A phrasal template and phrasal NDEB:
The case of the Chechen core verb phrase

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Abstract

This paper provides an analysis of a special syntactic construction in Chechen in which a copy infinitive, with no discernible semantics, appears to serve as the host of a clause-combining enclitic. The leading idea behind the analysis is that this infinitive is inserted to satisfy a two-word minimal size restriction on verb phrases in Chechen which only becomes active in phonosyntactically derived environments. Most of the phonological machinery required for the analysis has already been developed for word-level phenomena, and the primary theoretical innovation of the paper is to apply devices designed to analyse morphophonological phenomena to the phonosyntax. The analysis has consequences for models of the phonology-syntax interface and also provides new evidence in support of various theories of word-level phonology by showing that extending them in straightforward ways to the phrasal phonology allows for an account of what would would be an otherwise puzzling syntactic construction.

0 INTRODUCTION

The central focus of this paper is coming to an understanding of the conditioning factors governing the appearance of obligatory 'copy' infinitives in certain Chechen verb phrases. Two instances of such infinitives are seen in sentence (1b), where they are bolded. The sentence in (1b) can be compared with the one in (1a), which, despite being headed by one of the verbs found in the coordinate structure in (1b), does not appear with a copy infinitive. The bolded verbal forms in (1b) are referred to as copy infinitives here for the simple reason that they are generally identical to the infinitive form of whatever verb heads the verb phrase in which they are found.

(1) a. NO COPY INFINITIVE
So voelu.
1s V.laugh.PRS
'I am laughing.'

b. TWO COPY INFINITIVES
Maalik ***viela*** *'a viilara* ***vialxa*** *'a vilxara.*
Malik V.laugh.INF & V.laugh.WP V.cry.INF & V.cry.WP
'Malik laughed and cried.'

At first glance, one might expect that the Chechen copy infinitive would be amenable to a purely syntactic analysis. However, I will argue here that, in fact, the appearance of the infinitive forms in a sentence like the one in (1b) is driven by phonological factors. Furthermore, I will suggest that not only is this phenomenon best understood in phonological terms but that sentences in Chechen (including sentence (1a)) which contain a one-word verb phrase are exhibiting a phenomenon known as NON-DERIVED ENVIRONMENT BLOCKING (NDEB; Kiparsky (1993)). Specifically, they will be analyzed as immune to a templatic two-word minimal size restriction imposed on verb phrases in Chechen, which the verb phrases in (1b) must fulfill because they are prosodically derived. Templatic restrictions and NDEB have generally been understood to be word-level phenomena—so, the proposals being made here represent po-

tentially interesting additions to the 'catalog' of phonological phenomena found at the phrasal level.

Despite the possibly surprising assertion that Chechen provides us with an example of a phrasal template and phrasal NDEB, most of the phonological devices which will be invoked over the course of this paper to analyse the copy infinitive construction exemplified in (1b) have already been proposed. These include some relatively well-known ideas, such as the Prosodic Hierarchy (Nespor and Vogel (1986), Selkirk (1984, 1986)), the Prosodic Morphology Hypothesis (McCarthy and Prince (1993), McCarthy and Prince (1995b), McCarthy and Prince (1996)), and the proposal that phonological systems can contain different 'levels' which is associated with Lexical Phonology (Kiparsky 1982). In this last case, I will specifically adopt the version of Lexical Phonology discussed in Inkelas and Orgun (1995), which makes use of the notion of Level Economy. Both the Prosodic Morphology Hypothesis and the version of Lexical Phonology employed here will need to be extended in order to be applied to phonosyntactic domains, but, as we will see, some aspects of the necessary extensions have been anticipated, to a certain extent by, for example, Zec and Inkelas (1990) and Inkelas and Zec (1995:543–4).

While the narrow aim of this paper is to provide an analysis of the Chechen copy infinitive construction, it also has the more general intention of contributing to the long-standing discussion on the nature of the phonology-syntax interface. Broadly speaking, I take the data presented here to support the view of Zec and Inkelas (1990) that the constraints at that interface are not purely unidirectional—that is, there are cases both where syntax constrains phonology and where phonology constrains syntax. This runs counter to another view, namely that syntax can constrain phonology, but not vice versa. This view has been labeled the Principle of Phonology-Free Syntax (Zwicky and Pullum 1986), and it also can be associated with approaches which model the phonology-syntax interface via 'mapping' of syntactic structure to prosodic structure

(e.g., Nespor and Vogel (1986:168), Selkirk (1986), Truckenbrodt (1999)).

The structure of this paper is as follows. Section 1 provides a brief introduction to NDEB effects, and section 2 gives examples of languages showing prosodically-conditioned minimal size restrictions on morphological constituents. These sections are intended to give some of the relevant theoretical background which will be needed to understand the later analysis. Section 3 provides an introduction to the copy infinitive construction in Chechen which will be the focus of this paper. Section 4 covers aspects of Chechen grammar which will make it easier to interpret the data and which will prove relevant to the analysis. Section 5 returns to the copy infinitive construction introduced in section 3, providing evidence that, in some cases, its appearance cannot be predicted on non-phonological grounds, laying the groundwork for a phonological analysis of its appearance. Section 6 gives an analysis of the construction arguing that, among other things, it is associated with a minimal size restriction and shows NDEB effects. Section 7 offers a brief conclusion.

While it will be important to make use of various theoretical devices developed for phonological analysis, a deliberate attempt has been made here to remain relatively theory neutral when discussing syntactic aspects of Chechen grammar. One reason for this is to ensure that the material is as accessible as possible. Another, and perhaps more important, reason is to separate the argument that the appearance of certain copy infinitives is phonologically conditioned from any details of syntactic analysis applied to the language.

1 NON-DERIVED ENVIRONMENT BLOCKING

The term NON-DERIVED ENVIRONMENT BLOCKING (NDEB; Kiparsky (1993)) has been applied to cases where a phonological rule applies only in environments which can be thought of as 'derived' in some well-defined way, for example by the addition of an affix to a root or

stem.[1] A fairly clear instance of NDEB can be seen in the case of Turkish intervocalic velar deletion, for which data is given in (2) below.[2,3]

(2) a. **Velar deletion applies across morpheme boundaries**

WORD	GLOSS	WORD	GLOSS
*konu**k***	'guest'	*arkeolo**g***	'archaeologist'
*konu**Ø**-u*	'guest-ACC'	*arkeolo**Ø**-u*	'archaeologist-ACC'

b. **Velar deletion fails to apply morpheme-internally (NDEB)**

WORD	GLOSS	WORD
*so**k**ak*	'street'	**so**Ø**ak*
*si**g**ara*	'cigarette'	**si**Ø**ara*

The examples in (2a) illustrate that intervocalic velar deletion applies when the relevant environment is produced by suffixation of a vocalic suffix to a stem ending in *k* or *g*. However, as seen in (2b), velars are are found intervocalically morpheme-internally. This data,

1. The label NDEB for this 'syndrome' can be attributed to Kiparsky (1993:277). NDEB has often been associated with the Strict Cycle Condition (see, e.g., Mascaró (1976), Kiparsky (1982)) a device proposed as part of the analysis of NDEB.

2. Orthographic *ı* in (2) represents IPA [ɯ]. The use of Turkish velar deletion as a phenomenon illustrating NDEB is taken from Inkelas (2000), where a more thorough discussion of it can be found. The data itself is taken from the Turkish Electronic Living Lexicon, which can be accessed at http://socrates.berkeley.edu:7037/.

3. The glossing abbreviations which will be used in this paper are given in the table below. The abbreviation 'CV', for converb, is prefixed to a descriptive name for various converbal suffixes found in Chechen. The absolutive case is unmarked morphologically and is not glossed for absolutive nouns.

VERBAL		OTHER	
DX	Deictic proclitic	ABS	Absolutive
IMP	Imperative	ERG	Ergative
PRS	Present	DAT	Dative
INF	Infinitive	ALL	Allative
WP	Witnessed Past	LAT	Lative
NWP	Non-witnessed Past	1,2,3	1st, 2nd, 3rd person
IMPF	Imperfect	s,p	singular, plural
GEM	Focus gemination	e,i	exclusive, inclusive
CS	Causative	&	Preverbal *'a*
CVANT	Anterior	&NEG	Negative imperative proclitic
CVPAN	Present Anterior	&SIM	Simultaneous proclitic
CVSIM	Simultaneous	FOC	Focus marker
CVTEMP	Temporal	NEG	Negation
B,D,J,V	Gender prefixes	QUOT	Quotative marker
PERF	Perfective (for Bantu)	ACC	Accusative (for Turkish)
FV	Final vowel (for Bantu)	POSS	Possessive (for Turkish)
		PL	Plural (for Turkish)

therefore, has been taken as an instance of NDEB since a process which applies across a morpheme-boundary—i.e., in a morphophonologically derived environment—does not apply in non-derived morpheme-internal environments.

The literature on NDEB has focused on data involving phonological alternations within words. Kiparsky (1993:277), who coined the term NDEB, even specifically characterises it with respect to rules which apply between 'morpheme boundaries' or 'morpheme-internally where fed by some earlier phonological rule'. Some cited cases of word-level (or below) phenomena exhibiting NDEB effects include Catalan vowel reduction (Mascaró 1976), Finnish assibilation (Kiparsky 1982, 1993), the interaction of palatalisation and spirantisation in Polish (Rubach (1984:75–85), Łubowicz (2002)), Chumash sibilant harmony (Poser 1993), and Tohono O'odham stress assignment (Yu 2000).[4] A question that has not been addressed, to my knowledge, is whether or not a derived *phrasal* environment might trigger phonological effects not found in a non-derived phrasal environment.

Of course, answering that question requires a well-defined notion of what it might mean for a phrase to be 'derived'. A general model of phrasal derivation is not immediately obvious. However, for the Chechen data to be presented here, a definition of at least one possible type of derived phrase can be straightforwardly developed. Specifically, a phrase will be analysed as derived, if its prosodic structure is altered by the presence of a ditropic clitic, i.e. a clitic which attaches in the 'opposite' direction from the element it is placed with respect to syntactically. The facts regarding the relevant clitic, referred to here as PREVERBAL *'a*, will be discussed in section 4.5, and a more detailed discussion of how this clitic is understood to create a derived

4. One reported instance of an NDEB-like phenomenon which poses a partial exception to being word-level is lenition in Campidanian Sardinian (see Łubowicz (2002:250–4), based on Bolognesi (1998:30–40)). In this case, a word-initial voiceless stop lenition rule applies if the preceding word ends in a vowel—that is, it has an apparent phrasal environment. The phonological effect itself, however, is still completely 'contained' within one word. The Chechen phenomenon which is the focus of the present paper, on the other hand, is unambiguously phrasal in nature.

phrasal environment will appear in section 6.3.3.

Having introduced the notion of NDEB, which will play a crucial role in the analysis of the Chechen verb phrase to be developed below, in the next section I will discuss some reported cases of minimal size constraints imposed on morphological constituents in some languages. Such constraints will also play an important role in the later analysis.

2 MINIMALITY RESTRICTIONS AT THE WORD LEVEL

In this section, I will discuss some cases of languages which have been analyzed as imposing a disyllabic minimal size restriction on their words. In particular, I will focus on phonological phenomena affecting SUBMINIMAL roots in these languages—that is, roots whose size is too small for words based on them to automatically consist of at least two syllables. I examine such phenomena here because, ultimately, I will claim that certain verb phrases in Chechen are similarly subminimal.

McCarthy and Prince (1993:45–8) present a general discussion of minimality constraints. Here, it will be instructive to look at some specific instances of stem minimality effects found in Bantu languages and in Turkish. Hyman et al. (1998:10) report that in Ndebele, a Bantu language of Zimbabwe, the imperative form of the verb is typically just the bare verb stem. However, subminimal -C- roots show a different method of imperative formation, as seen in the table in (3). Canonical verb roots in Bantu, given in the first half of the table, minimally have a -CVC- structure.[5]

5. The abbreviations 'H' and 'L' in (3) indicate the tone class of the verbs they follow.

(3)

IMPERATIVE	GLOSS	TRANSLATION
lim-a	'cultivate-FV'	'cultivate!'
bamb-a	'catch-FV'	'catch!'
thum-a (H)	'send-FV'	'send!'
nambith-a (H)	'taste-FV'	'taste!'
yi-dl-a (H) (**dl-a*)	'YI-eat-FV'	'eat!'
yi-lw-a (H/L) (**lw-a*)	'YI-fight-FV'	'fight!'
yi-m-a (H) (**m-a*)	'YI-stand-FV'	'stand!'
yi-z-a (H/L) (**z-a*)	'YI-come-FV'	'come!'

The forms in the lower half of the table in (3) are all based on -C- roots, and they form their imperative with the addition of the regular final vowel and a *yi-* prefix (glossed simply as 'YI' in in the data in (3)) which is not associated with any particular meaning but which serves to enforce a disyllabic minimal size constraint on surfacing Bantu verb forms. Similar effects have been reported for Swazi, also a Bantu language, in reduplication constructions (Downing 1999:84).

Hyman et al. (1998) formalise this prosodic restriction on Ndebele imperatives via a templatic constraint on surfacing words in the language, given in (4), where they are specified as having to minimally consist of a disyllabic foot. (The 'σ' in (4) is an abbreviation for 'syllable', and 'Σ' is an abbreviation for 'foot'.)

(4) Minimal Prosodic word = $[\sigma\ \sigma]_{\Sigma}$

There seem to be at least two broad strategies employed to enforce minimality restrictions. The first option, just seen above in Ndebele, involves the insertion of phonological material which allows the minimality restriction to be fulfilled. The data given in (5), taken from the Bantu language Ciyao, shows a similar effect—however, in this case extra phonological material is "copied" from the subminimal form, rather than having a consistent phonological shape. (Comparable data is reported for the Bantu language Kinande by Mutaka and Hyman (1990).)

(5) (Ngunga 2000:117)

	STEM	REDUPLICATION	GLOSS
	-dya-	*-dyaa-dyaa-dya-*	‘eat’
cf.	*-diile-*	*-diile-diile-*	‘eat.PERF’
	-wa-	*-waa-waa-wa-*	‘die’
cf.	*-wiile-*	*-wiile-wiile-*	‘die.PERF’
	-ta-	*-taa-taa-ta-*	‘name’
cf.	*-teele-*	*-teele-teele-*	‘name.PERF’

In Ciyao, verb-stem reduplication behaves differently for subminimal -CV stems than for stems with the canonical -CVCV shape. Specifically, as can be seen in the contrast between reduplicative forms in unmarked verb stems and verb stems marked with the perfective suffix, subminimal stems appear to be reduplicated ‘twice’ while canonical stems are only reduplicated once. Ngunga (2000:117) characterises the behaviour of CV stems under reduplication as follows, ‘By doubling the reduplicant, the Ciyao -CV stems satisfy the minimal two syllable size of the reduplicant in total reduplication.’ So, like Ndebele, a minimal size restriction is enforced by the insertion of phonological material which would not otherwise be expected. However, rather than insert material of fixed phonological form like Ndebele *yi-*, in Ciyao, the ‘extra’ material is a copy of material elsewhere in the stem.

A second option for enforcing minimality restrictions can be found in Turkish. In this language, Inkelas and Orgun (1995:769–73) have discussed how a disyllabic restriction on words can result in certain morphological forms simply being impossible to produce in any grammatical way. This can be seen in the forms in the second half of (6) which are morphologically predicted but ungrammatical. This strategy for enforcing minimality constraints can be labeled a ‘filtering’ strategy, in opposition to the ‘insertion’ strategy just discussed.

(6)

WORD	GLOSS	TRANSLATION
fa	‘fa_note’	‘fa note’
be	‘b_letter’	‘letter B’
**fa-m*	‘fa_note-1s.POSS’	intended: ‘my fa’
**be-m*	‘b_letter-1s.POSS’	intended: ‘my be’
fa-mɪz	‘fa_note-1p.POSS’	‘our fa’
be-ler	‘b_letter-PL’	‘B’s’

The Turkish case, furthermore, is useful for illustrating another important phenomenon observed with respect to minimality restrictions. In Turkish, monosyllabic roots *can* surface in isolation. They only become ungrammatical when a suffix appears on them—in at least one dialect spoken by speakers from Istanbul. This can be seen by comparing all three sets of data in (6).

The data in the first part of (6) shows that, for some speakers, CV roots grammatically surface in Turkish, despite the fact that they do not meet the disyllabic minimal size restriction. As just discussed, these same speakers, however, judge as ungrammatical forms suffixed with just a consonant and which are, therefore, not two syllables, as seen in the second part of (6). However, this is clearly not a semantic restriction since, as seen in the third part of (6), forms with very similar meaning are judged grammatical when the suffix consists of a whole syllable and the surfacing form, thus, is disyllabic.

Inkelas and Orgun (1995) analyse the data in (6) by assuming that non-derived forms in Turkish can violate the disyllabic minimal size constraint but derived forms cannot. Under such an analysis, it becomes ungrammatical to suffix just a consonant to a CV root even though that root can surface in isolation because such a derived form would not meet the minimal size restriction.

In analyzing Turkish data like that seen in (6) in the way just described, Inkelas and Orgun (1995) develop of a variant of Lexical Phonology which makes use of the principle of LEVEL ECONOMY. The main idea behind Level Economy is that if a particular phonological rule or restriction is associated with some morphological construction then that rule or restriction will only apply to forms which enter into that morphological construction.

To make the discussion clearer, the application of this principle is illustrated in (7), where I give the 'derivation', adapted from Inkelas and Orgun (1998:366), of a number of Turkish

forms, noting whether the disyllabic minimal size restriction is analysed as applying to them and, if so, whether or not they meet the restriction. For illustrative purposes, the table in (7) includes phonological phenomena for two different Turkish morphophonological constructions, a suffix construction, applying to any form being marked with a suffix, and a word construction, applying to any form being used as a free word. The former construction is taken to impose the disyllabic minimal size restriction on forms, and the latter is the construction in which default (word-final) stress is assigned.

(7)

MORPH	PHON	'unripe'	'fa-1s.POSS'	'fa-1p.POSS'
UR		*ham*	*fa-m*	*fa-mız*
Suffix	[$\sigma\sigma$]	—	**fam*	*famız*
Word	stress	*hám*		*famíz*

As illustrated in the table in (7), according to Inkelas and Orgun's (1995) analysis, the form **fa-m* is ungrammatical not because this is not a possible word form—the very similar form *ham* 'unripe' is grammatical. Rather, the sequence *fam* is ungrammatical as a suffixed word since such 'derived' words must meet the disyllabic minimal size restriction. As an unsuffixed word, *ham* is not subject to this restriction as indicated by the '—' in the table. The form, *famız* 'fa-1p.POSS' is suffixed, and therefore is subject to the disyllabic minimal size restriction. It is, in fact, two syllables, and, therefore, does not violate the restriction and can surface as a grammatical form.

As pointed out by Inkelas (2000:31), since the Turkish disyllabic minimal size restriction is correlated with a morphologically-derived environment, it can be classified as a type of NDEB, though of a different type than NDEB effects more specifically sensitive to phonologically-derived environments.[6]

6. Inkelas (2000:30) assigns the label 'false blocking' to this type of NDEB and, in fact, does not seem to classify it specifically as NDEB, instead, describing it as exhibiting 'the illusion of non-derived environment blocking'. Despite making this distinction, however, she argues that is amenable to an analysis making use of the device of Structural Immunity, similar to 'true' NDEB (i.e. NDEB found in phonologically non-derived environments). While I adopt many of her analytical insights, here, I do not

I have specifically discussed the above Bantu and Turkish cases here since, ultimately, I will analyse the Chechen verb phrase as being subject to a similar type of minimal size restriction. Like Turkish and Bantu, this will be a two-unit restriction, though it will be a two-word restriction, not a two-syllable one. Like Bantu, Chechen will be taken to exhibit a repair strategy in cases where the restriction would not be automatically fulfilled—specifically, the insertion of a 'dummy' element which, like the dummy element in Ciyao, will be a 'copy' of material found elsewhere in the relevant constituent. However, like Turkish, the minimality restriction will be analyzed as only being imposed in 'derived' environments.

Of course, the above is just the barest sketch of an analysis whose details I will hold off on until section 6. First, in sections 3, 4, and 5, I will discuss the Chechen data which will be focused on here.

3 AN INTRODUCTION TO THE DATA

In this section, I will briefly introduce the copy infinitive construction which is the focus of this paper and discuss important aspects of the analysis I will ultimately provide for it.

Understanding the conditions on the appearance of the copy infinitive requires some knowledge of verb phrases in Chechen, of which there are a number of different types. The most common types, which will serve as prototypes for much of the discussion in this paper, are ex-

employ the terminological distinction Inkelas makes between NDEB and false blocking and use NDEB for both classes of phenomena.

emplified by the sentences in (8). The verb phrases in the examples are bracketed and labeled.[7,8]

(8) a. SIMPLEX INTRANSITIVE
So [*voelu*]$_{VP}$.
1s V.laugh.PRS
'I am laughing.'

b. DEICTIC ELEMENT-VERB
Malika [*dwa-jedira*]$_{VP}$.
Malika DX-J.run.WP
'Malika ran away.'

c. PREVERB-VERB
Ahwmad [*oeghaz-vaghara*]$_{VP}$.
Ahmed anger-V.go.WP
'Ahmed got angry.'

d. OBJECT-VERB
Ahwmadna [*Maliika gira*]$_{VP}$.
Ahmed.DAT Malika see.WP
'Ahmed saw Malika.'

The sentence in (8a) is headed by a simplex intransitive verb. The term SIMPLEX is used here to distinguish between verbs which do not appear with an associated preverbal element from

7. The Chechen orthography in this paper was developed by Johanna Nichols as part of the UCB Ingush project. In the chart below, I give the IPA equivalent for those consonants whose value may be unclear and for all the vowels.

CONSONANTS	
p', t', k', q', ch'	ejective consonants
ch	[tʃ]
gh	[ɣ]
sh	[ʃ]
w	[ʕ]
hw	[ħ]
x	[x]
'	[ʔ]

VOWELS					
ii	[iː]	yy	[yː]	uu	[uː]
i	[ɪ]	y	[y]	u	[ʊ]
ie	[iːɛ]	ue	[yːʌ]	uo	[uːʌ]
ia	[iɛ]	oe	[yʌ]		
e	[ɛ]	a	[ʌ]	o	[wʌ]
ea	[ɛæː]	aa	[aː]	oa	[ɔaː]
ei	[ej]				
ai	[ʌj]	oi	[oj]	ou	[ʌw]
˜	nasalisation on the preceding vowel				

8. Gender in Chechen is formally marked in a way which is fairly different from gender-marking in more well-known languages. The first consonant of the stem of lexically-specified verbs alternates between *b*, *d*, *j*, and *v* depending on the gender of its absolutive argument. It is difficult to give a semantic classification for the four genders. So, they are glossed here simply as B, D, J, and V. The majority of verbs in the language are not marked for gender and have an invariant initial consonant. However, some of the most commonly used verbs do show gender agreement and, therefore, gender marking will be found in many of the examples.

those that do. Though simplex intransitive verbs are not especially uncommon in Chechen, they are also not particularly common.

Sentence (8b) contains a motion verb (*jedira* 'J.run.WP') preceded by a deictic element (*dwa* 'DX', an element with a directional meaning which is not straightforwardly translatable). This is a common type of complex verb construction in the language, and it is very roughly analogous to English verb-particle constructions like *run off*.

Sentence (8c) shows a structure where a 'light' verb (*vaghara* 'V.go.WP') is preceded by a nominal preverb (*oeghaz* 'anger'). Complex verbs like these occur frequently in the language, and, as can be seen by the translation in (8c), are analogous to English constructions involving combinations of semantically bleached verbs followed by an adjective or noun, like *get angry* or *take aim*.

Finally, sentence (8d) shows a simplex transitive verb (*gira* 'see.WP') preceded by a direct object (*Maliika*). Chechen is an ergative language with an extensive case system. Because of this, in the sentence in (8d), the fact that *Maliika* appears in the (unmarked) absolutive case is a clear indication that it is the object of the verb *gira*. (The subject of the sentence in (8d), *Ahwmadna* 'Ahmed.DAT' is in the dative case because this is the typical case marking for experiencer subjects.)

Though it is a simplification, for our purposes, we will be able to classify most verb phrases in Chechen with respect to one of the prototypes in (8). That is, they will either (i) be simplex intransitive, (ii) consist of a verb preceded by deictic element, (iii) consist of a light verb preceded by a preverb, or (iv) be headed by a transitive verb preceded by a direct object. Of these four prototypes, the simplex intransitive, exemplified in (8a), will be of particular interest since it is the only one which does not consist of two syntactic units—a fact which will be highly relevant to understanding the nature of the phrasal NDEB effect which will be attributed

to Chechen.

Specifically, it will be argued in section 6 that the verb phrase in Chechen is associated with a two-word minimal size template and that simplex intransitive verb phrases of the type exemplified in (8a) are, in some sense, 'subminimal', that is they do not meet this minimal size restriction. Normally, subminimal phrases are allowed to surface as such. However, when these phrases are prosodically derived—in a sense to be defined clearly in section 6.3.3—the template must be fulfilled, resulting in the insertion of a 'dummy' element, namely the copy infinitive seen in (1b).

The examples in (9) will serve to give a basic idea of how the proposed template will be understood to operate. The two sentences in (9) contain coordinated verb phrases. The preverbal enclitic *'a* (glossed with an ampersand) serves as an overt marker of the coordination. This clitic comes immediately before the conjugated verb in both conjoined phrases. Because of this, it intervenes between the verb and the (bolded) preceding deictic elements in the verb phrases headed by motion verbs seen in (9a).

The coordinated verb phrases in (9b) are intransitive and headed by simplex verbs. Thus, they might be expected to consist only of the verb preceded by the enclitic *'a*. However, what we see in (9b) is that (bolded) copy infinitives appear immediately before the enclitic, 'expanding' the verb phrase. As seen in (8a) these copy infinitives are not generally obligatory in verb phrases headed by simplex intransitive verbs. They are, however, obligatory when the enclitic *'a* appears preverbally.

(9) a. *Maliika loomax* ***hwal*** *'a jeelara* ***ohwa*** *'a joessara.*
Malika mountain.LAT up & J.go.WP down & J.descend.WP
'Malika climbed up and down the mountain.'

b. *Maalik* ***viela*** *'a viilara* ***vialxa*** *'a vilxara.*
Malik V.laugh.INF & V.laugh.WP V.cry.INF & V.cry.WP
'Malik laughed and cried.'

The analysis of sentences like the one in (9b) which will be developed is that the appearance of the conjunctive enclitic *'a*, henceforth referred to as PREVERBAL *'a*, forces the instantiation of a basic two-word verb phrase template in Chechen. When a verb phrase is naturally two words, as is the case with the verb phrases in (9a), then the template is fulfilled automatically. In sentences containing simplex intransitive verbs, the template is not naturally fulfilled, triggering insertion of a copy infinitive.

The characterisation of preverbal *'a* as appearing before the conjugated verb while being enclitic is not made merely for expository convenience. Rather, as will be discussed in section 4.5, this would seem to be the best general characterisation of its positioning. The 'clash' between the syntactic positioning of preverbal *'a* and its phonological dependency—i.e, that it leans away from the element it is positioned with respect to syntactically—will prove to be highly relevant to the analysis, particularly with respect to the notion of a 'derived' phrasal environment.

In the next section, I give an overview of aspects of Chechen grammar which are important to understanding the data in this paper, including detailed discussion of preverbal *'a*.

4 Overview of relevant aspects of Chechen grammar

4.1 Introduction

The data which this paper focuses on is somewhat complicated because it involves the convergence of several aspects of Chechen grammar, each of which, on its own, is somewhat 'exotic'. Making matters particularly difficult is the fact that, in order to argue that copy infinitives appear for phonological reasons, it is important to have a thorough understanding of the syntax of the constructions where they are found—and, thereby, be able to rule out an analysis where they appear for non-phonological reasons.

In this section, a range of data covering many of the relevant descriptive generalisations

that will feature in the later analysis will be discussed. Section 4.2 gives a brief description of clause chaining constructions, which are found in many of the examples. Section 4.3 covers basic facts of word order. Section 4.4 discusses the typical (linear) form of the Chechen verb phrase. Finally, section 4.5 discusses the behaviour of preverbal *'a* in some detail, in particular establishing its status as a cross-linguistically rare type of clitic.

4.2 Clause chaining

A particularly striking feature of Chechen is its use of clause chaining. Clause chaining can be approximately understood as linking together clauses which have a narrative relationship into a syntactic structure consisting of a number of non-finite clauses embedded in a single finite matrix clause. Examples are given in (10). The verb forms heading non-finite clauses are understood to be a type of CONVERB, hence their glossing abbreviations begin with 'CV'. The term converb is used here for non-finite verb forms, which, following Haspelmath (1995:4), can be considered a sort of verbal adverb, contrasting with participles (verbal adjectives) and gerunds (verbal nouns).

(10) a. *Maliika,* [*tykana 'a jaghna,*] [*zheina 'a iacna,*] *c'a je'ara.*
Malika store.DAT & J.go.CVANT book & buy.CVANT home J.come.WP
'Malika went to the store, bought a book, and came back home.'

b. *Cicko,* [*ch'aara 'a goj,*] *'i bu'u.*
cat.ERG fish & see.CVPAN 3S.ABS B.eat.PRS
'The cat sees a fish and eats it.'

In (10a) the two bracketed clauses are non-finite and the final clause contains the finite verb. The sentence in (10b) contains one non-finite clause, also bracketed. Chaining constructions overwhelmingly tend to have a shared subject across the clauses, as seen in (10a), for example, where each clause has the subject, *Maliika*. The case of the shared subject is generally governed by the finite verb of the clause. Thus, for example, the shared subject of the sentence in (10b) is ergative, reflecting the case which would be assigned to the subject by the finite verb *bu'u*

'B.eat.PRS'. The other verb in (10b), *goj* 'see.CVPAN', is an experiencer verb which would assign dative case to its subject, as can be seen in, for example, the sentence in (8d).

Though it is hard to devise an ideal way of rendering chaining structures in Chechen into English, the most reasonable 'literal' translation of (10a) would be something along the lines of, *Malika, having gone to the store, having bought a book, came home.* And, a more literal translation of (10b) would be, *The cat, having seen a fish, eats it.*

In the discussion below, the term CHAINED CLAUSE will be used exclusively to refer to a non-finite clause in a chaining construction. For our purposes, the most important fact about chained clauses is that preverbal *'a* (to be discussed in section 4.5) obligatorily appears in them, and, therefore, chaining structures will figure in many of the examples. (For more discussion of clause chaining in Chechen see Good (2003).)

4.3 Word order

Basic word order in Chechen is SOV, but other word orders are possible. Since some of the phenomena to be discussed will be sensitive to word order (specifically what elements appear before the verb), it is worth exploring the topic briefly here. In (11) two versions of the 'same' sentence are given. As can be seen the various conjuncts of the coordinate structures instantiate SOV, SVO, and OVS orders.

(11) a. *Ahwmada iicara ch'aara, t'q'a Mariamas doexkira cicig.*
Ahmed.ERG buy.WP fish and Mary.ERG sell.WP cat
'Ahmed bought a fish, and Mary sold a cat.'

b. *Ahwmad ch'aara iicara, t'q'a cicig doexkira Mariamas.*
Ahmed.ERG fish buy.WP and cat D.sell.WP Mary.ERG
'Ahmed bought a fish, and Mary sold a cat.'

Some non-SOV orders are more common than others. The chaining structure in (12) shows a very common variant where the subject *Malika* appears at the very end of the sentence.

(12) *Doogha toexna aara 'a jialla, tykana 'a jaghna,*
lock hit.CVANT DX & J.go.CVANT store.DAT & J.come.CVANT
c'a je'ara Maliika.
home J.go.WP Malika
'Having locked the door and gone out, Malika went to the store and came back home.'

Less common are orders where the object does not appear immediately before the verb. The sentence in (13) gives an example (as did the sentence in (11a)). In this sentence, containing a pair of coordinated verb phrases, the shared object and subject of the two verb phrases appear at the end of the sentence. Since coordinated verb phrases always contain preverbal *'a*, copy infinitives, of the sort seen above in (9b), appear to serve as hosts for the clitic in each conjoined verb phrase.

(13) *Ieca 'a iecara doexka 'a doexkira ch'eeri Maliikas.*
buy & buy.WP sell & D.sell.WP fish.PL Malika.ERG
'Malika bought and sold some fish.'

For our purposes, what is most important about word order in Chechen is that, except for simplex intransitive verbs, some element of the verb phrase (an object, deictic element, or preverb) will generally appear immediately before the verb.

4.4 The basic structure of the Chechen verb phrase

To get an understanding of the basic structure of the Chechen verb phrase, I give a schema for it in (14). The schema describes the verb phrase as a series of five 'position classes', though this is just for descriptive ease and no theoretical claim is intended by it. As we will see, there is strong evidence for the existence of something like a position class in the interaction between the columns labelled '4' and '3', but, generally speaking, a pure position class analysis would ignore the fact that most of the elements of the verb phrase have syntactically expected positions for an SOV language. It would also ignore the fact that, in some cases, multiple elements in slot '4' can be instantiated. When multiple elements are found in slot '4', their relative order

is fairly rigid. Our concern here will be whether there is *some* element in that slot, not how elements within it are ordered.

(14)

CHECHEN VERB PHRASE STRUCTURE				
	CORE VERB PHRASE			
5	4	3	2	1
Adjuncts	Objects/Goals Deictic Proclitics Preverbs Copy Infinitives	*'a*	Negative	Inflected Verb

The third position in the table contains only the enclitic *'a*. This will be discussed in more detail in section 4.5.

The sentence in (15) contains a clause in which all five positions in (14) are instantiated. For a given position, the element filling it is labelled.

(15) *Maliika* [*loomax*]$_5$ [*hwal*]$_4$ [*'a*]$_3$ [*ca*]$_2$ [*jeelara*]$_1$ *ohwa 'a ca joessara.*
Malika mountain.LAT DX & not J.go.WP down & not J.descend.WP
'Malika didn't climb up and down the mountain.'

The expression for 'ascend' is a complex verb consisting of the deictic element *hwal* and a form of the verb 'go'. Often, the deictic element and the preverb are adjacent, but in (15) two other elements, the preverbal enclitic *'a* and the proclitic negative marker *ca* intervene between the two. Finally, the argument *loomax*, the word for mountain in the lative case, fills the adjunct position of the verb phrase and means something like, 'along the mountain'.[9]

Among the elements specified in (14) as occurring in the fourth position are objects and goals. The sentence in (10a) contains a clause with an object in the fourth slot—the word *zheina* 'book'. Two examples of goals in that position were seen in (12) with the words *tykana* 'store.DAT' and *c'a* 'home'. Goal arguments need to be distinguished from elements in the lative case like *loomax* 'mountain.LAT' in (15) which also express the location where an action takes place but are adjuncts syntactically.

9. Lative case is used to mark certain oblique objects in Chechen.

The table in (14) makes the distinction between the verb phrase and the core verb phrase. The importance of this distinction will be made clear in section 5. The core verb phrase is intended to encompass the verb, its obligatory arguments and everything in between, but it excludes adjuncts. As we will see, preverbal *'a* must be preceded by an element of the core verb phrase. Copy infinitives, as we have seen, can provide a suitable host for *'a* and, therefore, they are included in slot 4 of the core verb phrase.

At this stage of the discussion, the core verb phrase is characterised purely along syntactic lines. However, in section 6, I will discuss the existence of a prosodic constituent which can be associated with the core verb phrase but which does not necessarily completely overlap with it.

4.5 Preverbal *'a*

Enclitic particles with the form *'a* are ubiquitous in Chechen grammar. There are several distinct uses of them, two of which will be important to understanding the data being analysed here.[10] Central to this work is the preverbal use of *'a*, which is found in clause chaining constructions and verb phrase coordination. A chaining use of preverbal *'a* is exemplified below in sentence (16a), repeated from (10a), and a verb phrase coordination use is exemplified in (16b), repeated from (9a). These are the only two constructions known to involve the use of preverbal *'a*. In verb phrase coordination constructions, preverbal *'a* appears in each coordinated verb phrase. In chaining constructions, preverbal *'a* only appears in chained clauses—that is, clauses headed by a non-finite converb form (as opposed to the final clause which is headed by a finite verb).

(16) a. *Maliika, tykana* ***'a*** *jaghna, zheina* ***'a*** *iacna, c'a je'ara.*
Malika store.DAT & J.go.CVANT book & buy.CVANT home J.come.WP
'Malika went to the store, bought a book, and came back home.'

10. For discussion of one common use of *'a* which is not found in the data in this paper, nominal coordination, see Jeschull (2004).

b. *Maliika loomax hwal **'a** jeelara ohwa **'a** joessara.*
Malika mountain.LAT up & J.go.WP down & J.descend.WP
'Malika climbed up and down the mountain.'

Preverbal *'a* is glossed with a '&' as a mnemonic for the fact that it plays a role in 'conjoining' verb phrases together.

The primary evidence that *'a* is enclitic is that it phrases prosodically with the word that precedes it. Other evidence that is enclitic is the fact that, in some instances, it is reduced to a glottal stop which is pronounced in the coda of the final syllable of the word it attaches to. Perceptually, this often sounds like a pause immediately following *'a*'s host where a pause would not otherwise be expected. An additional piece of evidence supporting its enclitic status is that *'a* is associated with a high pitch and, when reduced to a glottal stop in the manner just described, the high pitch shifts to the end of the element preceding it, suggesting a close phonological affinity between *'a* and this element.

The status of *'a* as an enclitic, instead of a suffix, is clear since it passes all the tests for clitichood outlined in Pullum and Zwicky (1983). It shows a lack of host sensitivity (as will be illustrated by the data in (18)), attaching to nouns, deictic elements, and preverbs. There are no documented arbitrary host-clitic gaps, morphophonological or semantic idiosyncrasies, or syntactic rules treating the host and clitic as a single unit.

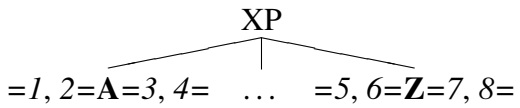
Peterson (2001) gives a thorough discussion of the enclitic *'a* in Ingush, a close relative of Chechen, which is cognate with the Chechen enclitic. Ingush *'a* and Chechen *'a* behave in almost exactly the same way.[11] Preverbal *'a* is important in apparently being, to date, one of the best examples of what would be classified as a type 5 clitic according to Klavans' (1985) well-known typology of clitic types. Since preverbal *'a*'s status as a type 5 clitic will factor into the later analysis, I will briefly summarise Klavans' typology here.

11. One difference between Chechen and Ingush with respect to *'a* is that *'a* in Ingush can optionally have the negative marker *ca* as its host (creating strings of the form *c'a 'a*) while *'a* in Chechen cannot (and the relative order of the two elements is thus always *'a ca*).

Klavans (1985) classifies clitics across three parameters. The first is whether they are *initial* or *final* in the syntactic domain they are placed with respect to. The second is whether they are placed *before* or *after* the element at the edge of the domain where they are placed. Klavans' third parameter is the traditional distinction between *proclitic* and *enclitic*. These three parameters predict a total of eight different clitic types. Peterson (2001:153–4) makes the claim, which is adopted by this work and will be justified below, that preverbal *'a* can be classified with the three parameters: final, before, enclitic—which is Klavans' type 5.

To make the following discussion clearer, the tree in (17) schematises Klavans' typology of clitic placement. A number is used for each of the eight types. An '=' sign before the number indicates it is an enclitic, and one after the number indicates it is proclitic. The clitic positions are defined with respect to some syntactic constituent which I label 'XP' and which I make sufficiently large to ensure the eight types can be clearly distinguished.

(17)



As Klavans (1985:103) points, four of her eight clitic types represent mismatches between the syntax and the phonology where the phonological host of the clitic is not the word it is syntactically positioned with respect to—such clitics have been termed DITROPIC (see Cysouw (to appear) for discussion). These are types 1, 4, 5, and 8. The traditional notion of second-position clitic is classified in her typology as type 3. A type 4 clitic is exactly the same as a second-position clitic except it is proclitic instead of enclitic. The clitic type of interest to us here, type 5, is a 'mirror-image' of a type 4 clitic—a penultimate position enclitic.

In the rest of this section, I will discuss data relevant to establishing the fact that preverbal *'a* is, in fact, a type 5 clitic—specifically, that it appears in penultimate within the head-final verb phrase, thus appearing immediately before the verb. Much of the evidence will parallel

Peterson's (2001) evidence for Ingush. The purpose of this discussion will become clearer in section 6.3.3, when the odd typological status of *'a* will be used to develop the notion of a derived phrase.

In (18) I give example sentences of the four prototypical types of verb phrases exemplified in (8) in syntactic environments where they contain preverbal *'a*. All of the sentences in (18) are cases where preverbal *'a* is used as a marker of chaining constructions. Since these examples are multi-clausal, relevant elements in the verb phrases containing preverbal *'a* are bolded.

(18) a. SIMPLEX INTRANSITIVE
Ahwmad, ***wa 'a wiina,*** *dwa-vaghara.*
Ahmed stay.INF & stay.CVANT DX-V.go.WP
'Ahmed stayed (for a while) and left.'

b. DEICTIC ELEMENT-VERB
Maliikas Ahwmadna zheina ***dwa 'a della,*** *dwa-jaghara.*
Malika.ERG Ahmed.DAT book DX & D.give.WP DX-J.go.WP
'Malika gave the book back to Ahmed and left.'

c. PREVERB-VERB
Ahwmada, kiexat ***jaaz 'a dina,*** *zheina dueshu.*
Ahmed.ERG letter write & D.do.CVANT book D.read.PRS
'Ahmed, having written a letter, reads a book."

d. OBJECT-VERB
Ahwmad, ***zhwala 'a iacna,*** *vilxira.*
Ahmed dog & buy.CVANT V.cry.WP
'Ahmed bought a dog and cried.'

In (18a) preverbal *'a* appears in a simplex intransitive predicate and is preceded by an obligatory copy infinitive (which we will return to in section 5). In (18b) preverbal *'a* appears between a deictic element and its verb. Importantly, since this sentence involves the verb *dala* 'give' which takes a direct object (*zheina* 'book') and an indirect object (*Ahwmadna* 'Ahmed.DAT'), as well as a deictic element, this sentence clearly shows that *'a* appears in penultimate and not second position of the verb phrase—its position is ambiguous in many other cases. Sentence (18c) is a case where preverbal *'a* intervenes between a transitive verb with an obligatory preverb. Such a sentence also clearly illustrates the penultimate position of *'a*. The word *kiexat*

'letter' is the direct object of the preverb-verb combination meaning 'write' and, therefore, part of the core verb phrase. Finally, sentence (18d) shows an example of preverbal *'a* intervening between a verb and an immediately preceding direct object.

The sentences in (18) establish the basic penultimate position of preverbal *'a* in the verb phrase and comprise the basic type of evidence made use of by Peterson (2001) in arguing that *'a* in Ingush was a type 5 clitic.

In analyzing enclitics with the form *'a*, it is important to distinguish between preverbal *'a* and FOCAL *'a*. They both have the same phonological form but different function. Preverbal *'a* is the obligatory marker of chained clauses and coordinated verb phrases, while focal *'a* is a marker of focus on the word preceding it. The data in (19) gives an example of focal *'a*. When focal *'a* occurs in a chained clause, preverbal *'a* does not also occur.

(19) *Ahwmad, sialxana* ***'a*** *wiina,* *dwa-vaghara.*
Ahmed yesterday FOC stay.CVANT DX-V.go.WP
'Ahmed stayed yesterday (too) and left.'

While the position of *'a* in (19) is 'preverbal', it is not an example of preverbal *'a* since adjuncts cannot serve as hosts to preverbal *'a*—as mentioned in section 4.4. While (19) is grammatical, it specifically puts the word *sialxana* 'yesterday' in focus. The unmarked variant of the sentence in (19) is given in (20) where *'a* is preceded by a copy infinitive (since the verb *wiina* 'stay.CVANT' is simplex and intransitive).

(20) *Ahwmad, sialxana* ***wa*** ***'a wiina,*** *dwa-vaghara.*
Ahmed yesterday stay.INF & stay.CVANT DX-V.go.WP
'Ahmed stayed yesterday and left.'

As will be discussed in section 5, though there is a formal similarity between preverbal *'a* and focal *'a*, consultants do not attribute any special focusing effect to preverbal *'a*.

Since I will be attributing much of the behaviour of the Chechen verb phrases to phonological factors, I should be clear that I take the *preverbal* positioning of preverbal *'a* to be syntactic

in nature, following Klavans' characterisation of clitic types. Its enclitic status, however, I take to be phonological in nature (following Klavans' sense of the term, as well as its traditional sense). In addition, as already discussed in section 3, I take the obligatory appearance of the copy infinitive within verb phrases containing preverbal *'a* headed by simplex intransitive verbs to be phonologically conditioned.

Having covered various relevant aspects of Chechen grammar, in the next section, the copy infinitive construction, introduced in section 3, will be discussed in detail. Particular emphasis will be placed on showing that, in some contexts, its appearance cannot be predicted on syntactic, semantic, or pragmatic grounds.

5 THE COPY INFINITIVE

5.1 Introduction

Before moving onto the more analytical part of this paper, there is one more descriptive aspect of Chechen grammar to cover—the copy infinitive. Since the appearance of this infinitive is crucial to the argument that Chechen exhibits phrasal NDEB, it will be necessary to discuss it in some detail. Formal aspects of the Chechen copy infinitive have been discussed previously in Conathan and Good (2001). Here, the focus will be on its constructional properties.

The copy infinitive is always followed by either preverbal or focal *'a* or the negative imperative proclitic *ma*. In section 5.2, I will discuss a non-obligatory focal use of the copy infinitive. In section 5.3, I will discuss its obligatory use in clauses containing preverbal *'a*—this is the use central to establishing the existence of phrasal NDEB in Chechen. In section 5.4, I will briefly discuss other uses of the infinitive in the language to make it clear that the copy infinitive construction cannot be considered to be a special case of other infinitive constructions.

5.2 The focal use of the copy infinitive

Broadly speaking, there are two uses of the copy infinitive. The first, and more straightforward, use is to mark verbal focus. Contrasting examples are given in (21). I will refer to this use of the copy infinitive as the FOCAL COPY INFINITIVE.

(21) a. *Ma aala.*
&NEG say.IMP
'Don't tell!'

b. ***Aala** ma aala.*
say.INF &NEG say.IMP
'Don't even tell!'

As can be seen in (21a), a negative infinitive can be formed by putting the negative imperative proclitic *ma* before the imperative form of the verb. This imperative can be made emphatic, as seen in (21b), by being preceded by an infinitive copy of the main verb. This strategy of verbal focus is not limited to negative imperatives. A copy infinitive can also be found as a host for focal *'a*. In (22) the copy infinitive appears in two (bolded) verb phrases marking how they contrast with one another.

(22) *Maliikina Ahwmad* ***ga 'a gira*** *Mariam* ***xaza 'a xezara.***
Malika.DAT Ahmed see.INF & see.WP Mary hear.INF & hear.WP
'Malika saw Ahmed and heard Mary.'

As seen above in sentence (19), focal *'a* can be used to mark a constituent for focus in Chechen. The use of *'a* with a copy infinitive in a sentence like the one in (22) can be viewed as an extension of this focal use of the enclitic. It is likely that there is a relationship between the focal use of the copy infinitive and its obligatory use since, formally, the two constructions are quite similar. This will be explored in section 6.5. Even if there is some relationship between the two constructions, importantly, when the copy infinitive is obligatory, it is not associated with any particular pragmatic force—and, in fact, does not appear to be associated with any particular meaning at all. I discuss this use of the copy infinitive in the next section.

5.3 The obligatory copy infinitive

The second use of the copy infinitive is associated with no particular semantics or pragmatic force, nor is it predictable on syntactic grounds, and I will refer to it as the OBLIGATORY COPY INFINITIVE. Speakers are unable to give any particular translation for this use of the copy infinitive and do not report it as marking the verb or verb phrase for emphasis—or in any other way.[12] Rather, the conditioning factor in its occurrence seems to simply be that it is found when preverbal *'a* would not otherwise have a host in the core verb phrase (as schematised in (14)). In practice, this will generally mean that it appears when preverbal *'a* marks a simplex intransitive verb phrase, since the three other basic types of verb phrases, as exemplified in (8), have a structure which gives preverbal *'a* a host whose appearance is predictable on syntactic grounds.[13] Various examples of this use of the obligatory copy infinitive have been seen above, and two are given below in (23) and (24).

(23) *Maalik* ***viela*** *'a viilara* ***vialxa*** *'a vilxara.*
Malik V.laugh.INF & V.laugh.WP V.cry.INF & V.cry.WP
'Malik laughed and cried.'

(24) *Kiexat,* ***daat'a*** *'a daett'a, telxara.*
paper tear.INF & tear.CVANT spoil.WP
'The paper ripped and was spoiled.'

Simplex intransitive verbs are, of course, associated with absolutive subjects. However, subjects are not within the core verb phrase and cannot, therefore, serve as a host for preverbal *'a*.

12. One consultant, who was specifically asked, reported that clauses containing copy infinitives headed by simplex intransitive verbs can be ambiguous between containing an obligatory and a focal copy infinitive. Importantly, the two uses were distinguished, and the default reading was one without special focus on the verb.

13. An open question is whether or not the copy infinitives in (13) are best understood as obligatory copy infinitives or focal copy infinitives. In that particular sentence, the copy infinitives are obligatory since otherwise preverbal *'a* would have no host in the verb phrase. However, the contrasting verbs would also allow for an analysis where the copy infinitives are marking focus.

An informal way of understanding the function of the copy infinitive (which will ultimately form the basis for the analysis below) is that it is employed to 'fill out' the core verb phrase when it would not otherwise contain a host for preverbal *'a*. As a first attempt of developing such an analysis of the copy infinitive, we could suggest that preverbal *'a* is associated with a template along the lines of the one schematised in (25). This template is included here for expository purposes. The focus of section 6 will be a recharacterisation of the template in (25) along lines consistent with restrictive proposals for possible templatic structures.

(25) $[\ (\ldots)\ [\ldots{=}\textit{'a}]_{\text{Word}}\quad [\qquad]_{\text{V}}]_{\text{Core VP}}$

The schematised template in (25) is simply a stipulation that preverbal *'a* must be preceded by some word in the core verb phrase. It does not specify what 'kind' of word that must be—as we have seen, the hosts for preverbal *'a* are morphosyntactically diverse. A verb phrase headed by a simplex intransitive verb containing preverbal *'a*, but not containing a copy infinitive, would fail to fulfill a template along the lines of the one in (25). This schema includes the possibility that the core verb phrase may contain more than one word-like element preceding the verb, since, as discussed in section 4.4, some verb phrases in Chechen allow multiple elements to precede preverbal *'a* in the core verb phrase.

I have labelled this 'slot filling' verb form the copy *infinitive* for the simple reason that it generally has the shape of an infinitive form of the verb which heads the verb phrase in which it appears. However, as reported in Conathan and Good (2001), while the copy verb is always the same as the infinitive for regular verbs, for irregular verbs, there is some variation in the form of the copy verb, with the infinitive form being the preferred variant for at least one consultant.

In (26) I give the form of the infinitive, the present stem, and the possible copy verb forms for various irregular verbs in Chechen where the relationship between the infinitive and present stem is not predictable. As can be seen, for some (but not all) of the verbs, the copy verb

can either be the true infinitive or a 'false' infinitive formed on the basis of what the predicted infinitive form would be given the form of the present stem.

(26)

INFINITIVE	PRESENT	COPY VERB	GLOSS
dala	*lo*	*dala* or *la*	'go'
da˜	*dahwa*	*da˜* or *dahwa*	'bring'
dagha	*duedu*	*dagha* or *duoda*	'go'
daa˜	*dooghu*	*daa˜*	'come'

The alternate form for the copy verb of *dagha* 'go' is particularly instructive since the vowel change seen in it from the *ue* of the present stem to *uo* represents an 'undoing' of morphophonological ablaut found in present stems. Thus, the form *duoda* would be the predicted infinitive based on the present stem *duedu*. The alternate copy verb can only be used in verb phrases whose head verb is based on the present stem.

Since the claim here is that the obligatory copy infinitive does not appear for syntactic, semantic, or pragmatic reasons, in the next section, I will discuss other uses of the infinitive in Chechen in order to establish that the copy infinitive constitutes a different use of the infinitive from its core uses. It will become clear that the only infinitive construction which the obligatory copy infinitive closely resembles is the focal copy infinitive already discussed in section 5.2.

5.4 Other uses of the infinitive

Since the appearance of the obligatory copy infinitive in verb phrases headed by simplex intransitive verbs containing preverbal *'a* will play a crucial role in the analysis in section 6, in this section I will briefly discuss other uses of the infinitive in Chechen in order to establish that the copy infinitive should not be taken to be a special instantiation of some other pattern involving infinitives in the language.

Not surprisingly, one of the most common uses of the infinitive is as the head of complement clauses which share a subject with the verb of the main clause. Examples of this use are given

in (27), where the infinitives are bolded.[14]

(27) a. *Ocu naaxana* [*zudchynga* ***hwousa***] *lae'a.*
this people.DAT women.ALL look-at.INF want.PRS
'The people want to look at the women.'

b. *Zudchuo* ***hwiizuo*** *juoliira 'i.*
woman.ERG torment.INF J.begin.WP 3S.ABS
'The woman began to torment him.'

c. *Kibarchk* ***jotta*** *ca xae'a suuna.*
brick J.stack.INF not know.PRS 1S.DAT
'I don't know how to lay bricks.'

d. @ *Irs, jukha* ***daa˜*** *diezara hwo.*
happiness back D.come.INF D.should.IMPF 2s
'Happiness, please come back.' (Literally: 'Happiness, you should come back.')

The semantics of each of the finite verbs in (27) is such that there is an obvious interpretation for their infinitive phrases as same-subject clausal complements. We can contrast them with, for example, verbs like *diela* 'laugh' and *dialxa* 'cry', seen in (9b), whose semantics are not obviously consistent with them taking any object—let alone an infinitive phrase—but which are seen to appear with copy infinitives.[15] Furthermore, while the copy infinitive always appears as just a single word, some sentences clearly show that infinitival complements can be phrasal—a relevant two word infinitival phrase in (27a) is bracketed. My conclusion from these facts is that the copy infinitive construction cannot be analysed as a special instance of the use of infinitives as the head of infinitival complements of the sort exemplified in (27).

Outside of verbs taking infinitival complements, the only other major syntactic use of the infinitive that I am aware of is as the head of purpose clauses.[16] Examples are given in (28).

14. The '@' symbol at the beginning of a sentence indicates it is 'attested'—i.e., taken from an (unpublished) text rather than elicited.

15. The citation form of gender-agreeing verbs in Chechen is the D gender, hence the initial D's in the verbs just cited instead of initial V's, as in the example in (9b).

16. The infinitive stem is used in some derivational processes. For example, verbs with inceptive meaning can be formed via a combination of the infinitive stem with the verb *lo* 'give', and causative verbs can be formed with a combination of the infinitive and the verb *do* 'do'. I do not consider such processes in detail here since these processes are not phrasal in nature, unlike the copy infinitive construction.

(28) a. *Ooxa* ***diesha*** *zheina iicara.*
1pe.ERG D.read.INF book buy.WP
'We bought a book to read.'

b. *@Ishta cq'a wyyrana* [*bezhnash* ***dwa-laaxka***] *juedash cwana*
thus once morning.ADV cattle DX-drive.INF J.go.CVSIM one.OBL
nesana gira eesana t'e 'a xi'ana bezhnash liallana
dtr-in-law.DAT see.WP calf.DAT on & sit.CVANT cattle drive.CVANT
jooghu jow.
J.come.PRS.PART girl
'One morning one of the daughters-in-law was going to take the cattle to pasture when she saw a girl sitting on a calf driving cattle.'

No consultant has ever reported purposive semantics to copy infinitives. Furthermore, like infinitival complements, but unlike copy infinitives, they can head phrases, as indicated by the bracketed infinitival phrase in (28b). So, as with infinitival complements, there is no reason to believe that copy infinitives should be considered special cases of purpose infinitives.

It seems fairly clear that there is no way for these other, more typical, infinitive constructions to be considered closely related to the obligatory copy infinitive construction. The only infinitive construction bearing a close resemblance to it is the focal copy infinitive construction, discussed in section 5.2—with which it shares a formal similarity. However, as we've seen the obligatory copy infinitive is pragmatically distinct from the focal copy infinitive. It, therefore, merits a separate analysis.

In the next section, I will develop an account of the Chechen verb phrase which analyses the appearance of the obligatory copy infinitive as being phonologically conditioned. The focus of the section is an account of why *some* element must appear to host preverbal *'a* when it appears in a simplex intransitive verb phrase, as opposed to understanding why the particular element employed is a copy infinitive. However, in section 6.5, I will discuss this issue—which, as will be seen, is not directly related to the analysis of the Chechen verb phrase as being associated with a template and exhibiting NDEB.

6 A PROSODIC TEMPLATE SENSITIVE TO DERIVED ENVIRONMENTS

6.1 Introduction

In this section, I will present an analysis of the appearance of the obligatory copy infinitive wherein it serves as an element which fulfills a prosodic template—specifically a two-word phrasal template. While templatic restrictions are usually considered the domain of morphological, and not syntactic constructions, two-word phrasal templates have been proposed previously (see, e.g., Inkelas and Zec (1995:544), Zec and Inkelas (1990:372–6), who use the characterisations light and heavy instead of 'one word' and 'two words'). Such a template can be schematised as in (29), following Inkelas and Zec (1995:544), where ω stands for prosodic word and ϕ stand for phonological phrase.

(29) $[\,[\quad\quad]_{\omega}\,[\quad\quad]_{\omega}\,]_{\phi}$

One case for which the template in (29) has been proposed is Serbo-Croatian topicalisation which, according to Zec and Inkelas (1990), imposes this template on topicalised elements. Relevant data, from Zec and Inkelas (1990:373–4), is given in (30). The topicalised elements are the sentence-initial noun phrases.

(30) a. [[*Taj*]$_{\omega}$ [*čovek*]$_{\omega}$]$_{\phi}$ *voleo-je* *Mariju.*
that man.NOM loved-AUX Mary.ACC
'That man loved Mary.'

b.*[[*Petar*]$_{\omega}$]$_{\phi}$ *voleo-je* *Mariju.*
Peter.NOM loved-AUX Mary.ACC
'Peter loved Mary.'

c. [[*Petar*]$_{\omega}$ [*Petrović*]$_{\omega}$]$_{\phi}$ *voleo-je* *Mariju.*
Peter.NOM Petrovic.NOM loved-AUX Mary.ACC
'Peter Petrovic loved Mary.'

According to Zec and Inkelas (1990:372–6), sentence (30b) is ungrammatical not for any syntactic, semantic, or pragmatic reason but rather because it fails to fulfill a constraint on preposed sentence-initial topics that they be part of a branching phonological phrase (i.e. consist

of at least two prosodic words). Part of their justification for the claim is the fact that a one-word proper name is ungrammatical when topicalised (as in (30b)) while a two-word one (as in (30c)) is acceptable.

A template will be proposed for the Chechen phonological phrase that has the same form as the one (29), and, therefore, it does not present a radical departure from previous proposals. However, while the form of template itself may not be novel, an important aspect of it is. Unlike the Serbo-Croatian case (and a similar case from English proposed by Zec and Inkelas (1990:376–7)) the effect of the Chechen phrasal template, when it is applied, is not that it can render a sentence ungrammatical but, rather, that it triggers the insertion of a 'dummy' element—namely, the obligatory copy infinitive.

In the rest of this section, I will develop this analysis of the obligatory copy infinitive as surfacing as the result of a two-word templatic restriction on phonological phrases. In section 6.2, I will give evidence that the Chechen core verb phrase is associated with a two-word prosodic constituent and discuss the nature of that constituent. In section 6.3, I will discuss the way in which I interpret Chechen as exhibiting phrasal NDEB—in particular, I will argue that there is a two-word minimal size restriction on verb phrases in Chechen and that one-word verb phrases headed by simplex intransitive verbs are showing an NDEB effect. In section 6.4, I will briefly discuss how this analysis relates to proposed accounts of NDEB and models of the phonology-syntax interface. Finally, in section 6.5, I will discuss some possible reasons why the dummy element used to fill out the Chechen verb phrase template is a copy infinitive.

6.2 The Chechen core verb phrase as a prosodic constituent

6.2.1 The phonological basis of the constituent and preverbal *'a*'s place within it

In sentences showing basic SOV order, there is evidence that the verb and the element preceding it in Chechen form a prosodic constituent.[17] Specifically, Chechen assigns a particular pitch pattern to these two elements. The first syllable of the element preceding the verb is marked with a high pitch and the first syllable of the verb itself is marked with a low pitch.[18]

In (31) I give two examples of Chechen verb phrases where the verb and preceding element are marked for this pitch pattern. An acute accent marks the occurrence of the high-pitch and a grave a low-pitch.

(31) a. *Malika* [*dwá-jèdira*].
Malika DX-J.run.WP
'Malika ran away.'

b. *Ahwmad* [*óeghaz-vàghara*].
Ahmed anger-V.go.WP
'Ahmed got angry.'

I take this pattern as evidence that the verb and preceding element in sentences like those in (31) form a prosodic constituent. I will refer to the unit marked with these high and low pitches as the CORE VERB PHRASE PROSODIC CONSTITUENT.

Associating a prosodic constituent with a particular syntactic category—in this case, the verb phrase—runs counter to models of the Prosodic Hierarchy which treat prosodic categories as universal phonological categories not necessarily associated with particular morphological or syntactic types (see, e.g., the models found in Nespor and Vogel (1986) and Selkirk (1986)). In fact, I use the label 'core verb phrase prosodic constituent' primarily for expository convenience. No complete study of Chechen phrasal phonology has been undertaken, and it might very well

17. I am thankful to Johanna Nichols for providing most of the information found in this section.

18. As will be mentioned below, an especially high pitch is marked on any element hosting *'a*. The high pitch discussed here should not be conflated with this other high pitch.

be the case that the core verb phrase prosodic constituent could be subsumed into a more general category, with a likely candidate being the phonological phrase, or perhaps a smaller unit in between the phonological word and phrase, along the lines of Condoravdi's (1990) 'minimal phrase'.[19] While it is clear that one can identify a prosodic constituent associated with the verb and the word immediately preceding it, it is simply not known at present how this constituent fits into the overall prosodic system of Chechen.

The addition of other elements to the core verb phrase can affect the prosodic characteristics of the verb phrase in various ways. For example, the preverbal enclitic *'a* causes the vowel preceding it to be realised with a high tone. This is marked with a double acute in (32) on the two preverbal deictic elements. This high tone is similar to the high pitch associated with the core verb phrase prosodic constituent, but perceptually somewhat higher, and it can appear on a non-initial syllable. No detailed study has been made of this high tone (though it is reported for Ingush in Peterson (2001:144))—which is found in some other cases, for example before the negative imperative proclitic *ma*.

(32) *Maliika loomax* [*hwā́l 'a jèelara*] [*óhwā́ 'a jòessara*].
Malika mountain.LAT up & J.go.WP down & J.descend.WP
'Malika climbed up and down the mountain.'

Even though preverbal *'a* in an example like that in (32) affects the prosodic structure of the core verb phrase, perceptually the [X=*'a* V] unit is still set off from the other elements in the sentence, and the high-low pitch pattern can be observed to the extent the high pitch isn't obscured by the presence of the high tone preceding preverbal *'a*. Thus, while the internal prosody of a verb phrase containing preverbal *'a* may be somewhat different from a verb phrase without it, the host of *'a* and the following verb can be readily analyzed as forming a core verb phrase prosodic constituent.

19. A similar type of category can be found in the 'small phonological phrase' proposed by Selkirk (1986).

Importantly, the core verb phrase prosodic constituent is always 'small' insofar as expanding the verb phrase does not expand the constituent—which always consists only of the verb and the element directly preceding it. Thus, for example, in a sentence like (22), repeated below in (33), the core verb phrase prosodic constituent consists only of the copy infinitive, preverbal *'a*, and following verb. (The copy infinitives in (22) are focal copy infinitives, not obligatory copy infinitives.)

(33) *Maliikina Ahwmad* [*gắ 'a gìra*] *Mariam* [*xázắ 'a xèzara*].
Malika.DAT Ahmed see.INF & see.WP Mary hearINF & hear.WP
'Malika saw Ahmed and heard Mary.'

What we see, then, is that the core verb phrase in Chechen, characterised syntactically in section 4.4, also allows for a prosodic characterisation. The different characterisations, of course, do not always identify the same words as part of the core verb phrase. The syntactic characterisation, on the one hand, would allow multiple preverbal elements to be part of the core verb phrase. The prosodic characterisation, on the other hand, only identifies the verb and the immediately preceding element as part of the core verb phrase. Nevertheless, since both types of characterisation are possible, in the next section, I will discuss why the prosodic characterisation appears to be better from an analytical perspective.

6.2.2 Characterizing preverbal *'a*'s position phonologically

The restriction that preverbal *'a* must have an element of the core verb phrase as its host could, in principle, be analysed either syntactically or prosodically. That is, it could be analysed along the lines of the template in (25), repeated below in (34a), or it could be characterised along the lines of the prosodically-defined schema given in (34b). The symbol VP_{ϕ} is an abbreviation for core verb phrase prosodic constituent—as discussed above, Chechen phrasal phonology is not yet well-enough studied to know whether or not the core verb phrase prosodic constituent can be recharacterised as a more general type of prosodic constituent. Because of this, in

developing the analysis, I will be conservative in my characterisation of the prosodic constituent as being associated with the verb phrase rather than suggesting it could have a more general characterisation.

(34) a. [(. . .) [. . . =*'a*]$_{\text{Word}}$ [ ]$_{\text{V}}$]$_{\text{Core VP}}$

b. [[. . . =*'a*]$_{\omega}$ [ ]$_{\omega}$]$_{\text{VP}_{\phi}}$

Which characterisation is better for the placement of preverbal *'a*? There are several clear advantages to the prosodic characterisation. First, while both characterisations could predict the insertion of some element in the core verb phrase preceding preverbal *'a* when it appeared with a simplex intransitive verb, only the phonological characterisation allows us to explain why the appearance of the relevant element—the obligatory copy infinitive—cannot be accounted for syntactically, semantically, or pragmatically. If the templatic restriction on preverbal *'a* were purely phonological in nature, it would be immediately expected that an element appearing solely in order to fulfill such a restriction would not have a discernible syntactic, semantic, or pragmatic function. It would be essentially equivalent to the 'dummy' syllables reported in Ndebele, discussed in section 2, which also had no discernible 'meaning'.

A second argument for the prosodic characterisation of the positional requirements of preverbal *'a* is that it allows us to connect the enclitic status of *'a* with the requirements it puts on its phonological host. A purely syntactic analysis would have to treat as accidental the fact that *'a* is both *left*-leaning and puts special requirements on the host to its *left*. We will see in section 6.3.3 how these two facts can be connected in a phonological model of the copy infinitive construction.

A third argument in support of the prosodic characterisation is that, as will become clear, once we begin to look at the placement of preverbal *'a* from a phonological perspective, we

will find a number of parallels between the Chechen case and prosodically-driven accounts of morphophonological templates—a result that would be surprising if we attempted to account for the behaviour of preverbal *'a* purely syntactically.

A final argument in favour of a characterisation along prosodic lines like the one in (34b) relates to the typological status of preverbal *'a*. As discussed in section 4.5, preverbal *'a* appears to be an instance of the typologically unusual clitic type 5 in Klavans' (1985) typology. Klavans' typology characterises clitics using a mix of phonological and syntactic characteristics. When examined from a purely prosodic perspective, however, preverbal *'a* can be straightforwardly recharacterised as a well-attested type of clitic, a second-position enclitic, since it occurs after the first element of its prosodic phrase. I take the fact that the prosodic characterisation of preverbal *'a*'s placement makes it look more well-behaved typologically as further support of such an analysis.[20]

In sum, while a syntactic analysis of the placement of preverbal *'a* and the appearance of the obligatory copy infinitive is not entirely impossible, it would amount to an arbitrary stipulation of syntactic restrictions on preverbal *'a*. A phonologically-oriented analysis, however, while still requiring the some degree of stipulation, will not only allow us to view several different characteristics of verb phrases containing preverbal *'a* as reflexes of one single prosodic restriction but will also allow us to connect these characteristics to phenomena reported for other languages—in addition to making preverbal *'a* look less peculiar typologically. Taken together, these facts strongly indicate it is the better option. The phonological analysis will be further developed in section 6.3.

20. Work like that of Halpern (1995) and Marantz (1988) has sought to exclude the possibility of type 5 clitics on general grounds. While I do believe that preverbal *'a* is a clear instance of Klavans' type 5, the fact that a prosodic recharacterisation of its placement allows it to be reunderstood as a second-position clitic would seem to indicate that such analyses may be based on fundamentally correct insights.

In the following two sections, I will complete the discussion of the prosodic characteristics of the core verb phrase by discussing, in section 6.2.3, how the four prototypical verb phrase types, introduced in section 3, pattern prosodically with respect to the core verb phrase prosodic constituent and, in section 6.2.4, the prosodic status of the combination of proclitic+enclitic which is formed when preverbal *'a* intervenes between a verbal proclitic and the following verb.

6.2.3 The prosodic structure of the verb phrase types

In (35) I repeat the examples, first given in (8), illustrating the four verb phrase prototypes discussed earlier for Chechen. The verb phrases are bolded in the examples.

(35) a. SIMPLEX INTRANSITIVE
So ***voelu***.
1s V.laugh.PRS
'I am laughing.'

b. DEICTIC ELEMENT-VERB
Malika ***dwa-jedira***.
Malika DX-J.run.WP
'Malika ran away.'

c. PREVERB-VERB
Ahwmad ***oeghaz-vaghara***.
Ahmed anger-V.go.WP
'Ahmed got angry.'

d. OBJECT-VERB
Ahwmadna ***Maliika gira.***
Ahmed.DAT Malika see.WP
'Ahmed saw Malika.'

Of the four verb types seen in (35), the first case, that of the simplex intransitive verb phrase, exemplified in (35a), quite clearly cannot contain a phonological phrase along the lines of the core verb phrase prosodic constituent discussed just above in section 6.2. This is because the verb phrase consists of just one word, the verb. This is not to say that the sentence in (35a) cannot be parsed prosodically. In fact, it can show the same high-low pitch pattern associated

with the core verb phrase with high pitch on the subject and low pitch on the verb. What is important here is the fact that the sentence contains no phrasal prosodic constituent associated with the core verb phrase. Because of this, I characterise verb phrases in sentences like the one in (35) as PROSODICALLY SUBMINIMAL—that is, they are smaller than the minimal size restriction imposed on verb phrases in the language. These verb phrases are, thus, understood as a phonosyntactic parallel to the subminimal verb roots discussed for Bantu and Turkish in section 2. I leave off discussion of the consequences of their prosodic subminimality at this point but will return to this in section 6.3.

Given that I am adopting an analysis here for the Chechen core verb phrase wherein it is associated with a two-word template, along the lines of the one schematised in (29), there is a sense in which verb phrases of the type exemplified in (35b) may also be subminimal since they do not unambiguously consist of two separate prosodic words, the deictic element being perceptually proclitic to the following verb. Importantly, as seen above with reference to the discussion of the examples in (31), this type of verb phrase does show a high-low pitch pattern—so, it has at least one important characteristic of the core verb phrase prosodic constituent. Furthermore, as we will see in section 6.2.4, when these preverbal elements are followed by *'a*, there is good evidence they are interpreted as independent words. This will allow them to be straightforwardly analyzed once a treatment of the behaviour of clearly subminimal verb phrases is fully developed.

It is worth pointing out, at this point, that, when the whole picture of Chechen verbal conjugation and derivation is examined, classifying verb phrase types in Chechen according to the four prototypical types in (35), to a certain extent, overstates how frequently core verb phrases will not be a minimum of two words. For instance, the examples given to this point have only contained verbs in non-periphrastic tenses. However, periphrastic progressive and perfect forms

are quite common in Chechen and take the shape of a simultaneous or past converb form of a verb followed by an inflected form of the verb *du* 'to be'. Examples are given in (36). (These constructions are quite similar structurally to the English *be . . . -ing* progressive form.)

(36) a. *Ahwmad c'a vallalie, irs* ***dolush*** ***vara***.
Ahmed house V.come.CVPOST happiness D.be.CVSIM V.be.WP
'Before Ahmed got home, he was happy.'

b. *Mariam cicigash* ***iacna*** ***ju***.
Mary cat.PL buy.CVANT J.be.PRS
'Mary has bought cats.'

In (36a) a periphrastic past progressive tense is given, and in (36b) an example of the perfect is given, with relevant verbal elements bolded. These periphrastic tenses automatically consist minimally of an 'expanded' two-word verb phrase given their converb+verb syntax.

Similarly, some of the most productive processes of verbal derivation in Chechen create verbal units which are automatically at least two words long. Verbal compounding, for example, where any one of a number of 'auxiliary' verbs is preceded by a non-verbal element is common and examples are given in (37).

(37)

VERB	GLOSS	TRANSLATION
maaxa tuuxu	'needle hit.INF'	'inject'
doogha tuuxu	'lock hit.INF'	'lock'
dog dooghu	'heart come.INF'	'be inclined'
mohw hwoqu	'cry smear.INF'	'cry, shout'
kyygie doedu	'hand.ALL go.INF'	'make peace'

What these facts show is that, while there are some verb phrases which certainly do not fit into a two-word template and others which do not fit clearly into such a template, productive aspects of verbal inflection and derivation create more verb phrases which are at least two words than might be expected solely on the basis of the prototypes presented in (35). This is relevant here because, in section 6.3, I will fully develop the analysis that there is a two-word template associated with the Chechen core verb phrase. This argument would be weakened if

exceptions were as common as they might appear to be from a cursory inspection of the verb phrase prototypes being used here for expository purposes.

6.2.4 The proclitic+*'a* combination

Before completing the analysis of the Chechen verb phrase which treats it as being associated with a phrasal template and exhibiting phrasal NDEB, there is one more issue which should be discussed: the prosodic status of combinations of verbal-proclitic+*'a*. Since *'a* is an enclitic, it is not obvious what the prosodic status should be of such a combination since it consists of two units which, on their own, are phonologically dependent. An example of this combination of elements is given in (38), where they are written as two separate words and bolded.

(38) *Maliikas Ahwmadna zheina* ***dwa 'a*** *della, dwa-jaghara.*
Malika.ERG Ahmed.DAT book DX & D.give.WP DX-J.go.WP
'Malika gave the book back to Ahmed and left.'

Deictic elements like the one in (38) are impressionistically proclitic to the verb when preverbal *'a* is not present in the verb phrase. However, when *'a* intervenes between these elements and the verb, this phonological dependence is lost and they impressionistically sound like a free word, followed by encliticised preverbal *'a*.

This fact is reflected in the Cyrillic orthography where a deictic element and the following verb are typically written as one word except when *'a* intervenes between the two, in which case three orthographic words are written—the deictic element, preverbal *'a*, and the verb.[21] This can be seen in the sentences in (39) which were taken from a fragment of a text found online. The original Cyrillic transcription is given in (39a), where sentences containing the relevant forms are italicised. The italicised sentences are transliterated into the Roman orthography used in this paper in (39b) and (39c), where they are also glossed and translated.[22]

21. A similar practice is followed in the examples here. However, since I have rendered them into the orthography of this paper, this fact cannot be used to support the claim that a proclitic followed by *'a* is not perceived as leaning on the following verb.

22. The fragment, from a short text entitled 'Doxk' (which means 'fog'), was found at:

The first italicised sentence in (39a) contains a bolded orthographic form which corresponds to the transliteration *dwa 'a vaxana* 'DX & V.go.CVANT' in (39b). Preverbal *'a* intervenes between the deictic element and the verb in this sentence, and the deictic element is written as a separate word from the verb. The second italicised sentence in (39a) contains the bolded orthographic form corresponding to *dwavaxcha* 'DX.V.go.CVTEMP' in (39c). The verb in this sequence appears in the temporal converb form, which is used to head subordinate clauses expressing similar semantics to English *When...* clauses. This form is never preceded by preverbal *'a* and the deictic element and following verb are written as one word.

(39) a. *Чечанхочо дийцина: лаха* ***д1а а вахана****, аьрру аг1ор д1а ма-хьевзинна бу а хьуна и некъ аьлла* Г1ойт1апхочо шена и карор бац, ван а болий айхьара и некъ аьлла дехна цуьнга. 'Доккха х1ума ду-кх шега дуьйцучух ца хетап'—бохуш, г1ам-г1ам а деш, хьалха а ваьлла, некъ гайта веана чечанхо.

Жимма ***д1авахча****, юха а вирзина, чечаншочо шаьттина, вайщиъ мичахъ ву аьлла.*

b. *Cheechanxuochuo diicina: laqa* ***dwa 'a vaxana***
Cheechan_man.ERG Dsay.CVANT up DX & V.go.CVANT
aerru aaghuor dwa ma hweuzzina bu hwuuna
left crooked DX &sim turn.GEM.CVANT B.be.PRS 2s.DAT
niaq' aella.
road QUOT
'The man from Cheechan said, "When you get up there, the road turns off to the left."'

c. *Zhimma* ***dwavaxcha****, juxa 'a virzina,*
little_bit DX.V.go.CVTEMP back & V.turn.CVANT.
cheechanxuochuo xaettina, vaishi' michahw vu aella.
Cheechan_man.ERG ask.NWP 1pi.two at_where V.be.PRS QUOT
'The man from Cheechan went a bit further, then turned around and said, 'Where are we?" (Or: 'They went a bit further, and then the man from Cheechan turned around and said, "Where are we?"')

http://orga.narod.ru/folklor/c502.htm (accessed August 30, 2004)
Johanna Nichols assisted in the analysis of these sentences.

I take the combination of impressionistic and orthographic evidence as a good indication that proclitics followed by preverbal *'a* are separate phonological words from the verb, even though their status as independent words is unclear when preverbal *'a* does not follow them.

Deictic proclitics, like *dwa*, are the preverbal elements which are the least word-like in their phonology. What this means then is that, even in the cases where the host of preverbal *'a* is an element that sometimes appears as a proclitic or some other partially dependent element, a core verb phrase consisting of [X=*'a* V] can be readily analyzed as containing two phonological words. The consequences of this for the analysis given here of the Chechen verb phrase will be discussed in section 6.3.3, specifically with reference to the table in (46).

While I take the evidence just presented to justify an analysis of the verbal-proclitic+*'a* combination as a phonological word in Chechen, it should be pointed out that this would appear to be a language-specific (or perhaps clitic-specific) phenomenon. Chung (2003:551) reports that certain proclitic+enclitic combinations in Chamorro, an Austronesian language, do not constitute a well-formed prosodic word. I leave as an open question why Chechen and Chamorro behave differently in this way.

Having discussed some important prosodic characteristics of the core verb phrase, in the next section I fully develop the analysis of the Chechen verb phrase as being associated with a phrasal template and as exhibiting NDEB effects.

6.3 The Chechen verb phrase template and phrasal NDEB

6.3.1 Introduction

In this section, I will complete the development of the analysis of the Chechen verb phrase as being associated with a phrasal template (specifically a two-word minimal size template) and as exhibiting phrasal NDEB. The Chechen data seen here raises two separate, but related, questions which must be accounted for by the analysis. First, why do simplex intransitive verb

phrases behave differently when preverbal *'a* is present, creating contrasts like the one between the verb phrases headed by the verb 'laugh' in (40a) and (40b)? Second, when preverbal *'a* is present, why does the obligatory copy infinitive only appear in verb phrases headed by simplex intransitive verbs, creating contrasts like that seen in the conjoined verb phrases in (40b) and (40c)?

(40) a. SIMPLEX INTRANSITIVE WITHOUT PREVERBAL *'a*, NO COPY INFINITIVE
So voelu.
1s V.laugh.PRS
'I am laughing.'

b. SIMPLEX INTRANSITIVE WITH PREVERBAL *'a*, OBLIGATORY COPY INFINITIVE
Maalik ***viela*** *'a viilara* ***vialxa*** *'a vilxara.*
Malik V.laugh.INF & V.laugh.WP V.cry.INF & V.cry.WP
'Malik laughed and cried.'

c. COMPLEX VERBS WITH PREVERBAL *'a*, NO COPY INFINITIVE
Maliika loomax hwal 'a jeelara ohwa 'a joessara.
Malika mountain.LAT up & J.go.WP down & J.descend.WP
'Malika climbed up and down the mountain.'

The core aspects of the analysis I will give to account for oppositions like those in (40) have already been discussed. The first part of the analysis is a stipulation that Chechen places a two-word templatic restriction on its verb phrases. This will be discussed in more detail in section 6.3.2. The second part of the analysis involves applying Inkelas and Orgun's (1995) notion of Level Economy to the phrasal phonology of Chechen. This will be done in section 6.3.3.

6.3.2 The structure of the Chechen verb phrase template

As discussed above, an important part of the analysis of the Chechen verb phrase given here is that there is a phrasal template operative in the language's grammar. Specifically, a two-word minimal size restriction is taken to be imposed on verb phrases in the language. This is schematised in (41). This minimal size restriction at the phrasal level is understood be a phonosyntactic analog to morphophonological minimal size restrictions of the sort discussed in section 2.

(41) Chechen core verb phrase template: [[ ]$_{\omega}$ [ ]$_{\omega}$]$_{\phi}$

As discussed above in section 6.1, a two-word phrasal restriction of the sort given in (41) has been previously proposed for the Serbo-Croatian topic construction by Inkelas and Zec (1995).[23] So, proposing a two-word phonological phrase template is not unprecedented. However, the proposed Chechen template differs from Inkelas and Zec's (1995) template in an important way. The two-word restriction in the data that they examine has a 'filtering' effect, making certain expressions ungrammatical. In the Chechen case, the template will be understood to force the insertion of a dummy element—much like what was seen for Ndebele and Ciyao in section 2.

Clearly, templates are potentially very powerful analytical devices, since they can amount to essentially arbitrary stipulations on linguistic forms. Importantly, however, the template being proposed for Chechen here has a highly specific form which appears to be consistent with restrictive theories on the possible shapes of templates. As pointed out by Zec and Inkelas (1990:544), there is a parallel between a two-word phrasal restriction and two-unit minimal size constraints used in morphophonological analysis. And, within morphophonology a restrictive theory of templates has been proposed, namely the Prosodic Morphology Hypothesis which 'requires that templatic restrictions be defined in terms of prosodic units (McCarthy and Prince 1995b:320).' McCarthy and Prince (1995b:319), in particular, single out the prosodic units of the mora, the syllable, the foot, and the phonological word as possible templatic shapes.

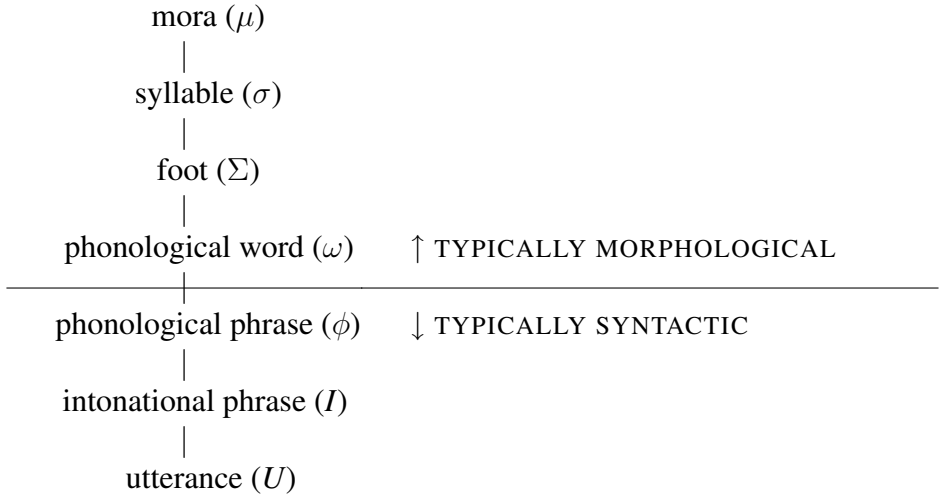
In fact, while the Prosodic Morphology Hypothesis, as formulated in McCarthy and Prince (1995b), is presented as a theory of templates at the word-level and below, it is not clear why the

23. Zec and Inkelas (1990) and Inkelas and Zec (1995) do not specifically use the term 'template' in their description. They also characterise the restriction not specifically in terms of words but rather, in terms of branchingness or heaviness. Finally, it is worth pointing out that while the Serbo-Croatian topic has been discussed here to illustrate Zec and Inkelas's (1990) 'phrasal templates', they also suggest that certain English constructions show similar behaviour.

hypothesis should be limited to morphophonological templates and not also apply to phonosyntactic ones. An important aspect of the Prosodic Hierarchy (Nespor and Vogel (1986), Selkirk (1984, 1986)), which McCarthy and Prince draw from in stating their hypothesis, is that it is understood to be a hierarchy of phonological constituency which is 'not necessarily isomorphic to any constituents found elsewhere in the grammar (Nespor and Vogel 1986:299)'.

A version of the Prosodic Hierarchy is given below in (42). The horizontal line indicates the division between prosodic constituents which more typically interact with morphological constituents and those which are more typically interact with phonological constituents. Constituents above horizontal line are taken from McCarthy and Prince (1995b:320), and lines below the line are drawn from Nespor and Vogel (1986) (with the removal of their category of the clitic group). McCarthy and Prince's (1995b) hierarchy is chosen specifically because of how it is tied to their formulation of the Prosodic Morphology Hypothesis. Nespor and Vogel's (1986) is chosen for illustrative purposes (see Inkelas and Zec (1995:538–9), and references therein, for discussion of the higher levels of prosodic constituency).

(42) PROSODIC HIERARCHY



McCarthy and Prince's (1995b) formulation of the Prosodic *Morphology* Hypothesis implicitly suggests that templatic constructions in language are sensitive to the division of of the prosodic hierarchy made by the horizontal line in (42). Specifically, templatic restrictions can be

stated in terms of categories above the line, but not below it. A striking fact about the statement of the Chechen template in (41) is that it would fit straightforwardly within the predictions of the Prosodic Morphology Hypothesis if the line in (42) were simply 'removed' and the hypothesis was renamed something along the lines of the 'Prosodic Theory of Templaticity'. Specifically, the Chechen template can simply be understood as a stipulation that Chechen verb phrases be prosodically heavy, consisting of two immediate prosodic subconstituents (i.e., two phonological words) in the same way that, for example, a heavy syllable has also been understood as consisting of two immediate subconstituents (i.e., two moras).

Though they do not connect it directly to the Prosodic Morphology Hypothesis, Inkelas and Zec (1995:543–6) have essentially the same idea in mind in their discussion of branching requirements for phonological phrases. And, in fact, while the data in this paper has focused on a templatic restriction on phonological phrases, Inkelas and Zec (1995:546), citing Zec and Inkelas (1990:377), discuss a similar two-unit restriction on an even higher prosodic constituent, the intonational phrase.

The Chechen data discussed in this paper as well as the data discussed by Inkelas and Zec (1995:543–6) can be understood as providing empirical support to something like a Prosodic Theory of Templaticity. Such a theory also seems reasonable from a formal perspective. Given that the constituents of the Prosodic Hierarchy are explicitly supposed to be independent from morphological and syntactic constituents, the restriction of the application of the Prosodic Morphology Hypothesis to prosodic constituents at or below the level of the phonological word does not obviously follow from the basic structure of the theory. That is, it is simply not clear why the grammars of languages should be sensitive to the line in (42).

Importantly, I do not intend this discussion to be a criticism of the Prosodic Morphology Hypothesis. McCarthy and Prince (1995b), and the large body of work cited within, seem

to have stated their hypothesis on templates with respect to typically morphological prosodic constituents simply because they were focused on the analysis of morphophonological data. In fact, I take the data in this paper to support the basic hypothesis since it so straightforwardly extends to data outside the domain which McCarthy and Prince were considering.

Returning to the Chechen data being focused on here, the critical point to take from this discussion is that, within the larger picture of templates in phonological theory, the basic form of the Chechen template proposed in (41) would not appear to be at all unusual—it is simply a heavy prosodic constituent. I take this to support the analysis of the verb phrase as being associated with a template.

A final question to be addressed with respect to this analysis is whether or not the association of a templatic restriction specifically with a verb phrase, as schematised in (41), can similarly be understood as consistent with an expanded version of the Prosodic Morphology Hypothesis. McCarthy and Prince (1995b:323-4) understand templatic restrictions as being imposed on morphological categories via statements equating particular morphological categories with particular prosodic categories, along the lines of the schematic representation in (43a), where MCat stands for some morphological category and PCat stands for some prosodic category.[24]

(43) a. MCat = PCat

b. GCat = PCat

The data seen here would seem to argue for generalizing McCarthy and Prince's schema to the one given in (43b) where MCat has been replaced by GCat, standing for some general grammatical category. This, in fact, would seem to be more or less consistent with their approach

24. While the '=' sign is used in the schemas in (43) for illustrative purposes, in the Chechen case, a '$\geq$' may be more appropriate since the template seems best understood as a minimality template, rather than an absolute one. However, being certain of this requires a better understanding of the entire prosodic system of the language and, specifically, verifying which general prosodic category the core verb phrase prosodic constituent should be associated with. (Aspects of this issue were discussed in section 6.2.)

given that McCarthy and Prince (1993:34) explicitly view morphological categories as a subset of grammatical categories. Given this further generalisation of McCarthy and Prince's work, the Chechen data can be understood as consistent with the 'Prosodic Theory of Templaticity' as long as a verb phrase without its adjuncts can be considered a valid grammatical category, which seems quite reasonable.

A question I leave open here is exactly what set of non-morphological grammatical categories (i.e., GCats) can generally be equated with prosodic templates. In addition to the category of unmodified verb phrase whose inclusion is merited by the Chechen data seen here, Inkelas and Zec's (1995) analysis of the Serbo-Croatian topic construction, discussed in section 6.1 indicates that topicalised phrases are another such GCat. Devising a general list of such categories, however, would seem to require further empirical investigation.

A final point to be made in this part of the discussion is that, in developing an analysis of templates making use of constraints on category alignment, McCarthy and Prince state that they view their model as, 'extending extending to word-internal constituency the edge-based theory of the syntax/prosody interface (McCarthy and Prince 1993:34)' (for discussion of edge-based theories of the phonology-syntax interface, see, e.g., Chen (1987), Hale and Selkirk (1987), Selkirk (1986), Selkirk and Shen (1990)). The proposal in this paper can be viewed as a very similar move, but in the opposite direction, with the prosodic theory of templates developed for the morphology-phonology interface being extended to the phonology-syntax interface, pointing the way to a more unified view of the interface between prosody and morphosyntax generally.

Having established that the template being proposed here for the Chechen verb phrase can be readily understood as consistent with a generalised version of a well-known restrictive theory of templates, I now turn to understanding the role of preverbal *'a* in triggering its realisation.

6.3.3 Level Economy and NDEB in the Chechen verb phrase

I begin this section with an assumption about a way in which a syntactic constituent can be understood as DERIVED with respect to the application of phonological rules: *A syntactic constituent can be said to be phonologically derived if syntactic requirements force the inclusion of phonological material into the constituent which alters its prosodic structure.* I do not mean to imply this is the only possible way a syntactic constituent can be derived from a phonological perspective. However, this is how I take the term to apply narrowly here.

This definition is intended to make an immediate prediction with respect to the effects a clitic can have on the status of a syntactic constituent as being phonologically derived or non-derived. A clitic which leans away from its syntactic 'host' will create a derived phonological environment, while a clitic which leans on its syntactic host will not create a derived environment. The reasoning behind this is schematised in (44) which gives a prosodic structure of a proclitic placed to the left of its syntactic host in (44a) and a similarly placed enclitic in (44b)—preverbal *'a*, of course, would fall into this second schema.[25]

(44) a. [*proclitic*=[*word*]$_\omega$]$_\omega$

b. [[. . .]$_\omega$=*enclitic*]$_\omega$ [*word*]$_\omega$

As schematised in (44a), a clitic which leans on its syntactic host adds phonological material but does not add prosodic structure to the constituent while a clitic which leans away from its syntactic host necessarily expands the prosodic structure of its syntactic constituent. Of course,

25. In (44) I treat the prosodic constituent consisting of a phonological word plus a clitic to form a larger phonological word. Some authors (e.g., Nespor and Vogel (1986)) have argued for a clitic group prosodic constituent intermediate between the phonological word and the phonological phrase, which this combination of a word and a clitic would be expected to fall into. Assuming some version of the Strict Layering Hypothesis (Selkirk 1984:26–7), the use (or lack thereof) of this category would not affect the present discussion of the notion of a derived phonological phrase. It would simply require a relabeling of the clitic+host unit as a clitic group and a relabeling of the immediate subconstituents of a phonological phrase a clitic group instead of a phonological word.

other aspects of a language's syntax might also cause the constituent to be expanded, but this does not change the fact that a ditropic clitic will as well.[26]

Assuming the notion of a phonologically-derived syntactic constituent just developed, we can schematise a 'derivation' of several Chechen verb phrases as in (45). This table brings together (i) the templatic restriction schematised in (41) and (ii) Inkelas and Orgun's (1995) notion of Level Economy, discussed in section 2, in only applying a restriction on the shape of core verb phrases to verb phrases which are derived in the sense just developed.[27]

(45)

	V.laugh.PRS	V.& laugh.WP	V.laugh.INF & laugh.WP
UR	*voelu*	*'a viilara*	*viela 'a viilara*
Core VP ($[\omega\omega]_{\phi}$)	—	*[[='a] [viilara]]	$[[viela='a]_{\omega}$ $[viilara]_{\omega}]_{\phi}$
Surface	$[voelu]_{VP}$		$[[viela='a]$ $[viilara]]_{VP}$

In (45) I give three 'derivations' for different Chechen verb phrases. The first verb phrase, simply consisting of one word *voelu* 'V.laugh.PRS', is taken from sentence (35a). While it does not meet the two-word minimality restriction of the core verb phrase, it is not taken to be subject to this requirement, being a non-derived verb phrase, and it can surface grammatically.[28] The second verb phrase is ungrammatical since it is a subminimal verb phrase without a host for preverbal *'a* but containing *'a*—it is, thus, derived and, therefore, subject to the two-word minimality restriction but cannot meet it. The third verb phrase *viela 'a viilara* 'laugh.INF & laugh.WP', seen in (23), contains a copy infinitive which allows it to both contain *'a* and

26. A prediction of this analysis is that if there were another enclitic in Chechen with the syntactic placement of preverbal *'a*, it, too, would create a derived syntactic phrase. This prediction is, unfortunately, untestable since there is no other enclitic appearing preverbally in the language.

27. I use the tables in (45) and (46) as an informal way to clarify the analysis being proposed here. As will be discussed in section 6.4, many models of the phonology-syntax interface are not straightforwardly compatible with the sort of analysis implied by (45) and (46). The model in McHugh (1990), however, is the most explicitly compatible with the notion of phrasal 'derivation' since it models the phrasal phonology in a way which is similar to the way affixation is modeled in traditional Lexical Phonology.

28. Some separate principles of phrasing will have to be invoked to understand how such a subminimal verb phrase ultimately gets parsed in the phrasal phonology of the sentence, often by phrasing with the subject. Understanding the nature of such principles will have to await further investigation the phrasal phonology of Chechen.

fulfill the two-word minimal size requirement. It is, thus, correctly predicted to be grammatical. (Below, in section 6.5, I will touch upon the issue of why a copy infinitive is used in Chechen as the dummy element to fill out the template.)

In (46) I give three more derivations to illustrate the analysis.[29] In the first derivation, I give an instance of a verb phrase containing the negative imperative proclitic *ma*. Since *ma* leans on its host verb, it does not form a derived environment for the application of the minimal size constraint, accounting for the grammaticality of *ma aala* '&NEG say.IMP', seen in (21a). (As seen in (21b), negative imperatives can contain a focal copy infinitive, but they do not contain an obligatory copy infinitive, consistent with the analysis developed here.) The second two derivations involve verb phrases containing preverbal deictic elements, one of which does not contain preverbal *'a* and the other of which does contain it. The verb phrases are both drawn from the example and (18b). In the case of the verb phrase not containing preverbal *'a*, it is understood as non-derived since the deictic element is proclitic to the verb and, therefore, the two-word minimal size restriction does not apply. When preverbal *'a* is present, the two-word restriction does apply, but it is met since the proclitic+*'a* combination, as discussed in section 6.2.4, forms its own prosodic word, and the constituent is (correctly) predicted to be grammatical.

(46)	&NEG say.IMP	DX V.go.WP	DX=& D.give.WP
UR	*ma aala*	*dwa vaghara*	*dwa 'a della*
Core VP ($[\omega\omega]_\phi$)	—	—	$[[dwa='a]_\omega\ [della]_\omega]_\phi$
Surface	$[ma=aala]_{VP}$	$[dwa=vaghara]_{VP}$	$[[dwa='a]\ [della]]_{VP}$

The reasoning behind the assertion that Chechen exhibits phrasal NDEB should now be clear. The two-word minimal size restriction only applies in phrasal environments in which the insertion of a 'wrong-leaning' enclitic creates prosodically derived environments, but it does

29. As with the subminimal verb phrase *voelu* 'V.laugh.PRS' just discussed, some independent principles of phrasing will need to be invoked in order to understand how the subminimal verb phrases in (46) are ultimately parsed in the sentences where they surface.

not apply in environments which are not similarly derived, resulting in the surfacing of 'sub-minimal' verb phrases in certain cases. This can be seen most clearly with simplex intransitive verbs which unambiguously consist of one syntactic and one prosodic word. It can also be seen in cases where a verb is preceded by a proclitic.

As discussed in section 1, this is the first case I am aware of where NDEB has been proposed for the phonosyntax, and it would, therefore, seem to provide an interesting addition to the reported cases of NDEB.

In the next section, I will discuss some of the theoretical consequences this analysis of the Chechen data has for models of NDEB and for models of the phonology-syntax interface.

6.4 Some theoretical implications of phrasal templates and phrasal NDEB

I have made a very deliberate attempt in this paper to use previously-developed theoretical machinery in analyzing Chechen in order to make the analytical conclusions as independent as possible from any devices developed specifically for the data. To the extent that I have done this, the account of phrasal NDEB developed here is compatible with at least one other approach developed for NDEB effects, that discussed in Inkelas (2000:30–33), from which I borrowed the notion of using Level Economy to account for NDEB in certain cases.

In that sense, this case of NDEB in Chechen would not seem to pose a major obstacle to developing a general theory of the phenomenon, as long as one is willing to assume that phrasal NDEB is possible at all. The analysis presented here does, however, potentially create interesting issues for models of the phonology-syntax interface which make use of algorithms creating mappings between syntactic structure and prosodic structure (see, e.g., Nespor and Vogel (1986:168), Selkirk (1986), Inkelas and Zec (1995:539–43), Truckenbrodt (1999)). It is not immediately clear how a minimal size restriction, sensitive to derived environments, would fit into these models which operate with, as their general approach, fully-defined syntactic struc-

tures from which prosodic structures are automatically determined. I do not believe the Chechen data presents an insurmountable challenge to these approaches. However, it does indicate that mapping algorithms on their own may be inadequate to account for the full range of possible interactions between phonology and syntax.

Importantly, the analysis given here is straightforwardly in line with other approaches to the phonology-syntax interface. Zec and Inkelas (1990), for example, propose a bidirectional interaction between a language's syntax and phonology where all interactions must be 'mediated by prosodic structure (Zec and Inkelas 1990:365)'. We have seen that the Chechen case can be understood to be consistent with this constraint, and, therefore, it would seem to be compatible with their approach.

Furthermore, there exist proposals allowing for even more direct interaction between the phonology and the syntax, e.g., Hayes' (1990) Precompiled Phrasal Phonology, Kaisse's (1985, 1990) P1 rules, and Odden's (1990) Lexical Sandhi Theory. No one has applied these models to data involving phrasal minimality to the best of my knowledge. Precompiled Phrasal Phonology, to the extent that it is designed to deal solely with word-level alternations, cannot straightforwardly be applied to the Chechen case. However, the latter two proposals assume that many aspects of Lexical Phonology will be found in the phrasal phonology and therefore seem to be roughly compatible with the analysis seen here.

Given the links made between the Chechen data and the Prosodic Morphology Hypothesis, an obvious question is whether or not the data is amenable to an Optimality Theory analysis, given the success of that approach in analyzing morphophonological templates. Selkirk (1996) has adapted a mapping model of the phonology-syntax interface to Optimality Theory, laying some of the foundations for answering such a question by showing a method for modeling the phonology-syntax interface within that framework. In the present context, Truckenbrodt's

(1999) proposed Wrap-XP constraint, which states that every major syntactic phrase must be contained in a phonological phrase, is of interest when viewed in light of the fact that the obligatory copy infinitive could be understood as ensuring that preverbal *'a* be bounded in a phonological phrase with its syntactic 'host'. Since Truckenbrodt (1999) assumes a unidirectional 'mapping' approach to the phonology-syntax interface, his proposals cannot be trivially applied to the Chechen case, but they, nevertheless, might point the way to a future Optimality Theory treatment of the Chechen facts.

In conclusion, then, while the analysis of Chechen given is potentially problematic for some theories of the phonology-syntax interface, it would seem to be compatible with others—especially the prosodically-constrained bidirectional model put forth in Zec and Inkelas (1990), and it is also compatible with a previous treatment of NDEB, namely that of Inkelas (2000:30–33).

In the next section, I will discuss the issue of why the filler element for the Chechen template might be a copy infinitive—as opposed to some other possible item.

6.5 Why a copy infinitive

I will not try here to develop a full account of why the filler element for the Chechen template is a copy infinitive—as opposed to any other word-sized element. The actual shape of the filler element is independent of whether or not some minimal size restriction is enforced in the grammar by insertion of an element. This was clearly seen in section 2 in the contrast between Ndebele's word-level size restriction which triggered insertion of a dummy *yi-* element and Ciyao's similar restriction which triggered 'double' reduplication.

However, there is something that can be said about the particular shape of the Chechen filler element here, and I am aware of at least two potential ways to explain why a copy infinitive specifically is used to fill out the template—and neither explanation necessarily excludes the

other.

The first possible explanation is simply to suggest that copying is not only an available morphophonological strategy for template fulfillment, as seen for Ciyao, but is also an available morphosyntactic strategy. However, as discussed in Conathan and Good (2001), the correspondence between the copy infinitive and main verb in Chechen is best characterised morphosyntactically, not phonologically, whereas morphophonological copying has been described as phonological correspondence (see, e.g., McCarthy and Prince (1995a), and, for a competing view, Inkelas and Zoll (1999)). So, the extent to which a generally available 'copying' strategy can be invoked to account for the copy infinitive depends on the extent to which morphosyntactic copies can be related to morphophonological copies. I leave this issue open here.

A second possibility for explaining why a copy infinitive is employed to fill out the template relates to the independent (from a synchronic perspective) existence of the focal copy infinitive construction, discussed in section 5.2. The sentence in (47), repeated from (22), contains two instances of the focal use of the copy infinitive. The absolutive objects of the two conjoined verb phrases could host preverbal *'a*. However, instead, (bolded) copy infinitives are used marking the contrast between the verbs in the two conjoined verb phrases.

(47) *Maliikina Ahwmad* ***ga*** *'a gira Mariam* ***xaza*** *'a xezara.*
Malika.DAT Ahmed see.INF & see.WP Mary hear.INF & hear.WP
'Malika saw Ahmed and heard Mary.'

It could be the case that the obligatory copy infinitive is, in some sense, 'parasitic' off of the focal use of the infinitive. That is, an already existing construction in the language is being co-opted to fill out the template instead of an entirely new construction being created. In this sense, the obligatory copy infinitive could be likened to similarly 'meaningless' syntactic elements found in many languages. English auxiliary *do*, for example, which critically features in many grammatical constructions without having an obvious meaning can still be morphologically

associated with the main verb *do*. Similarly, expletive *it* in sentences like *it's raining* is non-referential but has the same form as referential *it*.

Of course, in those English cases, the appearance of these dummy elements is generally understood to be syntactically, not phonologically conditioned. A comparable case of a 'pre-existing' inserted dummy element, attributed to phonological conditioning, again comes out of Bantu. In a general discussion of strategies for fulfilling minimal size restrictions found in Bantu languages, Gowlett (1984:199) points out the case of Lamba where he interprets locative suffixes as being employed for this purpose. Illustrative forms taken from Doke (1938:247) are given in (48). Forms in the second half of the table represent subminimal stems which can surface grammatically only with a locative enclitic. (The translations in (48) are those of Doke; the glosses are my own.)

(48)

STEM	IMP	GLOSS	TRANSLATION
-cit-	*cita*	'do-FV'	'do!'
-kak-	*kaka*	'bind-FV'	'bind!'
-ēndesy-	*ēndesya-*	'go.fast-FV'	'go fast!'
-y-	*y-a=ko*	'go-FV=at'	'go there!'
-nw-	*nw-a=mo*	'drink-FV=in'	'drink of it'
-p-	*p-a=po*	'give-FV=on'	'give!'

Doke (1938) is not completely clear on the extent to which the locative suffixes in the second half of the table in (48) are contributing identifiable semantics to their verb. For the imperatives based on 'go' and 'drink', he translates them in a way which indicates the suffix may be contributing some meaning. However, in the case of the imperative based on 'give', no extra locative meaning is indicated. There is some indication, therefore, that, at least for this verb, the primary function of the locative enclitic is to allow fulfillment of a minimal size restriction. Unlike the Ndebele case, for example, the dummy element can be associated with an existing lexical item, much like the obligatory copy infinitive in Chechen can be associated with the focal copy infinitive.

So, while I can offer no definitive analysis as to why the filler element for the Chechen verb phrase template is a copy infinitive, there appear to be two reasonable routes to take in developing an analysis. One is to consider the copy infinitive a special case of a more general phenomenon of templatically-induced copying. The other is to view it as 'borrowed' from an existing construction. Since neither suggestion is incompatible with the other, there is no reason to suggest that both factors could not contribute to an ultimate account of the problem.

7 CONCLUSION

In this paper I have attempted to show (i) the appearance of the copy infinitive in Chechen is best interpreted as being phonologically conditioned, (ii) a two-word minimal size template is imposed on verb phrases in Chechen, and (iii) this template is only obligatorily applied in derived environments. In my own view, the most striking aspect of the analysis is the extent to which phonological tools previously developed for word-level phenomena, like the Prosodic Morphology Hypothesis and Level Economy, can be straightforwardly extended to the Chechen data.

I would like to conclude then with pointing out what I believe to be two broader implications of this analysis. The first is that it suggests that word-level and phrase-level phonology are more similar than some models of the phonology-morphology and phonology-syntax interface have suggested. This idea is certainly not new to the present paper. Kaisse (1985) and Odden (1990) both suggest, for example, something along the lines of extending Lexical Phonology in to the syntax. And Zec and Inkelas (1990) argue for the possibility of prosodically-constrained syntax, as I have also done here. The present study supports these views by adding another case study to the literature of a syntactic phenomenon which justify (i) the idea that syntactic constructions can exhibit effects associated with Lexical Phonology and (ii) that syntax can be constrained by requirements of prosodic constituency. Furthermore, the Chechen data, to the

best of my knowledge, represents two new instances of a typically word-level phenomena being reported in the syntax—namely, a template which triggers the insertion of a 'dummy' element and phrasal NDEB.

A second implication of this study I would like to discuss lies more specifically with syntactic than phonological theory. A number of syntactic frameworks (in particular those associated with Transformational Grammar) make a distinction between the so-called Logical Form (LF) and Phonological Form (PF) of syntactic representations. The data in this paper makes some division along those lines appealing—the obligatory copy infinitive can be understood as resulting from restrictions solely on the Phonological Form of Chechen sentences, thus directly accounting for why it has no discernible semantics which would be associated with Logical Form.

It is, in fact, possible to find syntactic analyses invoking Phonological Form in ways not dissimilar from the invocation of prosodic phonology and templates seen here. For example, Bobaljik (2002) on the basis of subtle data involving *there*-existentials in English (as well as German and Icelandic) develops an analysis which 'takes expletive *there* to be inserted in the phonology (Bobaljik 2002:248)'.[30] Furthermore, he suggests that expletive *there* is 'inserted (at PF) only to fill some phonological requirement having to do with the left edge of the clause…(Bobaljik 2002:250)'.

Putting aside the question of whether or not Bobaljik's analysis is syntactically justified, I believe that, while his statement that a word like *there* is inserted purely for phonological reasons is not inherently unreasonable (indeed, my own suggestion for Chechen obligatory copy infinitives is very similar), any claim about such a striking 'phonological' effect in the syntax should either be deeply grounded in existing theories of phonology or, barring that, should

30. By *there*-existentials, I mean sentences like, *There is a unicorn in the garden.*

clearly point out what developments in phonological theory would be needed for such a claim to be rigorously tested.

In the Chechen case—and in the case of English *there*-insertion—the apparent lack of any semantics associated with an obligatory element laid the groundwork for an analysis motivating the appearance of that element phonologically. However, in the Chechen case further support for such a phonological analysis was found in the fact that the construction could, in fact, be given a fairly systematic phonological analysis using previously developed phonological devices. The lesson to be learned from this, I believe, is that attributing some syntactic effect to 'phonology' should not be done in a theoretical vacuum but, rather, should draw, to the extent possible, on mechanisms specifically developed to deal with phonological phenomena.[31]

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31. Chung (2003) offers a case of just the sort of approach I am advocating by clearly articulating the relationship between the syntactic and phonological aspects of her analysis of the placement of weak pronouns in Chamorro and specifically situating her phonological analysis within existing work on the phonology-syntax interface and prosodic constituency, as well as work in syntactic theory itself.

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