Deriving Morphological Gaps: the Neuter Puzzle in Lithuanian

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Abstract

This study explores the nature of systematic morphological gaps and morphosyntactic defaults through the lens of a previously unobserved gap for Lithuanian neuter adjectives. We demonstrate that neuter adjectives only have nominative forms, lacking non-nominative forms, giving rise to morphological ineffability in non-nominative environments; this is striking given previous work (Adamson and Šereikaitė 2019) suggesting that neuter in the language has the status of a morphosyntactic default. We argue that default neuter nominative predicative adjectives necessarily correspond to the realization of a set of features or nodes rather than their complete absence; that is, the default is not 'nothing' or a true elsewhere (Kiparsky 1973; Arregi and Nevins 2012, a.o.). We offer two approaches that can capture the tension between default status and the non-nominative gap, one in Distributed Morphology and one in Nanosyntax, which we show can both derive the gap, although they give rise to different predictions. More broadly, we suggest that morphological gaps can arise from a particular type of default environment, namely so-called 'exceptional case' defaults (Corbett and Fraser 2000): under our approach, this can arise when the least specified Vocabulary Item is nevertheless 'too specific'.

Keywords: defaults, gaps, case, gender, morphological ineffability, Lithuanian, Distributed Morphology, Nanosyntax

1 Introduction

In this paper, we explore the relationship between morphosyntactic defaults and morphological gaps through the lens of the morphosyntax of Lithuanian (Baltic) adjective agreement. While previous work on morphological gaps has largely focused on lexical gaps (e.g. Arregi and Nevins 2014; Mendes and Nevins 2022 and references therein), we explore a systematic morphological gap that occurs with neuter adjectives in the language. Neuter adjectives in the language only have a nominative form, which gives rise to morphological ineffability in non-nominative environments where they would be expected to appear. We show that the source of morphological ineffability can be the lack of a true elsewhere form (cf. Arregi and Nevins 2014). Furthermore, this study sheds light on the nature of defaults by showing that the realization of what are considered 'default' forms do not always correspond to the absence of features, potentially giving rise to cases of morphological ineffability.

Lithuanian has been described as having three genders: masculine, feminine, and neuter, which are reflected on different types of elements like adjectives or nominal expressions (Ambrazas et al. 1997). Neuter adjectives can occur in a nominative environment and function as predicative adjectives (PAs), as in (1a), where the subject, the neuter pronoun *viskas* 'everything', also bears neuter. They also exhibit default behavior in that they can appear in syntactic default environments e.g., the features of a subject are not available for agreement as in (1b) where there is no projected subject (see Adamson and Šereikaitė 2019). Throughout, we gloss neuter adjectives with neuter gender and nominative case, though as will become evident from our theoretical implementation, we will take neuter to correspond to the absence of gender.

(1) a. Viskas buv-o tams-ù.
everything.N.NOM be-PST.3 dark-N.NOM
'Everything was dark.' *Canonical Agreement*

b. (Lauke) tams-ù.
(outside) dark-N.NOM
'It is dark (outside).' *Default Environment*

However, we demonstrate the existence of a previously undocumented and striking morphological gap in the language: through carefully established diagnostics, we show that while masculine and feminine adjectives have distinct forms for various cases, neuter adjectives only have a nominative form: no other case form is possible, as summarized in Table 1.

		NOM	ACC	GEN	DAT	INS	LOC
M	SG	*tams-ùs*	*tãms-ų*	*tams-aũs*	*tams-iám*	*tams-iù*	*tams-iamè*
	PL	*tãms-ūs*	*tams-iùs*	*tams-ių̃*	*tams-íems*	*tams-iaĩs*	*tams-iuosè*
F	SG	*tams-ì*	*tãms-ią*	*tams-iõs*	*tãms-iai*	*tams-ià*	*tams-iojè*
	PL	*tãms-ios*	*tams-iàs*	*tams-ių̃*	*tams-ióms*	*tams-iomìs*	*tams-iosè*
N		*tams-ù*	*				

Table 1 *-us/-i* declension of the adjective *tamsus* 'dark'

This gap can be illustrated with an example from non-nominative environments. For instance, Lithuanian evidential constructions are non-finite clauses which have a genitive subject typically agreeing with a PA in gender, number, and case, as in (2a) with a subject that has masculine gender (Lavine 2010). However, when the subject is a neuter pronoun, neither a neuter nominative PA nor any other PA form (masculine or feminine) is possible, as in (2b). The example with the neuter pronoun in the evidential is grammatical when the PA is excluded (2c), confirming that the source of the ungrammaticality in (2b) is the PA.

(2) a. Ežero bū-t-a tams-aus.
lake.M.SG.GEN be-PPP-[-AGR] dark-M.SG.GEN
'The lake must have been dark.'

b. *Visko bū-t-a tams{-u/-aus/-ios}.
everything.N.GEN be-PPP-[-AGR] dark-N.NOM/-M.SG.GEN/-F.SG.GEN
Intended: 'Everything must have been dark.'

c. Tais laikais visko bū-t-a.
Those times everything.N.GEN be-PPP-[-AGR]
'In those days, a lot of things must have happened.'

We argue that the ungrammaticality of examples like (2b) stems from morphological ineffability rather than issues that arise in syntax. Specifically, we argue that there is no predicative adjective form that can be inserted in examples like (2b). (2b) suggests that, despite being used in default nominative environments as in (1b), the use of a nominative neuter PA is nevertheless restricted, as it cannot appear across the board in other types of constructions. The ineffability of (2b) is thus surprising from the perspective of morphosyntactic defaults as underspecified values, given that nominative case has been argued to be the default case in the language (e.g., Lavine 2010) and neuter has been argued to correspond to the absence of gender features in Lithuanian (Adamson and Šereikaitė 2019). These two points lead to the expectation that the nominative neuter PA form should be available as an underspecified form across different case environments, contrary to fact.

Our study thus contributes to our understanding of the nature of morphosyntactic defaults in natural language. We assume, following the Network Morphology view from Corbett and Fraser (2000), that there are in fact two types of morphological defaults: i) a *normal case default*, which refers to a rule that applies generally (e.g., the most productive rule as in English past tense *-ed* or English plural *-s*); and ii) an *exceptional case default*, which is 'a rule that applies to anomalous items that would fall between the cracks' (e.g., default Case Assignment in the absence of a case assigner (Schütze 2001), or Spanish Spurious *se* (e.g. Bonet 1991)). We suggest in particular that systematic gaps like that of Lithuanian neuter PAs can occur with exceptional case defaults like what is illustrated in (2b) (as we describe in Section 4), and we offer implementations of this idea in both Distributed Morphology and Nanosyntax.

In these two frameworks, various types of operations and principles have been used to derive morphosyntactic default status: the Elsewhere Condition, the related Subset and Superset Principles, and (in Distributed Morphology) operations like Impoverishment (Halle and Marantz 1993; Halle 1997, etc.), underspecification (Noyer 1997; Halle and Marantz 2008; Embick 2015), or Feature Insertion (Schütze 2001, among others). Our

accounts offer a way to capture the limited use of a default form where tension arises between gaps and defaults: to derive this tension, we offer analyses in which default neuter PAs necessarily correspond to the realization of some set of features or nodes rather than their complete absence. Thus, in our view, 'default' in this case does not act as a true elsewhere, to the point of being not specified.

For our DM-based proposal, this tension is accomplished in our account via specification for nominative case for adjective inflection rather than being completely unspecified, as sketched in (3), for the adjectival nominative singular forms *tamsus* 'dark' for masculine, feminine, and neuter (see Table 1). As we describe in detail in Section 4, realization is determined based on the Subset Principle, and the neuter exponent is underspecified with respect to gender but is nevertheless specified for nominative as in (3c), accounting for both the default status of neuter PAs as in (1b), as well as its ungrammaticality in non-nominative (including default) environments as in (2b).

(3) *DM Vocabulary Items*

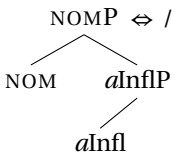
a. *a*Infl[MASC][NOM] ↔ -us (tams-us 'dark.M.NOM.SG')

b. *a*Infl[FEM][NOM] ↔ -i (tams-i 'dark.F.NOM.SG')

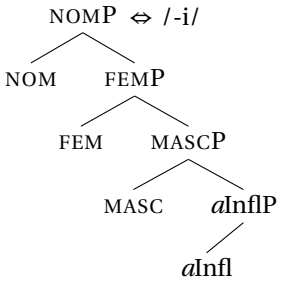
c. ***a*Infl[NOM] ↔ -u (tams-u 'dark.N.NOM')**

For our Nanosyntax-based proposal, this is accomplished in our account with a 'small' Vocabulary Item for the neuter that also includes nominative case, as illustrated in (4). As we describe in Section 4, realization is determined via the Superset Principle, and the neuter exponent is again not specified for gender features, only being specified for nominative case. It is therefore not a superset of any syntactic tree that contains additional case features – under the Nanosyntactic view that non-nominative cases contain the nominative – which causes a crash when such features are present, as they cannot be lexicalized.

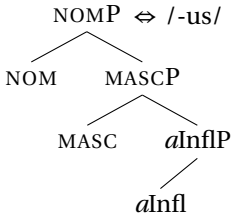
(4) a. *Nanosyntax Vocabulary Item*
tams-u 'dark-N.NOM'



b. tams-i 'dark-F.SG.NOM'



c. tams-us 'dark-M.SG.NOM'



This work contributes to the typology of morphological gaps, highlighting an instance where a gap is systematic across a natural class of items, namely all neuter adjectives (as opposed to lexical gaps targeting only specific forms of neuter adjectives). It also provides a novel comparison for how morphological gaps can be derived in both DM and Nanosyntax, the latter of which has been scarcely evaluated in the context of morphological gaps (though see Caha 2022). More generally, morphological ineffability has previously not been discussed in comparisons of the two frameworks.

It has been suggested that there are different sources of morphological ineffability: while previous studies have focused on feature conflicts as a source of morphological ineffability (e.g. Asarina 2011; Coon and Keine 2021; among others), our work supports the existence of a type of morphological ineffability whose source is a lack of a true elsewhere form (cf. Arregi and Nevins 2014). This is especially striking given that this gap appears in the context of a morphosyntactic default, thereby shedding light on the nature of defaults.

The rest of this paper is organized as follows. In Section 2, we provide background on neuter pronouns and neuter adjectives in Lithuanian. In Section 3, using a variety of tests, we demonstrate the existence of the morphological gap in Lithuanian with particular focus on non-nominative environments. We suggest that the ungrammaticality of neuter PAs in non-nominative default and non-default environments is an instance of morphological ineffability, and reject plausible syntactic alternatives. In Section 4, we provide an analysis of the morphological gap in terms of DM and Nano approaches, showing that both approaches can account for the phenomenon, and we point to some differences in predictions. Section 5 offers concluding remarks.

2 Background on Neuter Pronouns and Adjectives in Lithuanian

We first provide background on neuter pronouns and adjectives in Lithuanian. As mentioned above, Lithuanian has been reported to have three genders, as reflected in agreement on adjectives: masculine, feminine, and neuter (Ambrazas et al. 1997:134). For instance, in (5a), the noun is inherently masculine, and thus the PA agreeing with the subject is also masculine; (5b) provides a parallel example with an inherently feminine noun. Lastly, (5c) shows a quantifier *viskas* 'everything' which is inherently neuter, along with a neuter-inflected PA, whose form is morphologically distinct from the masculine and feminine. Throughout, we indicate stress on adjectives only to help disambiguate between certain forms.

(5) a. Ežeras buv-o tams-us.
lake.**M**.SG.NOM be-PST.3 dark-M.SG.NOM
'The lake was dark.'

b. Upė buv-o tams-i.
river.**F**.SG.NOM be-PST.3 dark-F.SG.NOM
'The river was dark.'

c. Viskas buv-o tams-ù.
everything.**N**.NOM be-PST.3 dark-N.NOM
'Everything was dark.'

It is worth pointing out, however, that the neuter gender in Lithuanian is rather unusual, in that there are no lexical nouns that are inherently neuter in the language. Only certain pronouns and quantifier-like elements can have an inherent neuter gender, unlike neuter gender in other languages such as Greek, Icelandic, and Russian. A list of neuter 'pronouns' (as we henceforth refer to them) can be found in (6). Neuter pronouns can occur in different case forms, as exemplified in Table 2 for *viskas* 'everything'. Some of these pronouns like *kažkas* 'something' also have corresponding masculine counterparts. Throughout, we will use *viskas*, which is unambiguously neuter.[1]

(6) Neuter pronouns: *viskas* - 'everything', *taĩ* ('it, this'), *šitaĩ* ('it, this'), *víena/kìta* ('one/another' for events), *vìsa/vìsa taĩ* ('everything'), *kas* ('what'), *kažkas* ('something'), *niekas* ('nothing') (adapted from Ambrazas et al. 1997:181-184)

	viskas- everything.N
NOM	visk-as
ACC	visk-ą
GEN	visk-o
DAT	visk-am
INST	visk-uo
LOC	visk-ame

Table 2 Paradigm for *viskas* 'everything'

For adjectives in the language, masculine and feminine forms additionally inflect for case and number. They can be grouped into roughly three declension classes (Ambrazas et al. 1997:148; Mathiassen 1996:58–62),[2] which we refer to using the inflectional endings of their masculine and feminine singular nominative forms: the ***-as/-a*** class (*ger-as* 'good-M.NOM.SG' vs. *ger-a* 'good-F.NOM.SG'); the ***-us/-i*** class (*graž-us* 'beautiful-M.NOM.SG' vs. *graž-i* 'beautiful-F.NOM.SG'); and the ***-is/-ė*** class (*med-in-is* 'wooden-*a*-M.NOM.SG' vs. *med-in-ė* 'wooden-*a*-F.NOM.SG').

Among these declension classes, neuter adjectival forms exist for the *-as/-a* class and *-us/-i* class, as exemplified in Tables 3 and 4.[3] The *-is/-ė* class lacks a neuter form altogether; we set this to the side (though see Šereikaitė and Adamson in preparation). Strikingly, neuter adjectives only have a nominative form, as we demonstrate in Section 3. Because there are no neuter lexical nouns in the language, there are no attributive neuter adjectives; they only appear in predicative positions.[4]

[1] See Adamson and Šereikaitė 2019 on the absence of number distinctions with neuter elements.

[2] Ambrazas et al. 1997 have a more detailed classification of these classes and include sub-paradigms. We adopt a simplified version of this presently.

[3] We note that neuter adjectives are not adverbs in Lithuanian: adverbs and adjectives are morphologically distinct in the language. Adverbs typically occur with the suffix *-ai* as in *ger-ai* 'well' and *tamsi-ai* 'darkly'.

[4] As discussed by Adamson and Šereikaitė (2019) fn.24, neuter pronouns can occur with postnominal adjectives, as in *viskas gražù* 'everything.N.NOM beautiful.N.NOM'. Adamson and Šereikaitė (2019) suggest that these adjectives are predicative adjectives within reduced relative clauses, as supported by the inability for them to be stacked, e.g. **viskas žālia brangu* 'everything that is green and expensive'.
Masculine and feminine adjectives can also have so-called 'long' forms that appear in definite environments (Ambrazas et al. 1997:142) and are typically attributive. Neuter adjectives, in contrast, lack this type of form, providing further support for the view that neuter attributive forms are absent in the language.

		NOM	ACC	GEN	DAT	INS	LOC
M	SG	*gẽr-as*	*gẽr-ą*	*gẽr-o*	*ger-ám*	*ger-ù*	*ger-amè*
	PL	*ger-ì*	*ger-ùs*	*ger-ų̃*	*ger-íems*	*ger-aĩs*	*ger-uosè*
F	SG	*ger-à*	*gẽr-ą*	*ger-õs*	*gẽr-ai*	*ger-à*	*ger-ojè*
	PL	*gẽr-os*	*ger-às*	*ger-ų̃*	*ger-óms*	*ger-omìs*	*ger-osè*
N		*gẽr-a*	*				

Table 3 *-as/-a* declension of the adjective *geras* 'good' (see Ambrazas et al. 1997:148–153)

		NOM	ACC	GEN	DAT	INS	LOC
M	SG	*tams-ùs*	*tãms-ų*	*tams-aũs*	*tams-iám*	*tams-iù*	*tams-iamè*
	PL	*tãms-ūs*	*tams-iùs*	*tams-ių̃*	*tams-íems*	*tams-iaĩs*	*tams-iuosè*
F	SG	*tams-ì*	*tãms-ią*	*tams-iõs*	*tãms-iai*	*tams-ià*	*tams-iojè*
	PL	*tãms-ios*	*tams-iàs*	*tams-ių̃*	*tams-ióms*	*tams-iomìs*	*tams-iosè*
N		*tams-ù*	*				

Table 4 *-us/-i* declension of the adjective *tamsus* 'dark' (see Ambrazas et al. 1997:152–155)

We note that adjectives also have corresponding comparative forms, which exist across all three genders, including the neuter as in (7). While *geras* and *tamsus* belong to different declension classes, namely *-as/-a* and *-us/-i* respectively, the comparative endings for the two are morphologically identical across the paradigm. We will use comparative forms in some parts of Section 3.

(7) *tamsus* 'dark'

a. *tams-us* - dark-M.SG.NOM, *tams-esn-is* - dark-CMPR-M.SG.NOM 'darker'

b. *tams-i* - dark-F.SG.NOM, *tame-esn-ė* - dark-CMPR-F.SG.NOM 'darker'

c. *tams-u* - dark-N.NOM, *tams-iau* - dark-CMPR.N.NOM 'darker'

Neuter nominative PAs occur in two main syntactic environments. The first, as we saw above in (5c), is in copular constructions (and related constructions with verbs such as *tapti* 'become', *pasirodyti* 'to appear/seem', *pasidaryti* 'to turn') in which the subject is a neuter pronoun, which we take to be an example of a canonical agreement pattern. The second is in default nominative environments where subject features are not accessible for agreement, for which we illustrate three types of examples here (see Adamson and Šereikaitė 2019 for extensive discussion). First, in *weather* predicates like that of (8), there is no projected subject, and the PA has no nominal to agree with. Therefore, we treat this PA as a non-agreeing, default neuter form. Second, with infinitival subjects like that of (9), the subject has no features accessible for a PA to agree with (see Adamson and Šereikaitė 2019), resulting in a non-agreeing neuter form.[5]

[5]As discussed extensively by Adamson and Šereikaitė (2019:7), syntactic default environments, which give rise to neuter PAs, should be distinguished from unmarked gender environments, which give rise instead to masculine inflection. In (i-ii), coordination resolution with gender-mismatched nominals – in which one nominal is masculine and the other is feminine – yield masculine agreement on a PA rather than neuter or feminine. For more diagnostics distinguishing between syntactic default vs. unmarked gender environments, see Adamson and Šereikaitė 2019.

(i) Stalas ir kėdė buvo purvin-ì/*-a.
table.M and chair.F were dirty-M.PL/*-N

(8) (Lauke) karšt-a/tams-ù.
(outside) hot-N.NOM/dark-N.NOM
'It is hot/dark (outside).'

(9) [Pavargti už tėvynę] (yra) graž-ù.
suffer.INF for homeland.ACC be.PRS.3 beautiful-N.NOM
'To suffer for one's homeland is beautiful.' (adapted, Ambrazas et al. 1997:643)

The last case is so-called pancake sentences, the name of which comes from the literature on Mainland Scandinavian languages, which allow a neuter PA with subjects that can have an eventive interpretation; see Wechsler 2013. An example of this is provided in (10), which has a neuter PA and a corresponding eventive interpretation: 'the pancakes are healthy to eat' rather than they are 'in a healthy state' (where the latter interpretation comes out with a PA that agrees with the subject 'pancakes'; see ex. 36 in Adamson and Šereikaitė 2019). It is suggested by Adamson and Šereikaitė 2019 that this DP subject has an additional projection that dominates it, namely ZP. This projection encodes an eventive interpretation of the subject and makes the masculine gender of the subject *pancakes* inaccessible for agreement, resulting in a neuter PA.

(10) Blynai yra sveĩk-a.
pancakes.M.PL.NOM be.PRS.3 healthy-N.NOM
'Pancakes are healthy (to eat).'

To summarize, neuter PAs only have a nominative form, in contrast to masculine and feminine forms, which occur in all case combinations. Neuter PAs can exhibit default behavior in certain types of nominative environments. Given their default behavior, neuter forms may be expected to be available in other environments outside of nominative (default) contexts, in the absence of more specific case forms. Surprisingly, this expectation is not met, as we demonstrate in the next section.

3 The gap: no neuter PAs in non-nominative environments

In this section, we use a battery of diagnostics to demonstrate the striking morphological gap found with the neuter PAs (recall Tables 3 and 4). First, in Section 3.1, we show that in non-nominative environments where a PA is expected to agree with a neuter pronoun, neuter nominative PAs are ungrammatical, as are all other PA forms, resulting in morphological ineffability, where the syntactic structure has no corresponding morphological realization. Thus, our study suggests that the source of morphological ineffability can be the lack of a true elsewhere form.[6]

'The table and chair were dirty.' (Adamson and Šereikaitė 2019:7)

(ii) Vyras ir moteris buvo graž-ūs/*-ù.
man.M and woman.F were beautiful-M.PL/*-N
'The man and the woman were beautiful.' (Adamson and Šereikaitė 2019:7)

[6]The literature of morphological ineffability is vast. There are cases where morphological ineffability results from the type of situation where a single element in the syntax is forced to have two distinct values (distinct features), but there is no morphological form that can realize both of these values see e.g., for Right Node Raising Asarina 2011, 2013; Citko and Yuksek 2021, Icelandic dative–nominative constructions e.g., Schütze 2003; Coon and Keine 2021. Also see Mendes and Nevins 2022 for lexical gaps, specifically the lack of proper allomorphs for certain verbal forms in Brazilian Portuguese.

We observe in contrast that nominal predicates, which need not agree with neuter pronouns and do not show a morphological gap, are grammatical in the same position, which we argue shows that the locus of the problem is specific to the realization of neuter PAs. In Section 3.2, we demonstrate that nominative neuter PAs cannot be used in non-nominative syntactic default environments, specifically in what we consider *exceptional case* default environments, as we describe in greater detail in Section 4.

Overall, we suggest that this is a result of a systematic morphological gap corresponding to the complete absence of non-nominative neuter PA forms in the language. Thus, there is only a nominative neuter PA whose use is very restricted in the language: it can only be used in nominative agreeing environments and nominative default environments. We summarize these generalizations in Section 3.3 and suggest that neuter nominative PAs cannot act as default forms across the board, indicating that the use of default forms can be limited. We provide further evidence for treating this as a morphological gap by reviewing possible syntactic explanations that cannot fully capture the data.

3.1 Non-nominative agreement environments with a neuter nominal

In this subsection, we examine different types of non-nominative environments where a nominal typically triggers agreement with a PA. In contrast to masculine and feminine PAs occurring with masculine and feminine nominals, neuter PAs with neuter pronouns in these environments are altogether ungrammatical, resulting in morphological ineffability.

We further observe that parallel examples with neuter pronouns become grammatical if the predicate is nominal rather than adjectival or if no PA is present. We argue that this striking contrast reinforces the view that the locus of the problem with the ungrammatical examples is the neuter PA. We offer evidence from various environments where PAs are expected to inflect for different cases, including accusative, genitive, dative, and instrumental, showing that in all such cases, no form of the PA is possible for a neuter environment.

3.1.1 Accusative/Instrumental 'Make' Causative

Our first diagnostic comes from 'make' causatives (for an overview of causative constructions in Lithuanian, see Pakerys 2016). These constructions require agreement between object causees and resultative adjectives in gender and number. When it comes to case, PAs in this environment may inflect for either accusative, in agreement with the accusative causee, or for instrumental.[7] This pattern is illustrated with a causee that is a masculine nominal in (11a-11b).

(11) a. Turizmas padar-ė šį miestą populiar-iu.
Tourism.M.SG.NOM make-PST.3 this city.M.SG.ACC popiular-M.SG.INS
'Tourism made this city popular.'

b. Turizmas padar-ė šį miestą populiar-ų.
Tourism.M.SG.NOM make-PST.3 this city.M.SG.ACC popiular-M.SG.ACC
'Tourism made this city popular.'

[7] See Citko 2014 for how instrumental is assigned in these types of environments.

The neuter pronoun *viskas* can occur with a neuter nominative PA *popular* in the copular construction as expected, as in (12). However, we observe that neuter pronouns cannot occur with a resultative PA in causative 'make' constructions, regardless of the form of the adjective, as exemplified in (13).[8] Recall from Section 2 that neuter pronouns do inflect for different case forms, and thus the cause of the ungrammaticality of (13) is not the form of the neuter pronoun itself.[9]

(12) Tais laikais viskas buv-o populiar-u.
those times, everything.N.NOM be-PST.3 popular-N.NOM
'In those days, everything was popular.'

(13) *Turizmas padar-ė viską populiar-ų/-iu/-u.
tourism make-PST.3 everything.N.ACC popular-M.SG.GEN/-M.SG.INS/-N.NOM
'Tourism made everything popular.'

As we describe in detail in Section 4, we suggest that the ungrammaticality of examples like (13) (and subsequent ungrammatical examples in this section) results from a morphological gap. First, the neuter pronoun and the PA agree in the syntactic component (see 4.1 for a detailed derivation), but there is no morphological form, due to the gap, that can express this value, as there is no neuter instrumental or accusative form in the language. Second, the nominative neuter form can be used as a default form in certain nominative environments (recall Section 2, ex. (8-9)). However, interestingly, this form cannot be used in this environment as a default or elsewhere PA that is inserted as a last resort.

Crucially, we find that the example becomes grammatical with the neuter pronoun when it occurs in the same environment with an instrumental nominal predicate instead of a PA (14).[10] The nominal predicate does not agree with the causee in gender, number, and case, and nominal predicates do not exhibit morphological gaps, in that they have the full set of distinct case forms. As we also argue in Section 3.3, the ungrammaticality of (13) cannot be attributed to the inability for the neuter pronoun to serve as an agreement controller: neuter pronouns can agree with neuter PAs in copular constructions, and they can also show agreement with relative pronouns.

(14) a. Turizmas padar-ė miestą tikrà betvarkè.
tourism.M.SG.NOM make-PST.3 city.M.SG.ACC real.F.SG.INS mess.F.SG.INS
'Tourism made the city into a real mess.'

---

[8] Note that (13) is also ungrammatical with feminine inflections of the adjective in both accusative and instrumental.

[9] Jurgis Pakerys (p.c.) offers the potential counterexample (i) to our claim that neuter PAs cannot occur in non-nominative case environments. He notes that such constructions are rare. Observe that these examples do not include a neuter pronoun, unlike the example in (13). We suggest that this is not a true counterexample, as the neuter adjective is instead a deadjectival nominal (on which, see also Adamson and Šereikaitė 2019). These neuter forms do not function as true gradable adjectives, because they cannot be modified by the adverb *labai* 'very', in contrast to gradable neuter PAs, which can (ii).

(i) Jūs suman-ėte prieš mane (*labai) bloga, bet Dievas pavert-ė tai (*labai) gera.
You.PL.NOM plot-PST.2.PL against me.ACC very bad.N but God.NOM turn.into-PST.3 that.N.ACC very good.N
'You plotted something (very) bad against me, but God turned it into something (very) good.' (Pr 50,20).

(ii) Man yra labai gera.
Me.DAT is very good.N.NOM
'It feels very good for me.'

[10] Accusative was judged as more marked in this environment.

b. Turizmas padar-ė viską tikrà betvarkè.
tourism.M.SG.NOM make-PST.3 everything.N.ACC real.F.INS.SG mess.F.SG.INS
'Tourism made everything into a real mess.'

3.1.2 Genitive of Negation

Lithuanian exhibits Genitive of Negation (Arkadiev 2016; Sigurðsson and Šereikaitė 2024), whereby an object that would otherwise bear accusative case (15) instead becomes genitive (16). Non-structural case is always retained (see Sigurðsson and Šereikaitė 2024).

(15) Jie valgė daržoves.
they.NOM eat.PST.3 vegetables.ACC
'They ate vegetables.'

(16) Jie ne-valgė daržov-ių/*-es.
they.NOM NEG-eat.PST.3 vegetables-GEN/-ACC
'They didn't eat vegetables.'

Genitive of Negation allows us to manipulate the 'make' causative environment discussed above. Recall that in (11a), the PA is marked with accusative case. In the context of negation, the PA turns genitive, agreeing with the genitive causee, as in the example (17a). Alternatively, recall from (11b) that the PA can also be instrumental. When negation is added, the PA retains the instrumental case (17b), which we treat as a non-structural case. This case is not affected by Genitive of Negation.

(17) a. Turizmas ne-padar-ė šio miesto populiar-aus.
tourism.M.SG.NOM NEG-make-PST.3 this city.M.SG.GEN popular.M.SG.GEN
'Tourism didn't make this city popular.'

b. Turizmas ne-padar-ė šio miesto populiar-iu.
tourism.M.SG.NOM NEG-make-PST.3 this city.M.SG.GEN popular-M.SG.INS
'Tourism didn't make the city popular.'

In (18), the neuter object pronoun is also genitive, but the resultative form is ungrammatical with any form of the PA, irrespective of whether it is a neuter nominative form or an alternative genitive or instrumental case form (e.g. of the masculine). This is another illustration of the morphological gap, where there is no PA that can express the appropriate gender and case value in the agreeing environment. Namely, there is no genitive or instrumental neuter PA, and again, neuter nominative PA cannot be used as a default form in this environment.

(18) *Turizmas ne-padar-ė **visko**
tourism.M.SG.NOM NEG-make-PST.3 everything.N.GEN
populiar{-aus/-iu/-u...}.
popular-M.SG.GEN/-M.SG.INS/-N.NOM
'Tourism didn't make everything popular.'

Once again, the example with the neuter pronoun becomes grammatical if the resultative predicate is an instrumental nominal.[11] In (19a), the causee meaning 'the city' is followed by a secondary nominal predicate meaning 'real mess' appearing in instrumental

[11] Here as well, the accusative was judged as more marked.

case. No agreement takes place between the causee and the nominal predicate. Furthermore, nominal predicates do not exhibit gaps. In (19b), the neuter pronoun occurs with a resultative nominal predicate, and the example is grammatical.[12]

(19) a. Turizmas ne-padar-ė miesto tikra betvarke.
tourism.M.SG.NOM NEG-make-PST.3 city.M.SG.GEN real.F.SG.INS mess.F.SG.INS
'Tourism didn't turn the city into a real mess.'

b. Turizmas ne-padar-ė **visko** tikra betvarke.
tourism.M.NOM.SG NEG-make-PST.3 everything.N.GEN real.F.SG.INS mess.F.SG.INS
'Tourism didn't turn everything into a real mess.'

3.1.3 Genitive of Evidential

We now turn to an evidential construction in Lithuanian, which represents a different type of syntactic environment from the 'make' causative construction discussed above. The so-called inferential evidential construction is based on visual evidence (Geniušienė 2006; Lavine 2006, 2010; Legate et al. 2020). It is expressed with a non-finite clause taking a genitive subject and a non-agreeing passive participle. (20a) introduces a canonical copular construction with a nominative subject and a PA agreeing in gender, number, and case. (20b) introduces a corresponding evidential version of the same copular construction; because the subject is genitive, the PA displays agreement for genitive case.

(20) a. Medžiai buv-o stor-i.
tree.M.PL.NOM be-PST.3 thick-M.PL.NOM
'The trees were thick.'

b. Medžių bū-t-a stor-ų.
tree.M.PL.GEN be-PPP-[-AGR] thick-M.PL.GEN
'The trees must have been thick.'

Expectedly, as example (21a) shows, a nominative neuter pronoun can appear in a copular construction with an agreeing PA, given that a neuter nominative form exists in the

[12] Jurgis Pakerys (p.c.) also mentions that in certain cases it is possible to find instances with a neuter pronoun in a non-nominative environment followed by a neuter PA as in (i), which are rather rare examples (also see fn.9). Observe that this example becomes ungrammatical under genitive of negation where the PA would be expected to bear genitive as in (ii). These instances are also completely ungrammatical if the PA is the adjective *popular*, which belongs to the declension class *-us/-i*, (iii)-(iv). We hypothesize that (i) sounds much better for a number of speakers because the neuter nominative PA *neįmānoma* 'impossible.N.NOM' is syncretic with the masculine singular accusative form *neįmānomą*. This only happens in the accusative form for the declension class *-as/-a*. The masculine singular form and the neuter nominative form in the *-us/-u* class are distinct: populiarù 'popular'.N.NOM vs. 'populiārų.M.SG.ACC', and the PA in the accusative environment is ungrammatical, recall (13). We tentatively hypothesize that this syncretism plays a role in the amelioration of examples like (i), though we leave this issue to future research.

(i) Padar-ė tai neįmānoma.
make-PST.3 that.N.ACC impossible.N.NOM
'It made that impossible.'

(ii) *Ne-padar-ė to neįmānoma.
NEG-make-PST.3 that.N.GEN impossible.N.NOM
'It didn't make that impossible.'

(iii) *Padar-ė tai populiaru.
make-PST.3 that.N.ACC popular.N.NOM
'It didn't make that popular.'

(iv) *Ne-padar-ė tai populiaru.
NEG-make-PST.3 that.N.ACC popular.N.NOM
'It didn't make that popular.'

language. In contrast, when a neuter pronoun appears as the genitive subject of an evidential construction with a PA, the sentence becomes ungrammatical with any form of the adjective as in (21b).

(21) a. Viskas buv-o nuostab-u.
everything.N.NOM be-PST.3 wonderful-N.NOM
'Everything was wonderful.'

b. *Tais laikais visko bū-t-a
those times everything.N.GEN be-PPP-[-AGR]
nuostab-u/-aus/-ios.
wonderful-N.NOM/-M.SG.GEN/-F.SG.GEN
'In those times, everything must have been wonderful.'

We observe that the neuter pronoun can occur as the subject of an evidential construction when there is no PA to agree with, as in (22). Like (21b), the neuter pronoun appears with genitive case, and the form of the copula shows up as the non-agreeing participle. We conclude that the PA in (21b) is the cause of the ungrammaticality as in the previous ungrammatical examples discussed in Sections 3.1.1–3.1.3.[13]

(22) Juk kiekvieno jaunystėje visko bū-t-a.
of.course each youth.LOC everything.N.GEN be-PPP-[-AGR]
'And of course a lot of things must have happened in each of our youths.'

3.1.4 Dative with 'Let'

The last non-nominative environment where one would expect agreement between a nominal and a PA is a 'let' construction (for 'let' constructions see Pakerys 2016). The verb *leisti* 'let' takes dative objects followed by an infinitival clause, which can be a copular predicate. Within this infinitival clause, a PA can be used, which reflects the gender, number, and case features of the dative object (23a). We note that, like the 'make' causative construction discussed above (11b), instrumental case inflection of the PA is also available with 'let' in the example in (23b).

(23) a. Tai leidži-a maistui būti sveik-esn-iam ir
That let-PRS.3 food.M.SG.DAT be.INF healthy-CMPR-M.SG.DAT and
skan-esn-iam.
tasty-CMPR-M.SG.DAT
'That lets the food be healthier and tastier.'

b. Tai leidži-a maistui būti sveik-esn-iu ir
That let-PRS.3 food.M.SG.DAT be.INF healthy-CMPR-M.SG.INS and
skan-esn-iu.
tasty-CMPR-M.SG.INS
'That lets the food be healthier and tastier.'

[13] In terms of the examples with nominal predicates, evidentials more generally exhibit restrictions, and thus we do not use them presently.

In this set of examples, we used a PA in a comparative adjectival form in order to create a more natural context for an inanimate object in the 'let' construction. Recall from Section 2 that neuter comparative forms also exist, as illustrated in (24). These forms behave like regular positive neuter adjectives in that they also only have a nominative form.

(24) Tais laikas viskas buv-o sveik-iau ir
Those times everything.N.NOM be-PST.3 healthy-CMPR.N.NOM and
skan-iau.
tasty-CMPR.N.NOM
'In those days, everything was healthier and tastier.'

With a dative neuter pronoun in the 'let' construction, a comparative PA is ungrammatical with any inflectional form. This is shown for the neuter nominative (25a) and the masculine dative singular (25b); the construction remains ungrammatical for PAs inflected with feminine dative singular as well as any instrumental form (not shown).

(25) a. ??Tai leidži-a viskam būti sveik-iau ir
That let-PRS.3 everything.N.DAT be.INF healthy-CMPR.N.NOM and
skan-iau.
tasty-CMPR.N.NOM
'That lets everything be healthier and tastier.'

b. *Tai leidži-a viskam būti sveik-am ir
That let-PRS.3 everything.N.DAT be.INF healthy-CMPR.M.DAT and
skan-iam.
tasty-CMPR.M.DAT
'That lets everything be healthier and tastier.'

The 'let' construction also generally allows an infinitival clause with a nominal predicate, as illustrated in (26), where the nominal predicate appears in instrumental case. When a dative neuter pronoun appears in this environment with a nominal predicate, as in (27), the sentence is grammatical, indicating that the PA in (25) is the cause of ungrammaticality.

(26) Tai leid-o maistui būti tavo geriausiu vaistu.
that let-PST.3 food.M.SG.DAT be.INF your best remedy.M.SG.INS
'That let the food be your best remedy.'

(27) Meditavimas yra menas leisti viskam būti pačia giliausia
meditation.NOM is art.NOM let.INF everything.N.DAT be.INF most deepest
prasme.
meaning.F.SG.INS
'Meditation is the art of letting everything have the deepest meaning.'[14]

Overall, after examining the behavior of neuter PAs in various non-nominative environments, we suggest that there is only one neuter PA form, namely a nominative form. There are no non-nominative neuter PAs, and the nominative neuter PA cannot be used

[14] https://www.yogi.lt/isminciu-citatos/isminciu-sakymai-77-2/ accessed on 03-27-2024.

as an alternative in these non-nominative agreeing environments. The morphological gap that we observed here is consistent in that it targets all cases apart from nominative.[15]

3.2 Non-Nominative Default Environments

In this section, we demonstrate that neuter PAs cannot be used in non-nominative syntactic default environments. In the previous subsection, we observed that neuter PAs appear in agreement with neuter pronouns with nominative case in copular constructions, but cannot appear in agreement with non-nominative neuter pronouns. We now show that neuter PAs, which can occur in default syntactic environments in the nominative (recall Section 2), are ungrammatical in non-nominative default environments. That is, we demonstrate that non-nominative default environments, while syntactically well-formed, also lead to morphological ineffability: there is no morphological form that can be inserted in these environments. To show this, we employ two default environments discussed in Section 2, namely *weather* predicates (3.2.1) and pancake sentences (3.2.2), which we combine with non-nominative environments introduced in Section 3.1.

3.2.1 Genitive of Evidential with Weather Predicates

We begin by combining a default syntactic environment that requires a neuter PA, with the genitive of evidential construction, which requires a genitive PA. As discussed above in Section 2, neuter PAs can occur with *weather* predicates in copular constructions, where there is no projected subject. This is shown in (28), repeated from (8). The neuter PA here acts like a default form.

(28) (Lauke) yra karšt-a.
outside be.PRS.3 hot-N.NOM
'It is hot (outside).'

Now we illustrate what happens when we embed this construction in a non-nominative environment, specifically the Genitive of Evidential. As we saw above in Section 3.1.3, the genitive of evidential construction in Lithuanian occurs as a non-finite clause with a genitive subject, which agrees with a PA in genitive case as well as gender and number. This is illustrated in the contrast between (29a), where a nominative subject in a copular construction occurs with a nominative PA, and (29b), where the genitive subject in the evidential construction occurs with a genitive PA.

(29) a. Kava buv-o karšt-à.
coffee.F.SG.NOM be-PST.3 hot.F.SG.NOM
'The coffee was hot.'

b. Kavos bū-t-a karšt-os.
coffee.F.SG.GEN be.-PPP-[-AGR] hot-F.SG.GEN
'The coffee must have been hot.'

[15] One case that we were not able to test was locative, though we assume that, as with other non-nominative cases, neuter locative inflection is also ineffable.

Having established that PAs appear in genitive case in evidential constructions, we observe that embedding (28) in the evidential construction as in (30) yields ungrammaticality. That is, the neuter PA cannot be used as a default in this non-nominative environment even though they can act as default forms in the nominative copular environments in (28). The construction is in fact altogether ineffable, with genitive masculine and feminine forms (as well as others) also being ungrammatical.

(30) *Lauke bū-t-a káršt{-a/-o/-os}.
outside be-PPP-[-AGR] hot-N.NOM/M.SG.GEN/F.SG.GEN
'It must have been hot outside.'

3.2.2 Make Causative with Pancake Sentences

The second piece of evidence combining a syntactic default environment with a non-nominative context is pancake sentences, as discussed in Section 2, with 'make' causatives (see Section 3.1.1). While the subject in (31a-31b) is a feminine plural nominal, a PA may appear in either a neuter form as in (31a) (yielding an eventive reading) or a feminine plural form as in (31b) agreeing with the subject, which yields a somewhat different interpretation (where the PA describes an individual property of the nominal); see Adamson and Šereikaitė 2019 for discussion. Crucially, we take (31a) to correspond to a default use of a neuter PA.

(31) a. Grožio procedūros yra brang-u.
beauty procedures.F.PL.NOM be.PRS.3 expensive-N.NOM
'Beauty procedures are expensive (to get).'

b. Grožio procedūros yra brang-ios.
beauty procedures.F.PL.NOM be.PRS.3 expensive-F.PL.NOM
'Beauty procedures are expensive.'

Recall from Section 3.1.1 that the causative takes a non-nominative PA in either accusative or instrumental that agrees with the accusative causee in gender and number. The examples below demonstrate that embedding (31a) in the construction yields ungrammaticality (32a), where no other accusative singular adjectival form is acceptable. In contrast, we find that embedding (31b) into the causative construction is felicitous with both accusative and instrumental agreeing PAs (32b). We suggest that this contrast arises due to the morphological ineffability of neuter PAs in non-nominative settings.

(32) a. *Tai padar-ė grožio procedūras brang-u.
that make-PST.3 beauty procedures expensive-N.NOM
'That made beauty procedures expensive (to get).'

b. Tai padar-ė grožio procedūras brang-ias/-iomis.
that make-PST.3 beauty procedures.F.PL.ACC expensive-F.PL.ACC/-F.PL.INS
'That made beauty procedures expensive.'

3.3 Summary and a Discussion of Alternatives

We summarize our results in Tables 5 and 6. In brief, masculine and feminine PAs that agree with a nominal allow all case forms, whereas neuter PAs only have a nominative form. As Table 5 shows, we first explored the use of the neuter PA, demonstrating that it appears when agreeing with a nominative neuter pronoun in nominative copular constructions. But, this neuter form is ungrammatical with neuter pronouns in non-nominative environments, with all other PA forms also being unacceptable. Specifically, we observe that neuter PAs cannot occur in non-nominative agreeing environments where we would expect to see agreement in non-nominative case between the neuter pronoun and the neuter PA (e.g. in make-causative constructions). We suggest that these examples are ungrammatical because of a morphological gap.

Agreeing Environment	M/F PA	N.NOM PA
Nominative Copular	✓	✓
Accusative/Instrumental 'make' Causative	✓	✗
Genitive of Negation	✓	✗
Genitive of Evidential	✓	✗
Dative *let*	✓	✗

Table 5 PAs in different case environments: Agreement with a nominal

As Table 6 illustrates, we also show that neuter PAs can appear in nominative syntactic default environments (e.g. with *weather* predicates or pancake sentences), but cannot appear in the same default environments when a PA would be expected to appear in a non-nominative case (e.g. with the genitive of evidential or with a 'make' causative). This again indicates that only a nominative neuter PA exists in the language and that its use in default environments is restricted.

Default Environments	N.NOM PA
Weather-copular constructions	✓
Pancake sentences	✓
Weather-copular construction + Genitive of Evidential	✗
Pancake sentences + ACC/INS make causative	✗

Table 6 PAs in different case environments: Default Environments

For both types of expressions we have explored, neuter PAs result in morphological ineffability in non-nominative environments, with all forms being unacceptable. As we discuss in Section 4, our analysis attributes this ineffability to gaps in the morphology as opposed to problems that arise in the syntax of such expressions. Before we proceed with our analysis, we offer further evidence against conceivable syntactic explanations that could account for the ungrammaticality of neuter PAs in non-nominative environments.

The first alternative we consider is one where there is a syntactic constraint on agreement with neuter pronouns. For example, one could suggest that neuter pronouns, lacking gender features, cannot agree in (non-nominative) case with a neuter PA. Such an analysis could capture the data discussed in Section 3.1, where the neuter pronoun is expected to agree with a PA not only in gender but also in case e.g., accusative, genitive, and dative. We

first note that such an analysis would not readily extend to the data discussed in Section 3.2 without further assumptions, where neuter pronouns are absent but neuter PAs in non-nominative case are still strikingly ungrammatical.

Furthermore, we have also shown evidence in Section 3.1.1 that indicates that in the make construction, the nominal does not need to agree with a PA in case, e.g., a PA in these environments can be instrumental (11). However, a neuter pronoun is ungrammatical in this environment despite the instrumental case option (13), suggesting that the problem does not involve case agreement with the neuter pronoun. Therefore, this suggests that the ungrammaticality of these examples cannot be explained in terms of the lack of agreement in case.

We would like to add further that neuter pronouns can participate in agreement in non-nominative case environments, specifically with relative pronouns, which agree in gender and number with the head noun. This is illustrated in (33) with all masculine and feminine nouns.

(33) *Full Relative Clauses*

a. Aš valgi-au obuolį, **kur-is** buv-o sald-us.
1SG.NOM eat-PST.1.SG apple.M.SG.ACC that-M.SG.NOM be-PST.3 sweet-M.SG.NOM
'I ate an apple that was sweet.'

b. Aš valgi-au kriaušę, **kur-i** buv-o sald-i.
1SG.NOM eat-PST.1.SG pear.F.SG.ACC that-F.SG.NOM be-PST.3 sweet-F.SG.NOM
'I ate a pear that was sweet.'

When it comes to neuter, the relative pronoun *kas* is used, which is identical in all its related case forms to the interrogative pronoun *kas* 'who/what', which morphologically inflects like masculine singular pronouns belonging to the *-as* declension class (see Ambrazas et al. 1997:183,209).

(34) Aš valgi-au viską, **kas** buvo sald-u.
1SG.NOM eat-PST.1.SG everything.N.ACC that.N.NOM be-PST.3 sweet-N.NOM
'I ate everything that was sweet.'

The relative pronoun varies in case according to the case that would be assigned to the nominal in the embedded clause. We observe that the relative pronoun *kas* can occur with a neuter pronoun in non-nominative cases, as exemplified in (35) for dative and instrumental cases. We thus conclude that neuter pronouns are syntactically capable of controlling agreement when there is no morphological gap; hence, relative pronouns have neuter non-nominative forms, whereas neuter non-nominative PAs do not.

(35) a. Aš valgi-au viską, **kam** ne-buv-au alergiškas.
I.NOM eat-PST.1.SG everything.N.ACC that.N.DAT NEG-be-PST.1SG allergic.M.SG.NOM
'I ate everything that I wasn't allergic to.'

b. Aš valgi-au viską, **kuo** žavėjausi.
I.NOM eat-PST.1.SG everything.N.ACC that.N.INS admire-PST.1.SG
'I ate everything that I admired.'

The second alternative we consider is one where finiteness plays a role. One could imagine, for example, that neuter PAs are only licensed in finite environments, given that the contexts discussed in Sections 3.1 and 3.2 include (what could be considered) small clauses, as in *make*-causative environments, as well as other nonfinite environments such as the genitive of evidential. However, we provide evidence against this alternative. There exist examples with verbs that take nonfinite complements where a neuter PA may appear and is grammatical. In the example in (36), we observe that the matrix verb *pradėti* 'to start' can embed a nonfinite clause containing a PA that agrees in gender and number with the matrix subject and also agrees with it in nominative case. In the example in (37), the neuter pronoun *viskas* appears in the matrix subject position, with a neuter nominative PA felicitously appearing in the embedded nonfinite clause. Thus, we suggest that finiteness does not play a role in whether a neuter PA is grammatical or not.

(36) Pamažu šis procesas pradėj-o tapti aišk-esn-is.
Slowly this process.M.SG.NOM start-PST.3 become.INF clear-CMPR-M.SG.NOM
'Slowly, this process started to become clearer.'

(37) Pamažu viskas pradėj-o tapti aišk-iau.
slowly everything.N.NOM start-PST.3 become.INF clear-CMPR.N.NOM
'Slowly, everything started to become clearer.'

To summarize, we suggest that the ungrammaticality of non-nominative neuter PAs (summarized in Tables 5 and 6) obtains because of a morphological gap, not because of other syntactic factors.

4 Analysis: Capturing the Morphological Gap Behavior

In this section, we offer an account of the neuter PA gap in Lithuanian described in Section 3. As discussed at the end of Section 2, the existence of a gap in neuter environments may be surprising given the syntactic default status of neuter PAs in the language. We consider two approaches here, one couched within Distributed Morphology (DM) (Halle and Marantz 1993; Embick and Noyer 2001; Harley 2014; Embick 2015; a.o.) and the other within Nano(syntax) (Starke 2009; Caha 2009; Baunaz and Lander 2018; among many others). Both analyses that we offer share the core insight that the default status of neuter does not correspond to the complete absence of feature specification: for the DM account (Section 4.1), neuter inflection is inserted in the context of a positively specified nominative case value, and for the Nano account (Section 4.2), a "small" Vocabulary Item is used for neuter nominative case without being able to expone other case values.

We would like to highlight that our analysis treats the use of neuter in default environments as a special type of *exceptional case default*, a concept that we draw from the framework of Network Morphology. According to Corbett and Fraser (2000), exceptional case defaults "apply to anomalous items that would fall between the cracks": we take potential examples to include Default Case Assignment in the absence of case assigners

(Schütze 2001), Spanish Spurious *se*, which is inserted to avoid two adjacent third person clitics (e.g. Bonet 1991), and Failed Agree (Preminger 2014a), where e.g. unmarked person marking on verbs appears if, for example, there is no nominal with nominative case with which to agree. In our view, what such cases have in common is that the default form is used to 'repair' a grammatical situation where something fails. This is in contrast to *normal case defaults* where 'productive' rules apply more generally, e.g., English past tense *-ed* and English plural *-s*, where no repair is needed.

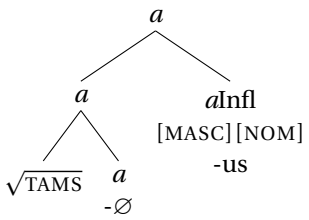
For the Lithuanian neuter, we conceptualize the distribution of neuter PAs as that of an exceptional case default, which is restricted to nominative environments.

Overall, this study contributes to the ongoing debate on defaults by suggesting that only one type of default, namely what we refer to as exceptional case defaults (following Corbett and Fraser 2000) can give rise to a morphological gap, yielding ineffability. We discuss this in greater detail in Section 5.

4.1 A DM Approach

We first introduce a basic derivation for a typical adjective in DM, and then derive each relevant grammatical environment with neuter PAs. We assume a decomposition of adjectives along the lines of (38), where an adjective like *tamsus* 'dark.M.NOM.SG' consists of a root $\sqrt{\text{TAMS}}$, a category-defining head *a* (which may or may not receive overt realization, depending on the adjective), and an inflectional node *a*Infl, which bears gender, number, and case features received via agreement or concord (see Norris 2014; Ingason 2016; Adamson and Šereikaitė 2019; among others) and is also sensitive to declension class (on which, see Section 2).[16] In the following subsections, we will show that the locus of the gap is the *a*Infl node, specifically the lack of a phonological exponent that can realize it for certain feature combinations. Throughout, we set declension class and number to the side.[17]

(38) *tams-us* - dark-M.SG.NOM

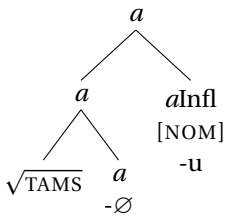


We assume following Adamson and Šereikaitė (2019) that neuter corresponds to the absence of masculine and feminine gender features. This reflects the fact that no lexical nouns are inherently neuter in Lithuanian, as well as the non-agreement status of neuter in the language. As shown in (39), a neuter adjective lacks gender features on *a*Infl, though it still may bear case features.

[16] We assume throughout that all exponents of adjectival inflection in Lithuanian realize combinations of gender, number, and case; that is, they are not further decomposed.

[17] As far as the representation of number is concerned, we note that the account would be compatible with the representation of singular number for masculine and feminine nouns as a feature [SG] (either privative or not) being transmitted to masculine/feminine PAs. However, we do not represent number features here for ease of exposition. As far as neuter PAs are concerned, we believe they have no value for number, as is also the case for neuter pronouns (see Adamson and Šereikaitė 2019 for discussion).

(39) *tams-u* - dark-N.NOM



(40) provides the list of Vocabulary Items for *a*Infl within the *-us/-i* declension with nominative case exponents for masculine, feminine, and neuter nominative forms.[18]

(40) *-us/i* declension (nominative)

a. *a*Infl[MASC][NOM] ↔ -us (tams-us 'dark.M.SG.NOM')

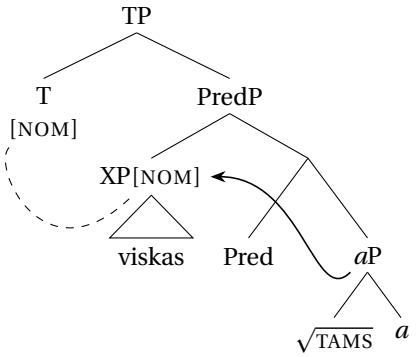
b. *a*Infl[FEM][NOM] ↔ -i (tams-i 'dark.F.SG.NOM')

c. ***a*Infl[NOM] ↔ -u (tams-u 'dark.N.NOM')**

Recall that a neuter PA agrees with a neuter pronoun in nominative copular constructions as in (41). For concreteness, we assume that the neuter pronoun receives nominative case from a finite T through Agree (see Šereikaitė 2020 on Lithuanian). T assigns nominative case to the neuter pronoun and in return, the neuter pronoun values the person feature on T as third person. We also assume an Agree relation obtains between the pronoun and the PA where the PA probes up to Agree with the pronoun (e.g. Baker 2008 on upward Agree). A sample derivation is provided in (42). We suggest that this Agree relation copies any nominal features onto the adjective, which then come to be located on *a*Infl in the postsyntax, as in (39).

(41) Viskas buv-o tams-ù.
everything.N.NOM be-pst.3 dark-N.NOM
'Everything was dark.'

(42)



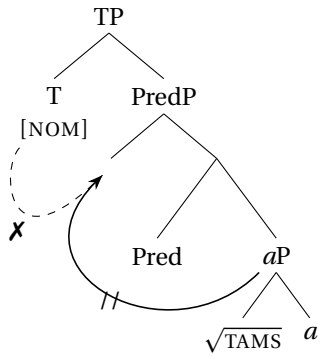
We now turn to examples like (43) which illustrate the use of neuter in a default nominative environment, or as we are characterizing it, in an *exceptional case default* environment. We suggest, following Adamson and Šereikaitė 2019, that such examples lack a

[18] Note that Adamson and Šereikaitė 2019 propose that the more marked feminine gender is represented as a bundle of features that includes [FEM][MASC]. We set this issue to the side presently, as it plays no role in our analysis.

syntactically projected subject, and therefore, the PA lacks a corresponding nominal to agree with (44). Furthermore, a finite T does not assign nominative case to this predicate, given that *a*P lacks person features, which T needs in order to assign nominative case. Thus, no nominal features are copied onto the PA, and no Agree relation obtains.

(43) (Lauke) yra tams-ù.
outside be.PRS dark.N.NOM
'It is dark (outside).'

(44)



To derive the realization of neuter inflection with the PA for (43), we propose the following. First, a postsyntactic rule that inserts a case feature applies in the absence of case features on *a*Infl, as schematized in (45). Specifically, we suggest that 'default case' in Lithuanian requires Feature-Filling (in Schütze's 2001 sense): default [NOM] must be inserted in the absence of case features on nominals, as well as on adjectives. The feature-filling occurs before Vocabulary Insertion. Note that nominative case is indeed the default case in Lithuanian, as has been argued by Lavine (2010).[19]

(45) **Feature-Filling Rule** (PF Component): $\varnothing_{case} \rightarrow$ [NOM]

We suggest the rule in (45) reflects the exceptional nature of this default environment: the rule 'repairs' the situation of lacking a case feature where one is expected. We thus characterize this use of the neuter of as an example of an exceptional case default environment.

Second, we suggest that PAs like that in (43) can be specified for an unmarked feature value in the Vocabulary rather than being fully underspecified e.g., an item may be specified for nominative case, as in (40c). (We discuss the alternative where nominative case is fully underspecified below.) This can derive examples like (43): in the absence of agreement, no case features are transmitted to *a*Infl. The feature-filling rule applies, inserting

[19] For example, a modified pronoun as in (i) in object position in Lithuanian appears in nominative as opposed to accusative (see Schütze 2001 for the nature of this test).

(i) Aš noriu atrasti savo tikrąjį {'aš'/*mane}.
I.NOM want.PRS.1SG discover.INF self real.ACC I.NOM/*ACC
'I want to discover the real 'me'.'

[NOM]. The exponent in (40c) is then chosen, as the *a*Infl node bears [NOM] but no gender features.

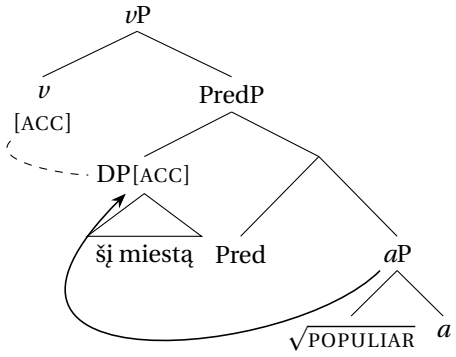
We now turn to the derivation of the morphological gap in non-nominative neuter environments, including those in syntactic default environments. We provide explicit derivations for several of our environments; we assume that others discussed in Section 3 that we do not address presently, including genitive of negation, 'let' constructions, and pancake sentences, can be derived similarly.

We first address the 'make' causative in (46), which we assume for concreteness consists of a PredP complement to *v*. Following Citko 2014, we further assume that a Pred head may optionally assign instrumental case to its complement. In the absence of instrumental case assignment, a PA Agrees with the causee in gender, number, and (accusative) case, as schematized in (47), which is the derivation of (46a). If Pred assigns instrumental case, then the PA will receive [INS] from the PA (as schematized in (48), which is the derivation of (46b), agreeing with the causee only in gender and number.

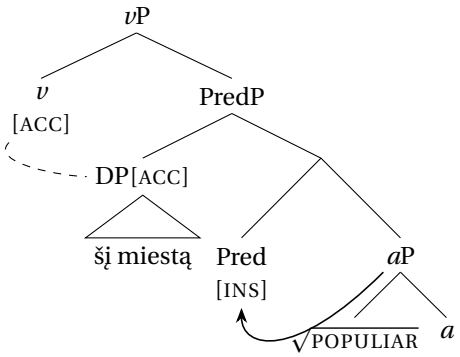
(46) a. Turizmas padar-ė šį miestą populiar-iu.
Tourism.M.SG.NOM make-PST.3 this city.M.SG.ACC popular-M.SG.INS
'Tourism made this city popular.'

b. Turizmas padar-ė šį miestą populiar-ų.
Tourism.M.SG.NOM make-PST.3 this city.M.SG.ACC popular-M.SG.ACC
'Tourism made this city popular.'

(47)



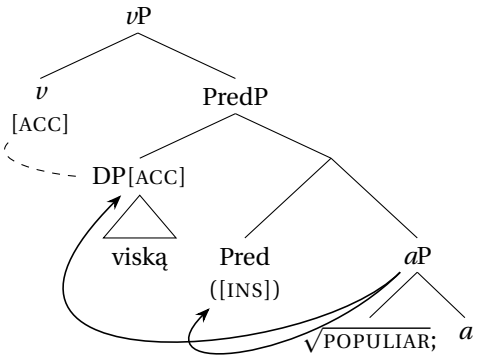
(48)



When the causee is a neuter pronoun as in (49), the PA will either agree with the accusative value of the causee, or will receive the instrumental value from the Pred head, depending on whether Pred assigns instrumental case or not, as depicted in (50). Because neuter pronouns lack gender, the only feature value on the PA following Agree will be either [ACC] or [INS]. While nothing goes wrong in the narrow syntax, the lack of available form results in morphological ineffability.

(49) *Turizmas padar-ė viską populiar-ų/-iu/-u.
tourism make-PST.3 everything.N.ACC popular-M.SG.GEN/-M.SG.INS/-N.NOM
‘ Tourism made everything popular.’

(50)



Vocabulary items are provided in (51) for accusative and instrumental forms, in addition to the neuter nominative. Because the neuter pronoun lacks gender features, the causative environment in (50) results in only case features appearing on *a*Infl. Consequently, no Vocabulary Item is eligible to realize *a*Infl for either the accusative or instrumental version, resulting in morphological ineffability.

(51) *us/i* declension (accusative/instrumental)
a. *a*Infl[MASC][ACC] ↔ -ų (populiar-ų ‘popular-M.SG.ACC’)
b. *a*Infl[FEM][ACC] ↔ -ią (populiar-ią ‘popular-F.SG.ACC’)

c. *a*Infl[MASC][INS] ↔ -iu (populiar-iu 'popular-M.SG.INS')

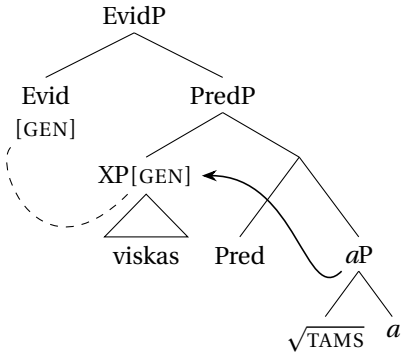
d. *a*Infl[FEM][INS] ↔ -ia (populiar-ia 'popular-F.SG.INS')

e. *a*Infl[NOM] ↔ -u (populiar-u 'popular-N.NOM')

We now turn to the derivation of the gap seen with the genitive of evidential. Recall that in the evidential construction, where a neuter pronoun subject bears genitive case, neuter PAs are ungrammatical (see example 21b, and additionally, 52). We follow the analysis of the evidential from Legate et al. 2020, assuming that there is an Evid(dential) head above the subject. This head assigns genitive case to the subject, in this case the neuter pronoun as illustrated in (53). We further suggest that the PA can enter an Agree relation with the neuter pronoun and copy its [GEN], as in (53), without issue. However, in the postsyntax, there is no matching Vocabulary Item among the inflectional exponents, as shown in (54). That is, (54c) cannot be used as a 'default' exponent that 'repairs' the derivation: the PA bears genitive case and is therefore ineligible to receive neuter (nominative) inflection. The result is a morphological ineffability, again reflecting the existence of the morphological gap in the language.

(52) *Visko būta tams-u/-aus/-os
everything.N.GEN be.[-AGR] dark-N.NOM/-M.GEN/-F.GEN
'Everything must have been dark.' Evidential with a genitive subject

(53)



(54) *-us/i* declension (genitive)

a. *a*Infl[MASC][GEN] ↔ -aus (tams-aus 'dark.M.GEN.SG')

b. *a*Infl[FEM][GEN] ↔ -os (tamsi-os 'dark.F.GEN.SG')

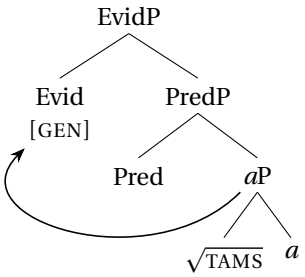
c. *a*Infl[NOM] ↔ -u (tams-u 'dark.N.NOM')

Given the feature specification of the Vocabulary Item in (40c), we correctly capture that neuter nominative forms should be unavailable in non-nominative cases when there is a neuter pronoun (52).

We also correctly capture that a default environment in non-nominative contexts – our exceptional case default setting (recall example 43) – is also incompatible with the neuter nominative form, and is in fact ineffable altogether. Consider again the genitive of evidential with a *weather* predicate that lacks a syntactically projected subject (55).

(55) *Lauke bū-t-a tams-ù.
Outside be-PPP-[-AGR] dark-N.NOM
'It must have been dark outside.' Evidential without a genitive subject

(56)



In this case, the PA receives case features from the Evidential head that assigns genitive to nominals as in (56). The case assignment of this genitive case is different from that of nominative. The Evid head has no ϕ-features that need to be valued in order for this case to be assigned (similarly to a PredP head, which assigns instrumental case, that we have observed in the causative 'make' construction in (50)). In this case, the AP can agree in case with the Evid head. Because the PA then bears genitive case but no gender feature, the Vocabulary Items in (54a) and (54b) cannot be used given that their entries include gender specification (in addition to case) and the Vocabulary Item in (54c) cannot be used because the PA lacks a nominative case feature.

An alternative approach could assume a containment relation whereby the representation of nominative case is included in the representation of other cases such as accusative, genitive, among others (Caha 2009 and subsequent work, though see Christopoulos and Zompì 2023). However, such an account would fail to capture the inability of neuter nominative forms to be inserted in neuter non-nominative environments, given that the nominative neuter Vocabulary Item should be available for insertion in such environments.

Another alternative approach could instead have a Vocabulary Item for *a*Infl that is not specified for any features, as in (57). Under this approach, the Subset Principle dictates that any *a*Infl node not specified enough to match any another Vocabulary Item should instead yield neuter inflection.

(57) *a*Infl ↔ -u (tams-u 'dark-N.NOM') (not possible for Lithuanian)

This approach would fail to capture the ungrammaticality of non-nominative neuter forms. For example, as discussed above, genitive of evidential environments will furnish PAs with [GEN]; given the Subset Principle, the Vocabulary Item in (57), being the least specific, should still be compatible and should therefore apply (since there are no other more specific Vocabulary Items that could apply).[20]

To summarize, our DM account views the default status of neuter as being represented by more than 'nothing' in the Vocabulary Item's specification: it necessarily requires the presence of nominative case, which even in syntactic default environments corresponds to

[20] See related discussion in Harley 2014; Arregi and Nevins 2014, among others on the derivation of gaps in DM.

a positive case specification, postsyntactically inserted for default environments. While an intuitive alternative would treat the default status of neuter as deriving from the complete absence of features, the Lithuanian gaps are not compatible with this alternative, as they cannot be derived this way. This suggests that defaults more generally need not be derived only through underspecification in the Vocabulary.

4.2 A Nano approach

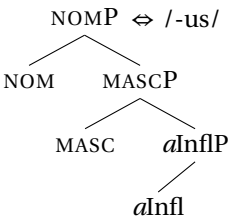
We now turn to an alternative analysis couched within Nanosyntax. In this framework, syntactic derivations are decomposed such that each feature corresponds to its own projection, with syntactic trees mapping to exponents at each and every node, with certain types of movements carried out in order to realize these syntactic structures. Crucially for present purposes, an assumption within Nanosyntax is that when structures cannot be realized, the derivation crashes (e.g. Caha 2022:252).

In our Nano analysis, the base of an adjective can correspond to an AP in (58), with inflectional exponents realizing a combination of gender, number, and case, with each feature residing in its own node (see Baunaz and Lander 2018 and references therein), and nominal features, including case, being represented via containment relations. (58) shows the representation in the Vocabulary of the adjective base for the masculine nominative adjective (*tamsus*) 'dark', and (59) provides the representation in the Vocabulary for the inflectional exponent, consisting of both masculine and nominative nodes in its tree representation. (60) shows the corresponding feminine nominative inflection which, in addition to a case node, has both masculine and feminine nodes (see Adamson and Šereikaitė 2019 on gender containment in Lithuanian).

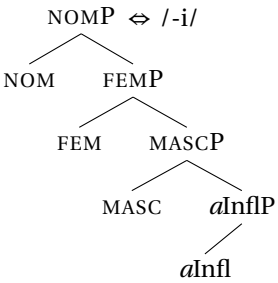
Parallel to our DM account, for this analysis, we propose that neuter adjectives lack gender specification in the representation of their Vocabulary Item. Thus, a neuter adjective is specified for nominative case, but without gender, as in (61). For all inflectional exponents, we include the node *a*Infl for concreteness, continuing to set aside declension class.

(58) *a*P ⇔ /tams/

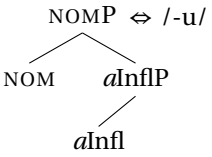
(59) tams-us 'dark-M.SG.NOM'



(60) tams-i 'dark-NOM.F.SG'



(61) tams-u 'dark-N'

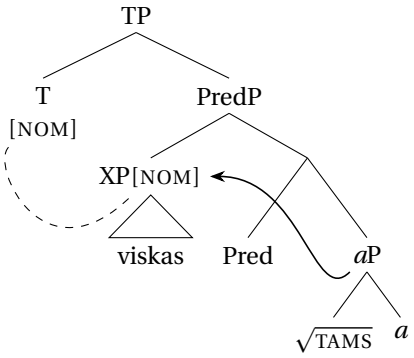


We first illustrate a derivation of a neuter PA agreeing with a neuter pronoun. Recall our example in (41), repeated here in (62).

We assume that PAs acquire agreement nodes consisting of gender, number, and case features. In the case of a neuter pronominal subject, which only bears nominative case, the neuter PA will lack gender nodes but will have nominative case; see (63).

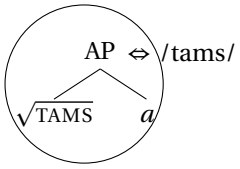
(62) Viskas buv-o tams-ù.
everything.N.NOM be-PST.3 dark-N.NOM
'Everything was dark.'

(63)

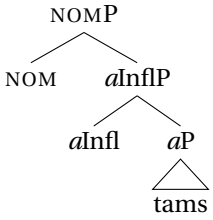


Exponence in this framework requires interleaving between structure-building and phonological exponence. Thus (64a) shows the representation of the adjective before agreement nodes have been combined, with the tree mapped to the exponent of the root *tams*. Following agreement with the neuter pronoun, a nominative head is combined with the existing tree, as in (64b). Simplifying somewhat, because the Vocabulary does not have any entries that can expone this entire structure, the Nanosyntactic algorithm dictates that the *a*P is moved (as an instance of lexically driven movement), such that the other nodes match a subtree of the Vocabulary Item and thus can be realized as in (64c).

(64) a.



b.



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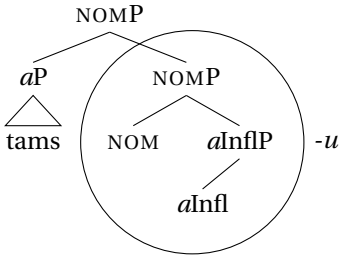


Moving on to our next example, which is an instance of neuter in an exceptional case default environment, we suggest the following. Holding our assumptions about case

assignment constant from our DM-based account, we assume for an example like (65) (repeated from (43)), that nominative is not assigned in the absence of a projected subject; thus the PA lacks case features altogether.

(65) Lauke tams-ù.
(outside) dark-N.NOM
'It is dark (outside).'

In this example, no nominative case feature comes to be part of the PA structure. In Nanosyntax, there are no postsyntactic operations like feature insertion that are permitted. However, there is still a way that such a structure can be realized: according to the Superset Principle (66), stored lexical entries can realize syntactic subtrees. This means that the PA in (65), despite lacking a nominative node, can be realized with the Vocabulary Item in (61).

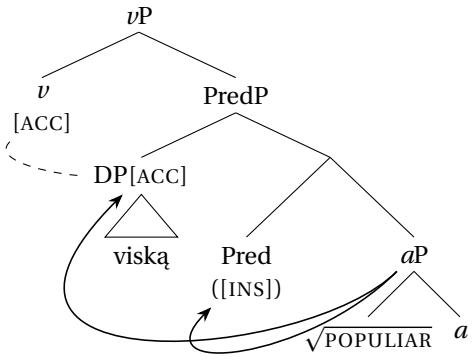
(66) The Superset Principle (Starke 2009)
A lexically stored tree L matches a syntactic node S iff L contains the syntactic tree dominated by S as a subtree.

We now turn to examples that result in a gap. In this framework, features that remain *unlexicalized* cause a crash (e.g. Caha 2022). In such situations, nodes that are not paired with phonological forms at Vocabulary Insertion yield ungrammaticality, giving rise to morphological gaps.

For the 'make' causative, the case features of the adjective must either reflect agreement with an accusative causee, or case agreement with the instrumental-assigning Pred head, as described in Section 4.1. The example in (67), repeated from above, indicates that this leads to ungrammaticality with a neuter pronoun as the causee. As in our DM-based analysis, the problem does not arise from agreement in the narrow syntax: as schematized in (68), the PA successfully Agrees, receiving case features from either the causee DP or the Pred head.

(67) *Turizmas padar-ė viską populiar-ų/-iu/-u.
tourism make-PST.3 everything.N.ACC popular-M.SG.GEN/-M.SG.INS/-N.NOM
' Tourism made everything popular.'

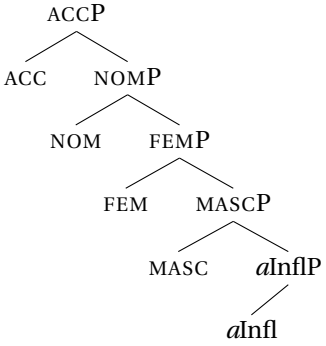
(68)



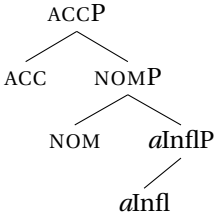
Because neuter pronouns lack gender features, the tree for the PA will only include case nodes above *a*Infl. With non-nominative neuter adjectives, because the Vocabulary Item in (61) includes NOM but no other cases such as ACC or INS, these cases will not be able to be matched by any Vocabulary Item. Recall that, in this framework, the 'smaller' vocabulary items do not expone the larger syntactic structure – it is in fact the other way around. This means that the 'small' neuter adjective entry in (61), which does not include the higher cases, cannot be employed to expone non-nominative cases, resulting in a crash when such cases are present in the syntactic structure.

Furthermore, feminine and masculine forms with accusative and instrumental case are ungrammatical in this environment. This is because a lexical entry for a feminine or masculine adjective (e.g. 75) will include gender nodes at the bottom of the tree: for a neuter PA, such an entry will be incompatible because the neuter lacks gender nodes altogether as in (70). Crucially then, (70) is not a subtree of (69), meaning it cannot be exponed with the feminine genitive form.

(69) Lexical entry F.SG.ACC



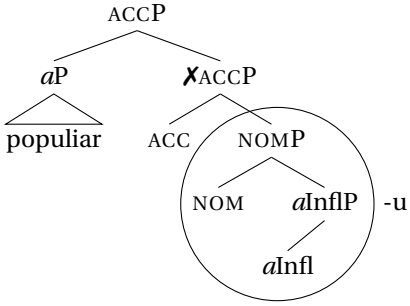
(70) *N.ACC, not a subtree of (69)



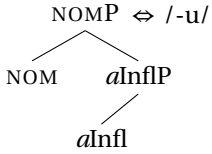
As depicted for the accusative in (71), when the spell-out algorithm tries to realize case nodes including ACC, DAT, GEN, or INS, it will not be able to incorporate them into the adjectival structure, as the Vocabulary Item for the neuter inflection does not contain these case features (as in 72). While realization of the structure up to nominative remains unproblematic, the addition of case projections for *accP* and subsequent cases will cause a crash given that no lexical entry can realize these features. This results in morphological ineffability. [21]

[21] However, much work in Nanosyntax takes prepositions to be realizations of case features (e.g. Caha 2009 and subsequent work). So it is not clear why this situation would result in a gap rather than being salvaged by the insertion of a preposition from the language (e.g. **su gražu* 'with beautiful.N.NOM'); cf Caha 2022 on this type of 'repair' in BCS. We simply note that prepositions in the language never occur with nominative objects. Thus, there remains a number of issues concerning case containment and prepositions in the framework as they relate to morphological gaps.

(71) Neuter form generated by the syntax



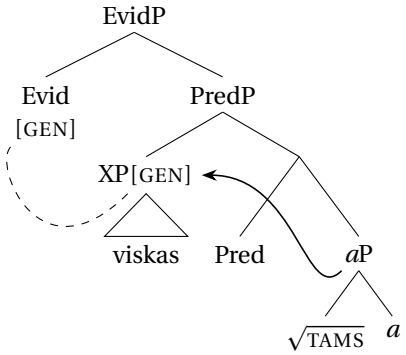
(72) The only neuter Vocabulary Item



Turning to the genitive of evidential, the situation is similar. Holding our assumptions constant, there is a genitive neuter subject in an example like (73), and the PA searches for something to agree with, identifying the subject, as depicted in (74).

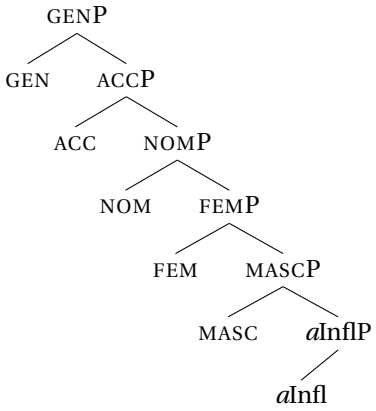
(73) *Visko bū-t-a tams-u/-aus/-os.
everything.N.GEN be-PPP-[-AGR] dark-N.NOM/-M.SG.GEN/-F.SG.GEN
'Everything must have been dark.'

(74)

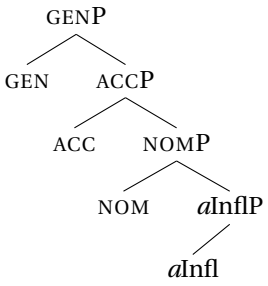


As in the 'make' causative, the neuter pronoun does not confer the *a*P with any gender features; only case nodes are combined above the *a*InflP. As with other non-nominative cases, the lexical entries for genitive adjectival endings all bear gender nodes, as (75) illustrates for the feminine singular. These lexical entries will therefore be ineligible for the realization of the genitive neuter tree (shown in 76), which is not related to the lexical entry via a subset relation.

(75) Lexical entry F.SG.GEN

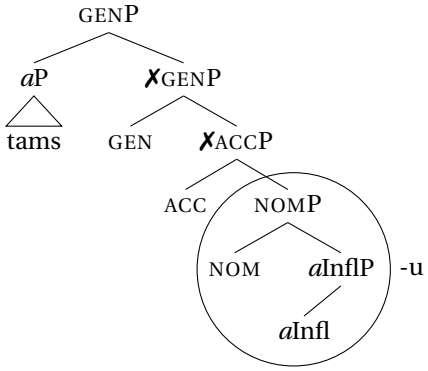


(76) *N.GEN, not a subtree of (75)

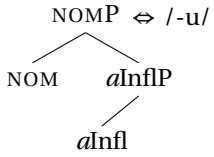


As with the 'make' causative, realization of the adjectival structure can proceed unproblematically up to the nominative case inflectional, but will lead to a crash when higher case projections need to be exponed; this is depicted in (77). The neuter nominative lexical entry in (78) can realize the lower structure up to the nominative, but there are no entries that can subsequently realize the higher case structure, resulting in morphological ineffability.

(77) Neuter form generated by the syntax



(78) The only neuter Vocabulary Item



Lastly, the Nano account, like the DM account, can treat the gaps seen with non-nominative exceptional case default environments similarly. In this case, the evidential head will assign genitive case to the PA, requiring genitive marking on the PA. The same situation arises as above in (55), repeated in (79): because there are no gender features, no matching tree from the adjectival lexical entries can expone this structure. The result is morphological ineffability.

(79) *Lauke būta tams-ù.
outside be.[-AGR] dark-N.NOM
'It must have been dark outside.' Genitive of Evidential Environment

4.3 Comparing the two approaches

In this subsection, we summarize how the DM and Nano analyses capture the status of neuter in the language by highlighting similarities and differences between the two accounts.

In terms of how neuter is represented in the language, we first note that in both accounts, the assumption that neuter corresponds to the absence of gender features can easily be captured: masculine and feminine forms can be specified to be inserted only when such gender features are present on the PA. That is, in both approaches, for masculine and feminine PAs, such adjectives will bear specific gender features that will be realized with exponents that only can be inserted for those genders. The consequence is that, because neuter PAs lack such features, these gender-specific exponents cannot be used to realize the neuter. In DM, this is because exponents are eligible for insertion only when some contextual restriction is satisfied (e.g. the node must bear [FEM] to be inserted). For Nanosyntax, this is because gender nodes are lower than case in the structure; thus gender-specific exponents cannot be inserted for neuter non-nominative PAs, given that these structures will not be sub-trees of gender-specific exponents.

As for how nominative case is represented, both approaches can easily derive the fact that nominative can be specified as a case feature. This is important because some studies assume that nominative corresponds to the absence of case (Falk 1991; Bittner and Hale 1996; Preminger 2014b; Kornfilt and Preminger 2015). Under both accounts, nominative case can be represented as a positive NOM feature specification, where T assigns nominative case to a nominal with which a PA agrees; but nominative forms can also be applied in default nominative environments (e.g. where there is no projected subject). To derive the neuter gap with non-nominative case, we have suggested that the DM account involves positive postsyntactic specification of nominative case for the neuter exponent; if the exponent were not specified for nominative, then we would have expected the exponent to apply across for other default environments for other cases outside of the nominative. For the Nano account, default nominative environments yield a subtree of that of the lexical entry (consisting of only an *a*Infl node, excluding a NOM node), whereas default non-nominative environments do not, given the presence of additional case nodes. Overall, under both approaches, default neuter PAs necessarily correspond to the realization of some set of features/nodes rather than their complete absence (i.e., the default is not 'nothing').

The DM and Nano accounts differ strikingly in their explanations for how the neuter gap arises. First, it is crucial for the DM account that NOM is not contained within other cases (see Christopoulos and Zompì 2023); otherwise, our nominative-specified neuter exponent would equally apply to other non-nominative cases, which would not capture the gap we have identified. In contrast, the Nano account assumes case containment, where e.g. genitive and accusative cases are built on top of the nominative. However, this is not an issue for the account, given that the gap is derived in a different way. That is, Nano (with the Superset Principle) derives the gaps by excluding case nodes from the neuter Vocabulary Item, giving rise to situations where those case features cannot be lexicalized. DM (with the Subset Principle) derives the exceptional gaps in Lithuanian by saying that the 'default' form is specified (i.e. with NOM case), rather than completely underspecified.

5 Conclusion

While various previous studies have focused on morphological gaps that arise from lexical idiosyncrasy, in this study, we explored the nature of a systematic morphological gap

in Lithuanian, which has not been investigated previously. We have demonstrated that Lithuanian neuter PAs have only one form, which is nominative, and the use of this form is very restricted despite its default status. We offered a way to resolve this tension between the status of neuter PAs in the language, which exhibit morphosyntactic default behavior in the nominative, and the ineffability of non-nominative neuter forms in the language.

As discussed in Section 4, our analysis treats the use of neuter in default environments as a special type of *exceptional case default*, which Corbett and Fraser 2000 describe exceptional case defaults "apply[ing] to anomalous items that would fall between the cracks". In Lithuanian, neuter PAs appear in syntactically atypical/default environments, such as cases where there is no subject for the PA to agree with or the features of the subject are not accessible for agreement.

Strikingly, the use of neuter inflection in the language is possible in nominative default environments, but not in other environments, i.e., default non-nominative environments. This is thus an example where an item that is employed as an exceptional case default can give rise to a morphological gap.

We offered two approaches, namely in DM and in Nano, which account for this in different ways. In our DM analysis, a neuter PA can receive nominative case through agreement with a canonical neuter pronominal subject in copular constructions. In exceptional case environments, however, the lack of case features on an adjective results in a 'default' postsyntactic insertion of a nominative case feature, which feeds Vocabulary Insertion of the neuter nominative exponent. This allows us to derive the restricted use of neuter in nominative default environments, as well as its inability to extend to non-nominative cases. The gap thus arises because neuter non-nominative PAs are generable in the syntax, but cannot be exponed in the morphology: the neuter nominative Vocabulary Item is incompatible with all non-nominative cases, and in fact no Vocabulary Item can realize the combination of neuter with non-nominative case, resulting in morphological ineffability.

In Nano, nominative case is still represented in the lexical entry of a neuter PA, and can be received through agreement with a neuter pronoun. In exceptional case environments, however, the lack of nominative can still be realized with the same lexical entry, given the logic of the Superset Principle. This 'small' tree thus allows us to derive the use of neuter PAs in nominative default environments. However, ungrammaticality arises in non-nominative (default) environments because, assuming containment relations among cases, non-nominative case is built on top of the structure of a neuter PA but cannot be realized by any exponent, causing a crash in the derivation.

These two approaches make different predictions in terms of which case is treated as a default in a language. In DM, given that there is no case containment under the current approach (cf. Christopoulos and Zompì 2023), the post-syntactic insertion of case can, in principle, target any default case in the language (e.g., nominative or accusative), and it has been argued (Schütze 2001) that some languages employ non-nominative case defaults. In contrast, within Nanosyntax, many studies assume or argue for case containment, which means that only the least marked case, namely nominative (under the case containment hierarchy) case can serve as the default case (see Caha 2024, which takes this to be correct).

We believe that the morphological gap in Lithuanian may also be related to the phenomenon of Slavic loanwords like *taxi* that cannot occur in certain case environments (e.g., dative or genitive) (see e.g. Bošković 2006; Pesetsky 2013): while in principle, syntax

can generate these forms, they similarly give rise to ineffability related to the exponence of case, though we leave to future research exactly how the phenomena may be connected.

In terms of a more general prediction, we would like to suggest that exceptional case default environments can give rise to *systematic* gaps that can apply across a natural class of items, while normal case defaults may not. This is because normal case defaults are productive rules that can apply more generally, e.g., English past tense *-ed* and English plural *-s*, where no 'repair' is needed.[22] Given this type of productivity, we expect to always get some kind of form, even in marked or atypical environments. In contrast, exceptional case defaults have in common that the default form is used to 'repair' a grammatical situation where something fails, e.g. no case features are provided in the absence of a nominal to agree with. This can give rise to gaps because the 'repair' is restricted in how it applies, potentially giving rise to grammatically specific situations where the repair cannot be used, such that these anomalous items 'fall between the cracks'.

If on the right track, this work further informs our understanding of morphological ineffability. While different sources of morphological ineffability have been identified in the literature, such as feature conflicts as a source of morphological ineffability (e.g. Asarina 2011; Coon and Keine 2021), our work is in line with Arregi and Nevins 2014, as it supports the existence of a type of morphological ineffability *whose source is a lack of a true elsewhere form.*

Acknowledgements. To be added.

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We follow the Leipzig Glossing Rules throughout, and opt to gloss neuter items on par with masculine and feminine genders (see e.g. Ambrazas et al. 1997:134), though as will become apparent in Section 4, our analysis treats neuter differently from masculine and feminine genders. Additional glosses: PPP - past passive participle, -AGR - non-agreement.

Declarations

Some journals require declarations to be submitted in a standardised format. Please check the Instructions for Authors of the journal to which you are submitting to see if you need to complete this section. If yes, your manuscript must contain the following sections under the heading 'Declarations':

- Funding
- Conflict of interest/Competing interests (check journal-specific guidelines for which heading to use)
- Ethics approval and consent to participate
- Consent for publication

[22] We do not suggest that all morphological gaps are derived with respect to exceptional case defaults. We are of aware of the so-called *stride* gap in English, where the participial form is for many speakers ungrammatical (**strided, *stridden*); see e.g. Adamson 2019. We first note that lexical gaps like *stride* are unlike the gap we observe with the Lithuanian neuter PAs, in that the latter consistently applies across neuter PAs.

- Data availability
- Materials availability
- Code availability
- Author contribution

References

Adamson L (2019) Derivational trapping and the morphosyntax of inflectionlessness. PhD thesis, University of Pennsylvania, Philadelphia

Adamson L, Šereikaitė M (2019) Representing gender and defaults: Evidence from Lithuanian. Glossa: a journal of general linguistics pp 1–44

Ambrazas V, Geniušienė E, Girdenis A, et al (1997) 1997: Lithuanian grammar. Vilnius: Baltos lankos

Arkadiev P (2016) Long-distance Genitive of Negation in Lithuanian. In: Holvoet A, Nau N (eds) Argument Realization in Baltic. John Benjamins, Amsterdam, p 37–81

Arregi K, Nevins A (2012) Morphotactics: Basque auxiliaries and the structure of spellout, vol 86. Springer Science & Business Media

Arregi K, Nevins A (2014) A monoradical approach to some cases of disuppletion. Theoretical Linguistics 40(3-4). https://doi.org/10.1515/tl-2014-0014, URL http://dx.doi.org/10.1515/tl-2014-0014

Asarina A (2011) Case in Uyghur and beyond. PhD dissertation. MIT

Asarina A (2013) Neutrality vs. ambiguity in resolution by syncretism: Experimental evidence and consequences. In: Proceedings of the 41st annual meeting of the North East Linguistic Society, pp 43–56

Baker MC (2008) The syntax of agreement and concord. Cambridge University Press

Baunaz L, Lander E (2018) Nanosyntax: The basics. In: Baunaz L, Clerq KD, Haegeman L, et al (eds) Exploring Nanosyntax. Oxford University Press, Oxford, p 3–56

Bittner M, Hale K (1996) The structural determination of case and agreement. Linguistic inquiry pp 1–68

Bonet E (1991) Morphology after syntax: Pronominal clitics in romance. PhD thesis, Massachusetts Institute of Technology

Bošković Ž (2006) Case checking versus case assignment and the case of adverbial nps. Linguistic inquiry 37(3):522–533

Caha P (2009) The nanosyntax of case. PhD thesis, Universitetet i Tromsø

Caha P (2022) The marking of mass, count and plural denotations in multi-dimensional paradigms. Studia Linguistica 76(1):212–274

Caha P (2024) A default theory of default case. Glossa: a journal of general linguistics 9(1)

Christopoulos C, Zompì S (2023) Taking the nominative (back) out of the accusative: Case features and the distribution of stems in indo-european paradigms. Natural Language & Linguistic Theory 41(3):879–909

Citko B (2014) Phase theory: An introduction. Cambridge University Press, Cambridge

Citko B, Yuksek MG (2021) Merge: Binarity in (multidominant) syntax, vol 83. Linguistic Inquiry Monographs

Coon J, Keine S (2021) Feature gluttony. Linguistic inquiry 52(4):655–710

Corbett G, Fraser N (2000) Default genders. In: Unterbeck B, Rissanen M, Nevalainen T, et al (eds) Gender in Grammar and Cognition, vol I. Approaches to Gender, II. Manifestations of Gender. Mouton de Gruyter, Berlin, p 55–98, https://doi.org/10.1515/9783110802603.55

Embick D (2015) The Morpheme: A Theoretical Introduction. Mouton de Gruyter, Boston and Berlin

Embick D, Noyer R (2001) Movement operations after syntax. Linguistic Inquiry 32(4):555–595

Falk YN (1991) Case: abstract and morphological. Linguistics 29(2):197–230

Geniušienė E (2006) Passives in Lithuanian (in comparison with Russian). In: Abraham W, Leisiö L (eds) Passivization and typology: form and function. John Benjamins Publishing, Amsterdam, p 29–61

Halle M (1997) Distributed morphology: Impoverishment and fission. In: MIT Working Papers in Linguistics, pp 425–449

Halle M, Marantz A (1993) Distributed morphology and the pieces of inflection. In: Hale K, Keyser SJ (eds) The view from building 20: Essays in linguistics in honor of Sylvain Bromberger. MIT Press, Cambridge, MA, p 111–176

Halle M, Marantz A (2008) Clarifying" blur": Paradigms. In: Bachrach A, Nevins A (eds) Inflectional identity, vol 18. OUP, Oxford, p 55–72

Harley H (2014) On the identity of roots. Theoretical Linguistics 40(3-4)

Ingason AK (2016) Realizing morphemes in the Icelandic noun phrase. PhD thesis, University of Pennsylvania, Philadelphia

Kiparsky P (1973) “Elsewhere” in Phonology. Indiana University Linguistics Club, Bloomington, IN

Kornfilt J, Preminger O (2015) Nominative as no case at all: An argument from raising-to-accusative in Sakha. In: Joseph A, Predolac E (eds) Proceedings of the 9th Workshop on Altaic Formal Linguistics. MIT Press, Cambridge, pp 109–120

Lavine JE (2006) Is there a passive evidential strategy in Lithuanian? In: Proceedings from the Annual Meeting of the Chicago Linguistic Society, vol 42(2). Chicago Linguistic Society, p 41–55

Lavine JE (2010) Mood and a transitivity restriction in Lithuanian: The case of the inferential evidential. Baltic Linguistics 1:115–142

Legate JA, Akkuş F, Šereikaitė M, et al (2020) On passives of passives. Language 96(4):771–818

Mathiassen T (1996) A short grammar of Lithuanian. Slavica Publishers

Mendes G, Nevins A (2022) When ellipsis can save defectiveness and when it can't. Linguistic Inquiry 54(1):182–196

Norris M (2014) A theory of nominal concord. PhD thesis, University of California Santa Cruz

Noyer R (1997) Features, positions and affixes in autonomous morphological structure. Garland Publishing, revised version of 1992 MIT Doctoral Dissertation, New York

Pakerys J (2016) On periphrastic causative constructions in Lithuanian and Latvian. In: Holvoet A, Nicole N (eds) Argument realization in Baltic. John Benjamins Publishing, Amsterdam, p 427–458

Pesetsky D (2013) Russian case morphology and the syntactic categories. MIT Press

Preminger O (2014a) Agreement and Its Failures. MIT Press - Journals, https://doi.org/10.7551/mitpress/9780262027403.001.0001, URL http://dx.doi.org/10.7551/mitpress/9780262027403.001.0001

Preminger O (2014b) Agreement and its failures. MIT Press, Cambridge, MA

Schütze CT (2001) On the nature of default case. Syntax 4(3):205–238

Schütze CT (2003) Syncretism and double agreement with Icelandic nominative objects. In: Delsing LO, Falk C, Josefsson G, et al (eds) Grammar in Focus: Festschrift for Christer (P)latzack. Wallin & Dalholm, Lund, Sweden, p 295–303

Šereikaitė M (2020) Voice and case phenomena in Lithuanian morphosyntax. PhD thesis, University of Pennsylvania, Philadelphia

Sigurðsson EF, Šereikaitė M (2024) The dual face of structural object case: On lithuanian genitive of negation. Journal of Linguistics 60(1):161–212

Starke M (2009) Nanosyntax: A short primer to a new approach to language. Nordlyd 36:1–6

Wechsler S (2013) The structure of Swedish pancakes. In: Hofmeister P, Norcliffe E (eds) The Core and the Periphery: Data-driven Perspectives on Syntax Inspired by Ivan A. Sag. Center for the Study of Language and Information (CSLI) Publications, Stanford, CA, pp 71–98