PARAMETERS OF VARIATION IN THE SYNTAX OF DIMINUTIVES[*]

Martina Wiltschko & Olga Steriopolo
University of British Columbia

In this paper we explore the syntax of diminutive affixes (henceforth DIM) in three unrelated languages: German (Germanic), Halkomelem (Central Coast Salish), and Russian (Slavic). We wish to show that the syntax of diminutives varies across (at least) two dimensions: i) how DIM is merged: as a head or as a modifier; and ii) where DIM is merged: above or below the 'word-level' (in the sense of Marantz 1997). We further demonstrate that this type of variation is attested both **across** languages (German vs. Halkomelem) and within a **single** language (Russian). These findings have important implications for the syntax – semantics mapping of categorization: the same (semantic) 'concept' is not universally mapped onto the same syntactic category and thus we conclude there is no 1:1 correspondence between semantic and syntactic categories.

1.   The problem

Expressions of DIM are found in many languages. Consider first the expression of DIM in German and Halkomelem. German has several DIM suffixes (e.g., colloquial German *–erl* and Standard German *–chen*) as illustrated in (1); Halkomelem uses a form of reduplication to mark DIM as illustrated in (2).

(1)   unmarked   DIM (standard)   DIM (colloquial Austrian)
   a.   Baum   Bäum-**chen**   Baum-**erl**
      tree   *tree-DIM*   *tree-DIM*
      'tree'   '(cute) little tree'   '(cute) little tree'

   b.   Flasche   Fläsch-**chen**   Flasch-**erl**
      bottle   *bottle-DIM*   *bottle-DIM*
      'bottle'   '(cute) little bottle' '(cute) little bottle'

(2)   unmarked   DIM-reduplication
      q'á:mi   **q'á**-q'emi
      girl   *DIM-girl*
      'girl'   'small girl'

As for the semantics of DIM, it has been argued that they are associated with a universal semantics (see Jurafsky 1996) but their formal properties appear to differ across languages. In German, DIM can change the formal properties of the base. For example, a diminutivized form is uniformly associated with neuter gender independent of the gender of the base as shown in (3).

(3)   a. masc → neuter

der	Baum	-	das	Bäum-chen
*DET.**masc***	*tree*		*DET.**neut***	*tree-DIM*
'tree'			'(cute) little tree'	

der	Baum	-	das	Baum-erl
*DET.**masc***	*tree*		*DET.**neut***	*tree-DIM*
'tree'			'(cute) little tree'	

b. fem → neuter

die	Flasche	-	das	Fläsch-chen
*DET.**fem***	*bottle*		*DET.**neut***	*bottle-DIM*
'bottle'			'(cute) little bottle'	

die	Flasche	-	das	Flasch-erl
*DET.**fem***	*bottle*		*DET.**neut***	*bottle-DIM*
'bottle'			'(cute) little bottle'	

Similarly, a diminutivized noun behaves like a count noun, independent of the status of the base. For example, while the simplex noun *Brot* 'bread' is a mass noun (as indicated by the pattern of adjective agreement) the derived DIM form functions as a count noun, as illustrated in (4).

(4)   Mass vs. count

a.
viel	Brot		viele	Bröt-chen
Q	*bread*		*Q.PL*	*bread-DIM*
'much bread'			'many rolls'	

b.
viel	Brot		viele	Brot-erl
Q	*bread*		*Q.PL*	*bread-DIM*
'much bread'			'many little sandwiches'	

Given that German DIM changes the categorial properties of the base, it appears to behave like a derivational morpheme. This classification is further supported by the fact that DIM attaches inside inflectional morphology (as in 5), which is another diagnostic property of derivational morphology.

(5)   a.
das	Baum-erl	die	Baum-erl-n
DET.neut	*tree-DIM*	*DET.PL*	*tree-DIM-PL*
'(cute) little tree'		'(cute) little trees'	

b.
das	Flasch-erl	die	Flasch-erl-n
DET.neut	*bottle-DIM*	*DET.PL*	*bottle-DIM-PL*
'(cute) little bottle'		'(cute) little bottles'	

c.
das	Brot-erl	die	Brot-erl-n
DET.neut	*bread-DIM*	*DET.PL*	*bread-DIM-PL*
'little sandwich'		'little sandwiches'	

These properties of German DIM systematically differ from the formal properties of the Halkomelem DIM. While in German DIM derives a new word, which is formally different from its base, in Halkomelem DIM does not change the formal properties of the base. This is most strikingly seen on the basis of the fact that a DIM can be found on nouns, verbs, or adjectives but it never appears to change the category of its base, as shown in (6).

(6)   Category
        a.   N → N
           q'á:mi - q'á-q'emi
           girl   *DIM-girl*
           'girl'   'small girl'

        b.   V → V
           lhí:m   - lhi-lhi:m
           picking   *DIM-picking*
           'picking' 'picking a little bit'

        c.   A → A
           p'eq'   - p'í-p'eq'
           white   *DIM-white*
           'white'   'a little white, whitish'

Similarly, mass nouns are not changed into count nouns (at least they don't appear to trigger an individuated reading), as illustrated in (7).

(7)   mass vs. count
        a.   s-páth   - s-pi-páth
           NOM-bear *NOM-DIM-bear*
           'bear'   'little bear'

        b.   s-peháls - s-pi-peháls
           NOM-wind *NOM-DIM-wind*
           'wind'   'a little bit of wind/breeze'

These properties of Halkomelem indicate that DIM cannot change the formal and categorial properties of the base. According to standard criteria, this suggests that Halkomelem DIM behaves like an inflectional morpheme. But this classification is undermined by two other properties of DIM:
i) DIM can attach to all three categories (N, V, A, see (6) above). But typically inflectional morphology is restricted to one of these categories (i.e., plural with nouns, tense with verbs, etc.);
ii) DIM appears inside derivational morphology. But inflectional morphology typically appears outside of derivational morphology as shown in (8).

(8)   s-qewáth   - s-qí-qewàth
      NOM-rabbit   **NOM-DIM-***rabbit*
      'rabbit'   'little rabbit'

In light of the problems with the formal classification of DIM morphology, the question arises as to what the formal morpho-syntactic properties of DIM are and what determines the range of variation across different languages.

## 2.   Parameters of variation

We argue here that the differences between German and Halkomelem DIM are syntactically conditioned. In particular, we argue that the differences follow from their status as heads or non-heads (adjoined modifiers). In German, DIM functions as a head and as such it determines the formal properties of the base as illustrated in (9a). In Halkomelem however, DIM does not function as a head and consequently it cannot determine the formal properties of the base; instead DIM functions like an adjoined modifier (9b).

(9)   a. DIM as syntactic head   b.   DIM as adjoined modifier

German   Halkomelem

$$y \qquad\qquad\qquad x$$
$$[DIM]_y \qquad x \qquad\qquad [DIM]_y \qquad x$$
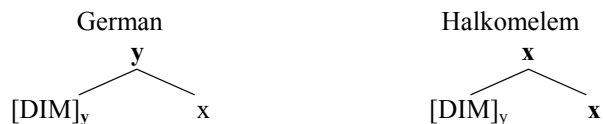
This explains why in German formal properties of the base are changed via diminutivization, but in Halkomelem the properties of the base remain constant. In German DIM is a head and thus determines the properties of the newly formed word. In Halkomelem, DIM is an adjoined modifier, and as such it is transparent to the formal properties of the base. Note that this difference between heads and non-heads cuts across the distinction between inflection and derivation as illustrated in (10).

(10)   a. derivation   b. inflection   c. neither derivation nor inflection

$$n/v/a \qquad\qquad f \qquad\qquad x$$
$$n/v/a \qquad x \qquad\quad f \qquad n/v/a \qquad\quad y \qquad x$$
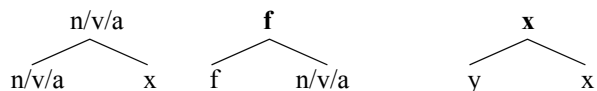
We suggest that the recognition of morphemes which merge as non-heads (i.e. as adjoined modifiers) allows us to understand the behavior of morphemes which fail to classify as either derivational or inflectional. This is reminiscent of Hukari's 1978 analysis of Halkomelem DIM. He states that:

'[t]he plural and diminutive fall somewhere in between […] in that there are no clear-cut reasons for considering them to be either inflectional or derivational (beyond, perhaps, a meta-linguistic assumption that categories of their semantic domains should be considered inflectional if they are productive)'. Hukari 1978: 162f.

   If the difference between German and Halkomelem DIM boils down to a difference between heads and modifiers, there still remains the question as to why Halkomelem DIM is merged inside derivational morphology?

   We propose that this follows from a difference in the site of merge. In particular, we propose that German DIM merges with nouns (i.e. √roots that have already been categorized by *n*), while Halkomelem DIM merges with √roots directly, before they are categorized. This is schematized in (11).

(11)　　a.　German DIM　　　　　b.　Halkomelem DIM

```
        n                              √root
      /   \                          /      \
  [DIM]_n   n                     DIM        √root
```

This difference in the site of merge immediately provides us with an answer to the question above. Halkomelem DIM merges with √roots, and therefore appears inside derivational morphology as illustrated in (12).

(12)

```
                n
              /   \
            n      √root
            s-    /     \
               DIM      √root
               CV       qewath
            qi-qewath   'rabbit'
```
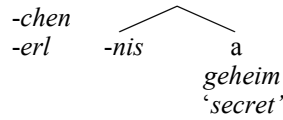
Note further that this analysis allows us to understand why Halkomelem DIM combines with nouns, verbs, and adjectives: it only **appears** to do so when in fact it merges with √roots **before** they are categorized as *n*, *v*, or *a* as illustrated in (13).

(13)

```
        n                    v                     a
      /   \                /   \                 /   \
    n      √root         v      √root          a      √root
   /    \              /    \                /    \
 DIM    √root        DIM    √root          DIM    √root
 CV     q'á:mi       CV     lhim           CV     p'eq'
q'a-q'emi 'girl'   lhi-lhim 'picking'    p'i-p'eq' 'white'
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In contrast, German DIM merges with a √root that has already been categorized as *n* and as such it occurs **outside** of derivational (i.e., nominalizing) morphology:

(14)　　　geheim_A-nis　　　　　　　geheim-nis-chen
　　　　　secret-NOM　　　　　　　*secret_A-**NOM-DIM***
　　　　　'secret'　　　　　　　　　'(cute) little secret'

(15)

```
                n
              /   \
            n      n
```

```
-chen           ___/\___
-erl    -nis           a
                      geheim
                     'secret'
```

If indeed German DIM merges with *n*, we predict that it is restricted to nouns (in contrast to Halkomelem DIM). This prediction is borne out as shown in (16).

(16) a. N: Baum   Bäum-chen   Baum-erl
            tree   *tree-DIM*   *tree-DIM*
            'tree'   '(cute) little tree' '(cute) little tree'

      b. V: lesen   *les-chen   *les-erl
            read   *read-DIM*   *read-DIM*
            'to read'   'to read a little'   'to read a little'

      c. A: schön   *schön-chen   *schön-erl
            beautiful *beautiful-DIM*   *beautiful-DIM*
            'beautiful' 'a little beautiful' 'a little beautiful'

Let us briefly summarize the result of the investigation of German and Halkomelem DIM. We have seen evidence to the effect that the syntax of DIM can vary across two dimensions: i) how DIM merges and ii) where DIM merges. This leads us to expect a four-way split. DIM that merges as a head with either a √root or a categorized word and DIM that merges as a modifier with either a √root or a categorized word. Among these four logical possibilities, only two have been attested thus far: German DIM heads merging with *n* and Halkomelem DIM modifiers merging with √roots. This is summarized in table 1.

	head	modifier
DIM + √root	?	Halkomelem
DIM + n	German	?

Table 1: Variation in the morphosyntax of DIM (across languages)

The question remains as to whether the other logical possibilities are attested as well.

3. Evidence from Russian

Russian provides important evidence for the proposal developed above. First, we show that the differences across two dimensions introduced above are independent of each other. In particular, Russian has two different sets of DIM: one set is best analyzed as a nominal head, while the second set is best analyzed as a nominal modifier. Second, we show that the missing logical possibilities (table 1) are attested in Russian.

3.1   Formal properties of DIM in Russian

As we have shown above, the formal properties of DIM differ across languages (§1). Here we illustrate that the formal properties of DIM also differ within a single language, namely in Russian. For example, some DIM suffixes in Russian (*–ug*, *–an*) can change grammatical gender of the base. The suffix *–ug* changes masculine gender for feminine (17a), while the suffix *–an* changes feminine gender for masculine (17b).

(17)   a.   masc → fem

              zv'ér'   -   zv'er'-**úg**-a

              *animal.**masc***   *animal-DIM-**fem***

              'animal'   'big animal'

        b.   fem → masc

              gub-á   -   gub-**án**

              *lip-**fem***   *lip-DIM.**masc***

              'lip'   'person with big lip(s)'

The DIM suffixes *–ug* and *–an* also change inflectional class of the base. The suffix *–ug* changes inflectional class I for class II (18a), while the suffix *–an* changes inflectional class II for class I (18b).

(18)   a.   class I → class II

              zv'ér'   -   zv'er'-**úg**-a

              *animal.**masc.class I***   *animal-DIM-**fem.class II***

              'animal'   'big animal'

        b.   class II → class I

              gub-á   -   gub-**án**

              *lip-**fem.class II***   *lip-DIM.**masc.class I***

              'lip'   'person with big lip(s)'

In contrast, other DIM suffixes (*–ok*, *–išč'*) cannot change the formal properties of the base. They change neither grammatical gender (19), nor inflectional class (20).

(19)   a.   masc = masc

              zv'ér'   -   zv'ér'-**ók**/**íšč'**-e

              *animal.**masc***   *animal-DIM/DIM-**masc***

              'animal'   'small/big animal'

        b.   fem = fem

              gub-á   -   gúb-**k**/**íšč'**-a

              *lip-**fem***   *lip-DIM/DIM-**fem***

              'lip'   'small/big lip'

(20)   a.   class I = class I

              zv'ér'   -   zv'ér'-**ók**/**íšč'**-e

              *animal.**masc.class I***   *animal-DIM/DIM-**masc.class I***

'animal'   'small/big animal'

 b. class II = class II
   gub-á   - gúb-**k/íšč'**-a
   *lip-**fem.class II***   *lip-DIM/DIM-**fem.class II***
   'lip'   'small/big lip'

In light of the fact that some DIM suffixes in Russian can change the formal properties of the base, while others cannot, we conclude that there are two sets of DIM in Russian. According to the proposal above, we suggest that one set of Russian DIM is analyzed as a syntactic head, while the other set is analyzed as an adjoined modifier.

3.2 An analysis of Russian DIM

We argue that the differences between different sets of DIM in Russian are syntactically conditioned. The syntax of Russian DIM varies across two dimensions: i) how they merge and ii) where they merge. Thus, here we have an instance when the current proposal is attested within a single language.

3.2.1 Russian DIM as heads and modifiers

Here we argue that the differences between different sets of DIM follow from the head vs. non-head distinction. Some DIM in Russian (*–ug*, *–an*) function as heads and thus, they determine the formal properties of the base, as illustrated in (21a). Other DIM (*–ok*, *–išč'*) function as adjoined modifiers, and thus, they cannot determine the formal properties of the base, as illustrated in (21b).

(21) a. DIM as syntactic head   b. DIM as adjoined modifier
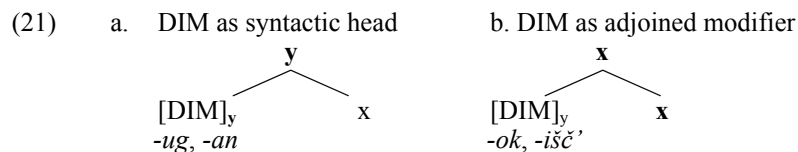
This explains why some DIM (*–ug* and *–an*) change grammatical gender and inflectional class of the base, while other DIM (*–ok* and *–išč'*) cannot change either gender or inflectional class[1]. The suffixes *–ug* and *–an* are syntactic heads, and as such they determine gender (22) and inflectional class (23) of the newly formed word.
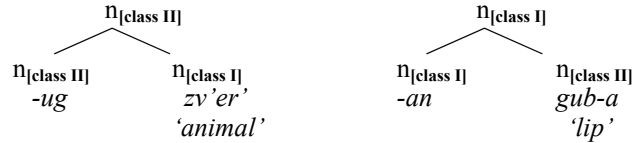
(22) GENDER

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[1] On how gender and inflectional class are assigned in Russian, see Steriopolo (2007).

-ug   *zv'er'*   *-an*   *gub-a*
            'animal'   *'lip'*

(23) CLASS

                     n[class II]   n[class I]

n[class II]   n[class I]   n[class I]   n[class II]
  -ug   *zv'er'*   *-an*   *gub-a*
             'animal'   *'lip'*

The suffixes *–ok* and *–išč'* are adjoined modifiers, and as such they are transparent to gender (24) and inflectional class (25).

(24) GENDER

              n[masc]   n[fem]

-ok   n[masc]   *-ok*   n[fem]
-išč'   *zv'er'*   *-išč'*   *gub-a*
            'animal'   *'lip'*

(25) CLASS

             n[class I]   n[class II]

-ok   n[class I]   *-ok*   n[class II]
-išč'   *zv'er'*   *-išč'*   *gub-a*
           'animal'   *'lip'*

3.2.2   Russian DIM below or above the word level

We further argue that different sets of DIM in Russian differ in the site of merge. We illustrate that DIM head merges with √roots, while DIM modifier merges with nouns. This is schematized in (26).
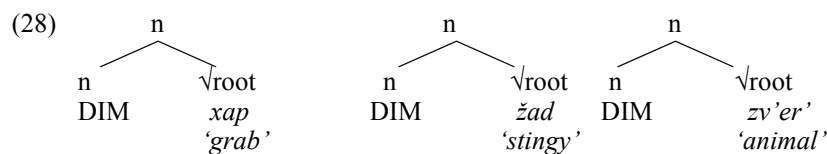
(26)   a. Head   DIM   b. Modifier   n

                 DIM   √root   DIM   n
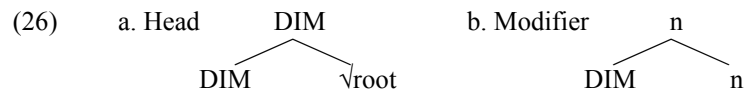
DIM head merges with √roots, and therefore it appears that there is a change in syntactic category. For example, the suffix *–ug* can turn a verb (27a) and an adjective (27b) into a noun. When attached to a noun, there is no change in category: a noun remains a noun (27c).

    (27) a. V → N
            xap-á-t'   -   xap-**úg**-a
            grab-verb   *grab-DIM-fem*
            'to grab'   'person who grabs a lot'

b. A → N
    žád-n-ij   -   žád-**úg**-a
    stingy-adj   *stingy-DIM-fem*
    'stingy'   'very stingy person'

c. N = N
    zv'ér'   -   zv'er'-**úg**-a
    animal.masc   *animal-DIM-fem*
   'animal'   'big animal'

The current analysis allows us to understand why certain DIM in Russian (just like DIM in Halkomelem) can combine with verbs, adjectives, and nouns. DIM of this type is a noun head that only **appears** to merge with all these categories, but in fact, it merges with √roots **before** they are categorized as *v, a,* or *n,* as illustrated in (28).

(28)

n   n   n

n   √root   n   √root   n   √root
DIM   *xap*   DIM   *žad*   DIM   *zv'er'*
     'grab'   *'stingy'*   *'animal'*

In contrast, other DIM in Russian (just like DIM in German) merge with a √root that has already been categorized as *n*. For example, in the data below, the suffixes *–ok* and *–išč'* attach to a noun producing no change in syntactic category (29).

(29) N = N
    zv'ér'   -   zv'er'-**ók/-íšč'**-e
    animal.masc   *animal-DIM/DIM-masc*
    'animal'   'small/big animal'

The proposed structure for (29) is given below.

(30)   n

     DIM   n
     -ok   *zv'ér'*
     -išč'   *'animal'*
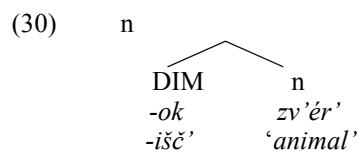
If DIM modifier merges with nouns, we predict that it is restricted to nouns, and thus, it does not combine with verbs or adjectives (unlike DIM head). This prediction is borne out. The suffixes *–ok* and *–išč'* cannot turn a verb or an adjective into a noun (31). Neither can they combine with a verb or an adjective (32).

(31)   a.   *V → N
         xap-á-t'   -   *xap-**ok/-išč'**-e

                grab-verb   *grab-DIM/DIM-masc*
                'to grab'   'person who grabs a little/lot'

    b.   *A → N
        žád-n-ij   -   *žad-**ok/-išč'**-e
        stingy-adj   *stingy-DIM/DIM-masc*
        'stingy'   'a little/very stingy person'

(32)   a.   *V = V
         xap-á-t'   -   *xap-**ok/-išč'**-a-t'
         grab-verb   *grab-DIM/DIM-verb*
         'to grab'   'to grab a little/lot'

    b.   *A = A
        žád-n-ij   -   *žad-**ok/-išč'**-n-ij
        stingy-adj   *stingy-DIM/DIM-adj*
        'stingy'   'a little/very stingy'

3.2.1.   Summary

We have shown evidence that there are two distinct types of DIM in Russian: syntactic heads (*–ug*, *–an*) and syntactic modifiers (*–ok, –išč'*). DIM heads merge with √roots, while DIM modifiers merge with *n*. Thus, the logical possibilities that are missing if we just look at German and Halkomelem (table 1) are attested in Russian. This is summarized in table 2.

	head	modifier
DIM + √root	*–ug, –an*	
DIM + n		*–ok, –išč'*

Table 2: Variation in the morphosyntax of Russian DIM

In addition, the existence of more than one type of DIM in a single language shows that variation across two dimensions is not language-specific, but instead is specific to individual DIM expressions.

4.   Conclusions

In this paper, we argued that diminutives do not have a uniform syntax either **across** languages, or within a **single** language. By exploring diminutives in German, Halkomelem, and Russian, we showed that the syntax of diminutives varies across two dimensions: i) how they merge: as a head or as a modifier; and ii) where they merge: above or below the word-level. The four logical possibilities of the diminutive syntax that follow from the current analysis are attested across languages (table 3).

	head	modifier
DIM + √root	Russian	Halkomelem
DIM + n	German	Russian

Table 3: Variation in the morphosyntax of DIM (across languages)

These findings have important implications for the syntax – semantics mapping of categorization: syntactic categorization is not predictable from semantic content and thus, there is no 1:1 correspondence between semantic and syntactic categories (see also Wiltschko 2007).

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