Paradigm Linkage and Bulgarian Verb Inflection

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The theory of Paradigm Linkage distinguishes between content and form in inflectional morphology in terms of content-paradigm (i.e. syntactic paradigm of a lexeme) and form-paradigm (i.e. morphological paradigm of that lexeme's root), the default rule of paradigm linkage mapping one-to-one each cell of the lexeme's content-paradigm with its respective cell in the root's form-paradigm. The first type of case this paper discusses overrides the default and associates a single content-paradigm with more than one form-paradigm. Competing form-paradigms are defined in terms of combinations of morphosyntactic properties and seen as depending on markedness. In the second type of instance under scrutiny, a given marked morphosyntactic property causes reduction of the content-paradigm (i.e. two distinct sets of morphosyntactic properties merge into one). Moreover, if in the morphosyntactic property set of a lexeme, properties that give rise to competing form-paradigms co-occur with a property requiring reduction of the content-paradigm, both competition and reduction happen. Bulgarian verb morphology thus evidences that marked content should be expected to violate the one-to-one mapping of content-paradigm and form-paradigm in inflection.

1. Introduction

The present paper examines two types of non-isomorphic mapping of meaning and form in inflection: i) the same morphosyntactic content is mapped to more than one form; and ii) two distinct sets of morphosyntactic properties merge into one. Schematically i) and ii) can be represented in the following way (XN is an inflected word-form with root X and the information in { } is XN's morphosyntactic specification):

i) X1 {A}
X2 {B}
$X3_1$ {C}, $X3_2$ {C}
$X4_1$ {D}, $X4_2$ {D}, $X4_3$ {D} , $X4_4$ {D}

ii) X1 {A}

[1] The research reported here was supported by the Jubilee Funds of the Austrian National Bank, Grant P-10366. Their support is gratefully acknowledged.

X2 {B}

X3 {A+B}

Of the two types, the first, since more unusual from a theoretical point of view, is discussed in more detail.

Inflectional morphology, by rule, does not tolerate competition of forms, which, in fact, follows from one of the prototypical features of inflection (cf. Dressler 1989: 6), namely that of syntactic relevance. Put differently, when syntax ‘requires’ an inflectional form, morphology, in order to ‘respond’ immediately does not ‘hesitate’ between/among forms. Thus, in an inflectional paradigm, phenomena involving economy of morphological form (e.g. syncretism and the instances of paradigm reduction we will discuss) are much more usual than competition of forms. Surprisingly, however, competing forms are presented largely in Bulgarian verb inflection where they are organized in (sub)paradigms. Another puzzling fact in regard to competing forms concerns their distribution. For instance, while the Future Perfect allows competing forms and (1a) and (1b) are both well-formed, in the Present Perfect only a single formal realization (2a) is well-formed, whereas (2b), the parallel of (1b), sounds strange.

(1a) *šhte săm pisal*
šte-FUT[2] săm-be.1.SG.PRES pisal-AOR PART
‘I will have written’

(1b) *šte băda pisal*
šte-FUT săm-be.1.SG.PRES pisal-AOR PART
‘I will have written’

(2a) *[az] săm pisal*
[I] săm-be.1.SG.PRES pisal-AOR PART
‘I have written’

(2b) ?*[az] da băda pisal*
[I] săm-be.1.SG.PRES pisal-AOR PART
‘I have written’

[2] Abbreviations: affir – affirmative, aor part – aorist participle, fut – future, indic – indicative, perf – perfect, pl – plural, pol – polarity, pres – present, sg – singular.

It should be stressed here that competing inflectional forms (paradigms) are unusual not only from the perspective of general morphology but, in Bulgarian, as language-specific behaviour. Bulgarian has the richest verb inflection among Slavic languages and an additional number of forms (paradigms) further complicates the system. Therefore, the goal of the present paper is twofold: on the one hand to establish the distribution of non-canonical (competing and reduced) paradigms in modern Bulgarian, thus providing some order to the various accounts of Bulgarian verbal periphrasis and on the other hand, to ascertain what those paradigms reveal regarding the organization of Bulgarian verb inflection in particular and of inflectional morphology in general.

The remainder of the paper has the following structure: section 2 introduces the theory of Paradigm Linkage and thus sets up the theoretical framework; section 3 is a survey of the categories of Bulgarian verb morphology; section 4 establishes the non-canonical paradigms of Bulgarian verb inflection; section 5 sheds light on the diachronic origin of those paradigms; section 6 hosts the discussion and suggests an analysis based on markedness; in this section also the frequency of non-canonical paradigms is tackled; and in the last section 7, the discussion is summarized and conclusions are drawn.

2. Paradigm Linkage

The theory of Paradigm Linkage (Stump 2002) is a revision of Paradigm Function Morphology (henceforth PFM) (Stump 2001), the latter advocating an inferential-realizational approach to morphology (such as that in Matthews 1972; Zwicky 1985; Anderson 1992; Aronoff 1994, among others). The approach is inferential (rather than lexical) in the sense that inflectional exponents are seen as markings licensed by rules by which complex word forms are deduced from roots and stems. The approach is also realizational (rather than incremental) since a lexeme’s association with a particular set of morphosyntactic properties is understood as a precondition for the application of the rules responsible for the realizations of those properties (Ackerman & Stump 2004: 116).

With respect to content and form, Paradigm Linkage sees a language’s lexicon as consisting of LEXEMICON (with lexemes as individual entries) and RADICON (with roots as individual entries), cf. Ackerman & Stump (2004). Every lexeme (L) from the langugae’s lexemicon has an associated CONTENT-PARADIGM such that each cell in the content paradigm pairs L with a complete (i.e. relevant) set of morphosyntactic properties (σ). Every root (r) from the language's radicon has an associated FORM-PARADIGM such that each cell in the root's form-paradigm pairs r with a set (σ) of differentiating morphosyntactic property labels. In other words, the language's form-paradigm consists of the information necessary to deduce the morphological realization of that language's content paradigm. (This differentiation between content-paradigm and form-paradigm corresponds to the distinction between s-features (grammatical properties which are essentially syntactic) and m-features (which regulate morphological form) developed by other authors, cf. Sadler & Spencer 2001; Spencer 2003). The assumed organization of inflectional morphology is represented in Table 1 (from Ackerman & Stump 2004: 124). The model's advantages are demonstrated through analysis of the Bulgarian data cited in this paper.

Table 1

	Lexical representations:		Realizations (word forms)
	content-cells (<L, σ> pairings)	form-cells (<r, σ> pairings)	
Associations:	content-cells associated with form-cells by *rules of paradigm linkage*		
		form-cells associated with realizations by *realization rules*	
Information represented:	Contentive (functional-semantic content, grammatical functions, morphosyntactic properties)	Formal (morphosyntactic property labels); Diacritic /indexical (inflection class membership, root phonology)	Purely phonological

As can be seen in table 1, the default rule of paradigm linkage is <L, σ > => <r, σ> where r is L's root and σ is the morphosyntactic property set relevant to both r and L. In (3a) and (3b) below, the default case of paradigm linkage is illustrated with the present indicative paradigm of the Bulgarian verb *mislja* '(I) think':

(3a) Content-paradigm of the L *mislja* ‚think'
a. < *mislja*, {indic pres 1sg affir}>
b. < *mislja*, {indic pres 2sg affir}>
c. < *mislja*, {indic pres 3sg affir}>
d. < *mislja*, {indic pres 1pl affir}>
e. < *mislja*, {indic pres 2pl affir}>
f. < *mislja*, {indic pres 3pl affir}>

(3b) Form-paradigm of the r *misl*
a. < *misl*, {indic pres 1sg affir}>
b. < *misl*, {indic pres 2sg affir}>
c. < *misl*, {indic pres 3sg affir}>
d. < *misl*, {indic pres 1pl affir}>
e. < *misl*, {indic pres 2pl affir}>
f. < *misl*, {indic pres 3pl affir}>

The form-paradigm in (3b) is associated with the following realizations:

(4) Realizations:
mislja
misliš
misli
mislim
mislite
misljat

As already mentioned, not all paradigms in a language are of this ‘canonical’ type. The inflectional forms cited in (1a) and (1b) above, for example, override the default rule of paradigm linkage. For those we have:

(5) Content-cell
< *piša* {indic fut perf 1sg affir}>

(6) Form-cell 1
< *šte săm pis-* {indic fut perf 1sg affir}>
Form-cell 2
< *šte băd- pis-* {indic fut perf 1sg affir}>

The realizations of form-cell 1 and form-cell 2 are:

(7) Realization 1: *šte săm pisal*
Realization 2: *šte băda pisal*

While the content-cell in (5) is associated with two form-cells, there is one-to-one mapping between form-cells (6) and their realizations (7). Also in cases of paradigm reduction, form-cells and realization-cells are canonically mapped. Thus, from this point forward, in order to avoid multiple listing and to make the discussion more accessible for readers inexperienced with the formalism of PFM (by rule, accounts of inflectional morphology operate only with realizations), I will equate a lexeme’s morphosyntactic properties with that lexeme’s content-paradigm, as well as realizations with form-cells.

It may be helpful as well to note the following in regard to the use of terms such as properties, features and values. In PFM, a morphosyntactic property takes the form of a pairing of a morphosyntacitc feature with one of its permissible values (Stump 2001: 38). As for the relation between features and values, for example in Bulgarian, the morphosyntactic feature TENSE exhibits 9 values: PRESENT, AORIST, IMPERFECT, FUTURE, FUTURE PERFECT, etc (full list in the next section).

3. Bulgarian verb morphology

Bulgarian verb morphology is the most complex among Slavic languages. Besides aspect (Perfective and Imperfective), Bulgarian verbs exhibit the following morphosyntactic properties: person (1^{st}, 2^{nd}, and 3^{rd}), number (Singular and Plural), tense (Present, Aorist, Imperfect; Present Perfect, Past Perfect, Future, Future in the Past, Future Perfect, and Future Perfect in the Past), mood (Indicative, Conditional, and Imperative), voice (Active and Passive), and mode of expression[3] (Evidential and Non-Evidential (renarrated) forms). Moreover, in contrast to other Slavic languages, Bulgarian has no restrictions on the combination of tense and aspect, i.e. perfective verbs may be used in the imperfect tense as may imperfective verbs in the aorist (unlike Serbian/Croatian, for example), and all verbs, whether perfective or imperfective, have forms for the future tense (unlike Russian). These facts further increase the number of paradigm cells of Bulgarian verbs. Since in its diachronic development Bulgarian has lost the infinitive, the non-finite verbal forms now comprise only participles, gerunds and verbal nouns, and the 1^{st} singular present indicative has replaced the infinitive as the citation form of the verb.

4. The Paradigm of Bulgarian Verbs

Bulgarian verb inflection comprises: 1) canonical paradigms (4.1.) exhibiting one-to-one mapping of content-paradigm and form-paradigm; and 2) non-canonical paradigms (4.2.) that override the default rule of paradigm linkage. In what follows, both types of paradigms are exemplified.

[3] On the distinction between mood and evidentiality, see Jakobson (1957; reprint in 1971: 135) and Aikhenvald (2004).

4.1. Canonical paradigms

{MOOD: indicative, VOICE: active, MODE: evidential}

(8a)		(8b)		(8c)	
TENSE: *PRESENT*		*AORIST*		*IMPERFECT*	
POL *affirmative*	*negative*	*affirmative*	*negative*	*affirmative*	*negative*
1SG piša	ne piša	pisax	ne pisax	pišex	ne pišex
‚I write‘	‚I don‘t write‘	‚I wrote‘	‚I didn‘t write‘	‚I was writing‘	‚I wasn‘t writing‘
2SG pišeš	ne pišeš	pisa	ne pisa	pišeše	ne pišeše
3SG piše	ne piše	pisa	ne pisa	pišeše	ne pišeše
1PL pišem	ne pišem	pisaxme	ne pisaxme	pišexme	ne pišexme
2PL pišete	ne pišete	pisaxte	ne pisaxte	pišexte	ne pišexte
3PL pišat	ne pišat	pisaxa	ne pisaxa	pišexa	ne pišexa

Actually, in Bulgarian all indicative active evidential verb paradigms that involve synthetic morphology are canonical.

(9a)		(9b)	
TENSE: *PRESENT PERFECT*		*PAST PERFECT*	
POL *affirmative*	*negative*	*affirmative*	*negative*
1SG pisal săm	ne săm pisal	bjax pisal	ne bjax pisal
‚I have written‘	‚I haven‘t written‘	‚I had written‘	‚I hadn‘t written‘
2SG pisal si	ne si pisal	be(še) pisal	ne be(še) pisal
3SG pisal e	ne e pisal	be(še) pisal	ne be(še) pisal
1PL pisali sme	ne sme pisali	bjaxme pisali	ne bjaxme pisali
2PL pisali ste	ne ste pisali	bjaxte pisali	ne bjaxte pisali
3PL pisali sa	ne sa pisali	bjaxa pisali	ne bjaxa pisali

As can be seen from these examples, the paradigms of the Present and Past Perfect (indicative active evidential) also map one-to-one content and form, which does not hold for all paradigms in the next section.

4.2. Non-canonical paradigms

4.2.1. Indicative, Active, Evidential

TENSE: *FUTURE SIMPLE*

(10a)	(10b)		
POL *affirmative*	POL *negative*		
	1.	2.	
1SG šte piša	ne šte piša	njama da piša	
‚I will write‘	‚I won‘t write‘	‚I won‘t write‘	
2SG šte pišeš	ne šte pišeš	njama da pišeš	
3SG šte piše	ne šte piše	njama da piše	
1PL šte pišem	ne šte pišem	njama da pišem	
2PL šte pišete	ne šte pišete	njama da pišete	
3PL šte pišat	ne šte pišat	njama da pišat	

TENSE: *FUTURE in the PAST*

(11a) POL *affirmative*	(11b) POL *negative* 1.	2.
1SG štjax da piša	ne štjax da piša	njamaše da piša
‚I would write‘	‚I would not write‘	‚I would not write‘
2SG šteše da pišeš	ne šteše da pišeš	njamaše da pišeš
3SG šteše da piše	ne šteše da piše	njamaše da piše
1PL štjaxme da pišem	ne štjaxme da pišem	njamaše da pišem
2PL štjaxte da pišete	ne štjaxte da pišete	najmaše da pišete
3PL štjaxa da pišat	ne štjaxa da pišat	njamaše da pišat

The Future Simple and the Future in the Past have alternative negative paradigms ((10b) and (11b)). This fact can be captured by the following generalization: in the indicative active evidential, the morphosyntactic property set {TENSE: future, POL: negative} corresponds to two form-paradigms. Because of the two alternative paradigms, instances such as those in (10b) and (11b) will be classified as paradigm doubling.

The affirmative forms of the Future Perfect (12a) and the Future Perfect in the Past (13a) also exhibit paradigm doubling. The negative paradigms of the two future perfect tenses, however, each have four different forms (see (12b) and (13b) below).

(12a) TENSE: *FUTURE PERFECT*

POL *affirmative*

1.	2.
1SG šte săm pisal	šte băda pisal
‚I will have written‘	‚I will have written‘
2SG šte si pisal	šte bădeš pisal
3SG šte e pisal	šte băde pisal
1PL šte sme pisali	šte bădem pisali
2PL šte ste pisali	šte bădete pisali
3PL šte sa pisali	šte bădat pisali

(12b)

POL *negative*

1.	2.	3.	4.
1SG ne šte săm pisal	njama da săm pisal	ne šte băda pisal	njama da băda pisal
‚I won‘t have written‘	‚I won‘t have written‘	‚I won‘t have written‘	‚I won‘t have written‘
2SG ne šte si pisal	njama da si pisal	ne šte bădeš pisal	njama da bădeš pisal
3SG ne šte e pisal	njama da e pisal	ne šte băde pisal	njama da băde pisal
1PL ne šte sme pisali	njama da sme pisali	ne šte bădem pisali	njama da bădem pisali
2PL ne šte ste pisali	najma da ste pisali	ne šte bădete pisali	njama da bădete pisali
3PL ne šte sa pisali	njama da sa pisali	ne šte bădat pisali	njama da bădat pisali

(13a) TENSE: *FUTURE PERFECT in the PAST*

POL *affirmative*

1.	2.
1SG štjax da săm pisal	štjax da băda pisal
‚I would have written‘	‚I would have written‘
2SG šteše da si pisal	šteše da bădeš pisal
3SG šteše da e pisal	šteše da băde pisal
1PL štjaxme da sme pisali	štjaxme da bădem pisali
2PL štjaxte da ste pisali	štjaxte da bădete pisali
3PL štjaxa da sa pisali	štjaxa da bădat pisali

(13b)
POL *negative*

1.	2.	3.	4.
ne štjax da săm pisal	njamaše da săm pisal	ne štjax da băda pisal	njamaše da băda pisal
‚I wouldn't have written'	‚I wouldn't have written'	‚I wouldn't have written'	‚I wouldn't have written'
ne šteše da si pisal	njamaše da si pisal	ne šteše da bădeš pisal	njamaše da bădeš pisal
ne šteše da e pisal	njamaše da e pisal	ne šteše da băde pisal	njamaše da băde pisal
ne štjaxme da sme pisali	njamaše da sme pisali	ne štjaxme da bădem pisali	njamaše da bădem pisali
ne štjaxte da ste pisali	najmaše da ste pisali	ne štjaxte da bădete pisali	njamaše da bădete pisali
ne štjaxa da sa pisali	njamaše da sa pisali	ne štjaxa da bădat pisali	njamaše da bădat pisali

Based on the fact that (12a), the affirmative paradigm of the Future Perfect, and (13a), the affirmative paradigm of the Future Perfect in the Past, both exhibit paradigm doubling, we will conclude that the content {TENSE: future perfect, POL: affirmative} requires paradigm doubling in the indicative active evidential. As for (12b) and (13b), those paradigms exhibit the following mutual properties {TENSE: future perfect, POL: negative}. In fact, this last set of morphosyntactic properties is a sum of the morphosyntactic property sets specifying (10b) and (11b), i.e. {TENSE: future, POL: negative}, and (12a) and (13a), i.e. {TENSE: future perfect, POL: affirmative}, both corresponding to two form-paradigms. In (12b) and (13b), {TENSE: future, POL: negative} motivates the relation between the alternants 1. and 3. (with *ne šte* / *ne štjax*) on the one hand and 2. and 4. (with *njama* / *njamaše*) on the other, while {TENSE: future perfect} defines paradigms 1. and 2. (with *săm*) versus those of 3. and 4. (with *băda*). Thus in order to capture the relations among the four alternative form-paradigms in (12b) and (13b), I offer the term "paradigm multiplication". What also should be noted here is the fact that the value FUTURE is involved in all cases of alternative paradigms.

Up to this point, we could establish that in the Indicative (Active, Evidential) particular morphosyntactic content (in terms of combinations of morphosyntactic properties, such as {TENSE: future, POL: negative}, {TENSE: future perfect, POL: affirmative}, and {TENSE: future perfect, POL: negative}) is always mapped to more than one form-paradigm. In the next two sections, we will check how the problematic morphosyntactic property sets behave when MOOD, MODE and VOICE change.

In Bulgarian verb inflection, IMPERATIVE and CONDITIONAL (i.e. the marked values of MOOD)[4] do not have tense forms, which restricts the occurrences of the problematic value FUTURE to RENARRATED ((14) through (18) below) and PASSIVE ((17) through (19) below)) only.

[4] For very few verbs, synthetic conditional forms with present and past alternants are available.

4.2.2. Renarrated (Indicative, Active)

Before examining the paradigm of the Renarrated[5], it has to be underlined that since non-evidentiality, expressed in Bulgarian by Renarrated, always refers to the past, the past : non-past pairing of the TENSE values (permissible in the Indicative) collapses in the Renarrated (cf. Kucarov 1999)[6], as shown in (15) through (18) below. Paired non-past & past tense values use the same form-paradigm (illustrated by the label 'Past-Present Renarrated' for the paradigm in (15) in Maslov 1981). For this type of mismatch, we will use the label 'paradigm reduction'. Note that (14) is the only canonical paradigm in the Renarrated.

(14) *AORIST RENARRATED*
{TENSE: aorist, MODE: renarrated}

POL *affirmative*	*negative*
1SG pisal săm	ne săm pisal
'(They say) I wrote'	'(They say) I didn't write'
2SG pisal si	ne si pisal
3SG pisal	ne pisal
1PL pisali sme	ne sme pisali
2PL pisali ste	ne ste pisali
3PL pisali	ne pisali

In (15) through (18), in each case two different sets of morphosyntactic properties combine into a single set (thus reduction). In (15), for example, the property sets {TENSE: present, MODE: renarated} and {TENSE: imperfect, MODE: renarrated} merge, giving {TENSE: present & imperfect, MODE: renarrated}, which has a single form-paradigm:

(15) *PRESENT RENARRATED & IMPERFECT RENARRATED*
{TENSE: present & imperfect, MODE: renarrated}

POL *affirmative*	*negative*
1SG pišel săm	ne săm pišel
'(They say) I was writing'	'(They say) I wasn't writing'
2SG pišel si	ne si pišel
3SG pišel	ne pišel
1PL pišeli sme	ne sme pišeli
2PL pišeli ste	ne ste pišeli
3PL pišeli	ne pišeli

[5] Different sources assume different paradigms of the Renarrated. The account in this paper is mainly in line with that in Kucarov (1999). It also has to be mentioned that Renarrated has an additional set of forms usually referred to as Emphatic Renarrated. These forms are an exact parallel of the 'normal' Renarrated ones, but expanded with *bil*, a participle form of 'to be'. The paradigm of the Emphatic Renarrated does not influence our conclusions, therefore it is not taken into consideration in this paper.
[6] Kucarov (1999) refers to those pairings with the Jakobsonian term 'taxis'.

These forms are neither present nor imperfect but present and imperfect at the same time, i.e. the paradigm of Bulgarian verbs no longer has distinct paradigms for Present and Imperfect (as in the Indicative), but rather, one Present-Imperfect Renarrated paradigm. Likewise in the next paradigms:

(16) *PRESENT PERFECT RENARRATED & PAST PERFECT RENARRATED*
{TENSE: present perfect & past perfect, MODE: renarrated}

POL *affirmative*	*negative*
1SG bil săm pisal	ne săm bil pisal
‚(They say) I had written‘	‚(They say) I hadn‘t written‘
2SG bil si pisal	ne si bil pisal
3SG bil pisal	ne bil pisal
1PL bili sme pisali	ne sme bili pisali
2PL bili ste pisali	ne ste bili pisali
3PL bili pisali	ne bili pisali

(17) *FUTURE RENARRATED & FUTURE in the PAST RENARRATED*
{TENSE: future & future in the past, MODE: renarrated}

POL *affirmative*	*negative*	
	1.	2.
1SG štjal săm da piša	ne săm štjal da piša	njamalo săm da piša
‚(They say) I would write‘	‚(They say) I wouldn‘t write‘	
2SG štjal si da pišeš	ne si štjal da pišeš	njamalo si da pišeš
3SG štjal da piše	ne štjal da piše	njamalo da piše
1PL šteli sme da pišem	ne sme šteli da pišem	njamalo sme da pišem
2PL šteli ste da pišete	ne ste šteli da pišete	njamalo ste da pišete
3Pl šteli da pišat	ne šteli da pišat	najmalo da pišat

(18a) *FUTURE PERFECT RENARRATED & FUTURE PERFECT in the PAST RENARRATED*
{TENSE: future perfect & future perfect in the past, MODE: renarrated}

POL *affirmative*	
1.	2.
1SG štjal săm da săm pisal	štjal săm da băda pisal
‚(They say) I would have written‘	‚(They say) I would have written‘
2SG štjal si da si pisal	štjal si da bădeš pisal
3SG štjal da e pisal	štjal da băde pisal
1PL šteli sme da sme pisali	šteli sme da bădem pisali
2PL šteli ste da ste pisali	šteli ste da bădete pisali
3PL šteli da sa pisali	šteli da bădat pisali

(18b)

POL *negative*			
1.	2.	3.	4.
ne săm štjal da săm pisal	njamalo da săm pisal	ne săm štjal da băda pisal	njamalo da băda pisal
	‚(They say) I wouldn‘t have written‘		
ne si štjal da si pisal	njamalo da si pisal	ne si štjal da bădeš pisal	njamalo da bădeš pisal
ne štjal da e pisal	njamalo da e pisal	ne štjal da băde pisal	njamalo da băde pisal

ne sme šteli da sme pisali	njamalo da sme pisali	ne sme šteli da bădem pisali	njamalo da bădem pisali
ne ste šteli da ste pisali	njamalo da ste pisali	ne ste šteli da bădete pisali	njamalo da bădete pisali
ne šteli da sa pisali	njamalo da sa pisali	ne šteli da bădat pisali	njamalo da bădat pisali

As can be seen from these paradigms, the problematic property sets, the realization of which we observe, behave in the Renarrated exactly the same as in the Indicative, i.e. {TENSE: future, POL: negative}, cf. (17), and {TENSE: future perfect, POL: affirmative}, cf. (18a), are associated with two form-paradigms, whereas the content {TENSE: future perfect, POL: negative} is mapped to four form-paradigms, cf. (18b). Moreover, if the value RENARRATED is present in the morphosyntactic property set of a lexeme, the lexeme's paradigm is always reduced.

4.2.3. Passive

If one considers the accounts of Passive in different grammars of Bulgarian, listing the forms of the category seems a particularly challenging task (cf. Maslov 1981; Andrejčin et al. 1983; Kucarov 1999). For obvious reasons, I will not go into detail about the structure of the passive paradigm here, i.e. the paradigm of Bulgarian Passive with its peculiarities deserves a separate paper. At this point, I will first assume, in line with Bulgarian grammar tradition, that Passive does not distinguish between perfect and non-perfect (resultative : non-resultative in Kucarov 1999: 434). In other words, in Passive, as in Renarrated, two morphosyntactic property sets merge (see (19) through (22) below). Secondly, I will ignore forms composed with the auxiliaries *bivam*-PRESENT, *bivax*-IMPERFECT and *bidox*-AORIST, all of which are special forms of the verb 'to be' used only in the Passive. Note that in modern Bulgarian, forms with these auxiliaries have very low frequency, if any.

(19) *PRESENT PASSIVE & PRESENT PERFECT PASSIVE*
{TENSE: present & present perfect, VOICE: passive}

POL *affirmative*	*negative*
1SG pisan săm	ne šam pisan
‚I am written'	‚I am not written'
2SG pisan si	ne si pisan
3SG pisan e	ne e pisan
1PL pisani sme	ne sme pisani
2PL pisani ste	ne ste pisani
3PL pisani sa	ne sa pisani

(20) *PRETERIT*[7] *PASSIVE & PAST PERFECT PASSIVE*
{TENSE: aorist / imperfect & past perfect, VOICE: passive}

POL *affirmative*	*negative*
1SG pisan bjax	ne bjax pisan
‚I was written‘	‚I wasn‘t written‘
2SG pisan be(še)	ne be(še) pisan
3SG pisan be(še)	ne be(še) pisan
1PL pisani bjaxme	ne bjaxme pisani
2PL pisani bjaxte	ne bjaxte pisani
3PL pisani bjaxa	ne bjaxa pisani

(21a) *FUTURE PASSIVE & FUTURE PERFECT PASSIVE*
{TENSE: future & future perfect, VOICE: passive}

POL *affirmative*	
1.	2.
1SG šte săm pisan	šte băda pisan
‚I will be written‘	‚I will be written‘
2SG šte si pisan	šte bădeš pisan
3SG šte e pisan	šte băde pisan
1PL šte sme pisani	šte bădem pisani
2PL šte ste pisani	šte bădete pisani
3PL šte sa pisani	šte bădat pisani

(21b)

POL *negative*			
1.	2.	3.	4.
1SG ne šte săm pisan	njama da săm pisan	ne šte băda pisan	njama da băda pisan
‚I won‘t be written‘	‚I won‘t be written‘	‚I won‘t be written‘	‚I won‘t be written‘
2SG ne šte si pisan	njama da si pisan	ne šte bădeš pisan	njama da bădeš pisan
3SG ne šte e pisan	njama da e pisan	ne šte băde pisan	njama da băde pisan
1PL ne šte sme pisani	njama da sme pisani	ne šte bădem pisani	njama da bădem pisani
2PL ne šte ste pisani	njama da ste pisani	ne šte bădete pisani	njama da bădete pisani
3PL ne šte sa pisani	njama da sa pisani	ne šte bădat pisani	njama da bădat pisani

(22a) *FUTURE in the PAST PASSIVE & FUTURE PERFECT in the PAST PASSIVE*
{TENSE: future in the past & future perfect in the past, VOICE: passive}

POL *affirmative*	
1.	2.
1SG štjax da săm pisan	štjax da băda pisan
‚I would be written‘	‚I would be written‘
2SG šteše da si pisan	šteše da bădeš pisan
3SG šteše da e pisan	šteše da băde pisan
1PL štjaxme da sme pisani	štjaxme da bădem pisani
2PL štjaxte da ste pisani	štjaxte da bădete pisani
3PL štjaxa da sa pisani	štjaxa da bădat pisani

(22b)

POL *negative*			
1.	2.	3.	4.
1SG ne štjax da săm pisan	njamaše da săm pisan	ne štjax da băda pisan	njamaše da băda pisan
‚I wouldn‘t be written‘	‚I wouldn‘t be written‘	‚I wouldn‘t be written’	‚I wouldn‘t be written’
2SG ne šteše da si pisan	njamaše da si pisan	ne šteše da bădeš pisan	njamaše da bădeš pisan
3SG ne šteše da e pisan	njamaše da e pisan	ne šteše da băde pisan	njamaše da băde pisan

[7] The 2SG and 3SG forms with *beše* are Imperfect, the 2SG and 3SG Aorist forms are *pisan be*.

1PL ne štjaxme da sme pisani	njamaše da sme pisani	ne štjaxme da bădem pisani	njamaše da bădem pisani
2PL ne štjaxte da ste pisani	njamase da ste pisani	ne štjaxte da bădete pisani	njamaše da bădete pisani
3PL ne štjaxa da sa pisani	njamaše da sa pisani	ne štjaxa da bădat pisani	njamaše da bădat pisani

Due to the neutralization of the perfect : non-perfect opposition in the Passive, the above paradigms evidence only the behavior of two of the three problematic property sets, namely that of {TENSE: future perfect, POL: affirmative}, cf. (21a) and (22a), which, as in the Indicative and the Renarrated, is associated with two form-paradigms, and the content {TENSE: future perfect, POL: negative}, cf. (21b) and (22b), which, as expected, have four form-paradigms.

This section in sum: in Bulgarian verb inflection particular combinations of morphosyntactic properties, namely {TENSE: future, POL: negative} and {TENSE: future perfect, POL: affirmative}, always cause paradigm doubling. The combination {TENSE: future perfect, POL: negative} multiplies the number of paradigms and is therefore associated with four form-paradigms. In addition, {MODE: renarrated} and {VOICE: passive}, if present in the morphosyntactic property set of a lexeme, reduce the lexeme's content-paradigm. All these observations can be generalized in the following way: in Bulgarian, the morphosyntactic properties FUTURE, RENARRATED and PASSIVE always cause violation of the default rule of paradigm linkage.

5. Some diachronic facts

The reasons for the reduction of the paradigm of Bulgarian verbs in Renarrated and Passive are obvious: Renarrated is always referred to past, therefore the pairing past : non-past for TENSE becomes irrelevant; passives are by rule resultatives (Pašov 1965; cf. also Haspelmath 1990), which makes the distinction resultative : non-resultative (perfect : non-perfect) redundant. For the phenomenon of competing paradigms, however, no such explanation exists. Therefore, let us examine how modern Bulgarian verb morphology, though particularly rich in forms, systematically tolerates alternative paradigms. Intriguingly, Old Bulgarian also exhibited competing form paradigms, and these exactly in the future tenses. Old Bulgarian had two ways of expressing FUTURE (Ivanova-Mirčeva & Xaralampiev 1999: 141-148): the oldest type is that of the simple future of perfective verbs (as in the present-day Russian), and the second type involves periphrastic morphology (auxiliary plus infinitive). The following auxiliaries have been documented: *imĕti* ‘to have’, *xotĕti* ‘to want’ and *načęnti/văčęnti* ‘to begin’. Of both types of future tense morphology, the periphrastic future, since operating with different auxiliaries, has multiple realizations. The various auxiliaries of Old Bulgarian are now visible in the different polarity forms: the present-day *šte* and *štjax* affirmatives are descendents of *xotĕti* ‘to want’, whereas the negative forms with *njama* and *njamaše* are continuants of the old *imĕti*-forms (consider *imam* ‘(I) have’ → **ne imam* = *njamam* ‘I don’t have’), which thus results in two alternative negative paradigms: one with *ne šte/ ne štjax* (according to the default rule of negation) and another one with *njama/njamaše*.

The second fact relevant to the peculiar instances of competing paradigms in Bulgarian concerns the forms of the auxiliary ‘to be’, the latter also with two alternative form-paradigms derived from two different IE roots, namely **es* and **bhū*.

(21a)	*săm* ‘be’	(21b)	*(da) băda* ‘be’	
	1SG *săm*		1SG *(da) băda*	‚am’
	2SG *si*		2SG *(da) bădeš*	‚are’
	3SG *e*		3SG *(da) băde*	‚is’
	1PL *sme*		1PL *(da) bădem*	‚are’
	2PL *ste*		2PL *(da) bădete*	‚are’
	3PL *sa*		3PL *(da) bădat*	‚are’

Curiously, the two paradigms of the verb ‘to be’ differ in distribution. Logically, one expects competing forms, to occur in all tenses where ‘be’ participates as a constituent. Alternative *be*-forms, however, are used only in future perfect tenses and are undesirable in the Present Perfect and Past Perfect (Manova 2005). An explanation of this fact is attempted in the next section.

6. Discussion

Following the clue that competing form-paradigms typically occur in future tenses (a marked value of tense) but not in the present (the unmarked value of tense) and in the negative (marked value) but not in the affirmative (unmarked value), we will now analyse the combinations of morphosyntactic properties causing alternative paradigms according to the theory of markedness.

Markedness has two aspects: morphosemantic and morphotactic. Roughly, morphosemantic markedness means cognitive complexity, while morphotactic markedness pertains to the way a category is expressed formally (for details see Battistella 1996). What is morphosemantically more marked is usually also morphotactically more complex (cf. Mayerthaler 1981). Thus the theory of markedness assumes for TENSE that on the one hand present is less marked than non-present, and on the other hand that past (certain information) is less marked than future (uncertain information), which gives the following hierarchy: TENSE: present < past < perfect < future (perfect, since relating present and past, is cognitively more complex than past). As for the second mophosyntactic property relevant to our analysis, that of POLARITY, affirmative is unmarked whereas negative is marked.

Let us list now the combinations of morphosynthactic properties that give rise to competing form paradigms:

i) FUTURE + PERFECT
ii) FUTURE + NEGATIVE
iii) FUTURE + PERFECT + NEGATIVE

Evaluation against the above hierarchy of markedness reveals that: i) comprises two highly marked tense values; ii) combines the most marked tense value with the marked value of polarity; and iii) is a combination of i) and ii), i.e. iii) is the most marked combination of morphosyntactic properties. These facts can be summarized in the fallowing way: in Bulgarian, combinations of highly marked morphosyntactic properties such as highly marked tense values and a marked polarity value are associated with more than one form- paradigm. In particular, combinations of two highly marked properties such as {TENSE: future + POL: negative} or {TENSE: future + TENSE: perfect} are associated with two form-paradigms (i.e. paradigm doubling), while the combination of the three highly marked morphosyntactic properties {TENSE: future + TENSE: perfect + POL: negative} requires four form paradigms. In general, alternative paradigms can be seen as due to the occurrence of the most marked value of tense FUTURE in the morphosyntactic property set of a lexeme.

What also has to be noted in regard to alternative forms in inflection is the fact that all competing paradigms in Bulgarian involve periphrastic morphology. This fact confirms the observation reported in the literature on inflectional morphology that exponents of more highly marked morphosyntactic properties tend to be less fusional (cf. Greenberg 1966; Mayerthaler 1981; Ackerman & Stump 2004), which, in practice, means less grammaticalized (Hopper & Traugott 2003). Put differently, Bulgarian verb inflection evidences that, though both synthetic and periphrastic inflection participate in the constituting of an inflection paradigm (cf. Ackerman & Stump 2004), the less grammaticalized periphrasis may tolerate substitution of its constituents (auxiliaries) by alternative forms, which results in competing paradigms and is not possible with synthetic inflection.

The last theoretical matter to tackle in regard to competing form-paradigms concerns their frequency. In our case, frequency refers on the one hand to the use of competing paradigms in general and on the other hand speaks to the occurrences of one of two or more competing paradigms. At this point I would like to stress that I am aware of the fact that a reliable account of frequency requires a quantitative corpus study. Unfortunately such investigation of Bulgarian verb inflection is not yet available. Therefore, the evaluation for frequency given here relies on my native speaker intuition, facts from grammars, and Google.

As we noted early in this section, the phenomenon of competing form-paradigms is associated with highly marked morphosyntactic properties, which thus defines those paradigms as having low frequency in general. As for the frequency of the different competing paradigms, their use varies depending on the content expressed but can be described in the following way:

1) Paradigms with *njama* are undoubtedly more frequent than those with *ne šte*. The latter are preferred in the written style and are typical for poetry and the language of mass media (cf. Google with search entry *ne šte* written in Cyrillic. Pay attention that only tokens of *ne šte* + VERB construction (≠ *ne šte da* + VERB) count). *ne šte* future forms are felt by some native speakers as archaic, which does not hold for *ne štjax* forms. The future negative forms with *ne šte / ne štjax* lack in some accounts of Bulgarian tenses (e.g. Kuteva 1995); Hauge (1999) mentions *ne šte / ne štjax* forms as archaic and gives only the paradigms with *njama / njamaše*.

2) Alternative future perfect forms with *săm* are more frequent than those with *băda*, generally speaking. The forms with *băda*, however, are particularly frequent in the Passive.

These observations about the frequency of competing paradigms can be seen as evidence that a given content tends to prefer one of the alternative form-paradigms associated with it. Moreover, different content sets prefer different form-paradigms.

As for paradigm reduction, those instances, though resembling whole word syncretism, represent another type of paradigm mismatch that is due to combination of two separate sets of morphosyntactic properties. Reduced paradigms like paradigm doubling and multiplication, use periphrastic morphology and undoubtedly depend on markedness.

Reductions of the paradigm of Bulgarian verbs take place only if either the marked values of MODE (RENARRATED) or VOICE (PASSIVE) are present in the morphosyntactic property set of a lexeme. In regard to frequency, since marked, the realizations of reduced paradigms are, generally speaking, less frequent than those of their unmarked non-reduced correlates. Frequency can, however, vary depending on the text sort, e.g. in a fairy tale more marked renarrated (non-evidential) forms are usually more frequent than less marked evidential ones.

7. Conclusion

The present paper has examined two instances of non-canonical paradigms from Bulgarian verb morphology within the theory of Paradigm Linkage. Setting apart meaning and form, we have shown that particular combinations of morphosyntactic properties systematically use more than one form-paradigm, as well as that there are (other) morphosyntactic properties that always cause reduction of a lexeme's content-paradigm. Non-canonical paradigms have been defined as depending on markedness, i.e. non-canonical paradigms are due to occurrence of (combinations of) highly marked properties in a lexeme's morphosyntactic property set. Moreover, if properties that give rise to competing form-paradigms and a property requiring reduction of the content-paradigm co-occur, both competition and reduction take place. These observations on the relation between markedness and non-canonical paradigms, if taken into consideration, make the organization of the periphrastic part of the paradigm of Bulgarian verbs straightforward and allow for generalizations relevant for Paradigm Linkage. Put differently, since in Bulgarian, only (combinations of) highly marked morphosyntactic properties lead to violation of the default rule of paradigm linkage (cf. Manova 2006), Bulgarian verb inflection evidences that the presence of highly marked properties in a lexeme's morphosyntactic property set should be expected to override the one-to-one mapping of that lexeme's content-paradigm and form-paradigm.

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