Session 4B Abstracts

The Neuter Agreement Constraint in Lithuanian

Luke Adamson and Milena Šereikaitė
University of Pennsylvania

Introduction: This study analyzes gender and agreement properties in Lithuanian, with a focus on the neuter. Lithuanian has three genders: masculine, feminine, and neuter; however, no nouns are inherently neuter. The only nominal neuter arguments are pronouns and quantifier-like elements (e.g., *viskas* 'everything,' *tai* 'this, it'). Gender is expressed on agreeing adjectives, participles, and other elements.

Proposal: We demonstrate that in Lithuanian, there exists what we call the Neuter Agreement Constraint (NAC), whereby neuter arguments fail to control agreement on adjectives, yielding ungrammaticality. The existence of the NAC is particularly striking given that neuter forms exist in various positions and cases, suggesting the NAC is not a result of the language lacking certain agreement forms. We propose instead that the NAC is due to the lack of gender features on neuter arguments. When agreement is obligatory between a nominal argument ('controller') and an agreeing expression ('target'), the target must receive gender features. As we show, neuter arguments in Lithuanian lack gender features altogether (cf. Kramer 2015), and are therefore ineligible to confer targets with the requisite features.

Motivation for NAC: We demonstrate that both neuter pronouns and adjectives occur in different case positions and configurations, but agreement between neuter nominals and adjectives yields ungrammaticality. **First**, the neuter pronouns *viskas* and *tai* appear in various constructions: in structural accusative object position (1), and as an object under negation, which in Lithuanian takes genitive (2). **Second**, substantivized neuter adjectives can also appear in the same environments: accusative object (3) and genitive-of-negation object (4).

(1) Jis valgė viską/tai.
He ate everything.ACC.NEUT/this.ACC.NEUT
`He ate everything/this.'

(2) Jis ne-valgė visko/to
He NEG-ate everything.GEN.NEUT/this.GEN.NEUT
`He didn't eat everything/this.'

(3) Jis valgė kepta ir virta.
He ate fried.NEUT and boiled.NEUT
`He ate fried and boiled.'

(4) Jis ne-valgė nei kepta nei virta
He NEG-ate neither fried.NEUT nor boiled.NEUT
'He ate neither fried nor boiled.'

Third, while masculine (as well as feminine) arguments show agreement with adjectives, neuter arguments cannot control agreement on adjectives. E.g., **I)** secondary depictive predicates that agree in GNC with an accusative masculine object (5) are ungrammatical with neuter objects (6). **II)** Adjectives in the complement of *make*-causatives show agreement in number and gender with a masculine causee (7), whereas neuter causees fail to agree with such adjectives (8).

(5) Jis valgė daržoves žalias.
He ate vegetables.ACC.**M** raw.ACC.**M**
'He ate the vegetables raw.'

(6)Jis valgė viską (*žalia/*žalią/*žalią)
He ate everything.ACC.**NEUT**(raw.ACC.**NEUT**/ACC.**M**/ACC.**F**)
'He ate everything raw.'

(7) Karas padarė miestą neatpažįstamą/neatpažįstamu.
War made city.ACC.**M**.SG unrecognizable.ACC.**M**.SG/INST.**M**.SG

'War made the city unrecognizable.'

(8) *Karas padarė viską/tai neatpažįstamą/neatpažįstamu/neatpažįstama.
War made everything.ACC.**NEUT**/this.ACC.**NEUT** unrecognizableACC.**M**.SG/INST.**M**.SG/**NEUT**.ACC
'War made everything/this unrecognizable.'

Analysis: We analyze the NAC as GNC "agreement failure." We propose that agreement with adjectives requires gender to be transmitted from the controller to the target. Crucial to this account is the idea that neuter is the absence of gender in Lithuanian; thus neuter arguments, lacking gender, fail to transmit gender features to their agreement targets. The absence of gender can be illustrated by neuter-form adjectives occurring in the presence of non-nominal genderless subjects, such as to-infinitives (9) and substantivized adjectives (10).

(9) Pavargti už tėvynę - gražu/*gražus/*graži. (10) Saldu gradu/*gradu/*gardi.
to.Suffer for homeland beautiful.**NEUT**/NOM.SG.M/NOM.SG.FSweet delicious.**NEUT**/NOM.M.SG/NOM.F.SG
`To suffer for one's homeland is beautiful.' 'Sweet is delicious.'

We further distinguish between the absence of gender in Lithuanian (neuter) and default gender (masculine), which surfaces in coordination resolution (Corbett 1991) even for inanimates (11).

(11) Kėdė ir stalas yra purvini/*purvinos/*purvina.
Chair.NOM.F.SG and table.NOM.M.SG are dirty.NOM.**M**.PL/NOM.F.PL/NOM.NEUT
'The chair and the table are dirty.'

That the NAC is due to failure to transmit gender features to an agreement target (cf. 5-8) is further evidenced by nominal predication, which is grammatical with neuter arguments (12). Unlike agreeing adjectives, whose gender is valued by a controller, predicative nominals have inherent gender (FEM in 12), thus they do not need to receive gender features from a controller.

(12) Karas padarė viską/tai tikra betvarke.
War made everything.ACC.NEUT/that.ACC.NEUT real chaos.INST.**F**.SG
'War made everything/that into real chaos.'

Non-copular nominative neuters are also subject to the NAC e.g., the derived passive subject in (13), suggesting non-nominative cases are not responsible for agreement failures.

(13) *Viskas buvo serviruoja-ma šalta.
Everything.NEUT.NOM was served.NEUT cold.NEUT
`Everything was served cold.'

This study has broader implications for the representation of gender (e.g., default vs. its absence) and its role in the nature of agreement 'failures,' which in NAC crashes rather than yielding default.

Reference. Ambrazas (1997). Lithuanian grammar. Anagnostopoulou (to appear). Gender and defaults. Corbett (1991). Gender. Kramer (2015). The morphosyntax of gender. Preminger (2011). Agreement as a fallible operation.

The power of syncretisms: how syncretisms can serve double duty

Fenna Bergsma, Goethe-Universität Frankfurt

Under specific syntactic circumstances, syncretic forms are able to satisfy multiple grammatical requirements: they can serve double duty. This presents a difficulty for late insertion theories like DM. In this paper, I show that the phenomenon follows naturally from an approach that combines having one syntactic node per feature (as in nanosyntax, Starke 2009) with remerging embedded features in a different structure (grafting, Van Riemsdijk 2006b).

In (1), *was* 'what' serves double duty in a free relative construction in German. *Gegeben hast* 'have given' requires accusative case and *ist prächtig* 'is wonderful' requires nominative case. Despite these different case requirements, the sentence is grammatical. The form *was* 'what' is syncretic between the neuter nominative and the accusative, and is, therefore, able to satisfy both case requirements.

(1) Was du mir gegeben hast, ist prächtig.
what.NOM/ACC.NEUT you me given(ACC) have is(NOM) wonderful
'What you have given to me is wonderful.' (Groos and Van Riemsdijk 1981, p. 212)

The sentence in (1) is unacceptable when a non-syncretic form is used as in (2), in this case the masculine free relative.

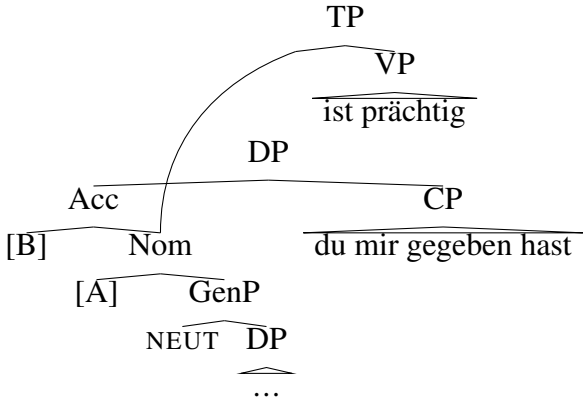
(2) *Wen Gott schwach geschaffen hat, muss klug sein.
who.ACC.MASC God weak shaped has(ACC) must(NOM) smart be
'Who God has created weak must be clever.' (Groos and Van Riemsdijk 1981, p. 177)

As there is no syncretic form for the nominative and the accusative masculine free relative (*wer* is nominative and *wen* is accusative) the sentence is ungrammatical. This indicates that the syncretic property of *was* 'saves' the construction, and an analysis in which *ist prachtig* 'is wonderful' takes the whole emedded clause as a subject does not hold.

For a form to serve double duty, it is required that there is (i) a specific syntactic structure in which part of the syntax is shared, and (ii) a single form that corresponds to multiple case features.

For (i), I follow Van Riemsdijk's grafting approach, in which he argues that "a single string of terminal elements can be associated with more than one tree structure" (Van Riemsdijk 2006a, p. 364). I combine the concept of grafting with a nanosyntactic approach, that assumes that each feature corresponds to its own terminal node (Starke 2009), and I adopt Caha's (2009) universal case hierarchy. In (3), I show a simplified respresentation of the syntactic structure of (1), leaving for now irrelevant details such as operators aside. As can be seen, particular features are merged into two different structures, and some features are structurally shared.

(3)



To be more precise, the pronoun with functional structure up to the accusative (Acc) is merged with the verb *geben* 'to give'. The structure up to the nominative (Nom), which is

contained in the accusative, is merged with the predicate *ist prächtig* 'is wonderful'. The two clauses share the structure up to the nominative.

As for (ii), as is illustrated in (3), each feature corresponds to its own terminal node, and the more complex case is structurally built from the less complex case (i.e. the accusative contains the nominative) (Caha 2009). There is a single form that corresponds to both the syntactic structure up to the nominative (Nom) and the structure up to the accusative (Acc) in (3). This follows from the Superset Principle and the Elsewhere Condition in nanosyntax. The lexical entry for */-as/* (from *was*) is given in (4).

(4) [Acc [Nom [Neut]]] ⇔ /-as/

The features of the lexical entry in (4) exactly match the features of the syntactic structure up to the accusative (Acc) in (3). The features in the structure up to the nominative (Nom) are contained in the lexical entry in (4) (Superset Principle) and there is no more specific lexical entry (Elswhere principle). In both cases *-as* is inserted.

In sum, *was* 'what' can serve double duty because it has been merged twice (once at the level of its accusative node and once at the nominative level), and the spellout for both these merged structures is identical.

An earlier account of how syncretism can serve double duty is provided by Asarina (2011). She assumes that when an item is assigned two cases, two feature structures are be created. If both feature structures are spelled out by the same morphological insertion rule, the result is grammatical. Asarina's (2011) approach is empirically problematic, given that accusative and genitive cannot be shared according to her assumed case feature hierarchies.

(5) Kogo ja iskal, ne bylo doma.
who.ACC/GEN I sought(ACC) not was(GEN) home
'Who I was looking for wasn't at home.' (German, Levy and Pollard 2002, p. 222)

Whereas Asarina's account fails to account for the grammaticality of (5), this follows directly from case containment as described in Caha (2009), as genitive contains accusative.

Leaving gender and verbal syncretisms (Pullum and Zwicky 1986) aside, the analysis makes two predictions. First, the satisfaction of multiple case requirements is caused by structural containment rather than solely by an identical phonological form. Therefore, accidental homophones (i.e. forms that accidentally share the same spellout, without being truly syncretic) should not satisfy multiple case requirements even though they share the same surface form. This sheds light on whether the 'right' syncretisms are predicted by the case hiearchy.

Second, in agglutinating languages where case containment is morphologically overt (Radkevich 2010), multiple case requirements should be satisfied even without syncretism. Since the containing (e.g. accusative) form morphologically contains the contained (e.g. nominative) form, there is no spellout conflict for the shared element in these languages. This prediction is immediately compatible with Caha's case containment, but does not follow from the analysis of Asarina (2011). In her analysis, there is not a single morphological insertion rule, and the derivation would crash.

I discuss data from free relatives in different languages and other similar constructions, such as Across-the-Board phenomena and Right Node Raising constructions.

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Morphological priming of Dutch prefixed verbs in auditory word processing

Ava Creemers, Amy Goodwin Davies, & Robert J. Wilder
University of Pennsylvania

This paper provides novel psycholinguistic data which suggest that morphological structure is explicitly represented in memory (cf., Stockall and Marantz 2006; Taft 2004), contra previous claims that morphology should be attributed to mere interactions between form and meaning (e.g., Baayen et al. 2011; Gonnerman et al. 2007). The extent to which morphemes are semantically compositional has been shown to influence morphological decomposition in French and English in overt (i.e., not masked) priming paradigms (Feldman et al. 2004; Longtin et al. 2003; Marslen-Wilson et al. 1994; Rastle et al. 2000), but not in German (Smolka et al. 2014) and Semitic languages (Hebrew: Frost et al. 1997; 2000; Arabic: Boudelaa and Marslen-Wilson 2004; 2015). This paper investigates the role of semantic transparency in the lexical representation of morphologically complex verbs in Dutch. These verbs are real morphological derivations of their stem (as shown by shared irregular allomorphy), while they may differ in meaning relatedness between the stem and the complex verb from fully transparent to fully opaque–therefore, they can be used to tease apart semantic, phonological, and morphological effects. We show that morphological priming is independent of semantic and phonological overlap in Dutch complex verbs, akin to the German results.

Methods We conducted two auditory priming experiments with lexical decision for Dutch prefixed verbs. Participants were native speakers of Dutch (32 in Experiment 1, 40 in Experiment 2). In Experiment 1, prime–target pairs are manipulated with respect to their morphological, semantic, and phonological relatedness (see Table 1). Simplex stems (e.g. *bieden*, 'offer') function as targets, and are primed by prefixed and particle verbs that are either both morphologically and semantically (MS) related (*aan-bieden*, 'offer'), only morphologically (M) related (*ver-bieden*, 'forbid'), only phonologically (Ph) related (*be-spieden*, 'spy'), or unrelated (C; *op-jagen*, 'hurry, rush'). Critical items were distributed over four lists according to a Latin Square Design, so that participants saw each target word only once. Experiment 2, in addition to the MS, M, and unrelated pairs, also includes purely semantically (S) related primes (e.g., *ver-lenen*, 'offer, grant'). In addition, we manipulate the number of intervening items between prime and target (0-lag and 5-lag) to further tease apart semantic and morphological effects, as it has been shown that semantic effects decay more quickly over time (Kouider and Dupoux 2009; Marslen-Wilson and Tyler 1998).

Results Linear mixed-effects models were used to analyze log-transformed correct response times (RTs) to targets. Following Baayen and Milin (2015), we performed minimal a-priori data trimming. Random effect optimization (Bates et al. 2015) resulted in inclusion of random intercepts for subjects, primes, and targets (Exp.1), as well as by-subject and by-target slopes for the MS condition (Exp.2). As fixed effects, we entered Condition, Distance (Exp.2), Trial, ISI, Prime/Target Frequency, and Target Duration into the model.

For Experiment 1, we find that both MS and M complex verbs significantly facilitate lexical decision of their stem compared to the C condition (MS: β=-0.12, p<0.001; M: β=-0.10, p<0.001), while the Ph condition did not (p=0.102). A separate model shows no significant difference in the magnitude of priming between the MS and M conditions (p=0.111); while Ph did show significantly longer RTs compared to the M condition (β=0.08, p<0.001), indicating that the morphological effect is distinct from a mere phonological effect.

Table 1: Conditions and example critical items for the target (the stem + infinitival suffix) and the primes in the Morphologically and Semantically related (MS), purely Morphologically related (M), Phonologically (Ph) related (Exp.1), Semantically (S) related (Exp. 2) and Control (C) condition.

Target	**MS prime**	**M prime**	**Ph prime**	**S prime**	**C prime**
bieden 'offer'	*aanbieden* 'offer'	*verbieden* 'forbid'	*bespieden* 'spy'	*verlenen* 'give, grant'	*opjagen* 'hurry, rush'
werpen 'throw'	*afwerpen* 'throw off'	*ontwerpen* 'design'	*aanscherpen* 'sharpen'	*weggooien* 'throw away'	*uitdraaien* 'print out'

For Experiment 2, the data at a 0-lag show a significant effect for the MS and M conditions (MS: β=-0.06, p<0.001; M: β=-0.06, p<0.001), compared to C. No significant effect was found for the S condition (p=0.365). A separate model shows no difference between M and MS (p=0.709), and a significant difference between S and MS (β=0.05, p<0.001). This shows that the priming effects in the MS condition are significantly bigger than the purely semantic effects. While we expected to find a gradual drop-off in the effects, analysis of the results at a 5-lag shows that none of the effects for prime condition are significant (MS: p=0.536; M: p=0.616; S: p=0.334). We suspect that a 1- or 2-lag might have shown the drop-off, while at a 5-lag all effects had already disappeared.

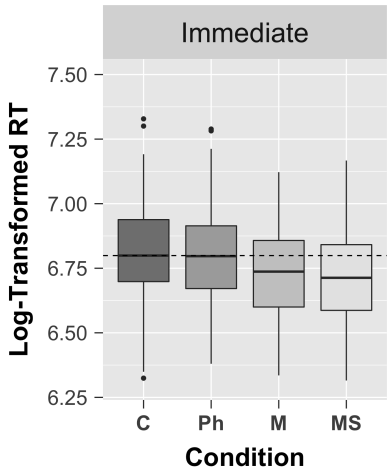

Figure 1: Results Exp. 1

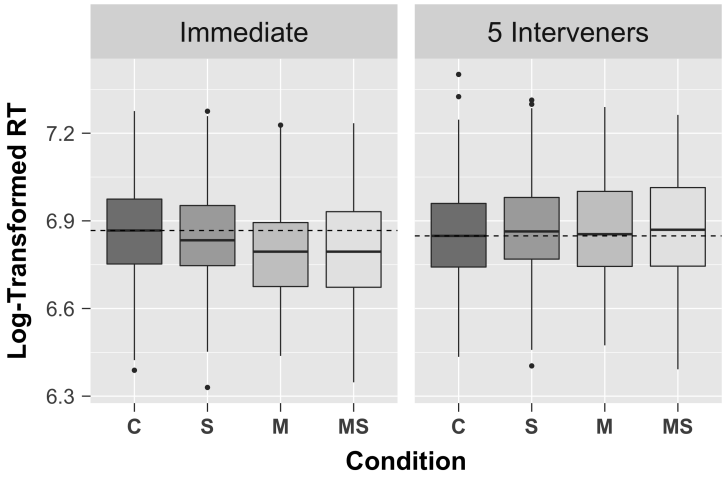

Figure 2: Results Exp. 2

Conclusions In line with the aforementioned German results, our results show that in Dutch complex verbs, morphological priming effects are independent of semantic transparency. We also show that M effects are distinct from Ph effects, and that MS effects are distinct from S effects. That semantic relatedness is not a precondition for the occurrence of morphological processing suggests that morphological identity is distinct from mere semantic and phonological similarity.

Selected References Longtin et al. (2003). Morphological priming without morphological relationship. *Language and Cognitive Processes.* • Marslen-Wilson et al. (1994). Morphology and meaning in the English mental lexicon. *Psychological Review.* • Rastle et al. (2000). Morphological and semantic effects in visual word recognition: A time-course study. *Language and Cognitive Processes.* • Smolka et al. (2014). 'Verstehen' ('understand') primes 'stehen' ('stand'): Morphological structure overrides semantic compositionality in the lexical representation of German complex verbs. *Journal of Memory and Language.* • Stockall and Marantz (2006). A single route, full decomposition model of morphological complexity: MEG evidence. *The Mental Lexicon.*