

## Referential effects on verb agreement: Finnish numeral-noun constructions\*

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**Abstract:** This paper explores seemingly puzzling subject-verb agreement patterns with Finnish numeral noun constructions (NNCs, e.g. *three birds*) in subject position, which can occur with singular or plural verbs. This alternation is not straightforwardly predicted by current theories. Building on properties of Finnish that are independent of NNCs, I argue that the Finnish data can be reconciled with prior analyses if we analyze verb number marking as dependent on referential properties of the NNC. I suggest that NNCs with singular verbs do not involve real agreement, but rather a default verb form that surfaces in contexts involving existential construal, while NNCs with plural verbs are a true case of (semantic) agreement. According to my analysis, the lack of subject-verb agreement with existentially-interpreted NNCs is related to the fact that, more generally, existentially-construed subjects do not trigger verb agreement in Finnish (which presumably stems from their underlying syntactic position, given the discourse-configurational nature of Finnish). By arguing that subject-verb agreement in Finnish NNCs is variable and depends on existential vs. definite construals, while agreement patterns in the nominal domain are more rigid, these data challenge attempts to unify agreement mechanisms in the verbal and nominal domains.

**Keywords:** Finnish, numerals, cardinals, numeral-noun construction, subject-verb agreement, nominal concord, number marking, existential sentences

### 1. Introduction

Agreement phenomena, where one element covaries systematically with another, are widespread in language. In languages with subject-verb number agreement, number marking on the verb (the target) covaries with the number feature of the subject (the controller). When the syntactic and semantic number features of a controller are distinct, as is the case with collective nouns like *committee* which are syntactically singular but semantically plural, we face the question of whether the

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target agrees with the syntactic features of the controller or with the semantic features of the referent of the controller.<sup>1</sup> This can depend on various factors, including the syntactic properties of the target. Corbett's (1979, 2006) typological work shows that, crosslinguistically, agreement in the nominal domain is more likely to be sensitive to syntactic features of the controller, whereas subject-verb agreement is relatively more likely to be sensitive to semantic features. Sometimes, both syntactic and semantic agreement are possible. For example, in dialects of British English, subject-verb agreement with hybrid nouns can exhibit syntactic agreement (*the committee has decided*) or semantic agreement (*the committee have decided*, Corbett 2006, Johnson & Joseph 2014, inter alia).

The present paper explores number agreement in numeral-noun constructions (NNCs, e.g. *ten books*) in Finnish (Finno-Ugric), focusing on NNCs in subject position. In the nominal domain, Finnish NNCs exhibit both syntactic and semantic agreement, as predicted by current theories (e.g. Landau 2016, Norris to appear). However, outside the nominal domain, Finnish NNCs seem puzzling: They often exhibit singular subject-verb agreement which challenges existing theories that predict plural (semantic) agreement to be the default outside the DP domain.

The lexical noun in NNCs is morphologically singular, as in (1), and when the NNC is in subject or object position, the noun is partitive (not nominative or accusative; non-accusative objects act differently). This is attributed to the numeral assigning partitive to its complement (Brattico 2010, Ionin & Matushansky 2018).<sup>2</sup>

- (1) kolme lintu-a            / \*lintu            / \*linnu-t            / \* lintu-ja  
 three bird-SG.PAR / \*bird.SG.NOM / \*birds-PL.NOM / \*bird-PL.PAR  
 'three bird' (English: three birds)

Before looking at verb agreement with NNCs, it's worth pointing out that in standard Finnish, preverbal nominative subjects trigger subject-verb number agreement, as in (2-3). But existential plural subjects, as in (4-5), which in Finnish bear partitive case, do not exhibit subject-verb agreement, regardless of word order.

- (2) Lintu            istu-i            oksa-lla.  
 Bird.SG.NOM sit-PAST.3SG branch-ADE  
 '(A/The) bird sat on (a/the) branch.'
- (3) Linnu-t            istu-ivat            oksa-lla.  
 Bird-PL.NOM sit-PAST.3PL branch-ADE  
 '(The) birds sat on (a/the) branch.'

<sup>1</sup> This question also comes up with person and gender features, but this paper focuses on number.

<sup>2</sup> Glossing abbreviations: SG singular, PL plural, PAST past, PRES present, NOM nominative, GEN genitive, PAR partitive, ADE adessive, ILL illative, ELA elative, RelPro relative pronoun. When the main point is clear without interlinear glossing, word-by-word glosses are omitted for brevity.

- (4) Lintu-ja istu-i oksa-lla.  
 Bird-PL.PAR sit-PAST.3SG branch-ADE  
 ‘Birds sat on (a/the) branch.’
- (5) Oksa-lla istu-i lintu-ja.  
 Branch-ADE sit-PAST.3SG bird-PL.PAR  
 ‘On the branch sat birds.’ / ‘There were birds sitting on the branch.’

Returning to NNCs, subject-position NNCs often occur with singular verbs, as in (6).<sup>3</sup> In fact, this preference is so strong that sometimes singular verbs are described as the only option (Nelson & Toivonen 2000). However, based on corpus data, speakers’ judgments and descriptive work (e.g. Hakulinen et al. 2004), I suggest that plural verbs can also be acceptable with NNC subjects.<sup>4</sup>

- (6) Kolme lintu-a istu-i / istu-ivat oksa-lla.  
 Three.SG bird-SG.PAR sit-PAST.3SG / sit-PAST.3PL branch-ADE  
 ‘Three birds sat on a branch.’

This situation is noteworthy for two reasons. On the one hand, the acceptability of plural verbs with NNC subjects poses challenges for those prior analyses that treat them as ungrammatical, and leads us to ask what guides the plural/singular alternation. On the other hand, the fact that singular verbs nevertheless seem to be the default with NNC subjects goes against recent theoretical analyses (e.g. Landau 2016) as well as typological hierarchies (e.g. Corbett 1979, 2006) which predict semantic subject-verb agreement (i.e., plural verbs) with NNCs.

I propose that the verb agreement patterns are related to referential properties of the NNC subject, namely whether it receives an existential reading. Building on prior observations that Finnish existential sentences (without NNCs) exhibit default third-person singular verb agreement (e.g. Holmberg 2005), I argue that when NNCs receive an existential construal, they also surface with default singular verbs. Conversely, when NNCs are not interpreted as having existential force (e.g. refer to already-known, anaphoric referents), plural verb agreement can surface.

If my approach is on the right track, it means that (a) when NNCs occur with singular verbs, this is not actual agreement with a singular controller, but rather a default form of the verb that surfaces in the absence of agreement, and that (b) when NNCs occur with plural verbs, we are dealing with a true case of agreement. I show

<sup>3</sup> For readers who are familiar with differences between Standard Finnish and Finnish dialects, it’s worth noting that the singular verb is the default form with NNC subjects even in Standard Finnish.

<sup>4</sup> There is considerable individual (and perhaps regional) variation in speakers’ judgments of plural verbs with NNCs in standard Finnish, perhaps due to some dialects of colloquial Finnish using singular verbs even with plural subjects even in the absence of numerals (see e.g. Paunonen 1995). I use corpus examples and experimental data to complement native speaker judgments.

that by assuming this view of singular vs. plural verbs with NNC subjects, we can resolve the apparent conflict between existing theoretical analyses and the Finnish verb agreement patterns in NNCs.

As will become clear, subject-verb agreement with Finnish NNCs differs from agreement patterns inside the NNC. Thus, these data challenge arguments for a unification of agreement mechanisms internal and external to the nominal domain.

Next, Section 2 discusses agreement patterns in the nominal domain, and Section 3 turns to subject-verb number agreement. Section 4 provides evidence that plural verb agreement with NNC subjects is associated with certain semantic and pragmatic properties. In Section 5, I shift away from asking what motivates plural agreement and ask whether we can find a condition that motivates use of singular verbs. I explore the possibility that singular agreement (which I argue is actually *absence of agreement* in this case) is associated with existential interpretations. In particular, I suggest that if the NNC has existential force, there is no subject-verb agreement for reasons independent of NNCs. Section 6 concludes.

## 2. Agreement patterns in the nominal domain in Finnish NNCs

This section discusses number agreement in the nominal domain with adjectives and demonstratives in Finnish NNCs. First, recall that the lexical noun is morphologically singular, as in (1). I follow Ionin & Matushansky (2018, Ch.4) who provide evidence that (i) the lexical noun in Finnish NNCs is morphologically and semantically singular (not number-neutral, see e.g. Bale, Gagnon & Khanjian 2011 on Turkish), while (ii) the full NP (e.g. *three birds*) refers to a plural individual and is semantically plural. The numeral is morphologically singular.<sup>5</sup>

In NNCs, pronominal adjectives can occur before or after the numeral, as shown in (7), with the post-numeral position being the default. Strikingly, adjectives' number agreement is sensitive to their position: Adjectives are plural when above the numeral (exhibiting semantic agreement with the numeral-noun expression 'two bread'), but singular when below it (exhibiting syntactic agreement with the noun 'bread', e.g. Brattico 2010, Korhonen et al. 2015:177, Norris to appear). The case marking on the adjective also changes, see Brattico (2010) for discussion.

- (7) Ne            (pilaantune-et)    kaksi   (pilaantunut-ta)    leipä-ä  
 Those.PL   rotten-PL.NOM   two.SG   rotten-SG.PAR   bread-PAR  
 'Those two rotten breads'

Demonstratives in NNCs consistently occur before the numeral (and adjectives)

<sup>5</sup> It's clear that the numeral in NNCs is morphologically singular, because Finnish numerals have plural forms (e.g. *neljä-t silmä-t* four-PL.NOM eye-PL.NOM 'four pairs of eyes'), Here, the noun is also plural and the semantics changes (e.g. Hurford 2002, Brattico 2010, Lohiniva 2021.)

and are plural (e.g. Brattico 2010), as in (8). Brattico reports the singular demonstrative to be unacceptable.<sup>6</sup> King & Dalrymple (2004) further show (using coordination) that Finnish demonstratives (e.g. the choice between *tämä* ‘this’ and *nämä* ‘these’) are sensitive to semantic, not syntactic, number.

- (8) *nämä* / \**tämä* kolme kissa-a  
 These.PL.NOM / \*this.SG.NOM three.SG cat-SG.PAR

In sum, agreement is plural (semantic agreement) for elements before the numeral in the linear string (i.e., above the numeral in the syntactic structure). How can these number agreement patterns be captured by existing syntactic accounts? Landau (2016)<sup>7</sup> and Norris (to appear) – as well as Brattico (2010) – mention the mixed number agreement patterns of adjectives in Finnish NNCs. Generally speaking, both Landau and Norris propose structural analyses that posit (i) a *semantic* plural feature that is introduced by a functional head, and (ii) a lower *syntactic* singular feature that is either introduced by a separate functional head (Norris to appear) or is intrinsic to the noun (Landau 2016). Thus, under these approaches, both syntactic and semantic number features are present in NNCs but hosted on different syntactic heads. If an adjective is merged early, *below* the functional head with the semantic plural feature, it will exhibit singular agreement (due to the singular features on the lower functional head or the noun being the only source for valuing the adjective’s phi-features, depending on the analysis). But if an adjective is merged *above* the functional head that introduces the semantic plural feature, it will exhibit plural agreement (due to the adjective’s phi-features being valued by the functional head carrying the semantic number features).

This style of account predicts that elements in the lower region (below the numeral) exhibit syntactic agreement (singular) while elements in the higher region exhibit semantic agreement (plural) – a pattern that fits with the number marking observed on pre- and post-numeral adjectives in Finnish NNCs.

The situation with determiners is somewhat more complex. Building on prior work, Landau proposes that D is specified for both semantic and syntactic features. Under his view, determiners inherit both syntactic and semantic features and spell out (depending on their lexical specification in a particular language) either

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<sup>6</sup> Corpus data show that singular demonstratives can also occur with NNCs (examples below), though they are more marked; singular demonstratives seem to not be unacceptable across the board.  
 (i) *tämä kolme vuotta* ‘this three year’ (ii) *se viisi tuotetta* ‘this five product’

An analysis of the syntactic and meaning-based properties of these constructions is beyond the scope of this paper. See also Gawron 2002 on English examples like “That/those five gallons of milk came in handy” for potentially related discussion and a measure-phrase-based account.

<sup>7</sup> Landau (2016), following Wechsler & Zlatić (2003) and others, discusses *index* and *concord* agreement, not ‘semantic’ and ‘syntactic’ agreement. These notions are not identical, but for the purposes of this paper I make some simplifying assumptions and use ‘semantic’ and ‘syntactic.’

syntactic or semantic features. Given that Finnish demonstratives are typically plural in NNCs, we can infer that the choice of demonstrative in Finnish is sensitive to the semantic features of the NP it combines with (e.g. King & Dalrymple 2004).<sup>8</sup>

### 3. Subject-verb number agreement with Finnish NNCs

Section 2 shows that the number agreement in the nominal domain of Finnish NNCs can be captured by existing structural analyses (but see Norris to appear, 2021, for further discussion), as long as we treat the lexical noun as singular and allow for a higher functional head with a semantic plural feature. Section 3 turns to subject-verb agreement patterns with NNCs, which pose challenges for existing accounts.

As we saw above, with NNCs in subject position, singular verbs are the default but plural verbs are also possible.<sup>9</sup> Further examples will be provided in subsequent sections, where I show that singular and plural verbs are not in free variation and depend on the referential properties of the NNC. This observation goes beyond most prior theoretical work on Finnish, which seems to assume that Finnish NNC subjects do not occur with plural verbs (e.g. (9)) or only occur with plural verbs when another element in the nominal domain (such as a demonstrative) is morphologically marked as plural (e.g. Nelson & Toivonen 2000, Brattico 2010, see also Sulkala & Karjalainen 1992:332).

- (9) Yhdeksän omena-a puto-si / \*puto-sivat maa-han.  
 Nine.SG apple-SG.PAR fall-PAST.3SG / \*fall-PAST.3PL earth-ILL  
 ‘Nine apples fell to earth.’ (judgment from Nelson & Toivonen 2000)

#### 3.1 Prior analyses of subject-verb number agreement with NNCs

Crosslinguistically, it is widely noted that agreement processes outside the nominal domain tend to target semantic features of the controller (e.g. Landau 2016, Wechsler & Zlatić 2003, see also Corbett 2006). This leads us to expect subject-position NNCs (semantically plural as they refer to divisible plural individuals) to exhibit plural subject-verb agreement, contrary to the default situation in Finnish.

Let’s consider more concretely how semantic agreement would arise in featural terms, in line with Landau 2016. Under a phase-based view of agreement, D is the

<sup>8</sup> Finnish lacks definite and indefinite articles. However, in colloquial Finnish, in some contexts *se* ‘that/the’ patterns akin to definite articles (Laury 1997). Whether standard Finnish projects a DP is an open question. I follow Vainikka (1995) and Holmberg & Nikanne (2008) and assume Finnish has DPs. Nothing crucial hinges on this, however.

<sup>9</sup> One might wonder about agreement with predicative adjectives; I leave this for future work. Hakulinen et al.’s (2004) descriptive grammar notes that even with plural subjects without numerals, number agreement with predicative adjectives and adverbials depends on case and can be variable.

only nominal head accessible to agreement from outside the DP (see also Danon 2011): The only way for external probes (e.g. *v* and *T*) to contact nominal features is via *D*. Given that *D* is a hybrid head that carries both semantic and syntactic features, according to Landau, why do the external probes specifically target the semantic features? Landau suggests this may be because *T* and *v* are only specified for semantic features, an idea which receives support from the fact that in many languages, verb agreement is derived from pronoun incorporation, and pronouns express semantic features (Wechsler & Zlatić 2003, Landau 2016).

In sum, under Landau’s analysis, with NNCs syntactic agreement with verbs is predicted not to exist (Landau 2016:1003). Corbett’s (2006) Agreement Hierarchy<sup>10</sup> makes a gradient prediction in the same direction: Verbs should be *less* likely to show syntactic (singular) agreement (and more likely to show semantic agreement) than attributive adjectives. The Finnish data appears to diverge from these predictions in two key ways. First, Finnish NNCs typically occur with singular verbs, contrary to what existing accounts would lead us to expect.<sup>11</sup> This raises the question of how this singular agreement comes about. Second, it seems that plural verb agreement is not *unacceptable* (contrary to what is sometimes claimed) but neither is it the default with NNC subjects (contrary to what prior accounts of hybrid agreement with NNCs might lead us to expect). This brings up another puzzle: Why is plural verb agreement not the default across the board?

#### 4. What triggers plural verb agreement?

This section presents evidence that plural verbal agreement is systematically associated with the referents of NNCs possessing certain semantic and pragmatic properties, including maximality, familiarity and distributivity – broadly speaking, properties related to semantic definiteness.

First, let’s consider **maximality**. When a plural definite noun phrase refers to the total or maximal sum of entities that satisfy the descriptive content of the noun, it is described as having *maximal* reference (e.g. Sharvy 1980). Maximality can be regarded as the ‘plural version’ of the uniqueness effects with singular definite nouns (see e.g. Šimik & Demian 2020 for recent discussion). For example, *the bears* in (10) receives a maximal reading – it is interpreted as referring to all of the six mentioned bears. Hence, a continuation that forces a non-maximal interpretation is construed as infelicitous (from Maldonado 2017, adapted from Gillon 2015:187).

(10) I saw a caribou and six bears. I killed the bears, # but one of them escaped.

<sup>10</sup> The Agreement Hierarchy is: *attributive* > *predicate* > *relative pronoun* > *personal pronoun*. Corbett states that “The further left the element on the hierarchy, the more likely syntactic agreement is to occur, the further right, the more likely semantic agreement” (2006:207).

<sup>11</sup> A caveat is that, as far as I know, no large-scale corpus studies have been conducted on this.

In the case of Finnish NNCs, other things being equal, the difference in singular vs. plural verb form can influence how likely the NNC is to receive a maximal reading.<sup>12</sup> In particular, it seems that plural verb agreement tends to elicit maximal interpretations, as shown in (11-12), from Vilkuna 1992:178. Similar observations have been made by Wexler (1976), cited by Chesterman (1991), who showed that these patterns extend to non-collective predicates as well.

- (11) Neljä osapuol-ta pää-sivät sopimuks-een. *pl verb*  
 Four.SG party-SG.PAR reach-PAST.3PL agreement-ILL  
 ‘(The) four parties reached an agreement.’
- (12) Neljä osapuol-ta pää-si sopimuks-een. *sing verb*  
 Four.SG party-SG.PAR reach-PAST.3SG agreement-ILL  
 ‘Four parties reached an agreement. / There exist four parties that reached an agreement.’

Example (11), with plural agreement, can receive a construal where there are four parties in the context, and all four reached an agreement (totality/maximality). In contrast, (12), with singular agreement, could also be interpreted in an existential, non-maximal way: there exist four parties who reached an agreement.

It’s important to acknowledge that (presumably because singular third person is the default) singular verbs appear – at least for some speakers – to be compatible with both maximal and non-maximal readings.<sup>13</sup> Thus, it would be an oversimplification to flag a singular verb as ‘ungrammatical’ and inaccurate to describe the patterns here as ‘hard-and-fast’ rules. The same appears to hold for the other semantic/pragmatic effects described below. More work is needed to assess the scope of individual variation and the strength of the interpretational preferences. However, these interpretational preferences – non-categorical preferences subject to individual variation – are nevertheless supported by naturalistic language use, descriptive discussions, and experimental work (see below).

Further evidence for plural verbs being associated with maximal interpretations is their occurrence with (i) the universal quantifier *kaikki* ‘all,’ (ii) when only a maximal reading is available due to world knowledge, and (iii) contexts where the position of a genitive modifier signals a maximal reading of the subject. I provide examples of these below. Here and elsewhere, I use the abbreviation “www” to

<sup>12</sup> Finnish also has a distinct partitive construction (‘X of the Y’) created using elative case:

(i) kolme teine-istä	(ii) osa lapsi-sta
three.SG teenager-PL.ELA	part.SG child-PL.ELA
‘three of the teenagers’	‘some of the children’

<sup>13</sup> Judgments may also be muddled by the fact that in many dialects of colloquial Finnish, even ‘regular’ (non-NNC) subjects can occur with singular verbs (see e.g. Paunonen 1995).



denote which examples are naturally-occurring examples found on the internet. These kinds of examples illustrate that the singular/plural verb alternation occurs in present-day naturalistic language use.

The universal quantifier provides an explicit indication that the NNC refers to the maximal set of entities, and can felicitously occur with plural verb agreement:

- (13) Välillä aamu-lla kaikki kolme las-ta o-vat  
 Sometimes morning-ADE all three.SG child-SG.PAR be.PRES.3PL  
kömpineet sänky-yn. (www)  
crawled.PL bed-ILL  
 ‘Sometimes in the morning all three children have crawled into bed.’

The observation that plural verb agreement can felicitously occur with maximal readings is also supported by (14-15) which involve real-world knowledge. In (14), plural verb agreement is used when the subject noun phrase refers to the nine judges on the U.S. Supreme court (i.e., the maximal set). (15) shows no verb agreement when the subject noun phrase refers to nine judges in a Finnish context, where the nine judges are merely a subset of a larger set (i.e., non-maximal). The Finnish sentence could be paraphrased roughly along the lines of ‘There exist nine judges who have, so far, reached a verdict.’ In the examples, simplified glosses are used for brevity, and verb number is indicated in the English translation with subscripts.

- (14) *(talking about the U.S. Supreme Court, which has nine judges)*  
 Korkeimman oikeuden yhdeksän tuomaria päättävät, miten Yhdysvaltain lakeja tulkitaan. (www)  
 ‘(The) Supreme Court’s nine judges decide<sub>PLURAL</sub> how the laws of the US should be interpreted.’
- (15) *(talking about a Finnish legal case)*  
 Tähän mennessä yhdeksän tuomaria on antanut tuomionsa Ulvilan murhan kolmessa eri oikeuskäsittelyssä. (www)  
 ‘Up until now nine judges has<sub>SING</sub> given<sub>SING</sub> their verdicts about the Ulvila murder in three different court cases.’

Yet more evidence for plural verb agreement being associated with maximality comes from the contrast in (16-17). In Finnish, genitive possessors can occur before or after the numeral, as in (16) vs. (17). The pre-numeral position in (16) is associated with a maximal reading (all four Finnish representatives did well), while the post-numeral position in (17) evokes a non-maximal, existential reading (there exist four Finnish representatives who did well (e.g. Korhonen et al. 2015:288, see also Chesterman 1991:157). Correspondingly, plural verb agreement is felicitous with NNCs with a pre-numeral genitive possessor, whereas NNCs with post-

numeral possessors are most natural with singular verb agreement. (Examples from Chesterman 1991).

- (16) Suome-n neljä edustaja-a menesty-ivät hyvin.  
 Finland-GEN four.SG representative-SG.PAR succeed-PAST.3PL well  
 ‘Finland’s four representatives did well.’
- (17) Neljä Suome-n edustaja-a menesty-i hyvin.  
 four.SG Finland-GEN representative-SG.PAR succeed-PAST.3SG well  
 ‘Four representatives of Finland did well.’ (*lit.* four Finland’s reps)

These data suggest that when the numeral noun phrase picks out the maximal set in the context, plural verb agreement can be used.

In addition to maximality, other factors related to the referential properties of the NNC can also favor plural verb agreement. One of these is **familiarity**: it appears that a NNC can occur with plural verbs if the specific referents are known/familiar, e.g. due to having been already mentioned. A minimal pair is provided in (18) from a descriptive grammar (Hakulinen et al. 2004, English paraphrases are mine), where the authors state that a plural verb can be used when the referents of the subject noun phrase ‘four tourists’ can be specifically identified by the speaker and the addressee (see also Karlsson 1977:383 for similar examples). Recall that Finnish has no required definite or indefinite articles.

- (18) Neljä turistia loukkaantui / loukkaantuivat.  
 ‘Four tourists got injured<sub>SING</sub> / got injured<sub>PLURAL</sub>’  
 ‘There are four injured tourists’ (*sing*) / ‘The four tourists are injured.’ (*pl*)

Further evidence for effects of prior mention on plural verb agreement comes from (19). The modifier *mainitut* ‘aforementioned’ makes it clear that the referent is known. Relatedly, in (20), plural agreement can occur with the word *tietyt* ‘certain’ indicating specificity.

- (19) Mainitut kolme tekijää muodostavat pohjan Jokereiden brändin rakentamiselle. (www)  
 ‘(the) aforementioned three factors form<sub>PLURAL</sub> the foundation for building the brand for the Jokerit.’
- (20) tietyt kolme henkilöä olivat liikkuneet uhrin kanssa... (www)  
 ‘certain three persons had<sub>PLURAL</sub> accompanied<sub>PLURAL</sub> the victim...’

I have focused so far on the NNC subject’s *semantic* properties influencing the use of plural verbs. This focus on semantics differs from the assumptions of Brattico (2010) and Norris (to appear) who (though not focusing on issues of verb

agreement) suggest in passing that plural verbs with NNC subjects may be sensitive to overt morphological realization of plurality. Brattico includes (21), with a plural demonstrative and a plural verb, and (22), with no morphological plurality and a singular verb. Norris explicitly mentions the possibility that verbs are obligatorily plural when the NNC subject has a “modifier manifesting plural morphology.”

- (21) Ne kaksi pien-tä auto-a seiso-ivat tie-llä  
 those.PL two.SG small-SG.PAR car-SG.PAR stand-PAST.3PL road-ADE  
 ‘Those two small cars stood on the road.’
- (22) Kolme auto-a aja-a tie-llä.  
 three car-PAR.SG drive-PRES.SG road-ADE  
 ‘Three cars drive on the road’

According to the approach I’m outlining, what can trigger the use of plural verbs is not the presence of plural morphology *per se*, but rather the semantic/pragmatic properties of the subject.<sup>14</sup> In light of the other examples in this section, I suggest that plural verb agreement in (21) is best viewed as stemming from the semantic/pragmatic property of familiarity or maximality, which is also what triggers use of the demonstrative. Given that even ‘bare’ modifierless NNCs can occur with plural verbs (e.g. (18)), it seems reasonable to argue that, underlyingly, it is not the presence of morphologically plural modifiers *per se* that triggers plural verb agreement but rather the semantic properties associated with those modifiers. In other words, the underlying cause for use of plural verbs is best viewed as semantic (or pragmatic), not morphological. While this does not conflict with Brattico and Norris’ observations, I assume a different underlying source.

Further evidence for NNC subjects’ referential properties being relevant comes from NNCs modified by **superlative** adjectives, another context that favors plural agreement. Note that (23-24) can be uttered even before the competition, before we know who the three fastest runners or teams are. (Finnish lacks a morphological future tense.) Although the identities of the referents are *not* yet known or familiar, it’s known that there will be a uniquely identifiable set of three in each case. To adapt the terminology of Coppock & Beaver 2014, I suggest that these superlative

<sup>14</sup> An interesting potential counterexample to this claim comes from (i), where the modifier ‘some’ bears plural morphology and the verb is plural. However, I argue that this is not convincing evidence of plural morphology alone triggering plural verb agreement, as this example receives a maximal and specific construal (three tenors, but unclear which ones) – and thus fits with my claims that semantic and pragmatic factors are at play.

(i) Entinen Savonlinnan oopperajohtaja Jan Hultin taas oli sitä mieltä, että kyllähän siellä jotkut kolme tenoria lauloivat, mutta eri asia sitten, ketkä kolme. (www)  
 ‘The former head of the Savonlinna opera festival, Jan Hultin, was of the opinion that SOMEPLURAL three tenors WEREPLURAL singing, but which three is a different question.’

NNCs are definite (in the sense of presupposing uniqueness) but not determinate (because at the time of utterance they do not denote a specific individual).<sup>15</sup> I suggest that this definiteness is what allows for plural verb agreement.<sup>16</sup> Similarly, NNCs containing the free-choice item *mitkä tahansa* (free-choice ‘any-PL’) in sentences like (25) are a context where we can characterize the NNC as definite but indeterminate (no reference is made to specific individuals), and plural verb agreement can occur. In addition, (26) suggests that when the predicate is **distributive** (here, because of the presence of *jokainen* ‘each, every’), plural verb agreement can be used.

- (23) (*context: talking about an upcoming race, www*)  
 Lisäksi miesten ja naisten sarjojen kolme nopeinta **saavat** rahapalkinnot.  
 ‘Additionally, in the men’s and women’s series the three fastest **receivePLURAL** a monetary award.’
- (24) (*context: talking about an upcoming competition, www*)  
 Keski-Suomen kolme nopeinta joukkuetta **pääsevät** valtakunnalliseen finaaliin, joka järjestetään Taitaja2015-tapahtuman yhteydessä Turussa.  
 ‘Middle-Finland’s three fastest teams **get-intoPLURAL** the national final, which is organized in conjunction with the Taitaja2015-event in Turku.’
- (25) Ehdotamme harjoittelua maanantaina, keskiviikkona ja perjantaina, mutta *mitkä tahansa* kolme päivää viikossa **kelpaavat**. (www)  
 ‘We recommend training on Monday, Wednesday and Friday, but any three days per week **sufficePLURAL**.’
- (26) Neljä lastenlasta **olivat** *jokainen* ukkinsa silmäteriä. (www)  
 ‘Four grandchildren **werePLURAL** each the apples of their grandfather’s eye.’

The claims about maximality and familiarity effects on agreement are supported by a **small-scale experiment** with 25 native Finnish speakers by Pistovčáková (2019). She tested whether speakers produce singular or plural verbs with NNC subjects modified with the universal quantifier *kaikki* ‘all,’ NNCs subjects modified with the demonstrative *nämä* ‘these,’ as well as an unmodified baseline. Her results

<sup>15</sup> I adapt, in general terms, Coppock & Beaver 2014’s notion of (*in*)*determinacy*, but do not intend the absolute superlatives discussed here to be relevant to their analysis of relative superlative DPs.

<sup>16</sup> Conversely, when NNCs are modified by approximatives (e.g. *noin* ‘about’, *yli* ‘over’) that do not allow for a definite reading, they prefer singular verbs.

- (i) *Noin* kuusikymmentä *perhettä* **sai** tukea (...) koronahankkeesta. (www, simplified)  
 ‘around sixty families **receivedSING** support from the COVID project.’
- (ii) *Yli* viisikymmentä jääkarhua **on ilmestynyt** (...) Ryrkaypiyn rannikkokylään. (www, smpl)  
 ‘over fifty polar bears **hasSING appearedSING** in the coastal village of Ryrkaypiy.’

for native speakers reveal a preference for singular verbs in the unmodified baseline (>75%, confirming that singular verbs are the default), and show that plural verbs are clearly preferred with demonstratives and universal quantifiers (>90% plural verbs in both cases). This fits with the corpus data and judgments discussed above.

## 5. Shifting the focus: Singular verb agreement

The data so far suggest that semantic and pragmatic factors (including maximality and familiarity) are associated with the use of plural verbs with NNC subjects.<sup>17</sup> Under this view, ideally we can identify a unifying property that all these plural-triggering factors have in common. A possible candidate seems to be the general semantic notion of definiteness, as the properties identified above involve uniqueness or familiarity or both. Indeed, I have proposed something along these lines in Kaiser (2022) where I suggest that use of plural verbs is conditioned by the referential stability of the NNC subject. Under this view, singular agreement is the ‘normal’ option that we end up with when definiteness is not present.

However, if we treat *singular* verb agreement (syntactic agreement) as the ‘normal’ option with NNCs and *plural* verb agreement (semantic agreement) as a marked option triggered by specific semantic/pragmatic factors, we run into tensions with prior structural analyses as well as typological patterns: It’s widely agreed that DP-external agreement processes tend to involve semantic, not syntactic agreement – which leads us to expect *plural* subject-verb agreement (i.e., semantic agreement) to be the standard option with Finnish NNCs, and not a marked option triggered only by specific factors.

To see if we can resolve this tension, in what follows I shift away from focusing on the conditions that motivate use of plural agreement, and ask whether we can find a condition that motivates use of singular verbs. In other words, might we instead have a situation where plural verb agreement is indeed the standard option and use of singular verbs is triggered by special referential factors? In the rest of this paper I explore the possibility that in Finnish, singular agreement (which I argue is more accurately viewed as *absence of agreement*) is associated with existential interpretations.<sup>18</sup> In particular, if the NNC has existential force, there is no subject-verb agreement (for reasons independent of NNCs, as I explain below).

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<sup>17</sup> Similar factors have been noted in other languages: e.g., verb agreement with Russian NNCs depends on factors like individuation and specificity (Pereltsvaig 2006). Interestingly, many Russian patterns do not obtain in Finnish; e.g. Finnish NNCs can bind anaphors without plural verbs.

<sup>18</sup> Norris (2021) considers and rejects a somewhat related idea for Estonian, that singular verbs with NNCs involve agreement with a null expletive pronoun in a covert existential structure, which he says was suggested by Sandy Chung. Kiss’ (2012) analysis of agreement in Hungarian coordination also uses a null resumptive pronoun as the agreement trigger. I do not commit to the existence of a null expletive pronoun in existentials and leave this issue for future work.

Consequently, the verb ends up as the default third person singular form.

Under this approach, whenever the NNC does *not* receive an existential interpretation, verb agreement can occur, and we end up with the plural agreement predicted by Landau 2016 and in line with typological patterns (e.g. Corbett 1979, 2006). In essence, the intuitive idea is that existential readings involving the subject – not only with NNCs but in general – create a situation where plural verb agreement does not occur. If this view is on the right track, the unifying characteristic that links the different configurations exhibiting plural verb agreement (see Section 4) is that the NNC is *not* interpreted as having existential force. This kind of analysis allows us to treat plural verbs as the standard, expected outcome and singular verbs as a marked option associated with a specific interpretational factor (namely existential construal).

### 5.1 Finnish existential sentences occur with default verb ‘agreement’

In this section I consider the first ingredient relevant to my claim that singular verbs with NNC subjects are non-agreeing default forms, namely the observation that Finnish existential constructions occur with non-agreeing, morphologically singular verbs, even when the subject is plural.<sup>19</sup> I follow the tradition of referring to nouns like *children* in (27-28) as ‘subjects,’ see e.g. Hakulinen et al. 2004. The notion of ‘subject’ is a complex construct in Finnish, e.g. Sands & Campbell 2001.

In Finnish, plural count subjects of existential sentences are in partitive case and, importantly for our purposes, only occur with singular verbs, as in (27-28), unlike nominative plural count subjects, as exemplified in (29) (e.g. Ikola 1954, Chesterman 1991, Hakulinen et al 2004:873, Schot-Saikku 1993, see also Huumo 1997, Sands & Campbell 2001; I focus on count nouns only).

- |      |   |  |   |   |              |
|------|---|--|---|---|--------------|
| (27) | Piha-lla                                  | <span style="border: 1px solid black; padding: 0 2px;">juokse-e</span>     | / | <span style="border: 1px solid black; padding: 0 2px;">*juokse-vat</span>   | laps-ia.     |
|      | Yard-ADE                                  | <span style="border: 1px solid black; padding: 0 2px;">run-PRES.3SG</span> | / | <span style="border: 1px solid black; padding: 0 2px;">*run-PRES.3PL</span> | child-PL.PAR |
|      | ‘There are children running in the yard.’ |  |   |   |              |
| (28) | Laps-ia                                   | <span style="border: 1px solid black; padding: 0 2px;">juokse-e</span>     | / | <span style="border: 1px solid black; padding: 0 2px;">*juokse-vat</span>   | piha-lla.    |
|      | Child-PL.PAR                              | <span style="border: 1px solid black; padding: 0 2px;">run-PRES.3SG</span> | / | <span style="border: 1px solid black; padding: 0 2px;">*run-PRES.3PL</span> | yard-ADE     |
|      | ‘There are children running in the yard.’ |  |   |   |              |
| (29) | Lapse-t                                   | <span style="border: 1px solid black; padding: 0 2px;">juokse-vat</span>   |   |   | piha-lla.    |
|      | Child-PL.NOM                              | <span style="border: 1px solid black; padding: 0 2px;">run-PRES.3PL</span> |   |   | yard-ADE     |
|      | ‘The children are running in the yard.’   |  |   |   |              |

<sup>19</sup> It is agreed that third-person singular verbs are the default non-agreeing form used in the absence of subject-verb agreement. Evidence comes from various parts of Finnish grammar, including singular third-person verbs in constructions without nominative subjects (see e.g. Koskinen 1999).

Finnish existential sentences do not require an expletive; they often have a fronted locative expression and a post-verbal subject, as in (27), but the subject can also be pre-verbal, as shown in (28) (e.g. Välimaa-Blum 1988, Schot-Saikku 1993, Chesterman 1991, but see Vainikka 1989, Huumo & Perko 1993). Despite being morphologically and semantically plural, existential subjects occur with singular verbs (e.g. Chesterman 1991, Hakulinen & Karlsson 1988:170, Schot-Saikku 1993, Kiparsky 2001).<sup>20</sup> This is presumably related to such subjects typically occurring low in the syntactic tree (in the absence of scrambling) and consequently not reaching the relevant structural position for subject-verb agreement (see Vainikka 1989, Kiparsky 2001, Holmberg & Nikanne 2002, i.a., for relevant discussion).

It's worth noting that what I call 'existential' sentences are not restricted to copular verbs and can also occur with other verbs (as in (27-28)). The difference between (27-28) and (29) could perhaps also be characterized as athetic vs. categorical distinction, along the lines of Kuroda 1972 and Sasse 1987. In his analysis of the Japanese particles *wa* and *ga*, Kuroda highlights the difference between sentences that are descriptions of situations (thetic, e.g. *There is a dog running*) and sentences that, first, present an entity and, second, attribute a property to that entity (categorical, e.g. *The/a dog is running*, see also Milsark 1974, Ladusaw 1994, Gutierrez-Rexach 2001 for related discussion). Under this framing, the first ingredient could be recast as follows: Thetic sentences in Finnish, even with plural (count) subjects, occur with non-agreeing, singular verbs.

In what follows, I mostly use the term 'existential' instead of 'thetic' but with the caveat that my use of this term is quite broad. My aim here is simply to highlight, on a general level, the relevance of a distinction along the lines of athetic/categorical or existential/property-assigning contrast. In sum, (i) nominative plural count nouns in preverbal subject position<sup>21</sup> receive a definite interpretation (or at least are presupposed to already exist), exhibit plural verb agreement, and the sentence is construed as categorical, and in contrast, (ii) partitive plural count nouns get an existential reading, occur with default third person singular verbs, and the sentence is construed as thetic (see also Sasse 2011, fn.16).

## 5.2 Finnish NNCs are ambiguous between existential and definite readings

We saw above that in Finnish, existential construals (in sentences without NNCs) are associated with default, non-agreeing singular third-person verbs. I now turn to the second ingredient of my proposal that singular verbs with NNC subjects are

<sup>20</sup> Plural nominative subjects occur with plural verbs in standard Finnish (29). But as mentioned in fn.4, in many colloquial dialects, singular verbs can occur with plural *nominative* subjects. This is irrelevant for the point here that plural verbs are unacceptable with partitive plural subjects.

<sup>21</sup> In some contexts, nominative subjects occur post-verbally, depending on information-structural factors (see e.g. Vilkuna 1989). In such cases, the nominative subject still controls verb agreement.

non-agreeing default forms, namely the claim that when NNCs have existential force, they occur with singular verbs. Conversely, when NNC subjects occur with plural verbs, they are interpreted non-existentially, as referring to an entity that is in some sense definite (e.g. known to exist, uniquely identifiable); I call the latter *definite* interpretations, to distinguish them from NNCs with *existential* force.

In English, presence/absence of definite articles, as in (30-31), indicates whether a numeral-noun construction is interpreted as having existential force. (See Ionin & Matushansky 2006 for a detailed discussion of the semantics of numeral-noun phrases with and without articles, see also Dayal 2013). As expected, only bare NNCs without ‘the’ occur in *there*-sentences, see (32-33) (e.g. Milsark 1974).

- (30) The three birds are sitting on a branch. [definite DP]  
 (31) Three birds are sitting on a branch. [existential]  
 (32) There are three birds in the yard.  
 (33) \*There are the three birds in the yard.

Crucially, since Finnish lacks articles, Finnish NNCs can look the same regardless of whether they have existential force or receive a definite interpretation.

### 5.3 Putting the pieces together

Let’s combine the two ingredients discussed so far: that existential subjects in Finnish occur with non-agreeing singular verbs and that unmodified NNCs can be ambiguous between existential and definite interpretations. According to this line of reasoning, in NNCs like (6), the plural verb is the expected situation predicted by structural analyses like Landau 2016 and Norris to appear, whereas the singular (non-agreeing) verb occurs when the NNC has existential force. Basically, I suggest that the reason why plural (non-NNC) subjects of existential sentences occur with singular, non-agreeing verbs is related to the reason why NNC subjects, when interpreted with existential force, do not trigger verb agreement.

I leave the details of this connection for future work, and do not intend to imply that the underlying derivations need to be identical. I simply aim to highlight a similarity between existential partitive subjects and NNCs: In both cases, lack of plural number agreement on the verb is linked to existential construals.

On a speculative note, it could be that, similar to existential subjects which occur low in the syntactic tree and thus do not reach the relevant structural position to trigger subject-verb agreement (see e.g. Vainikka 1989, Kiparsky 2001, Holmberg & Nikanne 2002), existentially-construed NNCs subjects in Finnish also occur low in the syntactic structure and this is why they fail to trigger subject-verb agreement. (Crucially, it seems that both kinds of existential subjects can undergo scrambling to a higher position, without triggering verb agreement. Given the



discourse-configurational nature of Finnish, this is not implausible.) On this view, lack of verb agreement is a result of the subjects' underlying syntactic position which reflects/stems from their semantic and pragmatic properties. In contrast, definite NNC subjects occur higher in the tree and thus exhibit subject-verb agreement. A better understanding of these issues is a key direction for future work.

Under this view, the lack of plural verb agreement that we see with certain NNCs is not anything special about NNCs *per se*, but a broader property of Finnish: It is simply a consequence of existentially-construed subjects not triggering (plural) verb agreement (see also Schaefer 2020 for work unrelated to NNCs on Italian dialects arguing thatthetic sentences exhibit a lack of subject-verb agreement).

This explains why, when NNCs are *not* interpreted existentially (see Section 4), we see plural verb agreement. This plural agreement can now be viewed as the semantic plural agreement that is straightforwardly predicted for NNCs by accounts such as Landau 2016, but with the twist that in Finnish, plural agreement can only arise when the NNC receives a definite interpretation – because if it has existential force, plural agreement is prevented (perhaps due to the underlying position of an existentially-construed subject being low in the syntactic tree, as mentioned above).

Further evidence that DP-external agreement targets the semantic features of the controller even in Finnish comes from relative pronouns. Relative clauses modifying NNCs must have plural agreement on the relative pronoun, as in (34). Plural relative pronouns are entirely in line with the typological generalization that DP-external agreement tends to target semantic features, further implying that the singular verb agreement with existentially-construed NNCs is a special case.

- (34) Kolme lintu-a, jotka / \*joka  
 Three.SG bird-SG.PAR, RelPro.PL.NOM / \*RelPro.SG.NOM  
 laula-vat kauniisti  
 sing-PRES.3PL beautifully  
 'Three birds that sing beautifully'

## 6. Conclusions

This paper explores seemingly puzzling subject-verb agreement patterns with Finnish numeral noun constructions (NNCs, e.g. *three birds*). Contrary to what typological patterns and theoretical analyses lead us to expect, Finnish NNCs in subject position frequently occur with singular verbs – which goes against existing analyses such as Landau 2016 that seem to predict plural verbs to be the default. Building on properties of Finnish that are independent of NNCs, I show that the Finnish data can be reconciled with existing analyses once we recognize that the verb's number marking depends on referential properties of the NNC.

More specifically, I argue that the singular/plural verb alternation with subject-

position NNCs in Finnish relates systematically to referential properties of the NNC, in particular whether it has existential force. I suggest that (a) when NNCs occur with singular verbs, this is not actual agreement with a singular controller, but rather simply a default ‘elsewhere’ form of the verb that surfaces in certain contexts involving existential construal, and that (b) when NNCs occur with plural verbs, this is indeed a case of (semantic) agreement.

Importantly, according to this approach, the lack of plural subject-verb agreement with NNCs that have existential force does not have anything special to do with NNCs *per se*, and instead stems from a general property of Finnish, namely that existentially-construed plural count subjects (partitive plural in non-NNC contexts) do not trigger plural verb agreement, for reasons often attributed to the discourse-configurational properties of Finnish syntax. Under this way of thinking, the key point is that existential readings involving the subject – not only with NNCs but in general – fail to trigger verb agreement in Finnish. However, whenever the NNC subject does not have existential force, verb agreement can occur (perhaps due to the subject being in the right position for agreement), and we end up with the semantic plural agreement predicted by Landau 2016 and in line with typological patterns (e.g. Corbett 1979, 2006). This also explains why plural verbs are associated with NNCs that receive maximal, familiar, or otherwise definite construals; these are cases where the NNC does not have existential force. This view of singular vs. plural verbs with NNC subjects resolves the apparent conflict between existing theoretical analyses and Finnish verb agreement patterns.

Clearly, many questions remain open, and I do not yet offer a full analysis of the phenomena at hand. I also emphasize the need to acknowledge the variability in individuals’ use (or lack of use) of plural verbs with NNCs. A quantitative corpus study of verb alternation with NNCs is needed; experimental work would also be very welcome; language change may also be at play. These steps are especially important because use of plural verbs with non-NNC subjects in colloquial Finnish dialects (which differ from standard Finnish) exhibits sociolinguistic and regional variation (e.g. Karlsson 1966, Paunonen 1995), and one might expect some variation to be present with NNCs as well, especially since people’s judgments of standard Finnish may be influenced by their dialect background.

Beyond Finnish, this work has implications for how we think about nominal and verbal agreement. Some theories of nominal agreement seek to assimilate it to subject-verb agreement, arguing for a unified mechanism, while others argue that these two phenomena should not be collapsed (see e.g. Norris 2017 for discussion). The Finnish data discussed here challenges attempts to unify verbal and nominal domain agreement patterns, by providing evidence that subject-verb agreement in Finnish NNCs is variable and conditioned by existential vs. definite construals of NNCs (and potentially by associated syntactic differences), whereas agreement patterns in the nominal domain do not exhibit this kind of variability.

## References

- Bale, Alan, Gagnon, Michael & Khanjian, Hrayer. 2011. Cross-linguistic representations of numerals and number marking. In *Semantics and Linguistic Theory 20 (SALT)*, 582-598. <https://doi.org/10.3765/salt.v20i0.2552>
- Brattico, Pauli. 2010. One-part and two-part models of nominal case: Evidence from case distribution. *Journal of Linguistics* 46, 47-81. <https://doi.org/10.1017/S0022226709990193>
- Chesterman, Andrew. 1991. *On definiteness: A study with special reference to English and Finnish*. Cambridge: Cambridge University Press.
- Coppock, Elizabeth & Beaver, David. 2014. A superlative argument for a minimal theory of definiteness. In *Semantics and Linguistic Theory 24 (SALT)*, 177-196. <https://doi.org/10.3765/salt.v24i0.2432>
- Corbett, Greville G. 1979. The agreement hierarchy. *Journal of Linguistics* 15, 203-224. <https://doi.org/10.1017/S0022226700016352>
- Corbett, Greville G. 2006. *Agreement*. Cambridge: Cambridge University Press.
- Danon, Gabi. 2011. Agreement and DP-internal feature distribution. *Syntax* 14, 297-317. <https://doi.org/10.1111/j.1467-9612.2011.00154.x>
- Dayal, Veneeta. 2013. On the existential force of bare plurals across languages. In Ivano Caponigro & Carlo Cecchetto (eds.), *From Grammar to Meaning: The Spontaneous Logicity of Language*, 49-80. Cambridge: Cambridge University Press. <https://doi.org/10.1017/CBO9781139519328.006>
- É. Kiss, Katalin. 2012. Patterns of agreement with coordinate noun phrases in Hungarian. *Natural Language & Linguistic Theory*, 30, 1027-1060. <https://doi.org/10.1007/s11049-012-9178-0>
- Gawron, Mark. 2002. *Two kinds of quantizers in DP*. Talk presented at the Linguistic Society of America Annual Meeting. San Francisco, January 2002. [https://gawron.sdsu.edu/lsa\\_hand.ps](https://gawron.sdsu.edu/lsa_hand.ps)
- Gillon, Carrie. 2015. Investigating D in languages with and without articles. In M. Ryan Bochnak & Lisa Matthewson (eds.), *Methodologies in semantic fieldwork*, 175-204. Oxford: Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780190212339.003.0008>
- Gutiérrez-Rexach, Javier. 2001. The semantics of Spanish plural existential determiners and the dynamics of judgment types. *Probus* 13, 113-154. <https://doi.org/10.1515/prbs.13.1.113>
- Hakulinen, Auli, Vilkuna, Maria, Korhonen, Riitta, Koivosto, Vesa, Heinonen, Tarja R. & Alho, Irja. 2004. *Iso suomen kielioppi*. Helsinki: Suomalaisen Kirjallisuuden Seura. <https://kaino.kotus.fi/visk/etusivu.php>
- Holmberg, Anders, 2005. Is there a little pro? Evidence from Finnish. *Linguistic Inquiry*, 36:533-564. <https://www.jstor.org/stable/4179340>

- Holmberg, Anders & Nikanne, Urpo. 2002. Expletives, subjects, and topics in Finnish. In Peter Svenonius (ed.), *Subjects, Expletives and the EPP*, 71-105. Oxford: Oxford University Press.
- Holmberg, Anders & Nikanne, Urpo. 2008. Subject doubling in Finnish: The role of deficient pronouns. In Sjef Barbiers, Olaf Koenenman, Marika Lekakou, and Margreet van der Ham (eds.), *Microvariation in syntactic doubling*, 325-349. Amsterdam: Brill. [https://doi.org/10.1163/9781848550216\\_013](https://doi.org/10.1163/9781848550216_013)
- Hurford, James R. 2002. The interaction between numerals and nouns. In Frans Plank (ed.), *Noun Phrase Structure in the Languages of Europe* (Empirical Approaches to Language Typology/Eurotyp), 561-620. Berlin: Mouton de Gruyter. <https://doi.org/10.1515/9783110197075.4.561>
- Huomo, Tuomas. 1997. Partitiivisubjekti ja tilajatkumot. *Sananjalka*, 39, 65-97. <https://doi.org/10.30673/sja.86587>
- Huomo, Tuomas & Perko, Jari. 1993. Eksistentiaalilause lokaalisuuden ilmaisijana. *Virittäjä* 97 (3), 380-399. <https://journal.fi/virittaja/article/view/38601>
- Ikola, Osmo. 1954. Suomen lauseopin ongelmia I-III. *Virittäjä* 58, 209-245.
- Ionin, Tania & Matushansky, Ora. 2006. The composition of complex cardinals. *Journal of Semantics* 23, 315-360. <https://doi.org/10.1093/jos/ffl006>
- Ionin, Tania & Matushansky, Ora. 2018. *Cardinals: The syntax and semantics of cardinal-containing expressions*. Cambridge, MA: MIT Press. <https://doi.org/10.7551/mitpress/8703.001.0001>
- Johnson, Cynthia & Joseph, Brian. 2014. Morphology and syntax ... and semantics ... and pragmatics. Deconstructing “semantic agreement.” *Linguisticæ Investigationes* 37:2, 306-321. <https://doi.org/10.1075/li.37.2.08joh>
- Kaiser, Elsi. 2022. Do numeral-noun constructions in Finnish exhibit differential subject marking? Exploring effects of semantic and pragmatic factors on verb number. In Chiara Gianollo, Łukasz Jędrzejowski, and Sofiana I. Lindemann (eds.), *Paths through meaning and form: Festschrift offered to Klaus von Heusinger on the occasion of his 60th birthday*. University of Cologne / University and City Library of Cologne: USB Monographs. <https://doi.org/10.18716/omp.3.c39>
- Karlsson, Fred. 1977. Syntaktisten kongruenssijärjestelmien luonteesta ja funktioista. *Virittäjä* 81(4), 359-391.
- Karlsson, Göran. 1966. Eräitä tilastollisia tietoja subjektin ja predikaatin numeruskongruenssista suomen murteissa. *Sananjalka* 8, 17-23
- King, Tracy Holloway & Dalrymple, Mary. 2004. Determiner agreement and noun conjunction. *Journal of Linguistics*, 40, 69-104. <https://www.jstor.org/stable/4176858>
- Kiparsky, Paul. 2001. Structural case in Finnish. *Lingua* 111, 315-376. [https://doi.org/10.1016/S0024-3841\(00\)00035-8](https://doi.org/10.1016/S0024-3841(00)00035-8)

- Korhonen, Riitta & Maamies, Sari (eds). 2015. *Kielitoimiston kielioppiopas*. Helsinki: Kotimaisten kielten keskus.
- Koskinen, Päivi. 1999. Subject-verb agreement and covert raising to subject in Finnish. *Toronto Working Papers in Linguistics*, 17. Retrieved from <https://twpl.library.utoronto.ca/index.php/twpl/article/view/6262>
- Kuroda, S. Yoki. 1972. The categorial and the thetic judgment. *Foundations of Language* 9: 153-185. <https://www.jstor.org/stable/25000656>
- Ladusaw, William. 1994. Thetic and categorial, stage and individual, weak and strong. *Semantics and Linguistics Theory (SALT)* 4, 220–229. Ithaca, NY: Department of Linguistics, Cornell University. <https://doi.org/10.3765/salt.v4i0.2463>
- Landau, Idan. 2016. DP-internal semantic agreement: A configurational Analysis. *Natural Language and Linguistic Theory*, 34, 975-1020. <https://doi.org/10.1007/s11049-015-9319-3>
- Laury, Ritva. 1997. *Demonstratives in interaction: The emergence of a definite article in Finnish*. Philadelphia: John Benjamins. <https://doi.org/10.1075/sidag.7>
- Lohiniva, Karoliina. 2021. Partitive Case in Finnish Numeral-Noun Constructions. *University of Pennsylvania Working Papers in Linguistics* Vol. 27, Iss.1, Article 17. Available at: <https://repository.upenn.edu/pwpl/vol27/iss1/17>
- Maldonado, Violeta Vázquez Rojas. 2017. Definite numerals in Purepecha. *Alfa: Revista de Lingüística*, 61(3), 585-608. <https://doi.org/10.1590/1981-5794-1711-2>
- Milsark, Gary. 1974. *Existential sentences in English*. Cambridge, MA: MIT PhD dissertation.
- Nelson, Diane & Toivonen, Ida. 2000. Counting and the Grammar: Case and Numerals in Inari Sami. *Leeds Working Papers in Linguistics* 8. 179-192. <https://www.latl.leeds.ac.uk/article/counting-and-the-grammar-case-and-numerals-in-inari-sami/>
- Norris, Mark. 2017. Description and analyses of nominal concord (Pts I-II). *Language and Linguistics Compass* 11, e12266 and e12267. <https://doi.org/10.1111/lnc3.12266> and <https://doi.org/10.1111/lnc3.12267>
- Norris, Mark. 2021. *Estonian and Finnish show that hybrid agreement is structural*, Supplemental materials, v.1, archived at <https://osf.io/3s6qu/>
- Norris, Mark. To appear. *Estonian and Finnish show that hybrid agreement is structural*. To appear in *West Coast Conference on Formal Linguistics (WCCFL)* 39. <https://osf.io/3s6qu/>
- Paunonen, Heikki. 1995. Puhekielen kielioppia etsimässä. In Jan Rydman (ed.), *Tutkimuksen etulinjassa - Tieteen päivät 1995*, 183-201. Helsinki: WSOY
- Pereltsvaig, Asya. 2006. Small nominals. *Natural Language and Linguistic Theory* 24, 433-500. <https://doi.org/10.1007/s11049-005-3820-z>

- Pistovčáková, Katarina. 2019. *Definiittisyyden kategoria suomen kielessä ei-äidinkielisten puhujien näkökulmasta*. Brno, Czechia: Masaryk University MA thesis. <https://is.muni.cz/th/fx7jv/?lang=en;id=218155>
- Schot-Saikku, Päivi. 1993. What Makes Finnish Different? Remarks on a sentence type theory of Finnish. In Anders Holmberg & Urpo Nikanne (eds.), *Case and other functional categories in Finnish*, 207-224. Berlin: Mouton de Gruyter. <https://doi.org/10.1515/9783110902600.207>
- Sands, Kristina & Campbell, Lyle. 2001. Non-canonical subjects and objects in Finnish. In Alexandra Y. Aikhenvald, R.M.W. Dixon, and Masayuki Onishi (eds.), *Non-canonical marking of subjects and objects (Typological studies in language 46)*, 251-306. Amsterdam & New York: John Benjamins. <https://doi.org/10.1075/tsl.46.10san>
- Sasse, Hans-Jürgen. 1987. The thetic/categorical distinction revisited. *Linguistics* 25, 511-580. <https://doi.org/10.1515/ling.1987.25.3.511>
- Sasse, Hans-Jürgen. 2011. Theticity. In Giuliano Bernini and Marcia L. Schwartz (eds.), *Pragmatic Organization of Discourse in the Languages of Europe ((Empirical Approaches to Language Typology/Eurotyp 20-8)*, 255-308. Berlin, Boston: De Gruyter Mouton.
- Schaefer, Silvia. 2020. The morpho-syntactic encoding of discourse-linked topics: an agreement alternation in inversion in North-Eastern Italian varieties. *Glossa: a journal of general linguistics* 5(1): 96. <https://doi.org/10.5334/gigl.1115>
- Sharvy, Richard. 1980. A more general theory of definite descriptions. *The Philosophical Review*, 89(4), 607-624. <https://doi.org/10.2307/2184738>
- Šimik, Radek & Demian, Christoph. 2020. Definiteness, Uniqueness, and Maximality in Languages With and Without Articles. *Journal of Semantics*, 37, 311-366. <https://doi.org/10.1093/jos/ffaa002>
- Sulkala, Helena & Karjalainen, Merja. 1992. *Finnish (Descriptive Grammars)*. London and New York, NY: Routledge. <https://doi.org/10.1017/S0332586500000081>
- Vainikka, Anne. 1995. Functional Projections in Finnish Non-Finite Constructions. *University of Pennsylvania Working Papers in Linguistics: Vol.2, Iss.1, Article 8*. <https://repository.upenn.edu/pwpl/vol2/iss1/8>
- Vilkuna, Maria 1989. *Free word order in Finnish: Its syntax and discourse functions*. Helsinki: Suomalaisen Kirjallisuuden Seura.
- Vilkuna, Maria. 1992. *Referenssi ja määräisyys suomenkielisten tekstien tulkinnassa*. Helsinki: Suomalaisen Kirjallisuuden Seura.
- Vilkuna, Maria. 1996. *Suomen Lauseopin perusteet*. Helsinki: Edita.
- Välimaa-Blum, Ritva M. 1988. *Finnish existential clauses - their syntax, pragmatics and intonation*. Columbus, Ohio: The Ohio State University PhD dissertation.

- Wechsler, Stephen & Zlatic, Larisa. 2003. *The many faces of agreement*. Stanford, CA: CSLI Publications.
- Wexler, Paul. 1976. On the non-lexical expression of determinedness (with special reference to Russian and Finnish). *Studia Linguistica* 30(1). 34-67.

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