Chapter 15

The fine-grained structure of the DP in Slavic: Evidence from the distributed plural hypothesis in Polish and Russian

Ljudmila Geist[a] & Joanna Błaszczak[b]
[a]University of Stuttgart [b]University of Wrocław

In this chapter, building on Mathieu (2014), we put forth a split analysis of plural number. More precisely, we argue that functional morphemes can be polysemous. Different positions in the syntactic structure correlate with different interpretations. In other words, the plural is distributed along the syntactic spine and may realize three different functional heads in the fine-grained DP-structure: n^0 (a low functional head), Div^0 (a middle functional head), and $\#^0$ (a high functional head). We present evidence based on the plural marking in Russian and Polish showing that also in Slavic languages the plural comes in many guises, which justifies proposing different syntactic positions for its different semantic manifestations. We refer to this observation as the "distributed plural hypothesis." Altogether we argue, based on the facts discussed in the chapter, that the assumption of a fine-grained DP-structure is justified in Russian and Polish, potentially also in other Slavic languages.

Preface

This article is written in memory of our teacher and colleague Ilse Zimmermann. In her long scientific career, Ilse Zimmermann investigated various topics in a number of languages, including Slavic languages, in particular Russian but also Polish. One of the important research topics that she addressed was the semantics and syntax of nominal phrases; see Zimmermann (1983, 1988, 1991, 2008). The

Ljudmila Geist & Joanna Błaszczak. 2025. The fine-grained structure of the DP in Slavic: Evidence from the distributed plural hypothesis in Polish and Russian. In Łukasz Jędrzejowski, Uwe Junghanns, Kerstin Schwabe & Carla Umbach (eds.), *Syntax, semantics, and the lexicon: Papers by and in honor of Ilse Zimmermann*, 369–406. Berlin: Language Science Press. DOI: 10.5281/zenodo.15471451

present work follows this tradition. We examine the structure of nominal phrases by looking at two Slavic languages: Russian and Polish.

In particular, in the present study we will address some issues which have already played an important role in the above-mentioned publications by Ilse Zimmermann. In this sense, we develop further (or deepen) Ilse Zimmermann's ideas. More specifically, we will attempt to provide evidence for a richer inventory of categories – in our present work the categories in question are different guises of the plural. In this sense, what we are aiming at is to provide arguments for a more fine-grained structure of nominal phrases in Slavic languages.

Furthermore, just like Zimmermann (1988), in the present study we will show that different meanings of a given category (here: the plural) can be attributed to different positions that a given formative can occupy in the syntactic structure (here: in the fine-grained nominal structure). Finally, just like Zimmermann (2008), in the present study we investigate the polyfunctionality of certain elements (here: the plural) and their integration into the DP structure. However, we depart from the lexicalist view, which Ilse Zimmermann based her work on. The central tenet of the lexicalist view is the assumption that the morphosyntactic content of a word (word formation and rules of inflection) is determined in the lexicon. Words enter the syntax as complete atoms, and parts of a word cannot be altered by syntactic operations. We will take another view on the interaction between the lexicon and syntax, the so-called neo-constructionist view. Under this view, new words and word forms are built in the syntax. This view has become more prominent in recent years. In this study we follow the neo-constructionist approach since we think it can render a more transparent account of the phenomenon treated in this work – the syntax and semantics of the plural.

1 Introduction and theoretical background

It has been assumed in lexicalist approaches that knowledge about the meaning and grammar of a noun is stored in the lexicon and is independent of syntax (Di Sciullo & Williams 1987, Zimmermann 1983, Zimmermann 1988, Wasow 1977, among others). For instance, for the noun *tree* the lexicon stores the information that it is a woody plant consisting of a root, a tall trunk rising from it, and a leafy crown. It is also coded in the lexicon that this noun is a count noun. This information suggests that it can be pluralized and combined with numerals, unlike, e.g., *air* or *water*, which are uncountable. The lexicalist approaches have been undermined in recent years by the observation that many nouns (*stone*, *cake*, *rock*, *judgment*) are flexible with respect to countability (Rothstein 2010, Kiss et

al. 2014, Zamparelli 2017). In some syntactic contexts mass nouns can be interpreted as count and count nouns can be interpreted as mass in many languages. Thus, the syntactic context determines the interpretation of the noun as countable or uncountable. Much work on the interpretation of nouns suggests that this flexible behavior of nouns is the rule rather than the exception. This challenges the lexicalist view, according to which the mass/count distinction is lexically pre-established. To account for noun flexibility, neo-constructionist approaches (Marantz 1997, Borer 2003, Borer 2005, Kratzer 2007, among others) assume that countability is derived in the syntax by combining the non-countable nominal root with functional heads that host grammatical markers of countability. Different countability features are distributed along the syntactic spine. According to this view, being mass or count is a property of a whole DP.

The syntactic projection of a noun phrase may include the following functional heads; see Figure 1. It should be noted that #P and DivP are named differently by different researchers (cf. Alexiadou et al. 2007, Borer 2005, Cheng & Sybesma 1999, 2014, Cheng et al. 2017, Mathieu 2012, Wiltschko 2008, Zamparelli 2000, among others):

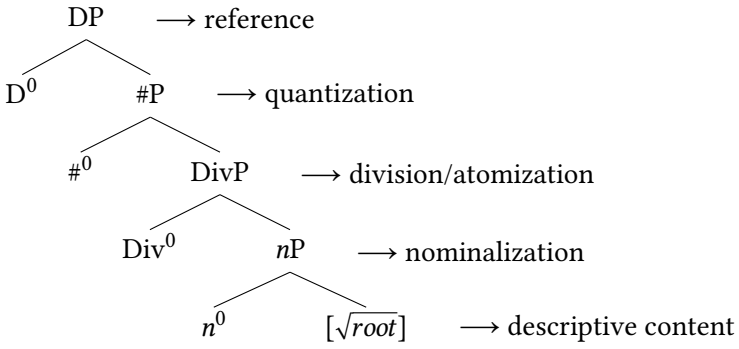

Figure 1: The fine structure of noun phrases

Each functional layer hosts particular morphological elements that are endowed with a specific semantic function. The head D maps the whole phrase onto the referential argument. The DP-layer is a host of "strong" determiners such as definite articles and demonstratives. In articleless languages, D is phonologically empty, but it still bears a definiteness or indefiniteness feature depending on the context. Bare NPs in Russian (i.e., NPs without an overt article) are therefore analyzed as DPs (Pereltsvaig 2007, Geist 2010). The D-layer, although not realized by articles, serves as the semantic locus for definiteness, indefiniteness, and

specificity. The type-shifting operators (Partee 1987) located here correspond to article semantics. We will not further elaborate on the DP level here. The present chapter focuses on the domain of the DP below D^0, namely #P, DivP, and *n*P. The #P (also referred to as NumberP or QuantityP) is assumed to be the locus of the counting function/quantization. It encodes number properties (a feature [±pl]; cf. Embick & Noyer 2007: 307). Numerals can be located in its specifier. The function of the Div(ision)P is to individuate nouns. In particular, Div^0 performs division of the mass, denoted by the *n*P (Borer 2005). Below we will motivate the assumption of these structural layers.

Roots like $\sqrt{dog}$ have been assumed to merely specify idiosyncratic aspects of the final semantic representation. The categorizing head n^0 is responsible for nominalization of uncategorized roots. In the influential analysis of noun phrases developed by Borer (2005), it is assumed that the basic interpretation of a nominalized root is a non-countable interpretation as mass. Crucial evidence for this assumption comes from the flexible behavior of nouns in different syntactic contexts. To explain the observed noun flexibility, Borer assumes that countability is not lexically encoded in the nominal root but is rather syntactically derived from the non-countable mass interpretation by combination with a type of classifier head Div that hosts grammatical markers of countability.

In classifier languages such as Chinese, this function is performed by a numeral classifier. Chinese nouns are assumed to be mass nouns (Chierchia 1998, Krifka 1995). They cannot be directly combined with a numeral and counting needs to be mediated by a classifier. In languages such as English, countability is marked by number morphology. According to the analysis of basic noun denotations as mass, numeral classifiers and number morphology both indicate the presence of the classifier phrase, which relates to countable units (Li 2013, Cheng & Sybesma 1999, Chierchia 1998, among others for similar views, going back to Greenberg 1972). As suggested by Kratzer (2007), in languages such as English, a noun that is usually categorized as a count noun can be conceived of as a noun with an incorporated classifier. Thus, in Chinese, a combination of a noun with a classifier such as *zhi bi* behaves just like an English count noun in the plural, such as *pencils*, in that they both indicate the presence of countable units:

(1) a. san [zhi bi]
three CL pen
'three pens' (Chinese)

b. three pens (English)

The association of plural marking in English with the classifiers in Chinese argued for by Borer (2005) is based on the assumption that the plural does not in fact mark quantity or a set of singulars, but rather the division of mass. Borer assumes that both numeral classifiers in classifier languages and the plural in English are exponents of the functional category Div^0. Div^0 is an individualizer, the locus of a unit-marking function or atomization.

However, the work on numeral classifiers in Cheng & Sybesma (2014) shows that in the Chinese languages Mandarin and Cantonese, two different types of numeral classifiers should be distinguished and only one type of classifier spells out Div^0. While in both Cantonese and Mandarin, the numeral classifier has to be added if the noun is combined with a numeral like in (1), in Cantonese, the classifier is also used with a noun if it occurs as a definite subject (2a) or for reference to a kind (2b). As Cheng & Sybesma (2014) claim, in such contexts in Mandarin, a bare noun without a classifier is used instead; cf. (3).

(2) a. bun^2 / di^1 syu^1 hai^6 ngo^5-ge^3
CL^{SG} CL^{PL} book be 1SG-POSS
'The book/the books is/are mine.'

b. di^1 sai^{1}gwaa^1 zau^6 faai^3 zyut^{6}zung^2 laa^3
CL^{PL} watermelon FOC soon extinct SFP
'Watermelons will become extinct soon.'
(Cantonese; Cheng & Sybesma 2014: 253f.)

(3) a. shū shì wǒ-de
book be 1SG-POSS
'The book/the books is/are mine.'

b. shīzi hěn kuài jiù huì juézhǒng
lion very quick then will be-extinct
'Lions will be extinct very soon.'
(Mandarin; Cheng & Sybesma 2014: 252)

Thus, the combination [Cl-N] in Cantonese and bare noun without a classifier in Mandarin have the same interpretation and distribution and may be assumed to be structurally the same. The classifier in Cantonese contributes individuation, while in Mandarin the noun can be individuated without a classifier. To account for this difference, Cheng & Sybesma (2014) assume that the classifier in Cantonese is merged low in the structure, right above the *n*P in the Cl-u phrase (*u* for "unit-marking"). This explains the fact that the classifier is used in Cantonese in all contexts in which individuation or atomization plays a role. The

Cl-u projection corresponds to $DivP^0$ in Borer's system. The Mandarin classifier is different. Its function is not individuation or division but rather counting. Cheng & Sybesma assume that it is merged in another classifier phrase above Cl-u, in the Cl-c phrase, where *c* stands for "count-marking". If the numeral occurs in the specifier of this projection, the head of the phrase needs to be phonologically realized and it is the count-marking classifier that spells out the head. The Cl-c phrase corresponds to #P in Borer's system. Taking her system as a basis, we assume that the classifier in Mandarin realizes the #-head, while the classifier in Cantonese spells out the Div-head, and in counting contexts, we assume, it may in addition spell out the #-head. The fact that nouns in Mandarin may be individuated without a classifier can be explained by *n*-to-Div movement.

An additional argument for two classifier phrases comes from classifier languages in which the noun phrase can contain two classifiers. An example from Thai exemplifies this point. In (4), the classifier *tua* appears first between the noun and the adjective, and in addition, the phonologically identical classifier also obligatorily occurs after the numeral.

(4) maa tua yai song tua
dog CL big two CL
'two big dogs' (Thai; Cheng & Sybesma 2014: 261)

The discussion of this example in Cheng & Sybesma (2014: 261) suggests that the first occurrence of the classifier is used for unithood, while the second one is for counting.

As we have seen above, in English and Chinese, the same functional categories can be assumed to construct the noun phrase. But the content of functional categories can vary cross-linguistically (see Ritter & Wiltschko 2009). Thus, as we pointed out, for example, Div^0 may be realized by a numeral classifier in Cantonese or by a classifying plural in English. And as we will see below, many other realizations of Div^0 in other languages can be found. All language-specific exponents of Div^0 have the same function – to perform individuation. As far as the functional category $\#^0$ is concerned, the literature mentions the counting plural and numeral classifiers as possible exponents. All these elements facilitate counting after individuation has taken place.

In this work, we will elaborate on the issue of whether there are indications in Slavic languages which would justify the assumption of a fine-grained nominal structure below D as indicated in Figure 1. Do we have evidence for the classifier phrases DivP and #P in such languages? We think that one can indeed answer this question positively. To do so we will further develop an idea in formal Slavic

linguistics going back to the work of Ilse Zimmermann in the eighties (cf. Zimmermann 1983, 1988). In this work, she argues for a richer syntactic inventory of categories, since such an enriched system allows for a better explanation of many syntactic, morphological, and semantic generalizations. More recent work on the DP-structure in Slavic languages, an overview of which is given in Geist (2021b), shows that a more fine-grained syntactic structure has been put forward in this domain and additional functional layers below D can be substantiated in Slavic languages. In the present study we will discuss additional evidence for the fine-grained structure based on the plural marking in Russian and Polish. We will show that the plural comes in many guises, which justifies proposing different syntactic positions for its different semantic manifestations. We will refer to this observation as the "distributed plural hypothesis." The goal of our study is to provide motivation for the distributed plural hypothesis in Polish and Russian. Our work can thus be regarded as a contribution to the broader cross-linguistic research on the fine-grained structure of nominal phrases. The arguments developed in this chapter can be taken as a guide for similar future research in other Slavic languages.

The remainder of the chapter is structured as follows. In Section 2, we discuss the function of the plural as a divider, first giving a short general overview of the literature and facts (Section 2.1) and then providing arguments based on linguistic material from Polish and Russian in support of this assumption (Section 2.2). It is shown that the dividing plural may have a number-neutral reading "one or more than one" and that this reading is facilitated in non-referential contexts if the type of objects rather than the quantity of objects is at issue. Section 3 is devoted to the function of the plural as a counter. After a short general overview in Section 3.1, in Section 3.2 singulatives in Russian and Polish – their formation, function, and semantics – are discussed in more detail. It is shown that, unlike the dividing plural, the plural formed from singulatives (a counting plural) has the meaning of an exclusive plural: it presupposes a set of particular objects and cannot refer to one object. These observations lead in Section 4.1 to the question of how many different plurals should be assumed in Polish and Russian. Our stance on this question is that in these languages plural number can be split across different syntactic projections. More precisely, we argue that, as proposed by Mathieu (2014) for other languages, the heads n^0, Div^0, and $\#^0$ in the nominal spine in Polish and Russian are responsible for the different readings and distributions of the plural morphemes. To complete the overview of different functions of plurals, in Section 4.2 we discuss lexical plurals in general, and in Section 4.3 we focus on lexical plurals in Russian and Polish. It is shown that the plural of abundance, one

type of lexical plural also available in Polish and Russian, displays idiosyncratic behavior. To account for these observations, we assume that the lexical plural formative is attached very low in the structure, in the process of the formation of the noun – in n^0. Finally, Section 5 concludes the chapter.

2 Plural as a divider

2.1 Plural does not always mean 'more than one'

According to the traditional view on number, the singular refers to one entity, while the plural refers to more than one. However, a more complex view on the semantics of the plural has been emerging (Krifka 1989, among others). It has been observed that in negative sentences, and conditional constructions, plural nouns in English are typically understood as referring not to a group of two or more individuals (exclusive plural interpretation, dominant in declarative affirmative sentences) but to any number of individuals, one or many, as long as it is not zero (number-neutral or inclusive plural interpretation). Consider (5)–(6).

(5) Max didn't visit his relatives.
[Sentence is false if Max visited even a single relative.]

(6) If you see any dogs, let me know.
[The speaker wants to be notified if at least one dog was seen.]

Semantic work on the plural (Sauerland 2003, Sauerland et al. 2005, Spector 2007, Zweig 2009, Bale et al. 2011) explains the preferences for the inclusive or exclusive interpretation of the plural by the type of context: downward entailing environments, such as those above, facilitate the inclusive interpretation of the plural whereas in upward entailing contexts, the plural is interpreted exclusively.[1] Grimm (2013) shows that inclusive interpretation of the plural arises not only in downward entailing contexts, but can also occur in polar questions with *have*, modal contexts, and also with objects of opaque verbs such as *look for*:

[1]Monotonicity is a logical property related to the direction of inferences associated with a given construction. A predicate which allows inferences from a subset to a superset is known as upward monotone, whereas a predicate allowing inferences in the opposite direction is called downward monotone. It should be noticed, however, that the monotonicity of interrogative sentences is problematic. For a discussion, see Giannakidou (1998), Gutiérrez-Rexach (1997), Progovac (1993), or van der Wouden (1997). Similarly, the downward monotonic properties of conditionals have been questioned in the literature (see, among others, Gajewski 2011, Heim 1984, and von Fintel 1999). For a general recent discussion, see Gulgowski & Błaszczak (2020).

(7) Do you have children?
[It can be answered "yes" truthfully even if the addressee of the question has just one child.]

(8) I am looking for houses. (Grimm 2013: 249)
[If the speaker finds one house that is suitable, she/he will look no further.]

According to Grimm (2013), the contrast between the inclusive and exclusive readings does not coincide with a contrast between upwards or downwards entailing environments but rather is built on whether the noun is interpreted as referring to particular objects, where quantity is relevant, or referring more generally to the type of object, where quantity is irrelevant. Contexts such as questions, negation, conditionals, and modal contexts allow for weak referential readings of nouns, where no reference to any particular quantity of objects is made. The noun may be non-specific and may not presuppose the existence of any particular referents. Following Grimm, we will refer to this reading of plural NPs as an INSTANCE OF A KIND reading to distinguish it from a QUANTIFIED OBJECT reading, which we will characterize below. Grimm assumes that an instance of a kind reading is a type of generic reading.

According to Krifka et al. (1995), two types of generic reference have to be distinguished: (i) kind reference:[2] generic NPs as arguments of kind-level predicates like *be extinct, invent*, and *be first cultivated* refer to kinds rather than to objects, cf. *Dodos are extinct*; (ii) characterizing predication: generic sentences express some characterizing property of instances of a kind and may occur, for example, as subjects of predicates like *contain* or as objects of predicates such as *like* (Krifka et al. 1995: 71f), cf. (9), or denotations of habitual activities as shown in (10). Different analyses of such NPs have been suggested in the literature (cf. Krifka 2004 for an overview). Most of them assume that the generic (bare plural) NP introduces a variable that can be bound by a generic operator, which may be explicated by adverbs like *typically* or *usually*.

(9) a. Peas (typically) contain a lot of fiber.
b. Paula (generally) likes novels.

(10) Hella (usually) eats apples for breakfast.

[2]Krifka (1995) assumes that kinds are a subclass of a more general class of concepts: not all concepts need to be well-established, while kinds are assumed to be. In this study we will use the term *kind* in a broader sense to also refer to not well-established kinds for simplicity.

However, as Grimm claims, generic reference may also arise in questions with existential *have*, where no generic quantification is available. Following the assumption that inclusive or number-neutral interpretation of the plural is another type of generic interpretation, Grimm suggests an analysis of generic NPs in such contexts similar to the analysis of generic NPs in characterizing predication: such NPs introduce a variable over instances of a kind, but in addition, in their representation, there is an existentially bound variable for number, which gives rise to number-neutral inclusive interpretation.[3]

Note, however, that even in questions the plural can receive an exclusive interpretation ('more than one') (see also footnote 1). Thus contexts facilitating the non-referential use of nouns do not automatically exclude the referential use of nouns and exclusive interpretation of the plural. In a context like (11) from Grimm (2013), where the quantity of objects is made relevant, the exclusive reading in the question is even preferred.

(11) *Scenario*: Several colleagues are looking for a meeting place. B has an office in the building:
A: Do you have chairs in your office?
B: ?Yes, one. / No, only one. (Grimm 2013: 9)
[The question cannot be answered "yes" truthfully if the addressee of the question has just one chair.]

In this context the quantity of objects is relevant and the plural noun *chairs* yields an exclusive reading. That the exclusive reading is not intrinsic to the plural of *chairs* is shown in (12), where a question about chairs is used in the context of a furniture store.

(12) *Scenario*: A person is looking for a blue chair for her bedroom. She goes to the small furniture store on the corner and asks the salesman:
A: Do you have blue chairs?
B: Yes, one. / ?No, only one. (Grimm 2013: 9)

[3] The formula in (i) represents the meaning of the bare plural *dogs* in its inclusive interpretation. In the representation, the relation R is a realization relation between *kind* and the instances of the kind at the level of objects. OU is an operator which, given a kind and a set of objects, provides a measure, *n*, of the number elements which qualify as instances of the kind. In questions with *have*, modal contexts, and with opaque verbs like *look for* the variable for instances of a kind may be bound by existential closure.

(i) Instance of a kind reading (inclusive interpretation of plural):
$[\![\text{dogs}]\!]$: $\lambda i\, \lambda x\, \exists n\, [\mathsf{R}_i(x, \textsc{dog}) \wedge \mathsf{OU}_i(\textsc{dog})(x) = n]$ (Grimm 2013: 7)

In this case *chairs* is weakly referential since the question under discussion is the availability of objects exemplifying the kind "blue chair" in the store. The cardinality of the objects is not at issue.

To conclude, following Grimm (2013), it can be assumed that plural nouns in contexts allowing weak reference as in (5)–(8) are in principle ambiguous between the instance of a kind reading and the quantified object reading. In the former reading, the plural is not interpreted as indicating a sum of particular objects, i.e., it does not have a counting function, but rather designates an object as a type of thing.

Borer (2005) takes an extreme view that the plural, at least in English, is always used to divide or portion out undivided mass rather than to count objects. That the function of number is not always counting but sometimes just dividing was originally observed by Krifka (1989). Consider, for example, (13), in which the noun *apple* has a plural form although there is only one apple involved in each case except for (13c).

(13) a. 0.2 apples/*apple
b. 0.1 apples/*apple
c. 1.5 apples/*apple
d. 1.0 apples/*apple (Borer 2005: 115)

Data like these point to the fact that plural does not need to refer to a group of objects, thus it serves as a divider rather than a counter. Borer (2005) assumes that the plural with a dividing function in English is an exponent of the functional category Div^0.

The assumption that the plural in English is always a divider and never a counter has been questioned in theoretical and empirical studies (Alexiadou 2019, Grimm 2013). These studies indicate that the plural is in principle ambiguous, and depending on the grammatical context and the discourse context may have a counting or dividing interpretation. In the neo-constructionist approach, which we advocate here, these different interpretations can be captured in terms of different attachment points in the syntactic tree. Plural merged under Div corresponds to what the semantic literature discussed above analyzes as an inclusive plural: such a plural indicates a generic instance-of-a-kind reading, where quantity is not relevant. As we will show in Section 3, a counting plural that highlights the quantity of objects and has an exclusive reading must be realized higher in the structure, in the #P.

In the next section, we turn to Polish and Russian and show that one kind of plural in these languages behaves very much like the English dividing plural. In

Section 3, we will compare this kind of plural with the plural of singulatives and show that it is a counting plural.

2.2 Plural as a divider in Polish (and Russian)

In this subsection we will analyze the semantic and distributional properties of plural morphemes in Polish and Russian. What morphemes can serve to express the plural in these languages?

In Polish, the most common plural endings are *-y* (as in *samochód*.SG.M 'car' – *samochod-y*.NV.PL 'cars', *kobiet-a*.SG.F 'woman' – *kobiet-y*.NV.PL 'women') and *-i* (as in *ptak*.SG.M 'bird' – *ptak-i*.NV.PL 'birds', *studentk-a*.SG.F 'student (female)' – *studentk-i*.NV.PL 'students (female)'). However, the plural form of some nouns is formed by adding other suffixes, for example, the suffix *-e* as in *przyjaciel*.SG.M 'friend' – *przyjaciel-e*.V.PL 'friends' or the suffix *-a* as in *okn-o*.SG.N 'window' – *okn-a*.NV.PL 'windows' (for a general synchronic overview of the different plural forms in Polish, see Swan 2002; for the diachronic emergence, see Klemensiewicz et al. 1955 and Rospond 1979).

In Russian, the plural morpheme added to the stem is *-i* for stems ending in a "weak" (=palatalized) consonant and *-y* for stems ending in a "hard" (=not palatalized) consonant. However, there are many exceptions to this general rule: some masculine and most neutral nouns combine with the plural suffix *-a/-ja* (*okn-ó*.SG.N 'window' – *ókn-a*.PL 'windows', *učitel'*.SG.M 'teacher' – *učitel-já*.PL 'teachers') and masculine nouns ending in *-an* have the plural suffix *-e* (*gražd-an-nin*.SG.M 'citizen' – *gražd-an-e*.PL 'citizens'); cf., e.g., for a synchronic overview Švedova & Lopatin (1990: 169ff), and for the diachronic emergence, see Miklosich (1868), Vondrák (1928), Kiparsky (1967), and Isačenko (1962), Issatschenko (1980, 1983).

In this section we will explore whether the plural in Slavic languages may function as a divider. Since Russian appears to be very similar to Polish, in this section we will present only examples from Polish.

First, as argued in Grimm (2013), in contexts in which the quantity of objects is not under discussion, the plural is preferably interpreted as an inclusive plural ('one or more'). As already explained above, this is so because in such cases the plural does not refer to particular entities, where the quantity would be relevant, but rather it refers to the kind of things designated by the noun. In the latter case, the quantity is not relevant (see Grimm 2013: §1). The examples in (14)–(16), modeled on similar examples discussed by Grimm (2013), provide illustration of such contexts (see above Section 2.1).

(14) A: Masz dzieci?
have.2SG children.ACC
'Do you have children?'
B: Tak, mam jedno. / #Nie, mam jedno.
yes have.1SG one no have.1SG one
'Yes, I have one. / #No, I have one.' (Polish)

As B shows, the question in A can be answered "yes" truthfully even if the addressee of the question has just one child, which demonstrates that the plural noun is indeed compatible with an interpretation including just a single entity; see (Grimm 2013).

(15) Piotr nie widzial (żadnych) dzieci.
Peter NEG saw no children.GEN
'Peter didn't see any children.' (Polish)

Sentence (15) is true even if it was only one child that Peter didn't see.

(16) Jeśli państwo mają dzieci, podnieś rękę.
if you.3PL have.3PL children.ACC raise hand.ACC
'If you have children, please raise your hand.' (Polish)
[In the context in question, persons with just one child would also be required to raise their hands.]

Second, plural nouns can occur in characterizing sentences. This suggests that plurals in Polish may receive a generic reading.

(17) a. Jabłka zawierają witaminę C.
apples.NV.PL.NOM contain vitamin C
'Apples contain vitamin C.'
b. Anna uwielbia słowniki.
Anna loves dictionaries.NV.PL.ACC
'Anna loves dictionaries.' (Polish)

Third, it can be shown that in some contexts the plural does not refer to a group consisting of more than one object, but rather serves as a type of classifier that, like numeral classifiers in Cantonese, just indicates the availability of discrete units for counting. In (18) and (19) it is shown that numeral *zero* and fractions in

Polish are also combined with nouns in the plural.[4] In this case, the plural noun cannot denote a sum of objects, but rather a type.

(18) a. zero stołów
zero table.NV.PL.GEN
'zero tables'
b. zero chłopców
zero boy.V.PL.GEN
'zero boys' (Polish)

(19) a. pięć i pół stołów
five and half table.NV.PL.GEN
'5.5 tables'
b. pięć i pół chłopców
five and half boy.V.PL.GEN
'5.5 boys' (Polish)

To conclude, the above facts can be taken to indicate that in Polish (and Russian, which shows very similar behavior), the plural may serve as a divider: in this case it triggers a generic reading of the noun and facilitates an inclusive interpretation in non-referential contexts. This reading is facilitated in non-referential contexts if the type of objects rather than the quantity of objects is at issue.

3 Plural as a counter

3.1 Previous observations

In the previous section we have already mentioned that along with the dividing plural there must be at least one other type of plural, the counting plural. Plural morphemes attached to a count noun are in principle ambiguous between these two types of plural. In this section, we will introduce the idea of Mathieu (2012,

[4] As an alternative to (19a), some speakers of Polish also allow the singular marking with 5.5, as shown in (i):

(i) pięć i pół stołu
five and half table.NV.SG.GEN
'5.5 table' (Polish)

In this case, we assume that the noun has a generic interpretation; see also Kwapiszewski & Fuellenbach (2021).

2014) that some nouns can only be combined with a counting plural. In contrast to the dividing plural, nouns combined with a counting plural refer to a group of atoms and the plural can only have an exclusive reading. The counting plural is located in the head of #P above DivP. Mathieu (2012, 2014) argues that this special type of noun which can only combine with a counting plural but not with a dividing plural is a so-called singulative noun or singulative, i.e., a noun derived with a singulative suffix in languages that have a productive singulative formation.

Languages such as Celtic, Semitic, Gur (Niger-Congo), and some American aboriginal languages use suffixes, mainly diminutive suffixes, to derive a denotation of singular unit from a noun denoting mass or collection. Because of their function, such suffixes have been called "singulative suffixes." The typological literature points to incomplete productivity of singulativization (Stolz 2001), which suggests that this process falls somewhere between inflection and derivation.

Singulative formation is often accompanied by gender shift. The examples in (20) from Breton, a Celtic language, exemplify this fact. The input to singulative formation in this language is collective nouns. Such nouns are morphosyntactically singular but have the semantics of plurals since they denote groups of objects viewed as a totality (see Acquaviva 2015). They behave like mass nouns in that they cannot combine with numerals. As shown in (20), some genuine mass nouns, substance denotations, may also undergo singulative formation. The feminine suffix *-enn* is added to divide the collection or mass. The output is a singular noun in feminine gender meaning a unit of counting/measuring.

(20) a. buzhug ~ buzhug-enn (Breton)
'worms' 'a worm'

b. kraon ~ kraon-enn
'walnut' 'a walnut'

(Stump 2005, cited in Mathieu 2012)

(21) a. dour ~ dour-enn (Breton)
'water' 'drop of water'

b. glav ~ glav-enn
'rain' 'drop of rain'

(Stump 2005, cited in Mathieu 2012)

Since the singulative turns the noun denoting an aggregate or substance into a denotation of a unit, its contribution is similar to that of numeral classifiers in Cantonese. The observation that the singulative may perform the same function

as classifiers goes back to Greenberg (1972: 26). Building on this observation, Mathieu (2012, 2014) adds the singulative system to the theory of division. He argues that since singulative morphemes like classifiers perform division, both can be assumed to spell out the Div^0 head.

The fact that is crucial for the topic of this chapter, namely the issue of the plural, is that the singulative noun in the singular always refers to atoms and can never refer to sums. However, the singulative noun may be pluralized. The product of pluralization always denotes a sum of individuals and has an exclusive interpretation 'more than one.' As Mathieu points out in (22) from Ojibwe, an Algonkian language, the singulative noun in the plural is not neutral enough to be used in a question that asks about the existence or availability of some kind of objects, as is intended in (22). The question with a singulative noun in the plural rather asks about a quantity of objects and is inappropriate in such a question.

(22) ?*hai indik burtogaalaat? (Ojibwe)
have.you oranges.PL.F
'Do you have oranges?' (Mathieu 2014: 170)

To account for the meaning and distribution of the plural of singulatives, Mathieu assumes that this plural is not realized under Div. First, the Div^0 is already realized by the singulative suffix. If the plural were always a divider realizing Div^0, it would be in complementary distribution with the singulative suffix. The fact that this plural and the singulative morpheme can co-occur suggests that they cannot simultaneously fill the same position in the structure. To account for the co-occurrence of the plural morpheme and the singulative morpheme and for the exclusive interpretation of the plural, Mathieu assumes that this plural is the realization of the # head above DivP and it is a counting plural.[5]

To conclude, contrary to Borer (2005), who claims that the sole function of the plural is division, or to Alexiadou (2019), who claims that the plural is always underspecified between the inclusive reading associated with dividing and the exclusive reading associated with counting, Mathieu (2014) puts forth the

[5]The semantic representation for nouns with the counting plural is given in (i); see footnote 3 for the instance of a kind reading of bare plurals for comparison. The variable for number n must be specified as being greater than 2.

(i) *Quantified object reading (exclusive interpretation of plural):*
$[\![\text{dogs}]\!]$: $\lambda i\, \lambda x\, \lambda n\, [\mathsf{R}_i(x, \textsc{dog}) \wedge \mathsf{OU}_i(\textsc{dog})(x) = n]$ (Grimm 2013: 7)

According to this representation, the bare plural *dogs* designates particulars: the indefinite refers to a quantity of particular objects.

hypothesis that the plural combined with a singulative noun in some languages unambiguously serves as a counter. The plural of singulative nouns is unambiguously exclusive, while the plural of underived simple nouns can be inclusive or exclusive depending on the grammatical context and discourse situation. The counting plural is realized in #P, while the dividing plural is located in Div^0.

3.2 Singulative in Russian and Polish

Russian is a language with a relatively productive singulative formation (see Geist 2021a). It has series of collective nouns denoting aggregates but also a few mass nouns that can be turned into individuals or portions via the use of a singulative morpheme.[6] Singulative morphemes include the original singulative suffix *-in-*, the diminutive suffix *-k-*, the combination of these two, as well as some less productive suffixes that can have a singulative function: *-enk-*, *-ičk-*, *-ovic-*, and *-šk-*. Singulative suffixes may target collective mass nouns denoting berries: *klubnika – klubnič-in-a* 'strawberries – a strawberry', grains: *ris – ris-in-a* 'rice – a grain of rice', precipitation: *sneg – snež-ink-a* 'snow – a snowflake', dried fruits: *izjum – izjum-in-a* 'raisins – a raisin', beans: *fasol' – fasol-in-a* 'beans – a bean', and granular aggregates: *pyl' – pyl-ink-a* 'dust – a speck of dust', but also human nouns denoting social and ethnic groups: *graždan-e – graždan-in* 'citizens – a citizen'. We will focus here on non-human collective mass nouns. With such nouns, singulativization is accompanied by a gender shift to the feminine form.

(23) (Russian)

	collection/mass	singulative
a.	ris	ris-in-a
	rice.M.SG	rice-SING-F.SG
	'rice'	'a grain of rice'
b.	višnja	višen-k-a
	cherry.F.SG	cherry-SING-F.SG
	'cherry fruit'	'a cherry'

There is evidence for an analysis of the singulative morpheme in Russian as an exponent of Div^0 and against analyzing it as the realization of the lower head n^0. In the neo-constructionist accounts we follow here, *n*Ps are uncountable and have abstract denotation, i.e., they denote a kind or a mass. As a diagnostic for

[6] We will focus on collective non-human nouns as the input for singulativization and will not discuss the derivation of singulatives from nouns denoting mass (*krov'* 'blood' *krov-ink-a* 'a drop of blood') and from human collective nouns.

such an abstract denotation, the occurrence of a nominal as an argument of kind-level predicates such as *be extinct* or *be first cultivated* has been used. Example (24) shows that singulative nouns cannot serve as the subject of such predicates.

(24) #Risinka byla vpervye kultivirovana v Tailande. (Russian)
rice.SING.F was first cultivated in Thailand
lit.: 'A grain of rice was first cultivated in Thailand.'

That singulatives in Russian can only have an object-level interpretation and never a kind-level interpretation is also argued in Trugman (2013: 329). She claims that noun-adjective combinations with postponed adjectives like *goroch posevnoj* 'seed peas' can be used as names of kinds. However, as she points out, singulative nouns cannot combine with postponed adjectives since they are not names of kinds.

Table 1: Postponed adjectives as indicators of kind-reference in Russian

Collective	Singulative in SG	
goroch posevnoj pea.SG seed 'seed peas'	#gorošina pea.SING.SG 'a seed pea'	posevnaja seed

It has been assumed that modification of a kind with an adjective is done at a very low syntactic level. In the syntactic system assumed in this study, kind-level modification with postponed adjectives should apply at the *n*P level, the lowest nominal syntactic level. Since this type of modification with singulative nouns is excluded, they cannot be analyzed as *n*Ps. The unitizing semantics of the singulative morpheme in Russian can be captured if we assume that it is a realization of Div^0, and the singulative noun is a DivP. A kind-level modification cannot apply at this level.[7]

Singulative nouns in the singular denote one unit, but they may be pluralized, as shown in (25). They then denote a sum of units.

[7]Geist et al. (2023) claim that the singulative morpheme *-in-* realizes not just the head Div^0, but rather the fused head Div^0/n^0. To support this claim, they show that (i) the singulative *-in-* does not allow nominalizing suffixes between the root and itself, and (ii) the singulative *-in-* is in complementary distribution with other nominalizing suffixes realizing n^0. For reasons of space, we cannot present these arguments in detail here and for simplicity will just assume that *-in-* realizes Div^0.

(25) plural of singulatives from non-human nouns (Russian)

a. ris-in-y
rice-SING-PL
'grains of rice'

b. višen-k-i
cherry-SING-PL
'cherries'

Such plurals differ from the plurals of underived nouns that we considered in the previous section. First, pluralized singulatives cannot receive a generic interpretation in characterizing sentences like (26):

(26) #Risiny obyčno soderžat mnogo mineral'nych veščestv. (Russian)
rice.SING.PL usually contain much mineral substances
lit.: 'Grains of rice contain a lot of natural minerals.'

Second, in weak referential contexts like questions, pluralized singulatives cannot receive an instance of a kind reading but rather get a quantified object reading. In a context that makes a quantity interpretation relevant, as in (27), plural singulatives refer to a group of particular objects, i.e., they have an exclusive rather than inclusive reading.

(27) *Scenario*: Ann needs some cherries to decorate a cake. Unfortunately, she doesn't have any. She asks her neighbor:

A: U tebja est' višenki ukrasit' tort?
at you exist cherry.SING.PL decorate.INF cake
'Do you have cherries to decorate a cake?'

B: Net, u menja est' tol'ko odna višenka. / #Da, u menja est' odna višenka.
no at me exist only one cherry.SING.SG yes at me exist one cherry.SING.SG
'No, I have only one.' / *Not*: 'Yes, I have one.' (Russian)

The question with a pluralized singulative asks about the existence of a plurality of particular cherries. Since only one cherry is available, the affirmative answer is dispreferred. By contrast, in the context created in (28) the quantity of cherries is irrelevant. The speaker is asking about the availability of some underspecified amount of the substance.

(28) *Scenario*: Ann likes cherries and would like to buy about a kilo of cherries at the weekly market. She goes there and asks a saleslady:

A: U vas est' #višenki / višnja?
at you exist cherry.SING.PL cherry
'Do you have cherries?' (Russian)

As expected, the singulative noun in the plural is not appropriate in such a context, and the noun *višnja* denoting a mass/collection would be used instead.

Now we turn to Polish. The singulative formation in Polish is not as productive as in Russian (see Szymanek 2014 and the references cited therein) – compounds are used more productively to denote one unit; cf. *kiełek pszenicy* 'grain of wheat' (Gunkel et al. 2017: 863). A few examples which could be regarded as examples of singulatives in Polish are given in (29). All such examples are derived from collective or mass nouns by means of the otherwise diminutive suffixes *-ek/-ka/-ko* and *-ik*.[8] As Szymanek (2014) points out, the singulative meaning in Polish usually co-occurs with the diminutive function 'small N.' In this regard singulatives can be analyzed in terms of semantic extension of the diminutive, as is, for example, proposed by Jurafsky (1996)[9] (see Szymanek for a critical discussion). In this sense, the singulative meaning in Polish arises as "a by-product of diminutivization" (Szymanek 2014).[10]

[8]Szymanek (2014) discusses yet another suffix, *-in*, which according to some scholars (e.g., Wierzbicka 2002) also expresses singulative meaning in Polish. Polish *-in* has the same origin as the Russian singulative suffix *-in*, however in Polish this suffix is very restricted. It can be used to derive a singular form from the plural nouns designating social and ethnic groups. Some scholars, e.g., Grzegorczykowa et al. (1999), analyze *-in* as an inflectional rather than derivational suffix (for more details, see Grzegorczykowa et al. 1999 and Orzechowska 1999; for a critical discussion, see Szymanek 2014).

(i) a. Amerykanie 'Americans.PL' → Amerykanin 'an American'
b. mieszczanie 'burghers.PL' → mieszczanin 'a burgher'

Such formations with *-in* are also available in Russian. Although the behavior of *-in* here is similar to that of the singulative *-in* discussed above for Russian, such forms do not pattern with singulatives derived from non-human nouns: they cannot be pluralized in the same way. This ban on pluralization and the restriction to bases that refer to social and ethnic groups suggest that such an *-in* suffix requires a different treatment.

[9]More precisely, as Szymanek (2014) points out, Jurafsky (1996) proposes a structured polysemy model which is based on the notion of a radial category.

[10]However, this does not mean that all diminutives will also have a singulative or individuating interpretation. For example, as Szymanek (2014) points out, the diminutive suffix *-ek* added to the mass noun *żwir* 'gravel, pebbles' does not result in the singulative meaning of 'a single pebble' but rather it just encodes the diminutive sense of smallness ('small pebbles'). In this sense, both forms, *żwir* 'gravel, pebbles' and *żwirek* 'small pebbles', are mass nouns (see Szymanek 2014.)

The derived form is in principle ambiguous between the singulative and diminutive readings. Under the singulative reading the form denotes just one unit of the mass or collection denoted by the noun. Importantly, under this reading the derived form can be pluralized, just as the singulative form in Russian. However, the singulative forms in Polish still differ from their Russian counterparts: the singulative formation in Polish is not accompanied by a gender shift. The derived form retains the original gender of the base noun. This could be taken to mean that although the singulative suffix is transparent to the gender of the base, it determines the inflection endings and therefore it can be analyzed as a head rather than a modifier (cf. Wiltschko & Steriopolo 2008 for the head-modifier distinction between diminutive suffixes in some languages).

(29) (Polish)

	collection/mass	singulative
a.	groch	grosz-ek
	pea.SG.M	pea-SING.SG.M
	'peas'	'a pea'
b.	pył	pył-ek
	dust.SG.M	dust-SING.SG.M
	'dust'	'a speck of dust'
c.	czekolad-a	czekolad-k-a
	chocolate-SG.F	chocolate-SING-SG.F
	'chocolate'	'a chocolate'

Similarly to Russian, evidence from modification of singulative nouns in Polish can be used to indicate that they cannot refer to kinds and hence cannot be analyzed as *n*Ps, which are kind-denoting. According to Wągiel (2014), nouns modified by prenominal adjectives can only receive an object-level interpretation, while nouns modified by postnominal adjectives are systematically ambiguous between kind-level and object-level readings. Applied to singulative nouns, the following pattern emerges: if combined with a singulative noun, only an object-level interpretation is possible, while the kind-level interpretation is inappropriate; see Table 2.

Wągiel (2014) argues that the modification on the kind-level applies at a lower structural level, the *n*P, while object-level modifiers combine with the noun above *n*P. This can explain why singulatives do not usually allow a kind-level modification: they preferably refer to particular individuals and not to kinds, like their counterparts in Russian.

Table 2: Postponed adjectives as indicators of kind-reference in Polish

Collective	Singulative in SG	
groch włoski	#groszek	włoski
pea.SG Italian	pea.SING.SG	Italian
'chick pea'	'a chick pea' (under kind-level reading)	

Singulative nouns can be pluralized. The pluralized singulative form denotes a sum of objects and hence cannot receive a generic reading in characterizing sentences like (30).

(30) #Groszki zawierają dużo błonnika. (Polish)
pea.SING.PL contain much fiber
lit.: 'Small peas contain a lot of fiber.'

Consider questions. Just like in Russian, in Polish when the context makes a quantity interpretation relevant, as in (31), plural singulatives may be used, and they then refer to a group of particular objects, i.e., they have an exclusive rather than an inclusive reading. The answer confirming the possession of one single pea, as in (31)/iii, is inappropriate in the context in this question.

(31) *Scenario*: Ania needs some peas to decorate her salad. Unfortunately, she doesn't have any. She asks her neighbor:

A: Czy masz (jakieś) groszki? (Polish)
whether have.2SG some peas
'Do you have some peas?'

B: i. Tak, mam.
'Yes, (I) have.'

ii. Tak, mam parę.
'Yes, (I) have some / a couple.'

iii. #Tak, mam jeden.
'Yes, (I) have one.'

The comparison between Polish and Russian reveals that singulative formation in Polish is not productive and often coincides with diminutivization. However, the few available singulatives in Polish pattern with singulatives in Russian in that they refer to units and cannot refer to kinds, and hence they can both be analyzed

as exponents of the functional head Div^0. The analysis of singulative nouns as DivPs can account for their distribution and interpretation. In both languages, singulatives may be pluralized. Like in Russian, the pluralized singulatives in Polish have an exclusive (quantified object) interpretation: they denote a sum of particular objects. This can be used as evidence for the assumption that in Polish, like in Russian, the plural combined with singulative nouns is a counting plural, an exponent of the #-head.

4 A split analysis of plural number

4.1 How many plurals?

We start with an interim conclusion. As originally proposed by Borer (2005), the basic function of the plural is to divide undivided mass. Nouns in the plural of division do not denote sums of objects but rather a set of instances of a kind, as assumed by Mathieu (2012) based on Grimm (2013). While sums of objects cannot consist of only one individual, a set of kind instances, under certain circumstances, can. Nouns combined with a plural of division are weakly referential and allow non-inclusive readings in non-referential contexts where quantity is not relevant. The plural of division surfaces under Div^0. Div is a functional category that serves as a locus for different elements that have the function of division, or more generally, individuation, performed on mass and collective nouns. Crosslinguistic investigations of division show that Div^0 may have different realizations, i.e., besides the plural, at least numeral classifiers and singulative morphemes but also the indefinite article can spell out this category (Mathieu 2012, 2014).

We have seen that the attachment of different exponents of Div^0 to the noun has different results: a dividing plural on the noun creates an instance of a kind interpretation, while the attachment of a singulative morpheme to the noun yields a denotation of a particular unit. This suggests that the product of the division performed by different morphemes need not be the same.

Singulatives may pluralize and the fact that this plural only gets an exclusive interpretation suggests that the plural is not always the realization of Div^0. If a singulative is combined with the plural, it refers to a sum of particular objects and the plural serves as a counter – this is the function attributed to the plural by traditional grammars. Following Mathieu (2012, 2014), it can be assumed that the counting plural surfaces under #^{0}. We have also assumed that the counting plural can also combine with non-singulative nouns, even in English, in contexts where a particular quantity of objects is at issue. In this case the plural has an exclusive reading.

Assuming that the dividing plural surfaces under Div^0, and the counting plural is a realization of $\#^0$, *n* can be assumed to be a possible locus for idiosyncratic or expressive plural, also called "lexical plural" (see Alexiadou 2011, Mathieu 2014). Before we elaborate on the lexical plural, let us emphasize that the idea that the plural can be realized in different syntactic positions along the functional spine of a noun phrase can be represented as in Figure 2.

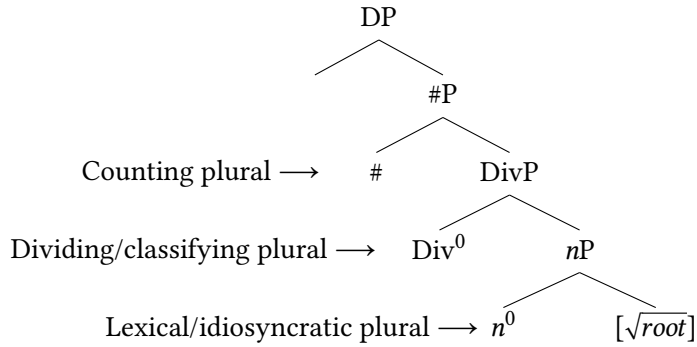

Figure 2: The distributed plural hypothesis for Russian and Polish (based on Mathieu 2014)

As we have already mentioned at the beginning of Section 2.2, there are different suffixes in Russian and Polish classified in traditional grammars as plural suffixes. All these suffixes are ambiguous between the three functions identified in Figure 2. We can account for the particular function of these suffixes in a given context via a difference in "attachment height": the heads n^0, Div^0, and $\#^0$ in the nominal spine are responsible for the different readings and distribution of the plural morphemes.[11] In the next subsection we will focus on lexical plurals.

4.2 Lexical plural: An overview

The lexical plural includes many types of plural mentioned in Corbett (2000), including the plural of abundance, the exaggerative plural, and the evasive plural. Lexical plurals are idiosyncratic in many respects. While the "grammatical" plural, which comprises a counting plural and a dividing plural, is productive, the

[11] On methodological grounds, the fine-grained structure in Figure 2 assumed within the neo-constructionist approach to DP-structure may account for the polyfunctionality of the plural morpheme. It has to be noted that such methodology for resolving ambiguity has also been used in lexicalist approaches. In her analysis of the polyfunctionality of *kak* 'how' in Russian, Zimmermann (2000) uses insertion into different syntactic positions to disambiguate it as an adverb, adjective, and as a conjunction.

idiosyncratic plural targets only a few roots. Besides idiosyncratic restrictions on its formation, the lexical plural has unpredictable meaning. It yields neither the interpretation 'more than one x' nor the interpretation 'one or more than one x', which are typical of the grammatical plural, but rather gives other non-compositional interpretations. Here we will focus on one type of lexical plural, the plural of abundance, sometimes also called the "greater plural" or "global plural" (see Corbett 2000: 30f., Acquaviva 2008: 109ff.), as analyzed in Alexiadou (2011) for Greek. The plural of abundance is a plural that if attached to some mass noun gives the interpretation 'a lot of/a great amount of'; cf. (32).

(32) hithika nera / hithike nero sto patoma
dripped water.PL dripped water on_the floor
'a lot of water' / 'water dripped on the floor' (Greek; Alexiadou 2011: 36)

As Alexiadou notes, mass nouns in the plural of abundance in Greek are cumulative and cannot be combined with numerals. The combination of mass nouns with numerals generally requires a meaning shift from the domain of mass into the domain of objects yielding a sortal or portion interpretation of mass nouns, as illustrated in (33).

(33) There are five waters in the shop.
[5 types/bottles of water]

The plural of abundance differs from the grammatical plural in (33) since it preserves the mass interpretation and just adds the meaning of a huge quantity. In (34) it is shown that the plural of abundance does not trigger domain shift. The noun in the plural of abundance remains a mass noun and cannot combine with numerals.

(34) #Dio nera peftun apo to tavani.
two water.PL fall.3PL from the ceiling
'two waters fall from the ceiling' (only acceptable under type shifting)
(Greek; Alexiadou 2011: 35)

Besides these peculiarities, Alexiadou (2019), following Acquaviva (2004), also mentions restrictions concerning verbal predicates that can occur with the abundance plural. She observes that such plurals often occur with predicates of the *spray/load* class, such as *fall, spray, drip,* and *gather*, because such contexts facilitate the conceptualization of a greater amount; see example (34), where the predicate *peftun* 'fall' is used. Nouns in the plural of abundance do not occur as objects of verbs like *drink*; cf. (35).

(35) ipia nero / #nera
drank.1SG water water.PL
'I drank water' (plural only acceptable under type shifting)
(Greek; Alexiadou 2011: 36)

The above-identified properties of the plural of abundance point to its idiosyncratic behavior. This behavior is reminiscent of the distinction between two levels distinguished in Distributed Morphology: word level vs. root level; cf. Marantz (2001). Assuming this division, idiosyncratic processes result from affixation at the lowest structural level, the root level. Merger with a root is highly restricted and leads to idiosyncratic meaning, while merger with a categorized root at a higher level is less restricted and the meaning of the categorized stem combined with the added morpheme is more transparent. Under this view, the abundance plural as a type of idiosyncratic plural must be part of the *n*P. Alexiadou assumes that it is a realization of the nominal categorizing head n^0: this plural combines with an uncategorized root to form a noun. Thus, while the grammatical plural realized in Div or # attaches to something that is a noun, a lexical plural is added in the process of formation of a noun. Restrictions on the lexical plural (with respect to input-roots, verbal predicates, and interpretation) thus receive a natural explanation. Following Alexiadou (2011), we assume that the idiosyncratic plural is a derivational morpheme, an exponent of n^0. Such an *n*P denotes a non-countable mass. In the next section we will look at lexical plurals in Russian and Polish.

4.3 Lexical plural in Russian and Polish

As in other languages, pluralization of mass nouns is also possible in Russian and Polish. The grammatical plural of mass nouns performs division of mass into portions or sorts, yielding the so-called packaging and sortal reading of mass nouns cf. (36) and (37). Since portions and sorts are objects rather than masses, we can assume that the plural shifts a noun from mass to count, facilitating the combination with numerals.

(36) a. Ivan vypil pjat' piv.
Ivan drank five beer.PL.GEN
'Ivan drank five beers.' [five portions of beer]
b. Zdes' prodajutsja desjat' različnyx vin.
here are_sold ten different wine.PL.GEN
'Here they sell ten different wines.' [ten sorts of wine] (Russian)

(37) a. Piotr wypił pięć piw.
Piotr drank five beer.PL.GEN
lit.: 'Peter drank five beer.' [five portions of beer]
b. W tym sklepie sprzedają dziesięć różnych win.
in this store sell.3PL ten different wine.PL.GEN
lit.: 'In this store they sell ten different wines.' [ten sorts of wine]
(Polish)

However, there are occurrences in which the mass reading is preserved even in pluralization, which we would identify as the plural of abundance. Such forms cannot be combined with numerals.

(38) Ravninu {pokryvali snega / *pjat' snegov}.
plain.ACC covered snow.PL.NOM five snow.PL.GEN
'The plain was covered with a lot of snow.' (Russian)

According to the *Academy Grammar of Russian* (Švedova 1980), the plural of abundance in Russian only attaches to a few mass nouns: some substance nouns and some abstract nouns. With nouns denoting substances, the plural of abundance yields the meaning A HUGE AMOUNT, while with abstract nouns it triggers the interpretation of HIGH INTENSITY.

(39) Plural of abundance in Russian (Švedova 1980: 473)
a. A HUGE AMOUNT
voda 'water.SG' – *vódy* 'water.PL'
pesok 'sand.SG' – *peskí* 'sand.PL'
sneg 'snow.SG' – *snegá* 'snow.PL'
b. HIGH INTENSITY
bol' 'pain.SG' – *bóli* 'pain.PL'
múka 'torture.SG' – *múki* 'torture.PL'

The restriction on verbal predicates with which objects in the plural of abundance can occur seems to be similar to what has been mentioned in the literature for Greek and other languages. The relevant examples from the Russian National Corpus contain verbs such as *orosit'* 'irrigate' and *projti* 'pass', which facilitate or just are compatible with the interpretation 'a huge amount' or 'high intensity', cf. (40). Such uses are often found in poetry and the literary style. In the non-literary style as in (41), the plural of abundance sounds odd.

(40) a. Orosili bezvodnye peski Kara-Kuma – ėto ljudi
irrigate.PST.3PL waterless sand.PL.NOM Kara-Kum.GEN this people truda.
labor.GEN
'The waterless sands of Kara-Kum have been irrigated by people of labor.' [RNC 1]

b. Projdut doždi, sojdut snega …
pass.3PL rain.PL.NOM melt.3PL snow.PL.NOM
'The rains will pass, the snows will melt …' [RNC 2]
(Russian)

(41) #Anja kupila vódy dlja detskogo sada.
Anja bought water.PL for kindergarten
Intended: 'Anja bought a lot of water to drink for the kindergarten.'
(Russian)

The occurrence of the plural of abundance in Polish is even more restricted than in Russian. Here preferably abstract nouns seem to occur in the plural of abundance and the plural has the meaning of 'high intensity,' as illustrated below. The examples in (42) and (44) are taken from the National Corpus of Polish (Przepiórkowski et al. 2012).

(42) A później przychodzi nowy rząd, który myśli, że pozjadał
and later comes new government which thinks that ate
wszystkie rozumy … i tak dalej.
all mind.PL.ACC and so further
Lit.: 'And then comes a new government that thinks it has eaten all the minds …and so on.' (Polish) [NKJP 1]

Example (42) contains the idiomatic expression *pozjadać wszystkie rozumy* (lit.: 'to eat all the minds'), which has a pejorative meaning. It means that someone thinks that he knows everything and is the wisest person, which is not in line with reality. Another example would be (43). It has the meaning that he has suffered great torment in his life. A similar corpus example is provided in (44).

(43) W swoim życiu przeszedł przez męki.
in his life go.PST.SG.M through torment.PL.ACC
'He has gone through severe torments in his life.' (Polish)

(44) lecz czasem można się okazać zbyt podatnym i słabym i
but sometimes possible REFL appear too vulnerable and weak and
wtedy trzeba przechodzić przez "męki" zanim samemu
then necessary pass through torment.PL.ACC before self.DAT
się przekona; czasem warto jest zaufać komuś że nie
REFL convinces sometimes worth is trust somebody.DAT that NEG
warto brać tych "narkotyków" żeby przekonać się że są śmiertelne.
worth take these drugs to convince REFL that are lethal
Lit.: 'but sometimes you can be too vulnerable and weak, and then you have to go through "torments" before finding out for yourself; sometimes it is worth trusting someone that it is not worth taking these "drugs" to find out that they are deadly.' (Polish) [NKJP 2]

However, one can also find individual examples of the plural of abundance formed from a mass noun such as, for example, *woda* 'water'. The example below from the first book of Moses (Genesis 1, 2) illustrates this point.

(45) Ziemia zaś była bezładem i pustkowiem: ciemność była nad
earth again was disorder.INS and desolation.INS darkness was above
powierzchnią bezmiaru wód, a Duch Boży unosił się
surface.INS vastness.GEN water.GEN.PL and spirit divine ascended REFL
nad wodami.
above water.INS.PL
Lit.: 'And the earth was a disorder and a desolation: darkness was over the surface of the vastness of the waters, and the Spirit of God was hovering over the waters.' (Polish; Stary Testament, Księga Rodzaju 1,2)

The discussion of the examples above shows that the plural of abundance is also available in Russian and Polish and displays idiosyncratic behavior. It can be accounted for if we assume that it is attached very low in the structure, i.e., it is a realization of n^0.

5 Conclusion

In this work, building on Mathieu (2014), we put forth a split analysis of plural number within the neo-constructionist approach. More precisely, we assume that the plural is distributed along the syntactic spine and may realize three different functional heads: n^0 (a low functional head), Div^0 (a middle functional head), and

$\#^0$ (a high functional head) in the fine-grained DP-structure. Our analysis shows that disambiguation through syntactic insertion at different positions in the syntactic tree, which has only been used in lexicalist approaches (see Zimmermann 2008) for disambiguation of lexemes, proves useful in neo-constructionist approaches for the explanation of the contribution of bound functional morphemes as well. On a more general level our analysis suggests that:

- Functional morphemes like the plural can be polysemous; their function may be differentiated by their position in the syntactic spine;
- The structure in Figure 1 has the potential to be a universal structure for DPs; however, the content of the functional categories is language-specific;
- The phenomena in Russian and Polish which we discussed in this chapter justify the assumption of a fine-grained DP-structure in Slavic languages as well. However, more work is needed to identify the language-specific contents of the functional categories in this domain;
- Other exponents of the functional categories in Figure 1 have yet to be discovered.

We believe that our analysis and discussion that we have offered in this work can serve to inform future studies investigating other Slavic languages and hence can contribute to reaching a better understanding of the puzzling category of plural.

Sources

RNC 1: Russian National Corpus: https://ruscorpora.ru/new/en/index.html
Fridrix Gorenštejn. Kuča (1982) // "Oktjabr'", 1996
RNC 2: Russian National Corpus: https://ruscorpora.ru/new/en/index.html
Vesennij prizyv // "Ėkran i scena" [2004.05.06]
NKJP 1: The National Corpus of Polish, http://nkjp.pl
IJPPAN_p00002604448, Polityka nr 2298
NKJP 2: The National Corpus of Polish, http://nkjp.pl
PELCRA_6203010001504; Usenet – http://pl.sci.socjologia.narkive.com

Abbreviations

1	first person	M	masculine
2	second person	NEG	negation
3	third person	NOM	nominative
ACC	accusative	NV	non-virile
CL	classifier	PL	plural
CONT	continuous	POSS	possessive
DAT	dative	PST	past
F	feminine	REFL	reflexive
FOC	focus	SFP	sentence-final particle
GEN	genitive	SG	singular
INF	infinitive	SING	singulative
INS	instrumental	V	virile

Acknowledgements

I would like to thank Uwe Junghanns and Kerstin Schwabe for their comments on the draft version of this chapter, which helped me to improve the text. I am also grateful to Hagen Pitsch and Anastasiia Kurbaeva for technical support as well as Berit Gehrke and Radek Šimík for editorial work. Because of the death of Joanna after the first submission of the chapter, I have revised the chapter alone. My work on this chapter was funded by the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation), via the project grant number GE 2136/3-1, project "The fine structure of the Russian noun phrase: A comparative perspective" (https://gepris.dfg.de/gepris/projekt/445439335).

References

Acquaviva, Paolo. 2004. Plural mass nouns and the compositionality of number. *Verbum* 26(4). 387–401. http://hdl.handle.net/10197/3898.

Acquaviva, Paolo. 2008. *Lexical plurals*. Oxford: Oxford University Press.

Acquaviva, Paolo. 2015. Singulatives. In Peter Müller, Ingeborg Ohnheiser, Susan Olsen & Franz Rainer (eds.), *Word-formation: An international handbook for the languages of Europe*, vol. 2, 1171–1182. Mouton de Gruyter.

Alexiadou, Artemis. 2011. Plural mass nouns and the morpho-syntax of number. In Mary Byram Washburn, Katherine McKinney-Bock, Erika Varis, Ann Sawyer & Barbara Tomaszewicz (eds.), *Proceedings of the 28th West Coast Conference on Formal Linguistics*, 33–41. Somerville, MA: Cascadilla Press.

Alexiadou, Artemis. 2019. Morphological and semantic markedness revisited: The realization of plurality across languages. *Zeitschrift für Sprachwissenschaft* 38(1). 123–154. DOI: 10.1515/zfs-2019-0004.

Alexiadou, Artemis, Liliane Haegeman & Melita Stavrou (eds.). 2007. *Noun phrase in the generative perspective*. Berlin, New York: Mouton de Gruyter. DOI: 10.1515/9783110207491.

Bale, Alan, Michaël Gagnon & Hrayr Khanjian. 2011. On the relationship between morphological and semantic markedness: The case of plural morphology. *Morphology* 21(2). 197–221. DOI: 10.1007/s11525-010-9158-1.

Borer, Hagit. 2003. Exo-skeletal vs. endo-skeletal explanations: Syntactic projections and the lexicon. In John Moore & Maria Polinsky (eds.), *The nature of explanation in linguistic theory*, 31–67. Stanford, CA: CSLI Publications.

Borer, Hagit. 2005. *Structuring sense Volume I: In name only*. Oxford: Oxford University Press. DOI: 10.1093/acprof:oso/9780199263905.001.0001.

Cheng, Lisa Lai-Shen, Caroline Heycock & Roberto Zamparelli. 2017. Two levels for definiteness. In Michael Yoshitaka Erlewine (ed.), *Proceedings of GLOW in Asia XI*, vol. 1, 79–93. Cambridge, MA: MIT Press. DOI: 10.13140/RG.2.2.25020.95364.

Cheng, Lisa Lai-Shen & Rint Sybesma. 1999. Bare and not-so-bare nouns and the structure of NP. *Linguistic Inquiry* 30(4). 509–542. DOI: 10.1162/002438999554192.

Cheng, Lisa Lai-Shen & Rint Sybesma. 2014. The syntactic structure of noun phrases. In C.-T. James Huang, Y.-H. Audrey Li & Andrew Simpson (eds.), *The handbook of Chinese linguistics*, 248–274. Chichester: Wiley Blackwell.

Chierchia, Gennaro. 1998. Reference to kinds across languages. *Natural Language Semantics* 6(4). 339–405. DOI: 10.1002/9781118584552.ch10.

Corbett, Greville G. 2000. *Number*. Cambridge: Cambridge University Press. DOI: 10.1017/CBO9781139164344.

Di Sciullo, Anna-Maria & Edwin Williams. 1987. *On the definition of word*. Cambridge: MIT Press. DOI: 10.1017/S0022226700012184.

Embick, David & Rolf Noyer. 2007. Distributed morphology and the syntax-morphology interface. In Gillian Ramchand & Charles Reiss (eds.), *The Oxford handbook of linguistics interfaces*, 289–324. Oxford: Oxford University Press. DOI: 10.1093/oxfordhb/9780199247455.013.0010.

Gajewski, Jon R. 2011. Licensing strong NPIs. *Natural Language Semantics* 19(2). 109–148.

Geist, Ljudmila. 2010. Bare singular NPs in argument positions: Restrictions on indefiniteness. *International Review of Pragmatics* 2(2). 191–227. DOI: 10.1163/187731010X528340.

Geist, Ljudmila. 2021a. *Diminutive suffixes in Russian and individuation: An empirical study*. Paper presented at DMTD2 workshop at 46th Austrian Linguistics Conference (ÖLT), Vienna, 11–12 December 2021. https://drive.google.com/file/d/1fSmYu7b5i715C08vutYeo52RviOwf88m/view.

Geist, Ljudmila. 2021b. New developments in the semantics of noun phrases in Slavic languages. In Andreas Blümel, Jovana Gajić, Ljudmila Geist, Uwe Junghanns & Hagen Pitsch (eds.), *Advances in formal Slavic linguistics 2018*, 63–86. Berlin: Language Science Press. DOI: 10.5281/zenodo.5483096.

Geist, Ljudmila, Olga Kagan & David Erschler. 2023. Mass-count distinction and the Russian singulative suffix *-in-*. 31. 1–17. https://ojs.ung.si/index.php/JSL/article/view/172.

Giannakidou, Anastasia. 1998. *Polarity sensitivity as (non)veridical dependency* (Linguistics Today 23). Amsterdam, Philadelphia: John Benjamins. DOI: 10.1075/la.23.

Greenberg, Joseph H. 1972. Numeral classifiers and substantival number: Problems in the genesis of a linguistic type. *Working Papers on Language Universals* 9. 2–39.

Grimm, Scott. 2013. Plurality is distinct from number neutrality. In Yelena Fainleib, Nicholas LaCara & Yangsook Park (eds.), *NELS 41: Proceedings of the 41 meeting of the North East Linguistic Society*, 247–258. Amherst MA: GLSA.

Grzegorczykowa, Renata, Roman Laskowski & Henryk Wróbel (eds.). 1999. *Gramatyka współczesnego języka polskiego [Grammar of contemporary Polish]*. 3rd edn. Warszawa: PWN.

Gulgowski, Piotr & Joanna Błaszczak. 2020. Psycholinguistic investigation of the immediate interpretation of plural nouns in the scope of sentential negation in Polish. *Journal of Psycholinguistic Research* 49(5). 741–760. DOI: 10.1007/s10936-020-09706-7.

Gunkel, Lutz, Adriano Murelli, Susan Schlotthauer, Bernd Wiese & Gisela Zifonun. 2017. *Grammatik des Deutschen im europäischen Vergleich: Das Nominal [Grammar of German in European comparison: The Noun]*. Berlin, New York: Mouton de Gruyter. DOI: 10.1515/9783110341461.

Gutiérrez-Rexach, Javier. 1997. Questions and generalized quantifiers. In Anna Szabolcsi (ed.), *Ways of scope taking: Studies in linguistics and philosophy*, vol. 65, 409–452. Dordrecht: Kluwer. DOI: 10.1007/978-94-011-5814-5_11.

Heim, Irene. 1984. A note on negative polarity and downward entailingness. In Charles Jones & Peter Sells (eds.), *Proceedings of North East Linguistics Society NELS 14*, 98–107. Amherst, MA: GLSA, UMass Amherst.

Isačenko, Alexander V. 1962. *Die russische Sprache der Gegenwart: Formenlehre*. Halle (Saale): VEB Max Niemeyer.

Issatschenko, Alexander V. 1980. *Geschichte der russischen Sprache*. Band 1: Von den Anfängen bis zum Ende des 17. Jahrhunderts. Heidelberg: Winter.

Issatschenko, Alexander V. 1983. *Geschichte der russischen Sprache*. Band 2: Das 17. und 18. Jahrhundert. Heidelberg: Winter.

Jurafsky, Daniel. 1996. Universal tendencies in the semantics of the diminutive. *Language* 72(3). 533–578. DOI: 10.2307/416278.

Kiparsky, Valentin. 1967. *Russische historische Grammatik. Band II: Die Entwicklung des Formensystems*. Heidelberg: Winter.

Kiss, Tibor, Francis Jeffry Pelletier & Tobias Stadtfeld. 2014. Building a reference lexicon for countability in English. In Khalid Choukri, Thierry Declerck, Hrafn Loftsson, Bente Maegaard, Joseph Mariani, Asuncion Moreno, Jan Odijk & Stelios Piperidis (eds.), *Proceedings of the Ninth International Conference on Language Resources and Evaluation (LREC '14)*, 995–1000. Reykjavik, Iceland: European Language Resources Association (ELRA). http://www.lrec-conf.org/proceedings/lrec2014/pdf/361_Paper.pdf.

Klemensiewicz, Zenon, Tadeusz Lehr-Spławiński & Stanisław Urbańczyk. 1955. *Gramatyka historyczna języka polskiego*. 3rd edn. Warszawa: PWN.

Kratzer, Angelika. 2007. On the plurality of verbs. In Johannes Dölling, Tatjana Heyde-Zybatow & Martin Schäfer (eds.), *Event structures in linguistic form and interpretation*, 269–300. Berlin, New York: Mouton de Gruyter. DOI: 10.1515/9783110925449.269.

Krifka, Manfred. 1989. Nominal reference, temporal constitution and quantification in event semantics. In Renate Bartsch, Johan van Benthem & Peter van Emde Boas (eds.), *Semantics and contextual expression*, 75–115. Dordrecht: Foris. DOI: 10.1515/9783110877335-005.

Krifka, Manfred. 1995. Common nouns: A contrastive analysis of English and Chinese. In Gregory N. Carlson & Francis J. Pelletier (eds.), *The generic book*, 398–411. Chicago, IL: University of Chicago Press.

Krifka, Manfred. 2004. Bare NPs: Kind-referring, indefinites, both, or neither? In Rob Young & Yuping Zhou (eds.), *Proceedings of Semantics and Linguistic*

Theory (SALT 13), 180–203. Cornell, NY: CLC Publication. DOI: 10.3765/salt.v13i0.2880.

Krifka, Manfred, Francis J. Pelletier, Gregory N. Carlson, Alice ter Meulen, Gennaro Chierchia & Godehard Link. 1995. Genericity: An introduction. In Gregory N. Carlson & Francis J. Pelletier (eds.), *The generic book*, 1–124. Chicago, IL: University of Chicago.

Kwapiszewski, Arkadiusz & Kim Fuellenbach. 2021. Reference to kinds and subkinds in Polish. In Andreas Blümel, Jovana Gajić, Ljudmila Geist, Uwe Junghanns & Hagen Pitsch (eds.), *Advances in formal Slavic linguistics 2018*. Berlin: Language Science Press. DOI: 10.5281/zenodo.5155544.

Li, XuPing. 2013. *Numeral classifiers in Chinese: The syntax-semantics interface*. Berlin, New York: Mouton de Gruyter. DOI: 10.1515/9783110289336.

Marantz, Alec. 1997. No escape from syntax: Don't try morphological analysis in the privacy of your own lexicon. *University of Pennsylvania Working Papers in Linguistics* 4(2). 201–225.

Marantz, Alec. 2001. *Words and things*. Manuscript, MIT & NYU. https://babel.ucsc.edu/~hank/mrg.readings/Marantz_words.pdf.

Mathieu, Eric. 2012. Flavors of division. *Linguistic Inquiry* 43(4). 650–679. DOI: 10.1162/ling_a_00110.

Mathieu, Eric. 2014. Many a plural. In Ana Aguilar-Guevara, Bert Le Bruyn & Joost Zwarts (eds.), *Weak referentiality*, 157–81. Amsterdam, Philadelphia: John Benjamins. DOI: 10.1075/la.219.07mat.

Miklosich, Franz. 1868. *Vergleichende Grammatik der slavischen Sprachen*. Cambridge: Cambridge University Press. DOI: 10.1017/CBO9781316136881.

Orzechowska, Alicja. 1999. Rzeczownik [The Noun]. In Renata Grzegorczykowa, Roman Laskowski & Henryk Wróbel (eds.), *Gramatyka współczesnego języka polskiego: Morfologia*, 3rd edn., 270–332. Warszawa: PWN.

Partee, Barbara. 1987. Noun phrase interpretation and type-shifting principles. In Jeroen Groenendijk, Dick de Jongh & Martin Stokhof (eds.), *Studies in Discourse Representation Theory and the theory of generalized quantifiers*, 115–143. Dordrecht: Foris. DOI: 10.1515/9783112420027-006.

Pereltsvaig, Asya. 2007. On the universality of DP: A view from Russian. *Studia Linguistica* 61(1). 59–94. DOI: 10.1111/j.1467-9582.2007.00129.x.

Progovac, Ljiljana. 1993. Negative polarity: Entailment and binding. *Linguistics and Philosophy* 16(2). 149–180. DOI: 10.1007/BF00985178.

Przepiórkowski, Adam, Mirosław Bańko, Rafał L. Górski & Barbara Lewandowska-Tomaszczyk. 2012. *Narodowy Korpus Języka Polskiego*

[National Corpus of Polish]. Warszawa: Wydawnictwo Naukowe PWN. http://nkjp.pl.

Ritter, Elizabeth & Martina Wiltschko. 2009. Varieties of INFL: Tense, location and person. In Jeroen van Craenenbroeck (ed.), *Alternatives to cartography*, 153–202. Berlin: Mouton de Gruyter. DOI: 10.1515/9783110217124.153.

Rospond, Stanisław. 1979. *Gramatyka historyczna języka polskiego*. 3rd edn. Warszawa: PWN.

Rothstein, Susan. 2010. Counting and the mass/count distinction. *Journal of Semantics* 27(3). 343–397. DOI: 10.1093/jos/ffq007.

Sauerland, Uli. 2003. A new semantics for number. In Nicole Dreier, Chloe Kwon, Thomas Darnell & John Starr (eds.), *Proceedings of SALT*, 258–275. DOI: 10.3765/salt.v13i0.2898.

Sauerland, Uli, Jan Anderssen & Kazuko Yatsushiro. 2005. The plural is semantically unmarked. In Stefan Kepser & Marga Reis (eds.), *Linguistic evidence: Empirical, theoretical and computational perspectives*, 409–430. Berlin, New York: Mouton de Gruyter. DOI: 10.1515/9783110197549.413.

Spector, Benjamin. 2007. Aspects of the pragmatics of plural morphology: On higher-order implicatures. In Uli Sauerland & Penka Stateva (eds.), *Presupposition and implicatures in compositional semantics*, 243–281. Houndmills: Palgrave Macmillan. DOI: 10.1057/9780230210752_9.

Stolz, Thomas. 2001. Singulative-collective: Natural morphology and stable classes in Welsh number inflexion on nouns. *Sprachtypologie und Universalienforschung* 54(1). 52–76. DOI: 10.1524/stuf.2001.54.1.52.

Stump, Gregory. 2005. Word-formation and inflectional morphology. In Pavol Štekauer & Rochelle Lieber (eds.), *Handbook of word-formation* (Studies in Natural Language and Linguistic Theory 64), 48–71. Dordrecht: Springer. DOI: 10.1007/1-4020-3596-9_3.

Švedova, Natalija Ju. & Vladimir V. Lopatin. 1990. *Russkaja grammatika*. Moskva: Russkij jazyk.

Švedova, Natalija Ju. 1980. *Russkaja grammatika*. Moskva: Rossijskaja akademija nauk.

Swan, Oscar E. 2002. *A grammar of contemporary Polish*. Bloomington, IN: Slavica.

Szymanek, Bogdan. 2014. Polish singulative derivation in a cross-linguistic perspective. In Alicja Witalisz (ed.), *From sound to meaning in context: Studies in honour of Piotr Ruszkiewicz*. Frankfurt am Main: Peter Lang.

Trugman, Helen. 2013. Naturally-atomic singular NA kinds in Russian as lexically derived. In Dorthee Fehrman, Uwe Junghanns, Denisa Lenertova & Hagen

Pitsch (eds.), *Formal descriptions of Slavic languages*, 325–249. Frankfurt: Peter Lang.

van der Wouden, Ton. 1997. *Negative contexts: Collocation, polarity and multiple negation*. London: Routledge.

von Fintel, Kai. 1999. NPI licensing, Strawson entailment, and context dependency. *Journal of Semantics* 16(2). 97–148. DOI: 10.1093/jos/16.2.97.

Vondrák, Wenzel. 1928. *Vergleichende slavische Grammatik*. Göttingen: Vandenhoeck & Ruprecht.

Wągiel, Marcin. 2014. From kinds to objects: Prenominal and postnominal adjectives in Polish. In Ludmila Veselovská & Markéta Janebová (eds.), *Complex visible out of there: Proceedings of the Olomouc Linguistics Colloquium 2014: Language use and linguistic structure*, 457–476. Olomouc: Palacký University.

Wasow, Thomas. 1977. Transformations and the lexicon. In Peter Culicover, Thomas Wasow & Joan Bresnan (eds.), *Formal syntax*, 327–360. New York, NY: Academic Press.

Wierzbicka, Anna. 2002. Semantic primes and Universal Grammar in Polish. In Cliff Goddard & Anna Wierzbicka (eds.), *Meaning and Universal Grammar: Theory and universal findings*, vol. 2 (Studies in Language Companion Series 61), 65–144. Amsterdam, Philadelphia: John Benjamins. DOI: 10.1075/slcs.61.07wie.

Wiltschko, Martina. 2008. The syntax of non-inflectional plural marking. *Natural Language & Linguistic Theory* 26(3). 639–694. DOI: 10.1007/s11049-008-9046-0.

Wiltschko, Martina & Olga Steriopolo. 2008. Parameters of variation in the syntax of diminutives. In Milica Radišić (ed.), *Proceedings of the 2007 Annual Conference of the Canadian Linguistic Association*. http://homes.chass.utoronto.ca/~cla-acl/actes2007/Wiltschko_Steriopolo.pdf.

Zamparelli, Roberto. 2000. *Layers in the determiner phrase*. New York, NY: Garland Publishing. DOI: 10.4324/9781315054360.

Zamparelli, Roberto. 2017. Countability shifts and abstract nouns. In Roberto Zamparelli & Friederike Moltmann (eds.), *Countability shifts and abstract nouns*, 191–224. Amsterdam, Philadelphia: John Benjamins. DOI: 10.13140/RG.2.2.20526.41286.

Zimmermann, Ilse. 1983. Untersuchungen zum Verhältnis von Substantivgruppe und Nebensatz. In Rudolf Růžička & Wolfgang Motsch (eds.), *Untersuchungen zur Semantik* (Studia grammatica 22), 201–242. Berlin: Akademie.

Zimmermann, Ilse. 1988. Wohin mit den Affixen? In Wolfgang Motsch (ed.), *The contribution of word-structure theories to the study of word formation* (Linguistische Studien des Zentralinstituts für Sprachwissenschaft der Akademie der

Wissenschaften der DDR, Reihe A 179), 157–188. Berlin: Akademie der Wissenschaften der DDR – Zentralinstitut für Sprachwissenschaft.
Zimmermann, Ilse. 1991. The "subject" in noun phrases: Its syntax and semantics. In Ilse Zimmermann (ed.), *Syntax und Semantik der Substantivgruppe* (Studia grammatica 33), 33–68. Berlin: Akademie.
Zimmermann, Ilse. 2000. *Mit WIE bzw. KAK eingeleitete Nebensätze*. Unpublished ms., Potsdam.
Zimmermann, Ilse. 2008. On the syntax and semantics of *kakoj* and *čto za* in Russian. *Journal of Slavic Linguistics* 16(2). 289–305. DOI: 10.1353/jsl.0.0003.
Zweig, Eytan. 2009. Number-neutral bare plurals and the multiplicity implicature. *Linguistics and Philosophy* 32(4). 353–407. DOI: 10.1007/s10988-009-9064-3.