

## Split Number in Estonian numeral-noun constructions

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**Introduction:** In Estonian (among other Finno-Ugric languages), numerals can combine with nouns according to two patterns ((1), (2), see, e.g., Nemvalts (1996)).

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| (1) SINGULAR NUMERAL (SingNum)                         | (2) PLURAL NUMERAL (PlurNum)  |
| a. kaks inimes-t<br>two.NOM person-PAR<br>'two people' | a. kahe-d püksi-d<br>two-PL.NOM pant-PL.NOM<br>'two pairs of pants' |
| b. * kaks inimene<br>two.NOM person.NOM                | b. * kahe-d pükse<br>two-PL.NOM pant.PL.PAR                         |

In (1), both the numeral and noun are singular, and in nominative/accusative contexts, the noun must bear partitive case. In (2), both the numeral and noun are plural, and the noun bears nominative (not partitive) case. PlurNums are used with nouns that have a sort of inherent plurality, among them pluralia tantum like *püksid* 'pants' in (2). Importantly, when another modifier is merged with the SingNum constructions, it must (generally) be plural.

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| (3) Nee-d kaks inimest<br>these-PL.NOM two person<br>'these two people' | (4) * See kaks inimest<br>this.SG.NOM two person |
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Two questions regarding number in such DPs present themselves. First, what accounts for the existence of both plural and singular numerals? Second, what accounts for the switch to plural number in SingNum constructions? Briefly, I propose that the number value on numerals is simply agreement with the noun's number value (which is otherwise pervasive in Estonian DPs). The switch to plural in SingNums is the result of an additional number feature, whose presence is conditioned by the numeral.

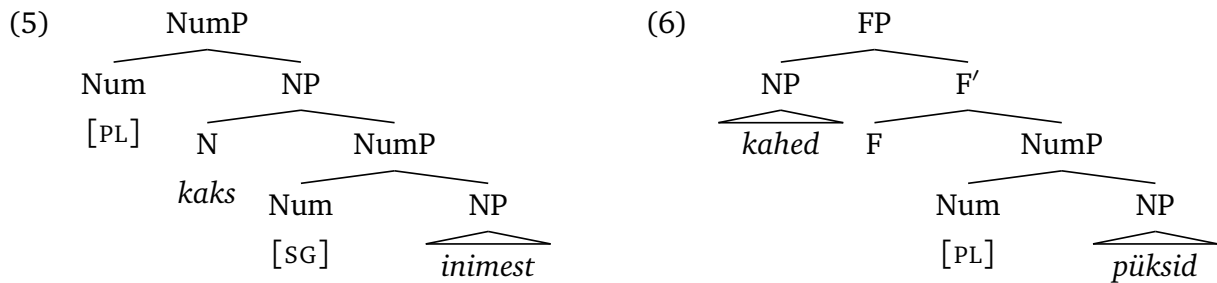
**Previous work:** The individual patterns seen here also exist in Finnish, and the Finnish patterns have been discussed by a number of authors. Danon (2012) proposes two syntactic structures for numerals. SingNums are heads in the nominal spine; PlurNums are specifiers. To account for the fact that plural numerals do not co-occur with partitive case on  $N^0$ , Danon suggests that plural and partitive may be in competition for the (lower) Num<sup>0</sup> position. This analysis seems unlikely given that partitive and plural are not otherwise incompatible (i.e., partitive plural nouns are commonplace). Danon doesn't address the number features on higher modifiers as in (3).

Brattico (2010, 2011) assumes that SingNums and PlurNums in Finnish are listed separately in the lexicon (e.g., Brattico 2011:1050; see also Rutkowski (2001)). This stipulation does not capture the generalization that the plural numerals are the expected plural forms of numerals. Brattico (2010, 2011) does not discuss plural modifiers with SingNums as in (3) directly, though he does discuss the nominative case on such modifiers.

Finally, Landau (2016) discusses the plural demonstrative in examples like (3) in Finnish. He proposes that the plural feature responsible for the plural on the demonstrative is merged *before* the numeral. He proposes that numeral is nevertheless singular because it comes pre-specified as singular. Landau suggests (p. 1006) PlurNums do not get their plural number value

via concord, because the plural feature on numerals adds what he dubs “layered plurality.” However, the source of this plurality is left unspecified. Further, Landau does not discuss why the added plural coincides with a loss of partitive case.

**Analysis:** I propose an account along the lines of Danon (2012), whereby SingNum and PlurNum are tied to differing syntactic structures. In SingNum structures, the numeral is a head embedding a NumP complement. In PlurNum structures, the numeral is the specifier of a functional projection selecting a NumP complement.



It must be a NumP in both cases, because the complement of the numeral/functional head is large enough to contain possessors and adjectives (shown here only for SingNum).

- (7) kaks õiguse olemuslikku aspekti  
 two law.GEN quintessential.PAR aspect.PAR  
 ‘two of law’s quintessential aspects’

In my analysis, plural and singular forms of numerals are the same lexical item in different syntactic positions, and their case and number properties derive from those positions. In both constructions, the numeral shows concord in number with the head noun. The “layered plurality” interpretation Landau references emerges because, in PlurNums, N(P) is idiosyncratically associated with its own [PL] feature (see Kramer (2016)). This feature is only compatible with Num<sub>[PL]</sub>, thus requiring a plural numeral. However, numeral heads (SingNums) only select Num<sub>[SG]</sub>, which means the head-complement structure (5) is not possible when the lower Num<sup>0</sup> is specified as [PL]. PlurNums are merged instead as specifiers, and they are thus not in the requisite syntactic configuration to assign partitive case.

**Implications:** The data considered here have implications for a number of domains— I mention two. First, research on number-marking has focused on whether the noun itself is plural or singular (see, e.g., Farkas and de Swart (2010)). SingNums show that number-marking can be non-uniform: the noun can be singular while other modifiers are plural. Second, research on split analyses of number marking have focused on the relationship between N and Num (Kramer, 2016). This research shows that number-marking may involve number features on additional (higher) heads in the structure. In this case, the additional Num head is only projected in the presence of a numeral (see also Ouwayda (2014)).

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