transferred to morphology, the filler bears only a single feature set  $[\beta]$ , which is faithfully realized by a fully matching accusative exponent.

$$(10) \quad [CJ1 \ v_{[\beta]} \ \underline{\text{wh-NP}}_{[\beta]}] \ \& \ [CJ2 \ v_{[\beta]} \ \underline{\text{wh-NP}}_{[\beta]}]$$

The derivation in (11) illustrates how the analysis accounts for ungrammatical case mismatches. It corresponds to example (3b), where a mismatch between accusative in the second conjunct and instrumental in the first conjunct leads to ungrammaticality. As in the previous derivation,  $v$  assigns accusative/ $[\beta]$  to the filler in the second conjunct; the filler is then copied into the first conjunct, where the verb assigns instrumental/ $[\gamma, \eta]$ —a mismatching case.

Since  $[\gamma, \eta]$  is not a superset of  $[\beta]$ , the filler acquires a second feature set. These two feature sets are realized by different exponents: an accusative exponent is the best match for  $[\beta]$ , while an instrumental exponent is the best match for  $[\gamma, \eta]$ . Such a derivation converges only if there exists an underspecified, syncretic exponent that can serve as the best match for both feature sets (see Asarina 2011; Coon and Keine 2021). In the present case, however, no such exponent exists; accusative is never syncretic with instrumental in Russian. Consequently, Vocabulary Insertion fails, and the derivation crashes.

$$(11) \quad [CJ1 \ V_{[\gamma, \eta]} \ \underline{\text{wh-NP}}_{[\beta][\gamma, \eta]}] \ \& \ [CJ2 \ v_{[\beta]} \ \underline{\text{wh-NP}}_{[\beta]}]$$

We now turn to the derivations for the four crucial examples involving the genitive of negation. The structure in (12) accounts for the grammatical mismatch between genitive in the first conjunct and accusative in the second conjunct (see example (7a) above). As in the previous derivations, the filler first receives accusative/ $[\beta]$  in the second conjunct and is then copied into the first conjunct.

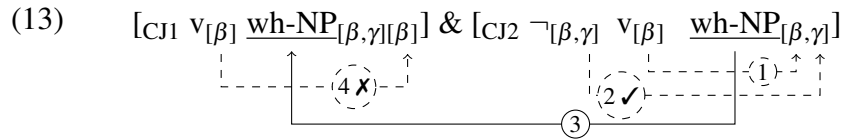
In the first conjunct,  $v$  assigns accusative case. At this stage of the derivation, the accusative/ $[\beta]$  feature is a superset of the existing feature set, so no new feature set is created. The derivation then proceeds with the merge of the Neg head ( $\neg$ ), which assigns the genitive feature— $[\beta, \gamma]$ . Since  $[\beta, \gamma]$  is a superset of the existing feature set  $[\beta]$ , the feature  $[\gamma]$  can be straightforwardly added. This results in the feature set  $[\beta, \gamma]$  on the filler, which is realized by a genitive exponent.

$$(12) \quad [CJ1 \ \neg_{[\beta, \gamma]} \ v_{[\beta]} \ \underline{\text{wh-NP}}_{[\beta, \gamma]}] \ \& \ [CJ2 \ v_{[\beta]} \ \underline{\text{wh-NP}}_{[\beta]}]$$

Recall that the genitive–accusative mismatch leads to ungrammaticality when the order of the two conjuncts is reversed (see (7b)). The derivation is provided in (13). In the second conjunct,  $v$  assigns accusative/ $[\beta]$  to the filler, and Neg assigns genitive/ $[\beta, \gamma]$ . Since Neg’s features form a superset of the existing feature set,  $[\gamma]$  can be added, resulting in a single feature set  $[\beta, \gamma]$  on the filler. The filler is then copied into the first conjunct.

In the first conjunct,  $v$  assigns accusative/ $[\beta]$ , which is a subset of the existing feature set. Consequently, a second feature set  $[\beta]$  is introduced on the filler. Although Russian in

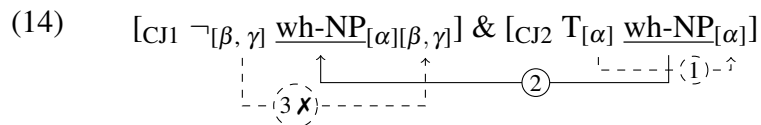
principle has exponents that are syncretic between accusative and genitive, the noun used as a filler in (7b) belongs to a declension class that lacks such syncretism. As a result, two different exponents are the best matches for the two feature sets, causing Vocabulary Insertion to fail and the derivation to crash.



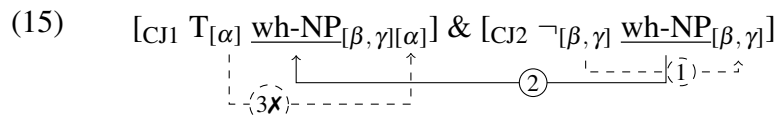
We now turn to the mismatch involving the genitive of negation on subjects. In one conjunct, genitive replaces nominative, while nominative is assigned to the subject in the other conjunct. This mismatch is ungrammatical regardless of the order of the conjuncts; see (8a) for the configuration with genitive in the first conjunct and nominative in the second conjunct. The structure in (14) presents the derivation of this example.

In the second conjunct, the filler is assigned nominative/ $[\alpha]$  by T. Although, under our assumptions, nominative is not obligatorily assigned to unaccusative or passive subjects, in this case there is no alternative case available for the filler in the second conjunct. Consequently, it must receive nominative; otherwise, the Case Filter that applies at the clause level would be violated, rendering the derivation ungrammatical.

In the next step, the filler is copied into the first conjunct. Here, nominative need not be assigned due to the presence of genitive of negation. Instead, the Neg head assigns genitive/ $[\beta, \gamma]$  to the filler. Since Neg's feature set differs from the existing feature set  $[\alpha]$ , a second feature set  $[\beta, \gamma]$  is introduced. A nominative exponent is the best match for  $[\alpha]$ , while a genitive exponent is the best match for  $[\beta, \gamma]$ . Since no single exponent is the best match for both feature sets, the derivation crashes at morphological realization.



Finally, the derivation in (15) illustrates the analysis of the ungrammatical nominative-genitive mismatch; see the data in (8b). In the second conjunct, nominative is not assigned in the presence of the genitive of negation; thus, Neg assigns genitive/ $[\beta, \gamma]$  to the filler; the filler is then copied to the first conjunct. In the first conjunct, T assigns nominative/ $[\alpha]$  to the filler; recall from above that nominative must be assigned to the subject if it receives no other case within TP. Since T's feature set is different from the existing feature set  $[\beta, \gamma]$  on the filler, a second feature set  $[\alpha]$  is added to the filler. Again, the best matching exponents are different for the two feature sets, Vocabulary Insertion does not succeed and the sentence is ungrammatical.



## 5. Syncretic mismatches

In this section, we turn to syncretic case mismatches—configurations in which different case values are assigned in the two conjunct, but ATB-movement remains grammatical despite this apparent mismatch because the distinct case features receive an identical morphological realization. We demonstrate how the analysis proposed for non-syncretic mismatches in the previous section also accounts for this class of cases.

Cross-linguistically, it has been shown that case mismatches in ATB-movement can be resolved by syncretisms; see Borsley (1983), Dyła (1984), Franks (1993, 1995), Bondaruk (2003), Citko (2005, 2011), Hartmann et al. (2016), Hein and Murphy (2020). This is also the case for Russian. Depending on the part of speech (noun vs. adjective), gender, number, and declension class, the following case syncretisms are attested in Russian: Nom-Acc, Acc-Gen, Dat-Loc, Gen-Dat-Loc.<sup>6</sup> The data below show that syncretic Nom-Acc, Acc-Gen, Gen-Dat mismatches are grammatical. Syncretisms involving Loc are not relevant for our purposes, because the case is only assigned by prepositions and Russian has no preposition stranding, so that ATB-movement is ungrammatical for independent reasons.

- (16) a. [Kakoe derevo] Petja srubil \_\_, a ne upalo \_\_  
 which.N.ACC/NOM tree.ACC/NOM Petja chopped.down but not fell  
 samo?  
 itself  
 ‘Which tree did Petja chop down but did not fall by itself?’ ACC & NOM
- b. [Kakoe derevo] upalo \_\_ samo, a ne Petja  
 which.N.NOM/ACC tree.NOM/ACC fell itself but not Petja  
 srubil \_\_?  
 chopped.down  
 ‘Which tree fell by itself and did Petja not chop down?’ NOM & ACC
- (17) a. [Kakogo druga] Petja lišilsja \_\_ a Maša priobrela \_\_?  
 which.M.ACC/GEN friend.ACC/GEN Petja lost and Masha gained  
 ‘Which friends did Petja lose and Masha gain?’ GEN & ACC
- b. [Kakogo druga] Maša priobrela \_\_ a Petja lišilsja \_\_?  
 which.M.ACC/GEN friend.ACC/GEN Masha gained and Petja lost  
 ‘Which friend did Masha gain and Petja lose?’ ACC & GEN
- (18) a. [Kakoj lošadi] Maša eščë ne videla \_\_, a Katja  
 which.F.GEN/DAT horse-GEN/DAT Masha yet not saw but Katja  
 uže dala \_\_ edy?  
 already gave food  
 ‘Which horse has Masha not seen yet and Katja already given food to?’  
 GEN & DAT

<sup>6</sup>Gen-Dat-Loc-Inst syncretism is attested in the adjectival declension, including the relative pronouns (see, e.g., Franks 1993:513).

- b. [Kakoj lošadi Katja uže dala \_\_edy, a Maša  
 which.F.GEN/DAT horse-GEN/DAT Katja already gave food, but Masha  
 eščě ne videla \_\_?  
 yet not saw  
 ‘Which horse has Masha not seen yet and Katja already given food to?’  
 DAT & GEN

We provide the full feature decomposition of all Russian cases in (19). Syncretic exponents are underspecified for case features that distinguish corresponding cases. As syncretisms are limited to some declension classes, actual exponents must also bear class features, but for the current purposes we will abstract away from the representation of declension classes in Russian (see Privizentseva 2024 for one option).

(19) Feature specifications of Russian cases

<i>case</i>	<i>feature</i>	<i>syncretisms</i>	
NOM	$\alpha$	NOM	} [Ø]
ACC	$\beta$	ACC	
GEN	$\beta, \gamma$	GEN	
DAT	$\gamma, \delta, \epsilon$	DAT	} [ $\gamma$ ]
LOC (PREP)	$\gamma, \delta, \zeta$	LOC	
INS	$\gamma, \eta$	INS	

According to the assumptions introduced above, a second set of case features is introduced on the noun if the case features assigned in the first conjunct are not a superset of the case features assigned in the second conjunct. Thus, for example, if a filler undergoing ATB-movement receives genitive in the second conjunct and dative in the first conjunct, as in (20), the noun bears two feature sets when it is transferred to the morphological component: [ $\beta, \gamma$ ][ $\gamma, \delta, \epsilon$ ].

- (20) [CJ1 V<sub>[ $\gamma, \delta, \epsilon$ ]</sub> wh-NP<sub>[ $\beta, \gamma, [\gamma, \delta, \epsilon]$ ]</sub>] & [CJ2  $\neg$ <sub>[ $\beta, \gamma$ ]</sub> wh-NP<sub>[ $\beta, \gamma$ ]</sub>]
- 

Depending on the declension class of the filler, and consequently on the availability of a syncretic exponent, morphological realization may turn out to be impossible resulting in ungrammaticality or it may succeed without any complications (cf. Asarina 2011, Coon and Keine 2021).

The first of these scenarios—namely, the one in which morphology yields ineffability—arises in the absence of a syncretic exponent. This occurs, for instance, when a noun bearing both genitive and dative features belongs to the first declension, where these cases are realized by distinct exponents. As shown in (21), in such a configuration the morphological component identifies the best matching exponent for each feature set, but cannot insert two Vocabulary Items into a single syntactic terminal; as a result, the derivation crashes.

(21)

$$\text{noun}_{[\beta, \gamma][\gamma, \delta, \varepsilon]}^{\text{Class I}}$$

VI:  $[\beta, \gamma] \leftrightarrow a$  ————— VI:  $[\gamma, \delta, \varepsilon] \leftrightarrow u$

The second scenario arises when the noun belongs to the third declension as in (18b), where the realization of genitive and dative is syncretic. In this case, a single Vocabulary Item constitutes the best match for both feature sets, and, as shown in (22), this Vocabulary Item is then successfully inserted.

(22)

$$\text{noun}_{[\beta, \gamma][\gamma, \delta, \varepsilon]}^{\text{Class III}}$$

VI:  $[\gamma] \leftrightarrow i$

Other syncretic mismatches are derived in the same way and differ only in the featural specification of the syncretic exponent: The Acc-Gen exponent realizes  $[\beta]$  and the Nom-Acc exponent is a featureless elsewhere marker.

## 6. Theoretical implications for the syntax of ATB-movement

In our analysis above, we have adopted a Sideward Movement approach to ATB-movement. We argue that this approach has exactly the right properties to capture the aspects of ATB-movement in Russian relevant to our inquiry: It can account for case matching and deal with both syncretic and the non-syncretic mismatches. We will show in what follows that alternative approaches to ATB-movement fail to account for at least one of those properties.

With empty operator (Munn 1993, Franks 1993, 1995) and ellipsis (Ha 2008, Salzmann 2012) approaches it is not clear in the first place whether the case matching requirement can be implemented. Fusion (Hein and Murphy 2020) and multidominance approaches (Citko 2005, 2011, Bachrach and Kazir 2009, Gračanin-Yukseš 2013), on the other hand are designed to capture case-matching but cannot account for non-syncretic mismatches.

In empty operator/Parasitic Gap-(PG)type of approaches there are usually two independent chains with a null operator moving in the second conjunct. Some operation of chain composition is then needed to ensure that only the overt filler is interpreted and linked to both conjuncts. The fact that Parasitic Gaps are subject to the same case-matching restrictions as ATB-movement, including the alleviating effect of syncretism (Franks 1993, 1995, Bondaruk 2003, but see Hein and Murphy 2020:263 for counterexamples) may initially provide support for such an approach, but nothing in the grammar of operator movement/PGs actually enforces case matching. Rather, this would have to be added to whatever mechanism composes the two chains and hence wouldn't follow from the approach as such (see Franks 1995:80f.). In addition, there remain systematic asymmetries between the two constructions that complicate a unification.

In ellipsis approaches an instance of the filler is merged in each conjunct and undergoes movement; before merger with  $\&$ , the filler in one of the conjuncts is deleted under

identity with a copy of the filler in the other conjunct. As discussed in Hein and Murphy (2020:266f.), while ellipsis tolerates mismatches, their profile is different from the mismatches in ATB-movement: It tolerates mismatches in form as long as the features match, while in ATB-movement, mismatches in features are tolerated, while the form must match. Thus, it is not clear how case matching could be enforced and how the syncretism effect could be derived; rather, one may expect case-mismatches to be systematically possible.

In multidominance approaches, a single filler is simultaneously linked to a position in each conjunct and Spec,CP. Citko (2005) tries to account for case-matching and the syncretism effect by assuming that the filler receives two case features, which can be realized only if there is a form that is compatible with both features (an underspecified form in case of syncretism). However, as shown in Hein and Murphy (2020:270-272), this account actually fails to rule out case-mismatches (given the subset principle). Even if the approach were amended with our account of syncretism and the same rules for Vocabulary Insertion, it would still fail to account for the non-syncretic mismatches: Assuming that in the combination of GenNeg( $\neg$ Acc) and Acc the features would be unified to  $[\beta \ \gamma]$ , one expects a genitive filler to be grammatical irrespective of the position of the GenNeg, and hence, (7b) would be incorrectly ruled in.

In the fusion approach by Hein and Murphy (2020) there is parallel extraction from both conjuncts, with the two fillers being fused by means of intersection of their feature sets. The fused syntactic object is then merged in the landing site. Cases are decomposed into  $[\pm \text{sub}, \pm \text{gov}, \pm \text{obl}]$  and ATB-movement converges if, after set intersection, there is an exponent that can be inserted into the position of the filler in Spec,CP. The syncretism effect obtains if after set intersection, an underspecified exponent can be inserted. Non-syncretic case mismatches are ruled out because either (i) the resulting feature set is incompatible with any of the available vocabulary items or (ii) the resulting feature set is empty, violating the Case filter/full interpretation. The system is constructed such that non-syncretic mismatches are ruled out. One could try to rule them in by adopting our decomposition; however, non-syncretic mismatches with GenNeg( $\neg$ Acc) & Acc would converge with Acc on the filler rather than genitive, due to feature set intersection ( $[\beta] \cap [\beta, \gamma] = [\beta]$ ).

## 7. Conclusion

We have presented the first analysis of non-syncretic case mismatches in ATB-movement. We have argued for an approach based on case decomposition with partial case containment. Combined with our assumptions about multiple case assignment and Vocabulary Insertion, this captures case matching, the syncretism effect and restricts non-syncretic mismatches to combinations of GenNeg( $\neg$ Acc) & Acc. To derive the fact that mismatches are available in only one order, we have adopted a sideward movement approach where the second conjunct is built before the first and hence the order of case assignment matters.

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