

Derivation versus inflection in three inflecting languages

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1. Introduction¹

This paper deals with derivation and inflection from a typological perspective. Derivation and inflection are seen as constituting a continuum between the poles of prototypical derivation and prototypical inflection (cf. Dressler 1989). As is well known from cognitive psychology, categories organized on prototypes are easy to classify when prototypical instances are concerned, but can be problematic in cases of non-prototypical ones. Therefore, in order to contribute to the discussion on the demarcation of derivation and inflection, I will focus on the morphological behavior of non-prototypical derivation and inflection. The categories I analyze, denominal diminutives, formation of females from males and imperfectivization, are interesting examples of non-prototypicality, since they allow for two types of expression, derivational and inflectional. Data from three Slavic languages, Bulgarian, Russian and Serbo-Croatian, all representing the inflecting(-fusional) type, serve as evidence for the discussion.

A salient feature of the inflecting type noted by Skalička (1979) is the clear distinction between derivational and inflectional suffixes. On the basis of this typological characteristic and the principle of constructional iconicity postulating correspondence between addition of meaning and addition of form (Dressler 2000: 290), I assume the following morphotactic structure for a prototypical Slavic word: PREF – ROOT – DSUFF – (TM) – ISUFF. Thematic markers are given in brackets, since they occur as stem-forming elements only in verbal morphology.

I will speak of derivational realization of a category if its formal exponent is in the derivational slot of the word (see 1a, 2a, 3a) and of inflectional realization if a category is formally expressed either by material in the inflectional slot of the word or by a ТМ (see 1b, 2b, 3b). The following examples from Bulgarian illustrate derivational and inflectional realizations of denominal diminutives, formation of females from males and imperfectivization:

Diminutives

- (1) a. MASC *stol* 'chair' → DIM NEUT *stol-č-e* vs.
 b. MASC *kotel* 'caldron' → DIM NEUT *kotl-ø-e*

Gender (formation of females from males)

- (2) a. MASC *car* 'king, tsar' → FEM *car-ic-a* 'queen' vs.
 b. MASC *zabravan* 'chuckle-head' → FEM *zabravan-ø-a*

Aspect (imperfectivization)

- (3) a. PFV *raz-grom-j-a* / *raz-grom-i-š* 'I/you defeat'² → IMPFV *raz-grom-jav-a-m* / *raz-grom-jav-a-š* vs.
 b. PFV *ob-misl-j-a* / *ob-misl-i-š* 'I/you think over' → IMPFV *ob-misl-ø-ja-m* / *ob-misl-ø-ja-š*

As is typical for inflecting languages, Bulgarian, Russian and Serbo-Croatian express inflectional properties in more than one way, which results in morphological organization based on inflectional classes. I define inflectional class with Aronoff (1994: 64) as "a set of lexemes whose members each select the same set of inflectional realizations". Due to lack of space, and since the categories I analyze enter productive/major classes, I will deal mainly with productive/major classes (see Tables 1, 2, 3, 4, 5, & 6).

When evaluated by the traditional criteria for distinguishing between derivation and inflection (e.g. word-class change, obligatoriness, morpheme order, etc.), the categories I am interested in exhibit nearly the same behavior. However, when situated within the inflectional systems of Bulgarian, Russian and Serbo-Croatian, formation of females from males and imperfectivization differ from denominal diminutivization in regard to inflection class assignment. In what follows I will try to show that when the traditional demarcation criteria fail to determine the status of a category in an inflecting language, the typologically adequate mechanism of inflection class assignment does not. I claim that non-prototypical inflection is marked by membership in a particular inflectional class, whereas derivation cannot be identified inflectionally. (Note that the connection of a particular inflectional class with a single deriva-

tional suffix does not mean that derivation can be identified inflectionally (cf. Manova 2003b). For example, in Russian, abstract nouns in *-ost'* (e.g. *krasivyj* 'beautiful' → *krasivost'* 'beauty') constitute the main part of class 4 (cf. Table 2). However, in this language there are also other suffixes for abstract nouns which do not take the inflection of class 4, the inflection class of nouns in *-ost'* (e.g. *krasivyj* 'beautiful' → *krasota* 'beauty', class 2, Table 2). In contrast, the numerous Russian suffixes deriving females from males all select the same inflection, namely class 2, Table 2.)

First, I will briefly present diminutivization, formation of females from males and imperfectivization in each of the three languages.

2. Diminutivization

In Bulgarian,³ Russian and Serbo-Croatian, a very productive rule $N \rightarrow N + \text{DIM SUFF} + \text{ISUFF}$ derives diminutives from nominal bases. The suffixes below express diminutive meaning and can occupy the derivational slot of the noun according to the rule mentioned above. Since suffixes in the derivational slot determine the paradigmatic properties of the word, everywhere the inflection is also written. If no inflectional suffix is given, it means that the respective derivational suffix selects zero inflection, i.e. class 1 in the three languages, see Tables 1, 2, & 3.

BG.: *-ec; -k-a; -ic-a; -čic-a; -ičk-a; -c-e; -enc-e; -ic-e; -l-e; -č-e*
 R.: *-ec, -ik, -ok/-ěk/-ek, -čik, -ic-a, -k-a, -očk-a, -ik-o, -k-o, -c-o/-c-e, -ec-o*
 SC.: *-ić, -čić, -ak, -ečak, -ičak, -ic-a, -čic-a, -c-e, -anc-e, -ašč-e, -enc-e, -ešč-e, -eljak, -uljak*

Diminutive suffixes take different inflection and as can be seen in Tables 1, 2, & 3, they can be found in nearly all declensional classes in Bulgarian, Russian and Serbo-Croatian.

Due to the fact that Bulgarian diminutives (or at least some of them) have their diachronic origin in inflection, in modern Bulgarian an unproductive rule $N \rightarrow N + \text{ISUFF}$ involving only inflectional change also diminutivizes nominal bases. I will call diminutives formed according to this rule inflectional, in order to distinguish them from diminutives derived by special diminutive suffixes. Inflectional diminutives always take the inflection *-e*, which can be attached to animate nouns as well as to nouns denoting objects, regardless of their gender:

- (4) MASC *kotel* 'caldron' → DIM NEUT *kotl-e*
 MASC *bik* 'bull' → DIM NEUT *bič-e*
 FEM *devojk-a* 'maiden' → DIM NEUT *devoič-e*

In Bulgarian linguistics, one can find two different explanations of the diachronic origin of such diminutives: the first one sees them as continuants of old vocative forms (cf. Mladenov 1929: 224; Mirčev 1963: 150), i.e. the modern Bulgarian DIM *otče* (← *otec* 'father'), DIM *starče* (← *starec* 'old man') should be derived from the OBG. VOC *отъче*, VOC *starъче*. The second explanation connects inflectional diminutives with the Old Church Slavic *ęt-* stems (cf. Georgiev 1985: 164) and seems to be more probable. It is motivated by the plural forms of inflectional diminutives which, as is usual for nouns originating from the OBG.

Table 1. Bulgarian nominal inflection (productive classes), cf. Manova & Dressler (2001)

	1a.(mono-syllables)	1b.(poly-syllables)	2.	3.	4.
SG	-∅	-∅	-a	-o	-e, LWS: -i, -(j)u
SG DEF	-ăt	-ăt	-ta	-to	-to
PL	-ove	-i	-i	-a	-ta
PL DEF	-te	-te	-te	-te	-te

Table 2. Russian nominal inflection (major classes), cf. Corbett (1991: 36)

	1.	2.	3.	4.
SG				
NOM	-∅	-a	-o (-e)	- ²
ACC	= NOM OR GEN	-u	-o	- ²
GEN	-a	-y	-a	-i
DAT	-u	-e	-u	-i
INSTR	-om	-oj	-om	- ³ ju
LOC	-e	-e	-e	-i
PL				
NOM	-y	-y	-a	-i
ACC		= NOM OR GEN		
GEN	-ov	-	-	-ej
DAT	-am	-am	-am	-jam
INST	-ami	-ami	-ami	-jami
LOC	-ax	-ax	-ax	-jax

Table 3. Serbo-Croatian nominal inflection (major classes)

SG	1a.(mono-syllables)	1b.(poly-syllables)	2.	3.	4.
NOM	-∅	-∅, LWS:-o, -u, -e, -i	-a	-o/-e ⁴	-∅
VOC	-e	-e/-u OR = NOM	-o	= NOM	-i
ACC	= NOM OR GEN	= NOM OR GEN	-u	= NOM	= NOM
GEN	-a	-a	-e	-a	-i
DAT-LOC	-u	-u	-i	-u	-i
INST	-om	-om	-om	-om/-em	-i
PL					
NOM-VOC	-ovi	-i	-e	-a	-i
ACC	-ove	-e	-e	-a	-i
GEN	-ova	-a	-a	-a	-i
DAT-LOC-INST	-ovima	-ima	-ama	-ima	-ima

et-stems, has an *-et-* amplification (PL *otčeta*, *starčeta*). A second argument in favour of the *et*-stem origin of the diminutives in question is the fact that the obg. *et*-declension was semantically related to the meaning of smallness, since *et*-stems originally consisted only of nouns denoting young of animals. According to Georgiev (1985), diminutives in *-l-e* (DIM *petl-e* ← *petel* 'cock, rooster') and *-č-e* (DIM *vojnič-e* ← *vojnīk* 'soldier') where *-l-* and *-č-* are parts of the respective stems, served as bases for the development of the diminutive suffixes *-če* and *-le*, as in DIM *zāb-če* ← *zāb* 'tooth' and DIM *māž-le* ← *māž* 'man'.

Although both Russian and Serbo-Croatian are also descendants of OCS, the diminutive suffix *-e* exists only in Serbo-Croatian where it is bound to the semantic pattern 'young of animals', e.g. *lisic-a* 'fox' → *lisič-e*, *ptic-a* 'bird' → *ptič-e*.⁵ As for nouns such as *vojnič-e* 'soldier voc' which are homophonous with the respective Bulgarian diminutives (see above), in Serbo-Croatian, these forms express vocative case, without any diminutive meaning at all. It seems that the existence of the category of vocative which often inflects with the suffix *-e* (see Table 3), has blocked the development of the diminutivization rule with the same suffix. On the other hand, modern Russian has no vocative, but even the semantics 'young of animals' is always expressed by suffixes in the derivational slot, e.g. *medvež-onok* 'bear-cub', *tel-ěnok* 'calf', etc., the old *et*-stems being preserved in the plural (NOM PL *medvež-ata*, *tel-jata*).

To sum up, in Bulgarian, Russian and Serbo-Croatian, diminutives are usually derived according to a very productive rule requiring a diminutive suffix in the derivational slot of the noun. The numerous diminutive suffixes take

different inflections which allot diminutive formations to different inflectional classes. In addition, Bulgarian and Serbo-Croatian have inflectional diminutives in *-e* (class 4 in Bulgarian, cf. Table 1, and with a peculiar declension in Serbo-Croatian (cf. Endnote 5).

3. Gender MALES → FEMALES

Although gender is not usually marked by a special suffix in the noun, the category divides the lexicon into classes which trigger agreement. Therefore Slavic grammars consider gender a classificatory category for nouns. There are only two instances when gender has a morphological exponent of its own in the noun: 1) when females are derived from nouns denoting males, and 2) in cases of adjective-to-noun syntactic conversion (cf. Spencer 2002). However, syntactic conversion is irrelevant for us, since adjectives which undergo this change preserve their adjectival inflection. Moreover gender in the adjective is prototypical inflection (cf. Dressler 1989), i.e. always overtly marked, and thus beyond the scope of this paper.

In Bulgarian, Russian and Serbo-Croatian, female nouns with nominal inflection are derived from males by the rule MASC N + GSUFF + ISUFF $-(j)a \rightarrow$ FEM N with the following gender suffixes:

BG.: *-k-a, -in-ja; -kin-ja; -ic-a, -es-a, -is-a*

R.: *-k-a, -ix-a, -ic-a, -nic-a, -š-a, -n-a, -in-ja, -ux-a, -ess-a, -is-a*

SC.: *-k-a, -ic-a, -inj-a, -kinj-a, -es-a*

In addition to the forms derived with special gender suffixes, Bulgarian, Russian and Serbo-Croatian possess a set of nouns formed according to the unproductive pattern MASC N + ISUFF \rightarrow FEM N involving only affixation with the inflection *-a*:

- (5) BG. *săprug* 'husband' \rightarrow *săprug-a* 'wife'
 R. *suprug* 'husband' \rightarrow *suprug-a* 'wife'
 SC. *suprug* 'husband' \rightarrow *suprug-a* 'wife'

In the oldest Slavic texts, in one and the same source, one finds used parallel forms such as *rab-a* and *rab-yni*, both meaning 'slave-FEM, servant-FEM', and derived from the masculine noun *rabъ* 'slave, servant' (see SJS in the references). Therefore, it is difficult to establish which type of expression, that derived with a special gender suffix or that formed by addition of the inflection *-a*, is diachronically older.

Nouns for females, whether formed with a special gender suffix or derived inflectionally, always take the inflection of the declension class of nouns terminating in *-a* (class 2) in the three languages (see Tables 1, 2, & 3), this without any exceptions. Note, however, that whereas nouns derived with a special gender suffix are always feminine, nouns terminating in *-a* are not (e.g. BG MASC *bašta* 'father'), i.e. if gender is not expressed morphologically, it does not perfectly correspond to a particular inflectional class. For discussion on gender and declension class assignment in Bulgarian see Manova & Dressler (2001), for Russian Corbett (1991:34–43) and Fraser & Corbett (1995).

4. Aspect

It is well-known that most Slavic verbs can be organized in aspectual triples. An aspectual triple consists of a basic verb, i.e. a primary imperfective verb (IMPFV1) → a perfective verb (PFV) → a secondary imperfective verb (IMPFV2), where PFV and IMPFV2 do not differ semantically. Each member of the triple exhibits its own morphotactic structure (Manova 2002):

- (6) IMPFV1 = ROOT + TM + ISUFF
 Bg. *stro-* *j-* *a* 'I build'
 PFV = PREF + IMPFV1
 Bg. *do-* *stroja* 'I complete building'
 IMPFV2 = PREF-ROOT + ASUFF + TM + ISUFF
 Bg. *do-* *stro-* *jav-* *a-* *m* 'I complete building'

The assumption of triples implies that the primary verbal lexicon consists of imperfective verbs only. However, there are also basic verbs (i.e. without prefixes or aspectual suffixes) which are perfective (in Bulgarian, for example, some 80 verbs,⁶ cf. Stojanov 1993:335). Thus like gender, the category of aspect is a classificatory one for basic verbs, since without being overtly marked for aspect they are classified as either perfective or imperfective.

In regard to IMPFV2 verbs, there exists a fundamental distinction between Bulgarian, on the one hand, and Russian and Serbo-Croatian, on the other: whereas nearly all IMPFV1 verbs in Bulgarian have PFV and IMPFV2 forms, in Russian and Serbo-Croatian, if the perfectivizing prefix has only aspectual meaning and there is no significant semantic difference between IMPFV1 and PFV, imperfectivization is blocked and the basic IMPFV1 form is used instead of IMPFV2. Consider:

- (7) BG. *piša* 'I write', *pišeš* → *napiša* 'I write down', *napišeš* → *napisvam*, *napisvaš*
 R. *pisat* 'to write' → *napisat* 'to write down' → **napisyvat*
 SC. *pisati* 'to write' → *napisati* 'to write down' → **napisivati*

However, if perfectivization involves a significant semantic change, all three forms exist in the three languages. For example:

- (8) BG. *piša* 'I write', *pišeš* → *podpiša* 'I sign', *podpišeš* → *podpisvam*, *podpisvaš*
 R. *pisat* 'to write' → *podpisat* 'to sign' → *podpisivat*
 SC. *pisati* 'to write' → *potpisati* 'to sign' → *potpisivati*

Bulgarian, Russian and Serbo-Croatian express imperfectivization either by a suffix in the derivational slot or inflectionally by a TM only. However derivational and inflectional realizations of the category of aspect differ in terms of productivity and, as can be seen from the next examples, productive rules always require an aspectual suffix in the derivational slot of the verb.

Bulgarian (cf. Table 4, class 3):

- (9) a. Productive suffixes: *-v-a-*, *-(j)av-a-* (both class 3)
 PFV *kaža* 'I say', *kažeš* → IMPFV *kaz-v-a-m*, *kaz-v-a-š*
 PFV *izora* 'I plow', *izoreš* → IMPFV2 *izor-av-a-m*, *izor-av-a-š*
 b. Unproductive suffixes: *-(j)a-*, *-uv-a-* (both class 3)
 PFV *izgovorja* 'I articulate', *izgovoriš* → IMPFV2 *izgovar-ja-m*, *izgovar-ja-š*
 PFV *kupja* 'I buy', *kupiš* → IMPFV *kup-uv-a-m*, *kup-uv-a-š*

Table 4. Bulgarian verbal inflection (major classes), based on Andrejčin (1978)

	1.		2.		3.
1 SG PRES	<i>-(j)a</i>		<i>-(j)-a</i>		<i>-(j)a-m</i> [<i>-v-a-m</i> , <i>-(j)av-a-m</i> , <i>-uv-a-m</i>]
2 SG PRES	<i>-e-š</i>		<i>-i-š</i>		<i>-a-š</i>
3 SG PRES	<i>-e</i>		<i>-i</i>		<i>-a</i>
	1.1.	1.2.	2.1.	2.2.	
1 SG Aorist	<i>-o-x</i>	<i>-(j)a-x</i>	<i>-i-x</i>	<i>-(j)a-x</i>	<i>-(j)a-x</i>
1 SG Imperfect	<i>-(j)a-x</i>	<i>-e-x</i>	<i>-e-x</i>	<i>-(j)a-x</i>	<i>-(j)a-x</i>

Russian (cf. Table 5, class 1):

- (10) a. Productive suffixes: *-yv-a-*; *-iv-a* (both class 1)
 PFV *perepisat'* 'to copy' → IMPFV2 *perepis-yv-a-t'*
 PFV *oplakat'* 'to mourn' → IMPFV2 *oplak-iv-a-t'*
- b. Unproductive suffixes: *-v-a-*; *-(j)a-* (both class 1)
 PFV *sogret'* 'to warm' → IMPFV2 *sogre-v-a-t'*
 PFV *ob'jasnit'* 'to explain' → IMPFV2 *ob'jasn-ja-t'*

Serbo-Croatian (cf. Table 6, classes 1 & 2):

- (11) a. Productive suffixes: *-(j)av-a-/* 1 SG PRES *-(j)av-a-m* (class 1) and
-(j)iv-a-/ 1 SG PRES *-uj-e-m* (class 2)
 PFV *odobriti* 'to approve, to permit' → IMPFV2 *odobr-áv-a-ti*
 PFV *zaváriti* 'to weld, to solder' → IMPFV2 *zavar-ív-a-ti*
- b. Unproductive suffixes: *-v-a-*, *-(j)a-* (both class 1)
 PFV *dòbiti* 'to receive, to obtain' → IMPFV2 *dobí-v-a-ti*
 PFV *zàvítì* 'to wrap' → IMPFV2 *zaví-ja-tì*

Table 5. Russian verbal inflection (productive classes), based on Isačenko (1982)

	1.	2.	3.	4	5.
Infinitive	<i>-a-t'</i> [<i>-yv-a-t'</i> , <i>-iv-a-t'</i>]	<i>-ov-a-t'</i> , <i>-ev-a-t'</i>	<i>-e-t'</i>	<i>-nu-t'</i>	<i>-i-t'</i>
1 SG PRES	<i>-aj- u</i>	<i>-uj- u</i>	<i>-ej- u</i>	<i>-n- u</i>	<i>-(j)u</i>
2 SG PRES	<i>-aje-š'</i>	<i>-uj-e-š'</i>	<i>-eje-š'</i>	<i>-ne-š'</i>	<i>-i-š'</i>
3 SG PRES	<i>-aje-t</i>	<i>-uj-e-t</i>	<i>-eje-t</i>	<i>-ne-t</i>	<i>-i-t</i>

Table 6. Serbo-Croatian verbal inflection (productive classes), based on Dressler et al. (1996)

	1.	2.	3.	4.
Infinitive	<i>-a-ti</i> [<i>-(j)av-a-ti</i>]	<i>-ov-a-ti</i> , <i>-ev-a-ti</i> , <i>-(j)iv-a-ti</i>	<i>-i-ti</i>	<i>-nu-ti</i>
1 SG PRES	<i>-a-m</i>	<i>-uj-e-m</i>	<i>-i-m</i>	<i>-ne-m</i>
2 SG PRES	<i>-a-š</i>	<i>-uj-e-š</i>	<i>-i-š</i>	<i>-ne-š</i>
3 SG PRES	<i>-a</i>	<i>-uj-e</i>	<i>-i</i>	<i>-ne</i>
Imperative	<i>-a-j</i>	<i>-uj</i>	<i>-i</i>	<i>-ni</i>

Each of the three languages possesses a restricted number of imperfectivizing ASUFFS, two productive and two unproductive, but only three of them use the derivational slot of the verb. In addition, ASUFFS always combine with the TM *-a-* only, which makes them similar to conjugation class markers, i.e. ASUFFS can be seen as complex TMS of the type *-(V)va-*. The same holds for the suffixes *-ova-/eva-* in Russian and Serbo-Croatian (see class 2 in Tables 5 & 6).

All IMPFV2 verbs in Bulgarian and Russian are marked by membership in a particular conjugation class (class 3 in Bulgarian and class 1 in Russian, see Tables 4 & 5), whereas Serbo-Croatian IMPFV2 verbs go into two conjugation classes, class 1 and class 2 respectively (Table 6), and this when derived with productive suffixes (11a). However, class 1 and class 2 are phonologically complementary and the most salient feature of the Serbo-Croatian vowel system, accentuation, governs the distribution of the two productive aspectual suffixes *-(j)av-a-* (class 1) and *-(j)iv-a-* (class 2). According to Babić (1991), the exact rule is: if the PFV verb has a long stressed vowel, then secondary imperfectivization uses the suffix *-(j)iv-a-*, e.g. PFV *isključ-i-ti* 'to turn off' → IMPFV2 *isključ-iv-a-ti*; if the PFV has a short stressed vowel, its respective IMPFV2 verb is derived with the suffix *-(j)av-a-*, e.g. PFV *ogrànič-i-ti* 'to limit' → IMPFV2 *ogranič-áv-a-ti*.

Both suffixes *-(j)av-a-* and *-(j)iv-a-* differ in their degree of productivity and verbs derived with the suffix *-ov-a-* (class 2) have IMPFV2 forms with *-iv-a-* (class 2), though with the inflection suffixes of class 1, i.e. *-iv-a-ti / -iv-a-m* instead of *-iv-a-ti / -uj-e-m*,⁷ e.g.: PFV *dar-òv-a-ti* 'to present, donate' (← *dar* 'present, gift'), PRES 1 SG *dar-uj-e-m* → IMPFV & PFV *dar-iv-a-ti*, PRES 1 SG *dar-iv-a-m*. This shift from verb class 2 to verb class 1 speaks for greater productivity of class 1 in comparison to class 2 (Dressler 1997) and assigns to class 1 a status of the default class for IMPFV2. It should also be noted that due to regional and dialectal variants, the Serbo-Croatian verbal system sometimes allows for doublets derived with both *-(j)av-a-* and *-(j)iv-a-* from one and the same base.

In Russian up to the 19th century (cf. Isačenko 1982:227–229), besides the productive suffixes *-yv-a-/iv-a-* (class 1 in Table 5), the suffixes *-ov-a-/ev-a-* (i.e. class 2) were also imperfectivizing. Afterwards *-ov-a-* and *-ev-a-* were restricted to nominal and adjectival bases only, and thus specialized for derivation (cf. also the Russian Academy Grammar 1980:337ff.). This specialization of the suffixes collects all Russian IMPFV2 verbs in class 1 (cf. Table 5), and allots noun-to-verb and adjective-to-verb derivations to more than one verb class: *sovet* 'advice, council' → *sovet-ov-a-t'* 'to advise'; *špric* 'syringe' → *špric-ev-a-t'* 'to syringe'; *pjatn-o* 'spot, stain' → *pjatn-a-t'* 'to spot, to stain'; *kamen'*

'stone' → *kamen-e-t* 'to stone'; *sekretar* 'secretary' → *sekretar-i-t* 'to work as a secretary'; *pust-ov* 'empty' → *pust-ov-a-t* 'to be empty (for space)'; *slab-yj* 'weak, feeble' → *slab-e-t* 'to lose weight; to weaken'; *čist-yj* 'clean' → *čist-i-t* 'to clean'.

The same holds for verbal derivations in Serbo-Croatian and Bulgarian: sc. *sáv(j)et* 'advice, council' → *sáv(j)et-ov-a-ti* 'to advise'; *sèstr-a* 'sister' → *sèstr-i-ti* 'to accept as a sister'; *vèsl-o* 'oar, scull, paddle' → *vèsl-a-ti* 'to row, paddle, scull'; *bijèl* 'white' → *bijèl-i-ti*, *bijèl-je-ti* 'to whiten, bleach'; bg. *săvet* 'advice, council' → *săvet-v-a-m* 'I advise', *săvet-v-a-š*; *petn-o* 'spot, stain' → *petn-j-a* 'I spot, stain', *petn-i-š*; *bjal* 'white' → *bele-ja (se)* 'I turn/become white', *bele-e-š (se)*.

To sum up: Bulgarian and Russian always connect IMPFV2 verbs with a particular inflectional class. Serbo-Croatian IMPFV2 verbs are distributed into two phonologically complementary classes, of which the class of *-(j)av-a-* (class 1, Table 6) is the more productive one, expressing imperfectivization in general. By contrast, the output of derivations to verb goes into different verb classes.

IMPFV2 verbs in the three languages are always marked by the TM *-a-*, which is the default marker for imperfectivity, i.e. there are only very few verbs with the TM *-a-* which are not imperfective. Note, however, that in Russian and Serbo-Croatian, if a verb has the TM *-a-*, this does not automatically assign it to class 1, and such a verb could belong to class 2 or to an unproductive verb class in both languages.

5. Derivation versus inflection

Now I will briefly evaluate the three categories, diminutives, formation of females from males and imperfectivization, according to some of the traditional criteria for distinguishing between inflection and derivation (surveys in Dressler 1989; Plank 1994; Booij 2000):

1. *Change of word class*: Derivation, unlike inflection, may be word-class-changing.

The three categories I analyze are word-class-preserving by definition, i.e. if we diminutivize a noun, the result is a noun, nouns denoting females are derived from nouns denoting males, and since aspect is a verbal category, imperfectivization always involves only verbs. However, this does not mean that the suffixes expressing the three categories cannot be word-class-changing. The most frequent case of word class change involves addition of aspectual suf-

fixes to nominal and adjectival bases from which verbs are derived, e.g. the above-cited bg. *sävet* 'advice, council' → *sävet-v-a-m* 'I advise', *savet-v-a-š* (cf. Section 4). In Bulgarian, the unproductive imperfectivizing suffix *-uv-a* is very productive for derivation of verbs from nominal bases, e.g. *sän* 'dream' → *sän-uv-a-m* 'I dream', *prorok* 'prophet' → *prorok-uv-a-m* 'I prophet', etc. However, the specialization of the old aspectual suffixes R. & SC. *-ov-a-l-ev-a* only for derivation of verbs from nominal and adjectival bases shows that in Russian and Serbo-Croatian, aspectual suffixes tend to be word-class-preserving. Thus paradoxically, aspectual suffixes are word-class-changing only in Bulgarian where the category of imperfectivization has a full set of forms (i.e. seems to be inflectional, cf. Section 4, ex. 6). It should also be mentioned that the addition of the TM *-a-* which is an unproductive realization of imperfectivization can also be word-class-changing (cf. the verbalizations at the end of Section 4).

Gender suffixes, when added to adjectives or verbs, derive common gender nouns. Consider: bg. MASC & FEM *pijan-ic-a* (R. MASC & FEM *p'janica*) 'drunkard' formed from the adjective *pijan* (R. *p'janyj*) 'drunk' by addition of a gender suffix and without a masculine counterpart⁸ as well as the derivation bg. *bäbrja* 'I chatter, babble', *bäbriš* → MASC & FEM *bäbr-ica* 'babblers' (there is no masculine noun **bäbrik*, cf. FEM *čistnica* ← MASC *čistnik* 'fastidious person'). Such common gender nouns can refer to males and females but have feminine morphology (class 2 in the three languages).

As for diminutives, unlike languages such as German where diminutive suffixes can change the word class of the base (e.g. *lieb* 'dear' → *Liebchen* 'the dear-DIM', cf. Dressler & Merlini Barbaresi 1994:103f.), in the three Slavic languages I discuss diminutivization is usually word-class-preserving. Word-class-changing diminutivization is extremely rare and not mentioned in the literature. Yet, an example could be SC. ADJ *zelen* 'green' → N *zelen-ic* 'little green tree' (cf. Babić 1991:190).

Thus, according to the criterion of word class change, the three categories tend to be derivation, diminutivization being the least derivational one.

2. *Obligatoriness & Syntactic relevance*: Inflection is obligatory, whereas derivation is optional. However, since syntactically required agreement is obligatory, obligatoriness is connected with the criterion of syntactic relevance (cf. Dressler 1989:6) according to which, inflection is relevant to syntax (Anderson 1982:587). Thus, due to the syntactic agreement between subject and predicative positions, feminine gender may be obligatory in sentences with a female subject in Bulgarian, Russian and Serbo-Croatian. Gender agreement is obligatory with inhabitatives, e.g. bg. *Tja e irlandka* 'She is an Irishwoman' and not

**Tja e irlandec* 'She is an Irishman'. This even in the plural where *te* 'they' is gender neutral, i.e. if we refer to a group of female persons, we must say *Te sa irlandki* 'They are Irishwomen' (and not **Te sa irlandci* 'They are Irishmen'), although MASC *irlandci* 'Irishmen' which expresses the meaning 'inhabitants of Ireland' in general is the form expected with a gender neutral subject. Clearly, the gender neutral subject *te* 'they' cannot require gender. Therefore, it is not sure that the obligatory feminine gender with inhabitatives is a case of syntactic agreement (cf. also Booij 2002:82). Gender agreement is optional with agent nouns, i.e. both *Tja e učitelka* 'She is a teacher-FEM' and *Tja e učitel* 'She is a teacher-MASC' are possible, but the latter is more respectful (on gender agreement, see also Dressler & Doleschal 1991).

Aspect can also be required by certain verbs, e.g. regardless of their aspect phase verbs like *to begin*, *to continue* and *to end* combine only with imperfectives, as can be seen from the following examples from Bulgarian:

- (12) *da započna*-PFV *da podpisvam*-IMPFV 'I begin to sign'
započvam-IMPFV *da podpisvam*-IMPFV 'I begin to sign'

but not

- **da započna*-PFV *da podpiša*-PFV 'I begin to sign'
 **započvam*-IMPFV *da podpiša*-PFV 'I begin to sign'

Obligatoriness is here due to the nature of the perfective aspect which views an activity as a whole and is thus incompatible with the focus on the start/end or the development, whereas the imperfective is. Since in the above examples, the imperfective verb is not required by the aspect of the introductory verb, but by its semantics, (12) does not represent syntactic agreement.

As for diminutives, the use of a diminutive noun requires further diminutivization. Therefore from the Bulgarian examples below, (13) and (14) are well-formed sentences, (15) is strange but acceptable, whereas (16) is impossible.

- (13) *Viž mu rāč-ička-ta, prāst-če-ta-ta j sa tolkova*
 Look his hand-DIM-DEF, finger-DIM-PL-DEF its are-3PL so
bel-i
 white-PL
 'Look at his hand-DIM, its fingers-DIM are so white'

- (14) *Viž mu rāč-ička-ta, prāst-če-ta-ta j sa tolkova*
 Look his hand-DIM-DEF, finger-DIM-PL-DEF its are-3PL so
bel-ičk-i
 white-DIM-PL
 ‘Look at his hand-DIM, its fingers-DIM are so white-DIM’
- (15) ²*Viž mu rāč-ička-ta, prāst-i-te j sa tolkova*
 Look his hand-DIM-DEF, finger-PL-DEF its are-3PL so
bel-ičk-i
 white-DIM-PL
 ‘Look at his hand-DIM, its fingers are so white-DIM’
- (16) ^{*}*Viž mu rāč-ička-ta, prāst-i-te j sa tolkova bel-i*
 Look his hand-DIM-DEF, finger-PL-DEF its are-3PL so white-PL
 ‘Look at his hand-DIM, its fingers are so white’

These examples resemble to some extent the use of honorifics, i.e. if one speaks in a given way, (s)he should keep it up. Thus, the obligatory diminutivization in the above sentences does not look like agreement required by syntax.

To sum up: in regard to obligatoriness, the three categories behave like inflection, but since they do not participate in syntactic agreement, according to the criterion of syntactic relevance, they seem to be derivation (or at least inherent inflection, cf. Booij 2000).

3. *Productivity*: Inflection is typically more productive than derivation.

Of the three categories discussed, diminutives show the greatest degree of productivity. It is possible to derive a diminutive (usually even more than one) from nearly every noun, whereas imperfectivization can, as already discussed (cf. Section 4, ex. 7), be lexically blocked in Russian and Serbo-Croatian. Moreover, verbs of foreign origin are often biaspectual, e.g. bg. *organiziram* ‘I organize’ / r. *organizovat’* / sc. *organizirati*. The same should be said for the productivity of the rule deriving females from males – loanwords denoting males (e.g. *professor*, *director*) are usually double gender nouns. However, if loanwords are often paired for gender in colloquial style (bg. *direktor-k-a* / r. *direktor-š-a* / sc. *direktor-ic-a*), instances such as bg. MASC *strelec* ‘marksman’ → FEM \emptyset and MASC *letec* ‘pilot’ → FEM \emptyset^9 undoubtedly speak for the restricted productivity of the females-from-males formation, in Bulgarian at least.

According to this criterion, diminutivization seems to be inflection, whereas formation of females from males and imperfectivization are less inflectional. Yet, diminutivization should be a peculiar type of inflection, since it usually allows for more than one derivation from the same base (e.g. bg. *kniga* ‘book’ → DIM *kniž-ka* & DIM *kniž-le*) and may apply recursively (e.g. bg. *kniž-le*

'book-DIM' → *kníž-le-nce* 'book-DIM-DIM' → *kníž-le-nce-nce* 'book-DIM-DIM-DIM).

4. *Order of morphemes*: Inflection is more peripheral than derivation.

If denominal diminutives, formation of females from males and imperfectivization are expressed in the derivational slot, their suffixes precede the inflection. When the three categories are realized inflectionally, gender and diminutive suffixes are word-final, whereas TMS which are the inflectional equivalent of imperfectivization are between derivational and inflectional suffixes (cf. the prototypical form of the Slavic word in Section 1 and ex. (3a, b)).

According to this criterion, the three categories (except Russian diminutives which should be derivation, cf. Section 2) are neither inflection nor derivation.

5. *Overt analogue criterion*: All three categories, except Russian diminutives, can be expressed either in the derivational or in the inflectional slot of the word, i.e. when realized inflectionally the three categories have overt analogues (see examples (1), (2), & (3)) which, according to Booij (2000), distinguish derivation from inflection. In fact, an overt analogue of a morphological change is a traditional proof for conversion / zero derivation (cf. Sanders 1988) and since it has always been assumed that conversion operates only in derivation, it is expected that the overt analogue criterion should distinguish between derivation and inflection. Thus, if a derivational rule has an overt analogue, it is a case of conversion, however if an inflectional rule has an overt analogue, the morphological theory even lacks a label for it. The problem was discussed in detail in Manova (2003a).

6. *Change of inflectional class*. In Scalise (1984:110), one reads that derivational rules can change the declensional class of nouns and the conjugational class of verbs, whereas inflectional rules cannot. According to this criterion, all three categories represent derivation, since the rule deriving females is always inflection-class-changing, and diminutivization and imperfectivization can be inflection-class-changing as well as inflection-class-preserving.

According to these demarcation criteria, it seems that there is no striking difference between denominal diminutives, derivation of females from males and imperfectivization: the three categories are word-class-preserving by rule, although their suffixes can be word-class-changing; without being syntactically relevant, the three categories can be obligatory in certain contexts; they obey the expected morpheme order; have overt analogues; and can be inflection-class-changing. (All these, of course, with some nuances in the three languages). Only in respect to productivity, diminutivization appears

to be more productive (inflectional) than females-from-males formation and imperfectivization.

However, when situated within the inflection systems of Bulgarian, Russian and Serbo-Croatian, the three categories in question clearly differ in regard to inflection class assignment. Therefore, I suggest inflection class assignment as a criterion for demarcation between derivation and inflection. I formulate the criterion in the following way:

7. *Inflection class assignment*: If a category can be identified either with a particular inflectional class or with complementary classes, it is expressed inflectionally and therefore represents (non-prototypical) inflection. If a category cannot be identified inflectionally, i.e. its output belongs to different (unrelated) inflectional classes, it is derivation.

This criterion assigns to nominal diminutives the status of derivation and to formation of females from males and imperfectivization the status of inflection. (Note that this holds only for Bulgarian, Russian and Serbo-Croatian and does not exclude that in other languages, the same categories can behave differently according to inflection class assignment).

Of course, now the question about the reliability of the criterion of inflection class assignment arises. And really, why should a single criterion be enough evidence for the derivational or inflectional status of a category? There are at least two reasons:

First, it is not very probable that the most salient feature of an inflecting language, its inflection class organization, should be irrelevant for the differentiation between derivation and inflection.

Second, only on the basis of their inflection class organization can Bulgarian, Russian and Serbo-Croatian successfully distinguish between the following four types of inflectional categories: 1) inflection such as case or definiteness identified as a cell of the paradigm of an inflectional class; 2) categories such as nominal number which constitute a part (i.e. involve more than one cell) of the paradigm of an inflectional class (e.g. singular and plural subparadigms); 3) categories such as gender and aspect which can, when expressed by an overt suffix, be identified with a particular inflectional class or with complementary classes, e.g. gender (cf. Stump 1998) as formation of females from males and aspect in terms of imperfectivization.¹⁰ (Note, however, that if this type of inflection is not overtly expressed, it does not perfectly correspond to a particular inflectional class. For example, although masculine nouns usually belong to inflectional class 1 in the three languages, they can be found in other inflectional classes as well. The same holds for feminine and neuter nouns.); 4) categories

such as the above-discussed diminutives which cannot be identified inflectionally, since their output enters more than one inflectional class.

Clearly, the inflection class system of an inflecting language cannot distinguish between different types of derivation.

6. Conclusion

In Bulgarian, Russian and Serbo-Croatian, non-prototypical categories such as denominal diminutivization, formation of females from males and imperfectivization allow for two types of forms, derivational and inflectional. Of these, in harmony with the semiotic principle of constructional iconicity (correspondence between addition of meaning and addition of form), only derivational realizations are productive. This preference for derivational forms over inflectional ones is category-specifically realized: diminutivization has developed a rich set of derivational suffixes and its output has thus dispersed within the inflectional systems of the three languages; formation of females from males exhibits numerous gender suffixes, but has been left connected with a single noun class only; imperfectivization uses a few *ASUFFs* and is also connected with a particular inflectional class, the two classes of Serbo-Croatian *IMPFV2* verbs being phonologically complementary. This makes denominal diminutives unidentifiable inflectionally and according to the criterion of inflection class assignment, defines them as derivation, whereas formation of females from males and imperfectivization, since identifiable with a particular inflectional class (or complementary classes), represent inflection.

In addition to the typologically-adequate connection of non-prototypical inflection with particular inflectional classes, for distinguishing between derivation and inflection, Bulgarian, Russian and Serbo-Croatian use language-specific strategies: in order to underline the inflectional status of imperfectivization, Bulgarian has developed a full set of aspectual forms, Russian and Serbo-Croatian have reduced the number of their aspectual suffixes specializing *-ova-/-eva-* only for derivation. Although Serbo-Croatian *IMPFV2* verbs have a less clear inflectional status than Bulgarian and Russian ones, the distribution of *IMPFV2* verbs into conjugation classes in Serbo-Croatian is not chaotic, but governed by a language-specific feature – the accentuation of the vowels.

Thus, on the one hand, non-prototypical derivation and inflection in Bulgarian, Russian and Serbo-Croatian with their two types of forms, derivational and inflectional, confirm the assumption of a derivation-inflection contin-

uum. On the other hand, however, the three non-prototypical categories I analyzed undoubtedly show that inflecting languages tend to make distinction between derivation and inflection, and this even in cases where the traditional demarcation criteria do not.

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Notes

1. Abbreviations: ACC – accusative, ADJ – adjective, ASUFF – aspectual suffix, BG. – Bulgarian, DAT – dative, DIM – diminutive, DIM SUFF – diminutive suffix, DSUFF – derivational suffix, FEM – feminine, GEN – genitive, GSUFF – gender suffix, IMPFV 1 – (primary) imperfective, IMPFV2 – secondary imperfective, INSTR – instrumental, ISUFF – inflectional suffix, LOC – locative, LW – loanword, MASC – masculine, N – noun, NEUT – neuter, NOM – nominative, OBG. – Old Bulgarian, OCS – Old Church Slavic, PFV – perfective, PL – plural, PREF – prefix, PRES – present, R. – Russian, SC. – Serbo-Croatian, SG – singular, TM – thematic marker, VOC – vocative.
2. Since Bulgarian has no infinitive, all Bulgarian verbs are given in their basic form, 1 SG PRES, and in 2 SG PRES which exhibits all possible inflectional suffixes.
3. In contrast to all other Slavic languages, Bulgarian nominal morphology has lost the category of case and developed the category of definiteness. Thus in a Bulgarian noun, number and definiteness are always overtly marked, definiteness being expressed by suffixes, whereas in Russian and Serbo-Croatian nouns, the categories of case and number are always overtly signalled (see Tables 1, 2, & 3).
4. Diminutives derived with the suffixes *-ce*, *-ance*, *-ence*, *-ašce*, and *-ešce* either have the inflection of class 3 or take the amplification *-t*, as is usual for a minor inflection class, cf. Barić et al. (1995:144).

5. Such nouns, as descendants of OCS *ęt*-stems, have *-et-* amplification with the endings of class 3 in the oblique singular cases, their NOM PL is formed either with the collective suffix *-ad* (class 4 inflection in the oblique cases) or with *-ĭ/-ci* (inflection of class 1).
6. Such verbs have only the last two forms of the aspectual triple, e.g.: BG. PFV *xvārl-ja* 'I throw', *xvārl-i-š* → IMPFV *xvārl-ja-m*, *xvārl-ja-š*, R. PFV *bros-i-t'* 'to throw' → IMPFV *bros-a-t'*; SC. PFV *bác-i-ti* 'to throw' → IMPFV *bác-a-ti*.
7. Some regional variants allow both *-iv-a-ti* / *-iv-a-m* and *-iv-a-ti* / *-uj-e-m*.
8. In Serbo-Croatian, there also exists a common gender noun MASC & FEM *pijanica* 'drunkard'. However, in this language in contrast to Bulgarian and Russian, from the adjective *pijan* 'drunk', one can derive the masculine noun *pijanac* 'drunkard'.
9. Cf. MASC *pluvec* 'swimmer' → FEM *pluvkinja*; and MASC *kosmonavt* 'cosmonaut' → FEM *kosmonavtka* (colloquial) which is semantically related to *letec* 'pilot'.
10. Note that what holds for imperfectivization is also correct for perfectivization with the thematic marker *-n-* / *-nu-* (the only perfectivizing suffix in the three languages). As can be seen in Tables 5 and 6, perfective *-n-/nu-* verbs even constitute verb classes of their own in Russian and Serbo-Croatian.

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