Enclisis and Proclisis in Bosnian/Serbian/Croatian

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1. Introduction

This paper is concerned with the prosodic parsing of clitics in Bosnian/Serbian/Croatian (henceforth BSC).[1] By *clitics*, I mean:

(1) *clitic*: an independent syntactic word that is not parsed by itself into an independent prosodic word.

Clitics are sometimes *enclitic* on a preceding host word, and sometimes *proclitic* on a following host. BSC attests both enclitics (a) and proclitics (b&c) (clitics are in bold, parentheses indicate prosodic word boundaries):

(2) *Enclitics and proclitics*

a. $_{\omega}$(Mîro **je**)$_{\omega}$ Tȁnju nȁšao.
$_{\omega}$(Miro **AUX3S**)$_{\omega}$ Tanja found
Miro found Tanja.

b. Òna vȉšē $_{\omega}$(**nè** plačē)$_{\omega}$. (B)
she more $_{\omega}$(**NEG** cries)$_{\omega}$
She isn't crying anymore. (M&S:40)

c. Môj pût $_{\omega}$(**òd** kuće)$_{\omega}$ $_{\omega}$(**dò** škōlē)$_{\omega}$ nìje dùg. (B)
my way $_{\omega}$(**from** house)$_{\omega}$ $_{\omega}$(**to** school)$_{\omega}$ isn't long
My way from home to school isn't long. (M&M:12)[2, 3, 4]

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1. This name acknowledges all three politically recognized standards, which I take to be the standards of the capitals Sarajevo, Belgrade, and Zagreb, respectively.

2. Data are from Meyer & Stojićević 1927 (M&S), Magner & Matejka 1971 (M&M), or any of four native speaker consultants. Data whose accentual patterns aren't representative of all varieties are marked *B*, *S*, or *C*. In case of orthographic differences, word data are also marked this way, but phrase and sentence data aren't.

3. I use the standard Roman BSC orthography, but transcribe also vowel length (with the macron), and the word accents using the traditional diacritics:

SHORT FALLING	slȁva 'fame'	LONG FALLING	prâvda 'justice'
SHORT RISING	màgla 'mist'	LONG RISING	gláva 'head'

 WCCFL 23 Proceedings, ed. Benjamin Schmeiser, Vineeta Chand, Ann Kelleher and Angelo Rodriguez. Somerville, MA: Cascadilla Press.

How is it determined that some function words cliticize, and in what direction? In the *subcategorization approach*, clitics subcategorize in the lexicon for enclisis or proclisis (Klavans 1980, 1985, Inkelas 1989, Zec & Inkelas 1990, Halpern 1992, Zec 2002).

(3) *The subcategorization approach*

a.	**je**	$_{\omega}(\ _{\omega}(\quad)_{\omega}\ \_\_\ )_{\omega}$	'AUX3S'
b.	**ne**	$_{\omega}(\ \_\_\ _{\omega}(\quad)_{\omega}\ )_{\omega}$	'NEG'

I, however, will argue for the *interface constraint approach*. In this approach, function word clisis represents optimal alignments of syntactic and prosodic constituents, determined by language-particular rankings of constraints on the syntax-prosody interface (Selkirk 1995, Truckenbrodt 1995, 1999, Basri et al. 1998, Parker 1999). This constraint interaction is modeled in the Optimality Theory framework (Prince & Smolensky 1993).

The rest of the paper is organized as follows. In Section 2, I review the evidence that the clitics I will be discussing are indeed enclitic or proclitic. Sections 3 and 4 present interface constraint analyses of BSC enclisis and proclisis, respectively. Section 5 concludes.

2. Evidence for direction of clisis

2.1. Preliminaries to analysis

So far I have referred to enclisis and proclisis as if these were the only ways clitics are parsed. However, here I follow Selkirk 1995 in assuming a wider variety of possible parses for function words, as follows.

Speaking in terms of how function words relate to prosodic words, I assume six general function word parses, as depicted below. Clitics dependent on some host word can be parsed either into the same prosodic word with their host as an *internal clitic* (a&b), or into a recursive prosodic word as an *affixal clitic* (d&e). In the cases of internal and affixal clitics, we may distinguish enclitics (a&d) and proclitics (b&e):

(4) *Possible function word parses*

a.	(Mìro **je**) (Tànju)	d.	((Mìro) **je**) (Tànju)
b.	(Mìro) (**jè** Tanju)	e.	(Mìro) (**je** (Tànju))
c.	(Mìro) **je** (Tànju)	f.	(Mìro) (**jȅ**) (Tànju)

4. Abbreviations: **ACC/A**: accusative; **AUX**: auxiliary; **COMP**: complementizer; **COND**: conditional; **CONJ**: conjunction; **DAT/D**: dative; **F**: feminine; **FUT**: future; **GEN/G**: genitive; **INST/I**: instrumental; **L**: lexical word; **M**: masculine; **N**: neuter; **NEG**: negation; **NOM/N**: nominative; **PL/P**: plural; **Q**: interrogative; **REFL**: reflexive; **SG/S**: singular; **VOC/V**: vocative; **φ**: phonological phrase; **ω**: prosodic word.

A function word can also be independent of a host, in either of two ways. It might be parsed directly into the next higher prosodic constituent (the phonological phrase), as a *free clitic* (c). Or it might not cliticize, but be parsed as an independent prosodic word, which I call *promotion* (f). We'll see that our most useful diagnostic for prosodic wordhood in BSC is accent.

Before proceeding to the evidence for clisis, I give here an overview of the BSC clisis system, and say to which clitics I will restrict this study. We find that how clitics are parsed in BSC correlates with their syntactic category. Some categories are consistently enclitic (a) or proclitic (b):

(5) *Bosnian/Serbian/Croatian clitics by parse and category*

a. enclitics: weak auxiliaries and pronouns, *se* 'REFL', *li* 'Q'
b. proclitics: *ne* 'NEG', weak prepositions, *ni* (negative particle)
c. other clitics: weak complementizers, conjunctions, and adverbs

Other categories (c) exhibit varying clitic behavior depending on emphasis, position with respect to prosodic boundaries, whether they're followed by enclitics, and dialect. I therefore restrict this study to the consistently enclitic and proclitic words, with the exception of proclitic *ni*, which exhibits unique accentual properties (see Zec 2002).

2.2. Evidence for enclisis

Here, I discuss the evidence that some BSC function words are enclitic. The accentual properties of the enclitics—unlike those of the proclitics—are sufficiently uniform across dialects that we may treat them together.

The following examples illustrate some of the consistently enclitic function words, including verbal auxiliaries, pronouns, *se* 'REFL', and *li* 'Q'.

(6) *Consistently enclitic words*

a. … ne pítajū (jèsmo **li**) gládni …
… NEG ask (AUX1P **Q**) hungry …
… they didn't ask if we were hungry … (M&S:43)

b. (Zdrȁvi **smo**,) … a (zdrȁva **su nam**) i dèčica.
(healthy **AUX1P**) … CONJ (healthy **AUX3P 1DP**) and children
We're healthy … and our children are healthy too. (M&S:50)

c. I (ȍndā **joj se**) po lícu rȁzlī nȅkakō bláženstvo …
and (then **3FDS REFL**) over face spreads some happiness …
And then a look of happiness spread over her face … (M&S:42)

Three pieces of evidence indicate that these categories are enclitic. First, these words tend to induce accent on preceding function words that are otherwise unaccented (Zec 2002); that is, they induce promotion.

(7) *Enclitics induce accent on preceding function words*

a. … **kad** zàčujēm dȍlje lòvačkī rôg …
… **when** hear down hunting horn …
… when I heard the hunting horn downstairs … (M&S:66)

b. … (**kȁd su mi se**) izmàkli Štȅfica, Lȁcica, Tȍmica …
… (**when AUX3P 1DS REFL**) got away Štefica, Lacica, Tomica …
… when Štefica, Lacica, Tomica got away from me … (M&S:67)

This shows that these words are enclitic, because only with following enclitics does *kad* meet minimal size requirements for prosodic wordhood. Moreover, this is *internal* enclisis, because in an *affixal* clitic structure—((*kàd*) *su mi se*)—the inner word would be subminimal. However, internal enclisis after *kad* is not necessarily evidence against affixal enclisis after *lexical* words, since lexical words need not meet minimal size requirements.

A second piece of evidence for enclisis is that even disyllabic enclitics (a), and likewise clusters of two or more enclitics (b), are never promoted.

(8) *Polysyllabic enclitics and enclitic clusters*

a. Pa **ćemo** òpēt stèći kȕću!
CONJ **FUT1P** again acquire house
But we'll get a house again! (M&S:50)

b. … pa **mu se** vȉdē gúste cŕne dlȁke na grúdima.
… CONJ **3M/NDS REFL** sees thick dark hairs on chest
… and you could see thick black hair on his chest. (M&S:40)

On the other hand, polysyllabic pronouns (a), prepositions (b), and other function words are frequently promoted.[5]

(9) *Polysyllabic function words are frequently promoted*

a. Bôg s **tȍbōm,** lûdo dîte!
God with **2IS** foolish child
God be with you, foolish child! (M&S:58)

b. Bȉjēm se **prȍtiv** cȓnog krâlja.
beat REFL **against** black king
I'm fighting against the black king.

Under one possible analysis, such promotion suggests that these

5. The data on the promotion of polysyllables are not clear cut. Disyllabic prepositions are observed both to cliticize and to promote, though promotion is more likely with longer prepositions and longer following words (Draga Zec, p.c.).

categories are parsed as free clitics when monosyllabic, but are promoted in order to satisfy *Exhaustivity* (see Section 3) when they can meet minimal word requirements. Since weak auxiliaries, pronouns, *se*, and *li* are never promoted, this then suggests that they are never parsed as free clitics.

A third piece of evidence for enclisis is that the initial *ć* [tʃʲ] of the future auxiliary undergoes sandhi with the final *-ti* or *-ći* of a directly preceding infinitive. This is illustrated here with the infinitive *dȁti* 'give'.

(10) *Infinitive-future sandhi*

a. (**Dȁt ću** im) mȁti dâr.
(**give FUT3S** 3DP) mother gift

b. (**Mȁti ću** im) đȁti dâr.
(**mother FUT3S** 3DP) give gift
Mother will give them a gift.

This sandhi pattern indicates a close phonological relationship between the verb and the future auxiliary, such as enclisis.

To summarize, the fact that the weak auxiliaries, pronouns, *se*, and *li* never promote suggests that they're not free clitics. The fact that they induce accent on preceding *function* words indicates that in this context, at least, they're internal enclitics. However, no evidence seen so far shows whether they're internal or affixal enclitics when following a *lexical* host. Finally, infinitive-future sandhi also supports an enclitic analysis.

2.3. Evidence for proclisis

I will now examine the evidence that some words are proclitic. Unlike with the consistently enclitic words, the behavior of the proclitics varies significantly across dialects. We must therefore distinguish their behavior in Bosnian from their behavior in Serbian and Croatian (see note 2).

In Bosnian, accent spreads leftward onto *ne* 'NEG' and prepositions from words that in isolation bear a falling accent on their first syllable (see note 3). In Serbian/Croatian, however, such spread is usually not observed.

(11) *Initial falling accents spread to proclitics in Bosnian*

	B	S/C	
a.	nè vidīm	ne vȉdīm	'I don't see'
b.	nè možē	ne mȍžē	'can't (3SG)'
c.	nȅ znām	ne znâm	'I don't know'
d.	ù kuću	u kȕću	'into house'
e.	krȍz grād	kroz grâd	'through town'
f.	kòd crnog krâlja	kod cr̄nog krâlja	'near the black king'

I assume that accent in BSC spreads leftward from its underlying

location (Inkelas & Zec 1988), but is blocked by a prosodic word boundary. Therefore, if a function word receives accent spread from a word to its right, then they must be inside the same prosodic word. In other words, *ne* and prepositions are internal proclitics in Bosnian.

However, even in Bosnian, rising (a&b) and non-initial (c) accents never spread to proclitics. Also, when longer prepositions are promoted, they don't receive accent spread (d).

(12) *Cases where accent doesn't spread to proclitics*

a.	ne mògu 'I can't'	c.	za vagónima 'after train cars'
b.	u krílu 'in lap'	d.	òkolo kȕ́ćē 'around house'

Although there isn't space to go into details here, according to Inkelas & Zec's 1988 analysis, rising accents have already spread as far leftward as they can. In cases like (a) through (c) above, we may therefore still analyze *ne* and prepositions as proclitics in Bosnian. As for promoted prepositions, these aren't clitics, hence are not expected to receive spread.

Further, I propose that differences in accent spread across BSC reflect two kinds of proclisis: *internal* proclisis in Bosnian (a), but *affixal* proclisis in Serbian/Croatian (b). Then accent doesn't spread to proclitics in Serbian/Croatian because the boundary between host and clitic blocks it.

(13) *Proclisis across dialects*

a.	(nè plačē)	internal proclisis	(B)
b.	(ne (plȁčē))	affixal proclisis	(S/C)

However, an enclitic or free clitic analysis of these categories would also account for why they get no accent spread in Serbian/Croatian. The proclitic analysis therefore requires some argument. To begin with, *ne* and prepositions never induce accent on preceding function words, as the enclitics do. If I'm correct in taking this as evidence for enclisis, then by the same token, it indicates that *ne* and prepositions are *not* enclitic.

Also in support of a proclitic analysis is that even in Serbian/Croatian, accent spread is observed to some prepositions from some pronouns, to the particle *ni* from prepositions and pronouns, and in some idioms.

(14) *Exceptional accent spread in Serbian and Croatian*

a.	ȕ tō 'to that'	d.	nȉ od koga 'from no one'
b.	nȁ što 'onto what?'	e.	rȇč pȍ rēč 'word by word'
c.	sȁ mnōm 'with me'	f.	rûku pȍd rūku 'hand in hand'

I conclude that *ne* and prepositions are internal proclitics in Bosnian, but affixal proclitics in Serbian and Croatian.

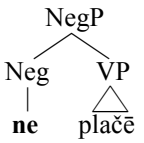
3. An interface constraint analysis of enclisis

3.1. Enclisis is unmarked

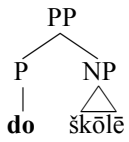
Before presenting my interface constraint analysis, I devote some space to showing that function word enclisis is prosodically unmarked in BSC relative to proclisis. Proclisis obtains only when syntactic factors compel it.

We may generalize that only function words that take immediately following syntactic complements are consistently proclitic. *Ne* precedes the verb that it negates (a), prepositions precede a complement noun phrase (b), and *ni* adverbially modifies a following complement (c). Their proclisis to their complements reflects their close syntactic relationship.

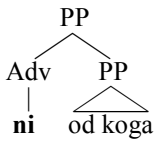
(15) *Consistently proclitic categories*

a. 

'doesn't cry'

b. 

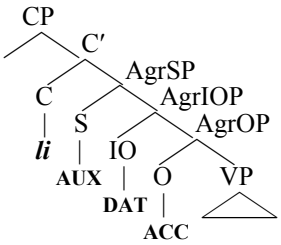
'to school'

c. 

'from no one'

The consistently enclitic categories, by contrast, do not take following complements. I assume that the auxiliaries and pronouns occupy high Agreement projections (Franks & Progovac 1994, Bošković 2000, 2001a, Franks & King 2000), and that *li* is in C^0, following a constituent in C^0 or the Specifier of CP (Progovac 1996, Bošković 2001a, 2001b).

(16) *Consistently enclitic categories*



Li then follows its complement, the auxiliaries are base-generated away from or raised away from their complement (VP), and the pronouns take no complement at all. As for reflexive *se*, I assume that it either behaves like the pronouns, or heads its own projection above VP.

Since the enclitics frequently encliticize to words to which they bear no close syntactic relation, while the proclitics always procliticize to their syntactic complements, I conclude that enclisis is the generally unmarked parse, and should be selected by the grammar with minimal reference to

syntactic structure, whereas proclisis is a special case, and is forced by interface constraints that refer to its specific syntactic configuration.

3.2. Unmarked enclisis by interface constraints

Having established that enclisis is the unmarked function word parse, I propose to analyze this using interface constraints. The first interface constraints that we'll need are word alignment constraints (adapted from Selkirk 1995, Basri et al. 1998, Parker 1999, O'Connor 2002, Zec 2002).

(17) *Word alignment constraints*

a. L(L|ω): left-align every lexical word with some prosodic word.
b. R(L|ω): right-align every lexical word with some prosodic word.
c. L(ω|L): left-align every prosodic word with some lexical word.
d. R(ω|L): right-align every prosodic word with some lexical word.

The primary motivation for the word alignment constraints is to ensure that every lexical word is parsed as a prosodic word (a&b), and to forbid the promotion of function words (c&d).

(18) *Word alignment prefers to promote all and only lexical words*

		[pakla] [mašīna]	L(L|ω)	R(L|ω)
a.	→	(pàkla) (mašína)		
b.		pakla mašīna	**	**

'infernal machine, bomb'

		[predstaviti] ćemo im se	L(ω|L)	R(ω|L)
c.	→	(prèdstavit ćemo im se)		
d.		(prèdstaviti) (ćèmo) (ìm) (sȅ)	***	***

'We'll introduce ourselves to them.'

We also need a version of *Exhaustivity* specific to the phonological phrase, and of *Nonrecursivity* specific to the prosodic word (Selkirk 1995).

(19) *Exhaustivity and Nonrecursivity*

a. EXH/φ: a phonological phrase dominates only prosodic words.
b. NRC/ω: a prosodic word does not dominate another prosodic word.

Now to the analysis. In Section 3.1, I concluded that enclisis is the unmarked function word parse in BSC, and in 2.2, that the BSC enclitics are either internal or affixal enclitics. I will describe rankings here for both possibilities, and let further analysis select between them. I will proceed by comparing pairs of parses of the string *Miro je Tanju* 'Miro AUX3S Tanja'.

The first tableau below shows that the ranking [NRC/ω >> R(L|ω)] prefers internal enclisis to affixal enclisis, since R(L|ω) dislikes the former, while NRC/ω dislikes the latter. The second tableau gives the ranking required for the opposite result.

(20) *Internal enclisis versus affixal enclisis*

	[Miro] je [Tanju]	NRC/ω	R(L|ω)	EXH/φ	L(L|ω)	L(ω|L)	R(ω|L)
a. →	(Mìro je) (Tànju)		*				*
b.	((Mìro) je) (Tànju)	*!					*

	[Miro] je [Tanju]	R(L|ω)	NRC/ω	EXH/φ	L(L|ω)	L(ω|L)	R(ω|L)
c.	(Mìro je) (Tànju)	*!					*
d. →	((Mìro) je) (Tànju)		*				*

R(ω|L) isn't ranked here, since both candidates violate it equally, and it therefore doesn't affect the outcome. (In these tableaus, constraints that don't affect the outcome are set off to the right and grayed out, to convey a sense of how all the constraints affect the analysis.)

Whichever of these analyses we eventually choose, we must also ensure that enclisis is preferred to free clisis, promotion, and proclisis. Let's begin with free clisis. To rule out free clisis in favor of *internal* enclisis, we need [EXH/φ >> R(L|ω), R(ω|L)]. On the other hand, to rule out free clisis in favor of *affixal* enclisis, we need [EXH/φ >> NRC/ω, R(ω|L)].

(21) *Enclisis versus free clisis*

	[Miro] je [Tanju]	EXH/φ	R(L|ω)	R(ω|L)	NRC/ω	L(L|ω)	L(ω|L)
a. →	(Mìro je) (Tànju)		*	*			
b.	(Mìro) je (Tànju)	*!					

	[Miro] je [Tanju]	EXH/φ	NRC/ω	R(ω|L)	L(L|ω)	R(L|ω)	L(ω|L)
c. →	((Mìro) je) (Tànju)		*	*			
d.	(Mìro) je (Tànju)	*!					

Now, in order to rule out promotion, L(ω|L) must be ranked above R(L|ω) to favor internal enclisis, and over NRC/ω to favor affixal enclisis.

(22) *Enclisis versus promotion*

	[Miro] je [Tanju]	L(ω|L)	R(L|ω)	EXH/φ	NRC/ω	L(L|ω)	R(ω|L)
a. →	(Mìro je) (Tànju)		*				*
b.	(Mìro) (jè) (Tànju)	*!					*

	[Miro] je [Tanju]	L(ω|L)	NRC/ω	EXH/φ	L(L|ω)	R(L|ω)	R(ω|L)
c. →	((Mìro) je) (Tànju)		*				*
d.	(Mìro) (jè) (Tànju)	*!					*

The rankings required to rule out proclisis are more complicated, because there are two different rankings that favor internal enclisis over internal proclisis. Here, I show the ranking [L(ω|L) >> R(L|ω), R(ω|L)].

(23) *Enclisis versus proclisis*

	[Miro] je [Tanju]	L(ω|L)	R(L|ω)	R(ω|L)	EXH/φ	NRC/ω	L(L|ω)
a. →	(Mìro je) (Tànju)		*	*			
b.	(Mìro) (je Tànju)	*!					*

	[Miro] je [Tanju]	L(ω|L)	R(ω|L)	EXH/φ	NRC/ω	L(L|ω)	R(L|ω)
c. →	((Mìro) je) (Tànju)		*		*		
d.	(Mìro) (je (Tànju))	*!			*		

In this first tableau, internal enclisis would also win under the ranking [L(L|ω) >> R(L|ω), R(ω|L)]. However, we will see in Section 4 that this ranking is incompatible with the ranking [R(ω|L) >> L(L|ω)], needed for internal proclisis of *ne* and prepositions in Bosnian. I therefore reject it.

4. An interface constraint analysis of proclisis

4.1. Proclitics are syntactically adjoined

I concluded in 2.3 that *ne* and prepositions are internal proclitics in Bosnian, and affixal proclitics in Serbian and Croatian. Yet our analysis so far rules out proclisis. How can we account for this? I will propose that the complements of *ne* and prepositions syntactically adjoin to them. We can then design grammars that yield proclisis only of these categories, while being compatible with our analysis so far.

Following Progovac 1994, I propose that the verb syntactically adjoins to negation in BSC. Aside from the proclisis of *ne*, there are two pieces of independent evidence for this adjunction. First, *ne* always immediately precedes the verb or inflected auxiliary (when it negates the verb or auxiliary). They can't be separated by movement or intervening elements.

Second, some verbs exhibit suppletive negative forms, in which the negative part (*nē*, *nī*) differs from the independent negator *ne*. This suggests a close syntactic link between negation and verb, such as adjunction.

(24) *Suppletive negative forms*

a.	jèsam	'I am/AUX1S'	nísam	'NEG+I am/AUX1S'
b.	hòću	'I want/FUT1S'	néću	'NEG+I want/FUT1S'
c.	ìmām	'I have'	némām	'I don't have'

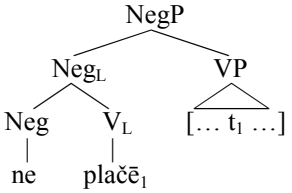
Extending the adjunction analysis of proclisis to prepositions is complicated for several reasons. First, there is little independent evidence that prepositions' complements adjoin to them. Second, prepositions exhibit

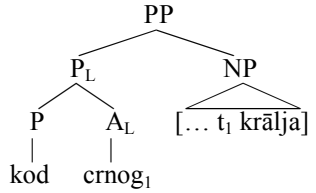
more variability in their prosody than *ne*. Third, their complements are noun phrases; which part of their complement adjoins to them?

I propose that the first head of a preposition's complement adjoins to it. I follow Franks 1998 in taking as evidence for this the observation that although noun phrases are generally splittable in BSC, prepositions are inseparable from the first word of their complement.[6]

Say then that the verb raises and adjoins to negation, and that the first head of a preposition's complement raises and adjoins to it. This is depicted below for *ne plačē* 'doesn't cry' and *kod crnog krālja* 'near the black king'.

(25) *Syntactic adjunction to negation and prepositions*

a. 

b. 

Finally, I assume that adjoined structures inherit the lexical status of their lexical daughters (Basri et al. 1998, Chung 2003). That is, since [*plačē*] and [*crnog*] are lexical words, so are [*ne* [*plačē*]] and [*kod* [*crnog*]]. The next step is to discover what rankings yield proclisis of these structures.

4.2. Proclisis by interface constraints

This tableau illustrates some general results of the adjunction analysis, using the string *višē ne plačē* 'isn't crying anymore'.

(26) *Parsing adjoined structures*

	[višē] [ne [plačē]]	L(L|ω)	NRC/ω	R(ω|L)	R(L|ω)	EXH/φ	L(ω|L)
a. →	(vìšē) (nè plačē)	*					
b. →	(vìšē) (ne (plàčē))		*				
c. →	(vìšē) (nè) (plàčē)			*			
d.	(vìšē ne) (plàčē)	*		*	*		
e.	((vìšē) ne) (plàčē)	*	*	*			
f.	(vìšē) ne (plàčē)	*				*!	

One result is that according to our current constraint set, only internal proclisis (a), affixal proclisis (b), and promotion (c) are possible parses. Each of candidates (d) through (f) earns a superset of the constraint

6. "I conclude that there must be a mechanism which attaches the preposition to the following head, and that this mechanism—although I call it 'procliticization'—must take place in the syntax." (Franks 1998:20)

violations of at least one of candidates (a) through (c).

The tableau also shows that we may ignore R(L|ω), EXH/φ, and L(ω|L) in our analysis of proclisis, since these play no role in selecting among the possible parses. What rankings then are necessary to yield internal proclisis of *ne* (Bosnian) vs. affixal proclisis (Serbian/Croatian)?

The key rankings are as shown here. L(L|ω) must be low-ranked in order to yield internal proclisis, and likewise NRC/ω for affixal proclisis.

(27) *Internal proclisis versus affixal proclisis*

		[višē] [ne [plačē]]	R(ω|L)	NRC/ω	L(L|ω)
a.	→	(vȉšē) (nè plačē)			*
b.		(vȉšē) (ne (plȁčē))		*!	
c.		(vȉšē) (nè) (plȁčē)	*!		

		[višē] [ne [plačē]]	R(ω|L)	L(L|ω)	NRC/ω
d.		(vȉšē) (nè plačē)		*!	
e.	→	(vȉšē) (ne (plȁčē))			*
f.		(vȉšē) (nè) (plȁčē)	*!		

As it stands, this analysis also yields internal or affixal proclisis for all prepositions, though we have seen that prepositions are not always proclitic. To account also for the promotion of longer prepositions, however, requires a considerably more enriched analysis, and I leave this for future work.

Compare the rankings for proclisis of *ne* (a&b) with the composite rankings for unmarked internal and affixal enclisis (c&d) (see Section 3.2):

(28) *Composite rankings*

a.	R(ω|L), NRC/ω >> L(L|ω)	internal proclisis of *ne*
b.	R(ω|L), L(L|ω) >> NRC/ω	affixal proclisis of *ne*
c.	EXH/φ, L(ω|L) >> R(ω|L), R(L|ω) NRC/ω >> R(L|ω)	unmarked internal enclisis
d.	EXH/φ, L(ω|L) >> R(ω|L), NRC/ω R(L|ω) >> NRC/ω	unmarked affixal enclisis

This comparison still gives us no way to choose between the unmarked internal and affixal enclitic analyses. Although the grammar of Bosnian must include the ranking for internal proclisis of *ne* (a), and Serbian/Croatian that for affixal proclisis (b), both are compatible with either of unmarked internal enclisis (c) and unmarked affixal enclisis (d).

5. Conclusion

I have developed an analysis that accounts for the prosodic parsing of the enclitics, and most of the proclitics, in Bosnian/Serbian/Croatian, using

what I call the interface constraint approach. To return to the question raised in the introduction, what advantages does this have over what I called the subcategorization approach?

First, the interface constraint approach motivates function word clisis using constraints that are independently needed for aligning syntactic and prosodic constituents, e.g. lexical words with prosodic words, phonological phrases with prosodic words, etc.

Second, interface constraints require no direct reference to clitics—or function words—as a syntactic category. Rather, they refer only to *lexical* categories (Selkirk 1995, Truckenbrodt 1995, 1999). *Function* words then are parsed in whatever way optimizes the parsing of lexical words.

Compare the subcategorization approach. This approach requires that clitics be a grammatical category: the category of lexical items that subcategorize for clisis. Unlike the interface constraint approach, it does not depend merely on constraints on the alignment of other categories. Dispensing with this extra formal category yields a simpler theory.

Moreover, the subcategorization approach specifies direction of clisis arbitrarily for each individual clitic, rather than letting this follow from general constraints. However, I showed that clitics' directionality is not arbitrary, but correlates with their syntactic category, and must therefore be determined by general constraints, not individual subcategorization.

References

Basri, Hasan, Ellen Broselow, Dan Finer, & Elisabeth Selkirk. 1998. Prosodic Clitics in the Makassar Languages. Handout: 17th West Coast Conference on Formal Linguistics. University of British Columbia.

Bošković, Željko. 2000. Second Position Cliticisation: Syntax and/or Phonology? Frits Beukema & Marcel den Dikken, eds. Clitic Phenomena in European Languages. Amsterdam: John Benjamins Publishing Company. 71–119.

Bošković, Željko. 2001a. On the Nature of the Syntax-Phonology Interface: Cliticization and Related Phenomena. Oxford: Elsevier.

Bošković, Željko. 2001b. *Li* without PF Movement. Steven Franks, Tracy Holloway King, & Michael Yadroff, eds. 9th Annual Workshop on Formal Approaches to Slavic Linguistics: The Bloomington Meeting, 2000. Ann Arbor: Michigan Slavic Publications. 57–75.

Chung, Sandra. 2003. The Syntax and Prosody of Weak Pronouns in Chamorro. Linguistic Inquiry 34:4. 547–599.

Franks, Steven. 1998. Clitics in Slavic. MS: Indiana University.

Franks, Steven & Ljiljana Progovac. 1994. On the placement of Serbo-Croatian clitics. G. Fowler, H. Cooper, & J. Ludwig, eds. Proceedings of the 9th Biennial Conference on Balkan and South Slavic Linguistics, Literature, and Folklore. Indiana Slavic Studies. 69–78.

Franks, Steven & Tracy Holloway King. 2000. A Handbook of Slavic Clitics. Oxford: Oxford University Press.

Halpern, Aaron. 1992. Topics in the Placement and Morphology of Clitics. PhD

dissertation: Stanford University.
Inkelas, Sharon. 1989. Prosodic Constituency in the Lexicon. PhD dissertation: Stanford University.
Inkelas, Sharon & Draga Zec. 1988. Serbo-Croatian pitch accent: The interaction of tone, stress, and intonation. Language 64:2. 227–248.
Klavans, Judith L. 1980. Some Problems in a Theory of Clitics. PhD dissertation: University College London.
Klavans, Judith L. 1985. The independence of syntax and phonology in cliticization. Language 61:1. 95–120.
Magner, Thomas F. & Ladislav Matejka. 1971. Word Accent in Modern Serbo-Croatian. University Park: The Pennsylvania State University Press.
Meyer, Karl H. & Aleksandar Stojićević. 1927. Serbokroatisches Lesebuch: Akzentuierte Texte mit vollständigem Wörterverzeichnis. Göttingen: Vandenhoeck & Ruprecht.
O'Connor, Rob. 2002. The placement of enclitics in Bosnian, Croatian and Serbian. MS: University of Manchester.
Parker, Steve. 1999. On the behavior of definite articles in Chamicuro. Language 75:3. 552–562.
Prince, Alan & Paul Smolensky. 1993. Optimality Theory: Constraint Interaction in Generative Grammar. New Brunswick: Rutgers Center for Cognitive Science.
Progovac, Ljiljana. 1994. Negative and positive polarity: A binding approach. Cambridge: Cambridge University Press.
Progovac, Ljiljana. 1996. Clitics in Serbian/Croatian: Comp as the Second Position. Aaron Halpern & Arnold Zwicky, eds. Approaching Second: Second Position Clitics and Related Phenomena. Stanford: CSLI Publications. 411–428.
Selkirk, Elisabeth. 1995. The Prosodic Structure of Function Words. Jill N. Beckman, Laura Walsh Dickey, & Suzanne Urbanczyk, eds. University of Massachusetts Occasional Papers 18: Papers in Optimality Theory. Amherst: GLSA. 439–469.
Truckenbrodt, Hubert. 1995. Phonological Phrases: Their Relation to Syntax, Focus, and Prominence. PhD dissertation: MIT.
Truckenbrodt, Hubert. 1999. On the Relation between Syntactic Phrases and Phonological Phrases. Linguistic Inquiry 30:2. 219–256.
Zec, Draga. 2002. On the Prosodic Status of Function Words. Working Papers of the Cornell Phonetics Laboratory 14.
Zec, Draga & Sharon Inkelas. 1990. Prosodically Constrained Syntax. Sharon Inkelas & Draga Zec, eds. The Phonology-Syntax Connection. Chicago: The University of Chicago Press. 365–378.