

Singulativity, the Mass-Count Distinction, and The Russian Suffix *-in*

1. Introduction. The present paper investigates the phenomenon of singulativity and its relation to the mass-count distinction and kind reference by considering three uses of the Russian suffix *-in*, illustrated in (i)-(iii) below. I will argue that under all these uses, the suffix introduces a partition operator whose precise contribution depends on whether the stem to which it applies denotes a count property (i), a mass property (iii), or a kind (ii).

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| (i) countizer: | <i>gorox - gorošina</i> | ‘pea (mass) - a pea (count)’ |
| (ii) singularizer: | <i>armjane - armjanin</i> | ‘Armenians - an Armenian’ |
| (iii) massifier: | <i>kon’ - konina</i> | ‘horse - horsemeat’ |

2. Descriptive facts. Uses (i) and (ii) are sometimes referred to in the literature as **singulative** (Corbett 2000, Acquaviva 2008, Musatov 2015, Nurmio 2019, Khrisman 2019); use (iii) has not been previously discussed in their context. **2.1 Countizer *-in*** applies to mass terms (typically, aggregates) and creates count nouns that denote the corresponding natural units, NU (Krifka 1989). These are single peas for ‘pea’, grains of sand for ‘sand’, hailstones for ‘hail’, etc. The division into units does not depend on the context in the way that has been observed for expressions like *two beers* (e.g. Chierchia 2010); **pivina* (beer-*in*) does not exist since here, division into units requires strong contextual support. **2.2 Singularizing *-in*** combines with a subset of [+human] nouns denoting members of certain social groups (cf. Corbett 2000, Acquaviva 2008:30), e.g. nationality or social class (*dvorjanin* ‘nobleman’). The stem typically (with some exceptions) ends in the suffix *-an*. Interestingly, the plural form exhibits less morphological complexity than the singular. The plural is built by combining the stem with a plural inflectional suffix, which carries case and number features. In the singular, the stem is followed by the suffix *-in*, which in turn is followed (in non-nominative forms) by a case suffix (e.g. the dative *armjan-am* ‘to Armenians’ vs *armjan-in-u* ‘to an Armenian’). The *in*-form cannot be followed by a plural suffix (**armjanin-y*), although this is not a problem for the countizer *-in*: *gorošin-y* ‘peas’. **2.3 The massifier *-in*** attaches productively to animal-denoting stems to create nouns denoting the meat of the animal (*olen’ - olenina* ‘deer - venison’), and has been informally described as contributing a ‘meat’ meaning component (Shvedova et al. 1980:190). But some resulting nouns also denote the animal’s hide or fir (*ovca - ovčina* ‘female sheep - sheep leather’), and also material of which an object is made (*parus - parusina* ‘sail - sailcloth’). **I propose that this suffix should be analyzed as a count-to-mass (C-to-M) operator.** Its contribution is not always purely compositional (reflecting its relatively low, root-level position), but it is systematically sensitive to the notion of material part (cf. Chierchia 2010 on C-to-M shifts).

3. The countizer and the massifier as partition operators. I follow Chierchia (2010) in analyzing the mass-to-count (M-to-C) operator as standardized partition over sums, type $\langle\langle e,t \rangle, \langle e,t \rangle\rangle$, which applies to mass properties and renders count properties. But, unlike the Π_{ST} operator discussed by Chierchia, countizer *-in* is not context-sensitive and only triggers division into natural units (*-in(P)* is undefined in the absence of such salient units). The effect of applying the operator can be expressed as follows (based on Rothstein 2010):

$$(1) \quad [\lambda P \lambda x. P(x) \ \& \ MEAS(x) = \langle 1, NU \rangle] (\lambda x. PEA(x)) = \lambda x. PEA(x) \ \& \ MEAS(x) = \langle 1, PEA \rangle$$

The massifier *-in* is a C-to-M operator. Similarly to Chierchia’s (2010) π_{ST} i(ndividual)-partition operator, it applies to count nouns, whose denotation includes stable atoms, and divides atomic individuals into parts, rendering the “grinder” effect. Its application is not context-dependent; the suffix only combines with those stems for which the resulting meaning, based on the notion of material part (2), is conceptually plausible / salient given lexical and cultural knowledge.

$$(2) \quad [\lambda P \lambda x. P\text{-matter}(x)] (\lambda x. HORSE(x)) = \lambda x. HORSE\text{-matter}(x)$$

4. Singularizer -in. One of the uncommon properties of stems ending in *-an* (and exceptional roots like *tatar-* which, too, combine with the singularizer *-in*) is their inability to form a singular noun by mere attachment of an inflectional ending. Such singular nouns as **armjan* (nom) or **armjanu* (dat) do not exist. In contrast, the plural is formed by taking the same root and attaching to it an inflectional (case + number) suffix (*armjane*).

I propose that this number-related asymmetry has the same source as the acceptability contrast between *Dinosaurs are extinct* and **Dinosaur is extinct* (and their Russian counterparts). Specifically, **stems ending in -an are inherently specified as kind-denoting**. The suffix carries the features [HUMAN] and [KIND]. This interpretation is revealed in such compounds as *armjanonenavistnik* (*armjan* + *nenavistnik* ‘hater’, a person who hates Armenians (as a kind).) Based on Carlson (1977) and Chierchia (1998), a kind is a complex discontinuous individual (type $\langle s, e \rangle$), comprising all its instantiations (that include both individual members and pluralities thereof). The meaning of *armjan-* can be thus represented as in (3).

(3) ARMJAN = $\lambda s \iota$ Armenian_s, where Armenian_s is the extension of Armenian in *s*.

Chierchia (1998) proposes that kinds can be denoted by bare plural but not bare singular nominals since in the latter case, we would get a kind that has only one instantiation in each situation (cf. the formula in 3), an idea that contradicts what the concept of kinds stands for to begin with. For this reason, singular properties cannot be turned to kinds. In turn, when a kind-denoting expression is type-shifted to a property, the latter will be a set containing both atoms and pluralities.

Let us now turn back to the stems in *-an*. As it carries the feature [KIND], this suffix is also inherently specified as [PL]. The direct combination of *an*-stems with the [SG] feature located in Num (or Classifier) head results in a clash with the [PL] feature carried by the stem. Hence the unacceptability of singular nouns like **armjan*. (A null definite determiner could save the structure, but the combination *armjan*-SG will be ruled out before the D has a chance to merge). In contrast, the suffix *-e*, carrying the features [NOM] [PL], is compatible with the stem, rendering the plural noun *armjane* (which can remain kind-denoting or undergo a shift to a plural property). Finally, I propose that *-in* induces partition into natural units, like the countizer in (1). With a kind-denoting stem, such units are **individual members of the kind**. Hence, in essence, we get a singular property interpretation (4), unavailable without the singulative. Alternatively, *-in* may also apply to the stem after the latter undergoes a shift to the property type via the ‘up’ operator (5). In this case, the division into natural units will, again, render a set of individual Armenians. The versions of *-in* in (4) and (5) differ only in the type of argument that it takes (kind vs property). (Situation argument is excluded for the sake of simplicity.)

(4) $[[\text{armjanin}]] = [\lambda k \lambda x. P_k(x) \ \& \ \text{MEAS}(x) = \langle 1, \text{NU} \rangle]$ (ARMJAN) = $\lambda x. \text{Armenian}(x) \ \& \ \text{MEAS}(x) = \langle 1, \text{Armenian} \rangle$ where *k* is a variable over kinds and $\forall k = P_k$

(5) $[[\text{armjanin}]] = [\lambda P \lambda x. P(x) \ \& \ \text{MEAS}(x) = \langle 1, \text{NU} \rangle]$ (\sim ARMJAN) = $\lambda x. \text{Armenian}(x) \ \& \ \text{MEAS}(x) = \langle 1, \text{Armenian} \rangle$

5. Generalizing. I propose that *-in* is a lexical **underspecified standardized partition operator** \wp_{ST} whose precise contribution is determined by the nature of the stem, which may denote **a mass property, a count property, or a kind**. The following restriction holds: $\wp_{\text{ST}}(P)$ should not be identical to *P*. With masses and kinds, partition is into natural units. With standard count nouns, such a partition would not alter the meaning of the original *N*, hence it is ruled out. Instead, *i*-partition applies, which turns the units into masses. *I*-partition does not apply to mass terms since it would behave as an identity function. Finally, it does not apply to human kinds as this would render a culturally unnatural reading: there is no salient notion like “nobleman-meat”. Given its lexical nature, *-in* triggers division based on our lexical and cultural knowledge.