

# Kinds and units in the Dutch DP<sup>1</sup>

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## 1. Introduction

This paper is a study on the features and heads that determine countability in the Dutch DP. More specifically, I will discuss the morphosyntax of two types of count readings: the kind reading (1) and the unit reading (2).

- 1) I studied **two chocolates**: a low fat variety and a normal one.
- 2) Grandma gave me **two chocolates**: one for me and one for my sister.

The first reading can be paraphrased as *a kind of* and is thus referred to as the kind reading. Kinds are typically countable as individual concepts (cf. the use of the cardinal in (1)), but not measurable. Hence, no judgments can be given on the size of a kind, as can be seen in (3). The second reading can be paraphrased as *a piece of / a portion of* and is here referred to as the unit reading. Units are typically countable and measurable objects, as can be seen in (4).

- 3) \*I studied **two small chocolates**: a low fat variety and a normal one.
- 4) Grandma gave me **two small chocolates**: one for me and one for my sister.

In this paper, I will show that both readings can be derived from the interplay between two morphosyntactic features.

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## 2 Marijke De Belder

This paper is organized as follows. In section 2 I first present background knowledge on the syntactic analysis of the mass-count distinction. I will then introduce the two different count readings (1)-(2) and I will show that previous analyses do not suffice to account for these data. In section 3 I present my analysis. I will propose that countability is derived from two syntactic features. The first one is the dividing feature [Div] that has been proposed by Borer (2005). It divides stuff into countable items. The second feature is [Size]. It assigns size to stuff and creates measurable portions. In section 4 I discuss the semantics of the unit reading in contrast with partitive readings. In section 5 I give corroborating evidence for a head Size<sup>o</sup> by discussing the syntax of the noun *stuk* 'specimen'. Section 6 concludes.

### 2. Two count readings: kinds and units

In this section I will first discuss Borer's (2005) analysis of the mass-count distinction. Secondly, I will focus on two morphologically distinct count readings in Dutch. These data will lead to the conclusion that the traditional split between mass and count readings does not suffice to cover these more fine-grained distinctions.

#### 2.1 The mass-count distinction

Borer (2005) proposes that the mass-count distinction does not stem from the lexicon, but is derived in syntax. The hypothesis that nouns are not lexically marked as mass or count receives support from the fact that nouns that are traditionally categorized as count nouns can easily occur in mass readings.

- 5) Grandma has three dogs.
- 6) There is dog all over the wall.

In (6) the noun *dog* that is prototypically seen as a count noun (cf. (5)) occurs in a mass reading, where it gets the interpretation that the dog has exploded. Conversely, nouns that are traditionally categorized as mass nouns can easily occur in count readings.

- 7) We produce linen.
- 8) This is a good linen.

The noun *linen* is traditionally seen as a bona fide mass noun (cf. (7)). Nevertheless, it can be used without any problem in a count reading as in (8). The fact that all nouns can occur in both mass and count readings is not directly explained if they are marked as count or mass in the lexicon. Borer therefore proposes that all nouns are lexically mass by default and that the mass-count distinction is a product of syntax. Specifically, count readings can be derived by merging the syntactic head  $\text{Div}^\circ$ , i.e. a dividing head, to the NP. This head can be realized as the indefinite article in singular count readings (9) or as plural marking in plural count readings (10). The absence of  $\text{Div}^\circ$  yields the default mass reading (11).

- 9) There is a chicken in the garden.
- 10) There are chickens in the garden.
- 11) There is chicken on my plate.

To summarize, Borer proposes a syntactic derivation of the mass-count distinction. She analyzes the mass reading as the default one. The count reading is syntactically derived by merging  $\text{Div}^\circ$ .<sup>2</sup>

## 2.2 Kind and unit readings

The addition of an indefinite article (13) or plural marking (14) to English mass nouns (12) yields count readings that are ambiguous between kind and unit readings.

- 12) I tasted chocolate.
- 13) I tasted a chocolate.  
kind: 'I tasted a certain kind of chocolate.'  
unit: 'I tasted a piece of chocolate.'
- 14) I tasted the chocolates.  
kind: 'I tasted the different kinds of chocolate.'  
unit: 'I tasted the pieces of chocolate.'

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<sup>2</sup> Note that the two main ingredients of Borer's theory are logically independent of one another. The assumption that the presence or absence of heads in syntax derives mass or count readings does not necessarily imply Borer's second assumption that all nouns are lexically mass by default. One could equally assume Doetjes's (1996, 1997) point of view according to which nouns are lexically marked as mass or count and the syntactic structure can agree with or override this lexical denotation (Cheng, Doetjes & Sybesma 2008).

#### 4 Marijke De Belder

By adding an indefinite article (16) or plural marking (17) to prototypical mass nouns in Dutch (15), the same ambiguity does not arise, but only the kind reading occurs.

- 15) Ik proefde chocolade.  
I tasted chocolate  
'I tasted chocolate.'
- 16) Ik proefde een chocolade.  
I tasted a chocolate  
'I tasted a certain kind of chocolate.'  
# 'I tasted a piece of chocolate.'
- 17) Ik proefde chocolades  
I tasted chocolate-PL  
'I tasted different kinds of chocolate.'  
# 'I tasted pieces of chocolate.'

In order to derive a unit reading in Dutch, one needs not only to add the indefinite article or plural marking to the mass reading that contains a prototypical mass noun, but also the diminutive (18)-(19) (cf. Wiltschko 2005).<sup>3</sup>

- 18) Ik proefde een chocola-tje.  
I tasted a chocolate-DIM  
'I tasted a piece of chocolate.'  
# 'I tasted a certain kind of chocolate.'
- 19) Ik proefde chocola-tje-s.  
I tasted chocolate-DIM-PL  
'I tasted pieces of chocolate.'  
# 'I tasted different kinds of chocolate.'

(16)-(19) show that the semantic distinction between kind and unit readings goes hand in hand with a morphological distinction for prototypical mass nouns in Dutch. The absence of the diminutive forces kind readings, the presence of the diminutive results in unit readings. This morphological distinction suggests that the kind-unit opposition is also a product of syntax. This means that syntax not

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<sup>3</sup> Prototypical count nouns (e.g. *dog*, *bicycle*, ...) do not require a diminutive to be interpreted as a unit, in contrast with prototypical mass nouns (e.g. *chocolate*, *beer*, *iron*, ...). This observation is incompatible with Borer's (2005) assumption that all nouns are mass by default.

only derives the mass-count distinction as Borer (2005) suggests, but also the kind-unit distinction within the count readings. Note that Borer's  $\text{Div}^\circ$ -head does not suffice to account for these Dutch data. Moreover, Borer's structure does not provide a head that can host the diminutive morpheme. In the next section I will therefore propose an additional head  $\text{Size}^\circ$  that hosts the feature [Size] and that can be morphologically realized as the diminutive morpheme.

### 3. The feature [Size]

In this section I show that we can account for the three-way split between the mass reading, the count kind reading and the count unit reading if we assume that countability results from the interaction between two features, [Div] and [Size]. I will further propose that the diminutive is an overt realization of [Size].

#### 3.1 The proposal

Recall from the definition of kind and unit readings (cf. §1) that both readings are mainly distinguished by the property of being measurable. Kinds denote unmeasurable countable concepts, whereas units refer to measurable individual objects. Moreover, we have seen for Dutch that a size marker, i.e. the diminutive, is the morphological means to set these readings apart from each other (cf. § 2.2). I therefore propose that this size marker hosts a feature [Size] that contributes measurability to the structure of the NP.

The interaction between the two features [Div] and [Size] yields the following hypothetical possibilities: (i) both features are absent, (ii) only [Div] is present, (iii) both [Div] and [Size] are present and (iv) only [Size] is present. I will show that (i) the absence of both features yields the default mass reading, (ii) that the presence of [Div] in the absence of [Size] results in count kind readings, (iii) that the presence of both features generates count unit readings and (iv) that the presence of [Size] in the absence of [Div] is illicit. I assume that structures are related to readings (mass, count, unit) and not to nouns. In other words, all nouns can enter all structures.

To detect the presence of these heads, I use the possible presence of overt number marking and size marking, i.e. the diminutive, as a diagnostics. Recall Borer's (2005) proposal that the indefinite article and plural marking are overt realizations of [Div] and that both are hosted by  $\text{Div}^\circ$ . I follow Borer in the assumption that plural marking indicates the presence of [Div]. However, I assume, contra Borer that [Div] is realized as a null morpheme for the singular. I

further assume that the diminutive is an overt realization of [Size] and that it is hosted by Size°.

### 3.1.1 Both features are absent: mass readings

Mass readings (20) do not allow for plural marking (21), nor do they support diminutives (22).

20) Ons bedrijf produceert **vilt**.  
 our company produces felt  
 ‘Our company produces felt.’

21) # Ons bedrijf produceert **vilt-en**.  
 our company produces felt-PL  
 (disallowed under a mass reading)

22) \* Ons bedrijf produceert **vilt-je**.  
 our company produces felt-DIM

From the absence of number marking and the diminutive I conclude that the features that are expressed by these morphemes are equally absent from the structure. Mass readings thus have a structure that lacks both Div° and Size°. This is represented in (23).<sup>4</sup>

23) [<sub>DP</sub> [<sub>D'</sub> D° [<sub>NP</sub> [<sub>N'</sub> N°]]]]

### 3.1.2 Only [Div] is present: Kind readings

Kind readings allow for plural marking (24), but they do not support diminutives (25).

24) Ons bedrijf produceert **vilt-en**.  
 our company produces felt-PL  
 ‘Our company produces kinds of felt’

25) # Ons bedrijf produceert **een vilt-je**.  
 our company produces a felt-DIM  
 (disallowed under a kind reading)

<sup>4</sup> Projections that are irrelevant for the issues under discussion are left out.

From these facts one can conclude that kind readings are syntactically derived by merging  $\text{Div}^\circ$  but not  $\text{Size}^\circ$ . This structure can be seen in (26).

26)  $[_{\text{DP}} [_{\text{D}'} \text{D}^\circ [_{\text{DivP}} [_{\text{Div}'} \text{Div}^\circ [_{\text{NP}} [_{\text{N}'} \text{N}^\circ]]]]]]]$

This structure is the same for kind readings that seem to be derived from nouns that are traditionally called run-of-the-mill mass nouns (such as (24)), as for nouns that are seen as bona fide count nouns as in (27).

27) De poedel en de jack russel zijn **honden**  
 the poodle and the jack russel are dog-PL  
 die ook geschikt zijn voor de jacht.  
 that also suitable are for the hunting  
 ‘The poodle and the jack russel are the kinds of dogs that are also suitable for hunting.’

28)  $[_{\text{DP}} [_{\text{D}'} [_{\text{DivP}} [_{\text{Div}'} \text{hond-en}_{\{\text{Div}\}} [_{\text{NP}} [_{\text{N}'} \text{hond}]]]]]]]$

In (28) the noun undergoes head movement to  $\text{Div}^\circ$ , where it merges with number marking.

### 3.1.3 Both features are present: unit readings

Unit readings allow for both plural marking and diminutives (29).<sup>5</sup>

29) Er kleven **vilt-je-s** onder de stoelpoten.  
 there stick felt-DIM-PL under the chairlegs  
 ‘There are pieces of felt under the chairlegs.’

The possible cooccurrence of both these morphemes strongly suggest that unit readings are derived from a structure that has both  $\text{Div}^\circ$  and  $\text{Size}^\circ$ , as in (30).

30)  $[_{\text{DP}} [_{\text{D}'} \text{D}^\circ [_{\text{DivP}} [_{\text{Div}'} \text{Div}^\circ [_{\text{SizeP}} [_{\text{Size}'} \text{Size}^\circ [_{\text{NP}} [_{\text{N}'} \text{N}^\circ]]]]]]]]]$

<sup>5</sup> Note that the diminutive does not contribute any affectiveness to examples such as (29). In affective readings, the diminutive is licit in many more contexts, as pointed out to me by Jenny Doetjes. In exclamations, for example, even kind readings allow for a diminutive, e.g. *Wat een lekker wijntje!* Lit. ‘what a tasteful wine-DIM’ ‘Such as great wine!’ In motherese, it is even possible to attach a diminutive to mass nouns, e.g. *Drink je melkje op!*, Lit. ‘drink you milk-DIM up’ ‘Finish your milk’. I will not discuss this affect diminutive. (Cf. Steriopo (2008) for a comparison between size diminutives and affect diminutives in Russian.)

Again, this structure is the same for all nouns, as in (31)-(34).

- 31) Ik heb **de hond-je-s** geaaid.  
 I have the dog-DIM-PL petted  
 'I have petted the little dogs.'

- 32) [ DP [D' de [ DivP [Div' hond-je<sub>{Size}</sub>-s<sub>{Div}</sub> [ SizeP [Size' ~~hond-je~~<sub>{Size}</sub> [ NP [N' ~~hond~~  
 ]]]]]]]

Singular count readings of non-small units have the same structure.

- 33) Ik heb **de hond** geaaid.  
 I have the dog petted  
 'I have petted the dog.'

- 34) [ DP [D' de [ DivP [Div' hond- $\emptyset$ <sub>{Size}</sub>- $\emptyset$ <sub>{Div}</sub> [ SizeP [Size' ~~hond~~- $\emptyset$ <sub>{Size}</sub> [ NP [N' ~~hond~~  
 ]]]]]]]

The structure in (34) is identical to the one in (32). The difference between the two examples lies in the fact that (32) has overt plural marking, whereas (34) has a null morpheme for the singular. Moreover, (32) has an overt diminutive, whereas (34) has a null morpheme for unmarked non-small size.

### 3.1.4 Only [Size] is present: does not exist

Things that have size and that are measurable are, as a matter of conceptual necessity, individual items by definition. Hence, if something acquires size, it automatically gets individuality. In other words, the presence of [Size] implies the presence of [Div]. From this follows the correct prediction that every Dutch diminutive is also pluralizable.

## 4. The unit reading versus the partitive construction

In this section, I discuss the fact that unit readings typically refer to objects that have been produced as individual items and that do not imply a part-whole relation to a larger entity. This contrasts with the semantics of partitive constructions. The NPs in (35) refer to items that have been produced as small, individual portions.



- 35) Ik at **chocola-tjes** / **een taart-je**.  
 I ate chocolate-DIM-PL a pie-DIM  
 ‘I ate chocolates / a small pie.’

These interpretations contrast with those of partitive constructions, that typically imply a part-whole relation (36).

- 36) Ik at **een stuk taart**.  
 I ate a piece pie  
 ‘I ate a piece of pie.’

The partitive construction in (36) refers to a piece that has been cut off from a larger pie. In other words, whereas unit readings refer to individual items that imply no part-whole relation to a larger entity, partitive constructions typically refer to such a larger entity.<sup>6</sup>

## 5. Corroborating evidence: another size morpheme

In this section I show that the Dutch noun *stuk* ‘specimen’ does not take a diminutive and only occurs in elliptical contexts. I argue that this noun instantiates Size° in cases of NP ellipsis.

There are two homonymous nouns *stuk* in Dutch. The example in (37) shows the first one. It can be translated as ‘piece’, it takes the plural morpheme –*en* (38) and it can take a diminutive (37). I will refer to this noun as *stuk*<sub>1</sub>.

- 37) Het is nog geen compleet artikel,  
 it is yet no complete article  
 het is nog maar een **stuk<sub>1</sub>(je)**.  
 it is yet but a piece(-DIM)  
 ‘It is not yet a complete article, it is only a (little) piece.’

- 38) Ik heb al twee **stuk<sub>1</sub>-en** gegeten.  
 I have already two piece-PL eaten  
 ‘I already ate two pieces.’

Example (39), on the other hand, shows the second use of *stuk*, henceforth *stuk*<sub>2</sub>.

<sup>6</sup> Wiltchko (2006) proposes a similar structure for both diminutive unit readings and partitive constructions. I am reluctant to follow this approach, cf. also section 5 and footnote 8.

- 39) A: Hoeveel bananen heb je gekocht?  
 how.manybananas have you bought  
 B: Ik heb twee **stuk<sub>2</sub>-s** gekocht.  
 I have two specimen-PL bought  
 ‘How many bananas did you buy? I bought two specimens.’

In this use the noun *stuk* is most accurately translated as ‘specimen’, i.e. it resists the part-whole interpretation typically associated with ‘piece’ and it only refers to individual units. Further, it takes the plural morpheme *-s* and it does not take a diminutive (40).

- 40) \* Ik heb twee stuk<sub>2</sub>-je-s gekocht.<sup>7</sup>  
 I have two specimen-DIM-PL bought  
 Intended meaning: ‘I bought two specimens.’

Note at this point that the diminutive is fully productive in Dutch, i.e. all Dutch nouns can take a diminutive. It easily attaches, for example, to nouns denoting large objects (41), to measure words (42) and to abstract nouns (43).

- 41) die toren-tje-s in Dubai  
 those tower-DIM-PL in Dubai  
 ‘those towers in Dubai’ (expresses contempt)
- 42) een kilootje appelsienen  
 a kilo-DIM oranges  
 ‘a kilo of oranges’
- 43) een leugen-tje  
 a lie-DIM  
 ‘an innocent lie’

In the light of examples (41)-(43) it is highly unexpected that *stuk<sub>2</sub>* cannot be combined with the diminutive. I propose that this noun is an instantiation of *Size<sup>o</sup>*. From such a perspective it is not surprising that the diminutive, another realization of *Size<sup>o</sup>*, is incompatible with *stuk<sub>2</sub>*: the two elements are in

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<sup>7</sup> The choice of the plural morpheme here is not determined by the noun as Dutch diminutives always take an *-s* as a plural morpheme.

competition for the same syntactic position.<sup>8</sup> Moreover, this analysis also allows us to understand why *stuk<sub>2</sub>* expresses a whole specimen, rather than pieces of a larger entity. We have seen earlier (cf. section 4) that instantiations of *Size<sup>o</sup>* typically refer to units that have been produced as individual items and not to parts that have been removed from a larger whole.

A further property of the noun *stuk<sub>2</sub>* is that it occurs exclusively in elliptical contexts. (44) shows that an example with both *stuk<sub>2</sub>* and an overt noun is ungrammatical.

- 44) \*Ik heb twee stuk<sub>2</sub>(-s) bananen gekocht.  
       I have two specimen-PL bananas bought

In the absence of the second noun, however, it is grammatical (45).

- 45) Ik heb twee stuk<sub>2</sub>(-s) gekocht.  
       I have two specimen-PL bought  
       ‘I bought two specimens.’

I propose that (45) is the elliptical version of (44). Evidence in favor of this analysis comes from nouns that combine with a restrictive PP modifier. Lobeck (1995:43) points out that such modifiers can remain outside of the ellipsis site. In this way, a PP modifier can be present in the elliptical sentence, although the NP that combines with it, is elided. She gives the following example:

- 46) John’s presentation on urban development was virtually ignored because  
       [<sub>NP</sub>Mary’s [e] on arms control] was so much more interesting.

Lobeck proposes that NP-ellipsis in these cases operates on an intermediate projection and that the modifier is adjoined to an N’ above the one that is elided. Now consider the following examples.

- 47) een medaille voor / \*van tennis  
       a medal for / of tennis  
       ‘a medal for tennis’
- 48) België heeft vier medailles binnengehaald:  
       Belgium has four medals obtained  
       twee **stuk-s** voor / \*van tennis

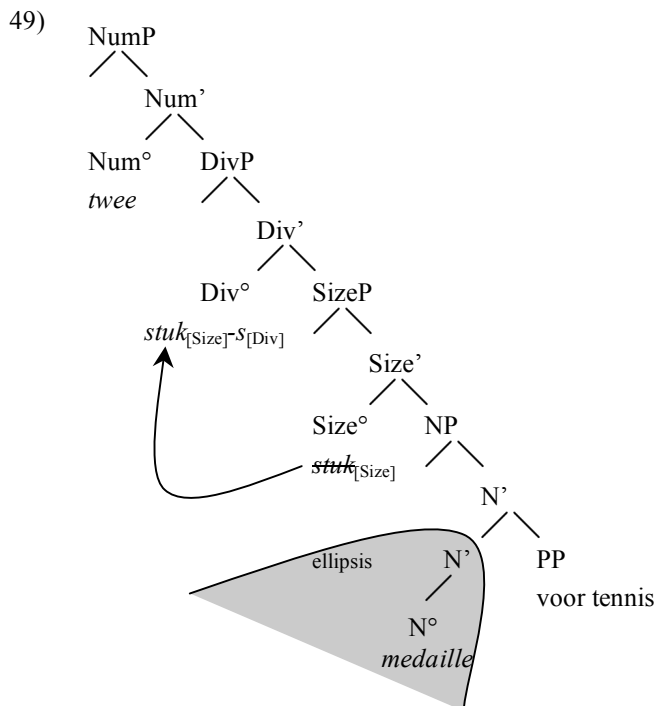
<sup>8</sup> Wiltchko proposes that many nouns that participate in partitive constructions (her classifiers) occupy the same position as the diminutive in German. I do not follow her approach.

two specimen-PL for / of tennis  
 en twee **stuk-s** voor zwemmen  
 and two specimen-PL for swimming

‘Belgium obtained four medals: two for tennis and two for swimming.’

Example (47) shows that the noun *medaille* ‘medal’ takes the preposition *voor* ‘for’ to introduce its modifier. If we compare (48) to (47), it becomes clear that (48) instantiates a case of NP ellipsis: it is not the noun *stuk*<sub>2</sub> that selects the PP modifier, but the elided NP.

In example (46), it is the possessor *Mary’s* that licenses the ellipsis of its NP complement. Lobeck claims that functional heads that are specified for a feature (in this case [+Poss]) can license the ellipsis of their complements. Analogously, I propose that *stuk*<sub>2</sub> licenses the ellipsis of its NP complement. *Stuk*<sub>2</sub> is an instantiation of the functional head *Size*<sup>o</sup> and it is specified for a feature, viz. [Size]. It is therefore able to license the ellipsis of its NP complement. Note that the presence of *stuk*<sub>2</sub> in *Size*<sup>o</sup> also blocks N-to-Size-movement, thus forcing the noun to remain in the ellipsis site. The structure of (48) is given in (49):



To recapitulate, the noun *stuk*<sub>2</sub> ‘specimen’ instantiates Size°. It occurs in contexts of NP-ellipsis that operate on an intermediate N’.

## 6. Conclusion

In this article I have proposed a fine-grained morphosyntactic analysis of countability phenomena in Dutch. I have shown that countability not only relies on a distinction between mass and count readings. Instead, I have shown that within the count readings a further distinction should be made between kind and unit readings. We have seen that these semantic differences go hand in hand with morphological properties: mass readings allow for neither number marking or size marking, kind readings allow for number marking, but not for size marking and for unit readings both number and size marking are licit. I proposed that the diminutive is an overt realization of [Size].

I observed an interplay between two morphosyntactic features, viz. Borer’s (2005) [Div] feature and a [Size] feature to derive the two types of count readings. The feature [Div] assigns countability, the feature [Size] assigns measurability. I further assumed that both features are hosted by designated heads. In this way, I accounted for the semantic and morphological properties of the three different readings on the basis of different syntactic structures. The mass reading that lacks both [Div] and [Size] is neither countable nor measurable. The kind reading that has [Div], but not [Size] is countable, but not measurable. The unit reading that has both features is both countable and measurable. I further showed that the noun *stuk* ‘specimen’ is yet another instantiation of the Size° head. The analyses of both instantiations of Size° thus show that we can account for the semantic, syntactic and morphological properties of countability by means of a fine-grained compositional approach.

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14 Marijke De Belder

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