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Inherent vs. derived clisis: evidence from Czech proclitics[1]

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I investigate a diverse set of Czech words of unclear prosodic status. The analysis reveals that while it is possible to make a clear distinction between proclitics and nonclitics, certain nonclitics are disposed to occasional clitic-like behavior. I propose to capture this fact by distinguishing between inherent clisis vs. derived clisis, the latter being sensitive to certain semantic, pragmatic, and prosodic conditions. This approach allows us to address the striking similarities in certain behaviors between clitics and nonclitics without ignoring their equally important differences.

1. Introduction

This paper joins the discussion on the nature of clisis, focusing on a set of poorly understood items of unclear prosodic status attested in Czech. As documented in recent literature, definitions of clitics as a special prosodic and morphosyntactic category vary, reflecting the considerable diversity of the data as well as the repeatedly noted fact (Klavans 1985, Nespor & Vogel 1986, Inkelas 1989, Spencer 1991, Fried 1994 and others) that clitics can be defined either syntactically or phonologically or as a mixture of both. It is generally agreed that a strong indication of clitic-hood is the prosodic dependence of a particular lexical item on another element. Other properties that have been suggested as relevant to a greater or lesser degree include membership in a closed class, or so-called function word status (Zwicky & Pullum 1983, Klavans 1985, Hayes 1989; with some reservations also Kaisse 1985, Inkelas 1989), morphological simplicity (Inkelas 1989), and a tendency toward monosyllabicity (Neijt 1984, *Mluvnice češtiny* (MČ) I 1986). Most of these criteria will also be considered in the evaluation of the Czech material, although only some of them will prove critical.

Czech is a language with automatic word-initial stress and the distribution of word stress also provides the basic distinction between clitics and phonological words. Clitics are consistently stressless, which forces them to

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attach to a phonological host, namely a unit which does have stress. This behavior is regularly observed with the relatively well-studied second-position (2P) enclitics, all of which are function words, though not necessarily monosyllabic. In the study of the enclitics the primary area of interest is their placement, which is a syntactic issue (see Toman 1986, Fried 1994, Halpern 1995).

Considerably less attention has been paid to the much richer problems of proclisis, which is more striking for its prosodic characteristics than for its syntax and which will be the focus of this paper. The elements in question do not satisfy all the criteria of clitic-hood established for the enclitics in that (i) they can be stressed and (ii) the class membership is not limited to function words. On the other hand, they are always monosyllabic. The exposition will show that, in contrast to the enclitics, a single binary distinction into proclitics and nonclitics is not always straightforward and a complex combination of factors must be taken into account. I will argue that the prosodic behaviors under investigation depend in part on syntactic branching and in part on particular rhythmic and discourse considerations that can affect the assignment of stress at the postlexical level. As a result, a number of monosyllabic words may exhibit prosodic dependence under certain well-defined conditions, thus becoming what I will call 'derived clitics'.

While the analysis developed in this paper is theoretically informed and brings out issues that will be of interest to various frameworks, it is not aligned with any specific theory. Nor is it intended as a challenge to any theory-particular treatment of the material, although I will briefly discuss the question of clitic groups at the end of the paper. My primary goal is to offer a set of observations about Czech proclitics in the spirit of Zwicky & Pullum's 1983 effort to identify major types of clitic behavior. It follows from the nature of the data that emphasis will be put on prosodic considerations, but syntactically motivated alternatives will be taken into account when appropriate.

In the following discussion, I shall first introduce genuine proclitics in section 2, then in section 3 move on to nonclitics and the postlexical stress rules that can impose clitic-like behavior on them, and finally address the issue of prepositions in section 4. In section 5, I will construct an overall picture of proclisis in Czech as it emerges from all the relevant data.

2. INHERENT PROCLITICS

Since proclitics by definition require a host to their right, we can minimally expect that various function words whose syntactic position is obligatorily clause- or phrase-initial in Czech might be possible candidates for prosodic dependence in the same direction (see Klavans' 1985 typology of clitics). Such words include various (resumptive) discourse markers (DMs) or

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conjunctions, as shown below; the direction of attachment is indicated by the symbol '=', introduced by Klavans 1985 for marking prosodic dependence:

(1) (a) No= namouduši![2]
DM by God[3]
'Well, I swear!'
(b) A= hled'me!
DM look-IMP.1PL
'No kidding!'

(2) (a) A= tohle všude vyžvanil.
and this everywhere blabbed-3SG
'And he blabbed it out to everybody'.
(b) Přjeli všichni, ale= dlouho se nezdrželi.
came all but long REFL NEG-stayed-3PL
'They all came but they didn't stay long.'

Indeed, all of the words immediately followed by the equal sign satisfy both criteria for clitic-hood in Czech, as established in Fried 1994: they never receive stress, thus requiring a prosodic host – a word that does bear stress – to lean on, and they cannot host other clitics, as demonstrated in (3) and (4) below. The (a) examples are ungrammatical because the complementizers are followed by a 2P enclitic (the pronoun *mu*); only the full-form variant of that pronoun (*jemu*), shown in the (b) examples, is permitted.

(3) (a) *No= mu poslal dopis.
DM he-DAT.CL sent-3SG letter-ACC
'Well, he sent him a letter.'
(b) No= jemu poslal dopis.
DM he-DAT.NCL sent-3SG letter-ACC

(4) (a) *Ale= =mu nic nedávej.
but he-DAT.CL nothing NEG-give-IMP
'But don't give him anything.'
(b) Ale= jemu nic nedávej.
but he-DAT.NCL nothing NEG-give-IMP

The significance of this test becomes apparent when we compare (3) and (4)

[2] Czech is a pro-drop language with a flexible order of major constituents, which is governed by discourse. The acceptability judgments are based on the author's native knowledge of Czech. All the examples are in the standard Czech spelling, where the acute accent marks vowel length and *háček* (ˇ or') indicates palatal place of articulation.

[3] I will use the following abbreviations in the glosses: DAT - dative, ACC - accusative, GEN - genitive, REFL - reflexive, SG - singular, PL - plural, NEG - negative, IMP - imperative, CD - conditional, INF - infinitive, DM - discourse marker, CL - clitic, NCL - nonclitic.

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with the sentences below, which again show complementizers followed by a 2P enclitic.

(5) Vždyt' =mu poslal dopis!
DM he-DAT.CL sent-3SG letter-ACC
'Well, he did send him a letter!'
(6) Nebo =mu poslal dopis.
or he-DAT.CL sent-3SG letter-ACC
'Or he sent him a letter.'

It is not clear how the contrast in acceptability between (3a) vs. (5) and (4a) vs. (6) could be attributed to syntactic differences between *no* vs. *vždyt'* (both discourse markers) or *ale* vs. *nebo* (both coordinators). Unless we simply stipulate that only the latter member of each pair constitutes a legitimate syntactic 'first position', while the former somehow fails to do so, we are forced to acknowledge that not every complementizer in the same syntactic slot is a prosodically suitable host for the enclitics. Thus in order to prohibit the combinations illustrated in (3a) and (4a), the lexical entry for a subset of Czech complementizers must reflect their genuine proclitic-hood by specifying that they can only be followed by material that is prosodically independent.

3. Phonological words

Based on the working definition of Czech proclitics presented above, we might expect that nonclitics should, at a minimum, be capable of hosting clitics and have lexical stress. However, the distribution of stress turns out to be less straightforward than a simple distinction between 'always stressed' vs. 'never stressed', thus complicating the task of differentiating between clitic-hood and prosodic independence. The problematic data that have caused a great deal of confusion involve monosyllabic words that display prosodically proclitic-like behavior, as exemplified by the words *náš* in (7a), *hned* in (7b), *Tom* in (7c) and *psal* in (7d) below. The brackets represent the postlexical grouping into rhythmic units, each of which contains one word stress, indicated by the double accent marks;[4] the brackets do not make any

[4] Throughout this paper I will concentrate on shifts in primary stress only and assume that its phonetic quality is constant, as it would be for any rhythmic unit pronounced in isolation. I thus will treat indiscriminately as 'stress removal' cases that might turn out to be, phonetically, either loss or reduction; nothing in this paper rides on the phonetic distinction. Moreover, the relative degrees of stress, main or secondary, will partly depend on their place within a larger melodic pattern, and to address this issue with any confidence would require reliable instrumental measurements of relative stress distributed over longer prosodic segments.

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claims about particular prosodic constituency – that issue will be briefly addressed at the end of the paper:

(7) (a) [Náš sőused] [nǐkoho] nězdraví].
our neighbor nobody-ACC NEG-greets
'Our neighbor never says hello to anybody.'
(b) [Hned rőzsvítil] [a = zǎčal] [prǎcovat].
immediately turned.on.light-3SG and started-3SG work-INF
'He immediately turned on the light and got to work.'
(c) [Tom nǐkdy] [nělže].
Tom never lies
'Tom never tells lies.'
(d) [Psal pőmalu] [a = dlőuho]. (MČ I: 156)
wrote-3SG slowly and long
'He was writing slowly and for a long time.'

The examples in (7) all show a sequence of a sentence-initial syllable that is stressless, followed by a stressed one ($\sigma\ \acute{\sigma}\ldots$). This metric pattern is unusual in Czech: given the automatic word-initial stress, the most natural configurations are those consisting of a stressed syllable followed by one or more unstressed ones ($\acute{\sigma}\ \sigma\ldots$). For this reason, the iambic pattern shown above has traditionally attracted the most interest. It must be noted, though, that unstressed monosyllables are not limited to the occurrences exemplified in (7). It is easy to find cases such as the following,

(8) (a) [Přǐšel hned] [dőmů].
came-3SG immediately home
'He immediately came home.'
(b) [Ívan] [psal mǐnulý] [týden].
Ivan wrote-3SG last week
'Ivan wrote [to me/us] last week.'

where the words *hned* and *psal* lack stress but the overall prosodic effect perhaps is not as striking as in (7) because of their sentence-medial position: the lack of stress in (8) does not automatically result in a conspicuously iambic pattern. Moreover, any of the items in question can bear stress as well.

(9) (a) [Přǐšel]] [hněd].
came-3SG immediately
'He came right away.'
(b) [Psǎl = mi] [z dővolené].
wrote-3SG I-DAT.CL from vacation
'He wrote to me while he was on vacation.'

These data tell us two important things about the distribution of occasional stresslessness. First, the loss of stress is not associated with a single morphosyntactic class: our examples happen to involve a possessive

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pronoun (7a), an adverb (7b), a noun (7c) and a verb (7d). And second, it cannot be tied to a particular syntactic position in the sentence. We may also note that while monosyllabicity is critical in identifying the problem data, being monosyllabic is not enough to make a word an inherent proclitic, as shown in (9a). Instead, it will be argued that occasional stresslessness associated with data of this kind is rule-derived at the postlexical level under conditions which apply quite regularly.

Let us start by revisiting the complementizers discussed in the previous section. There we distinguished two sets of words that commonly occur in initial position. One class can never host 2P clitics – recall, for example, (3a) above. But its members also differ from the other class in stress assignment; this is illustrated in the following examples, which show possible stress patterns involving *vždyt'* (10) in contrast to the inherent clitic *no* (11):

(10) (a) [Vždy̋t' Heleně] [zа̋telefonoval].
DM Helen-DAT gave.a.call
'But he did give Helen a call.'
(b) [Vždyt' Hе̋leně] [zа̋telefonoval].
DM Helen-DAT gave.a.call
'But he did give Helen a call.'

(11) (a) *[Nо̋ = Heleně] [zа̋telefonoval].
DM Helen-DAT gave.a.call
'Well, he gave Helen a call.'
(b) [No = Hе̋leně] [zа̋telefonoval].
DM Helen-DAT gave.a.call
'Well, he gave Helen a call.'

The two items in question crucially differ in pattern (a). As expected for an inherent clinic, *no* cannot surface stressed (11a). In contrast, *vždyt'* can bear stress, but with an additional wrinkle that requires an explanation: the concomitant loss of stress on the word that follows it (10a).

It might seem desirable to treat words like *vždyt'* as proclitics, since at least in some cases they fail to have independent stress (10b) and thus resemble the inherent proclitics (11b). But such an analysis would run into difficulties on two fronts. As already noted, words like *vždyt'* can host 2P clitics, while words like *no* cannot; if both classes fell into the same category, there would be no way of accounting for the difference between (3a) vs. (5). Moreover, we would need to posit a low-level rule of stress shift that would move the stress from a phonological word onto a monosyllabic clitic to its left, appealing, perhaps, to the general dislike of a rising melody in this language (Daneš 1960: 41, MČ I: 83) and explaining this rule as a way of removing iambic measures. The problem is that, again, the operation of this rule would be rather arbitrary when we recall that no such shift takes place with genuine proclitics (10a) vs. (11a).

An additional reason for viewing words like *vždyt'* as nonclitics is the fact

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that their behavior is not unique. As shown below, the verb *šel* 'he went' can host 2P clitics (12) and have either of the two stress patterns we observed with *vždyt'*; it can be stressed, followed by an unstressed lexical word, as in (13a), or it can appear without stress, followed by a stressed word, as in (13b).

(12) [Šél =si] [lḗhnout].
went-3SG REFL lie-INF
'He went to lie down.'

(13) (a) [Šél každému] [nā́ nervy].
went-3SG everybody-DAT on nerves
'He got on everybody's nerves.'

(b) [Šel kā́ždému] [nā́ nervy].
went-3SG everybody-DAT on nerves
'He got on everybody's nerves.'

There is nothing unique about *jít/šel* 'go/he went'; it is merely one of an open-ended group of monosyllabic content words with lexical stress that behave this way. It is this pattern that needs to be accounted for.

The pattern exemplified above in (10) and (13) can be easily described if we consider the possibility that stress loss in Czech is motivated rhythmically. Rhythm is characterized as consisting of more or less regular sequences of more prominent syllables with less prominent ones, the degree of regularity being subject to grammatical and semantic constraints (Daneš 1957: 16). It then should not surprise us that Czech does not tolerate two adjacent stresses very well and tries to eliminate such rhythmic clashes whenever possible. This observation has been formulated as a 'law' (which I will dub here as the Rhythmic Clash Reduction principle, RCR) by Jakobson (1926: 808), but he does not specify whether there is a choice in which of the two stresses can be eliminated.[5]

To judge by the examples above, the deletion can go either way, but I will argue that the direction is correlated with discourse structure. Although it is difficult to express the difference in English (identical translations were given for (13a) and (13b) above), the two stress patterns express slightly different meanings. (13a) is about somebody's 'being obnoxious' (while before we may have thought that he was a nice person). In other words, what we know from previous discourse, is that everybody is affected by his behavior, whatever it turns out to be; the phrase *na nervy* is the focus. (13b) is about 'being obnoxious to everybody'; earlier, nothing had been said about the

[5] His wording seems to imply that it is the second stress that is deleted, but he does not provide any examples and so it is possible that he is concerned only with the behavior of certain prepositions, where such a scenario is the most common one. I will return to that problem in section 4.2.

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person's behavior, that is, the whole sentence is the focus.[6] And the same differences in the scope of the focus hold for (10a) vs. (10b), respectively. In (10a), the focus is the verb *zatelefonoval* and it is presupposed that Helen must have been talked about in the previous discourse. It might be more accurately translated as 'But he GAVE Helen a CALL', with the small capitals indicating the focus of the sentence. In contrast, the whole event of 'calling Helen' is under focus as newly introduced information in (10b) and corresponds to something like 'But he GAVE HELEN A CALL' in English.

The generalization to be made here is that if the rightward stress-bearing element is marked as part of the focus portion of the sentence, it also has to maintain its stress, resulting in an iambic measure; its special discourse status is reflected by its prosodic prominence. If, on the other hand, there is no discourse-related reason to keep the rightward element prominent (that is, if it is contextually bound), the leftward stress is kept, resulting in the generally preferred trochair or dactylic measure. Additional support for the unmarked character of the trochaic pattern can be found in compounds whose first component is monosyllabic. Words like *krom.obyčejně* 'extraordinarily', *tří.barevný* 'three-colored', *zlo.zvyk* 'bad habit', etc. all end up with word-initial stress, presumably because discourse structure does not play a role in lexical compounding and so the generally favored stress pattern takes effect by default (recall that lexical stress in Czech is fixed on the first syllable).

The RCR principle thus can be schematized as follows:

(14) (a) $[\acute{\sigma}]\#[\acute{\sigma}\ldots]_{\text{Focus}} \rightarrow \quad [\sigma\ \acute{\sigma}\ldots]$ (iambic pattern)
(b) $[\acute{\sigma}]\#[\acute{\sigma}\ldots] \rightarrow \quad [\acute{\sigma}\ \sigma\ldots]$ (trochaic pattern)

(14) captures three important facts: (i) RCR is necessary only if the first element is monosyllabic, (ii) it makes no reference to the relative position of that element within a sentence and therefore naturally includes both S-initial and S-medial stress loss, and (iii) it applies regardless of whether the rightward element is a content word (13) or a function word, even a polysyllabic one, as in (15).

(15) (a) [Jěn aby] níkomu nésliboval péníze.
only so.that nobody-DAT NEG-promised-3SG money
'Let's just hope he doesn't promise anybody any money.'
(b) [Jen áby].
only so.that
'Let's just HOPE [so]/Let's just hope [NOT].'

Only the discourse conditions can determine which of the two elements loses

[6] (13a) is still different from the interpretation that he was obnoxious to everybody, as opposed to just some (with contrastive focus on 'everybody'). The most unmarked way of expressing this meaning would be (i) below:

(i) [Šěl na nervy] [káždému].

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its stress, although there is a correlation, predictably, between a word's ability to be a focus and its content/function-word status.[7]

The function words that belong to this nonclitic category include a number of discourse markers (*to*, *at'*, *vždyt'*, etc.) and conjunctions, both subordinating (*než* 'before', *až* 'when', *že* 'that') and coordinating (*nebo* 'or', *jak-tak* 'both-and', *bud'* 'either', etc.). Their behavior, as compared to the proclitics discussed in the previous section, shows that the crucial difference between clitics and nonclitics in Czech has to do not only with the ability of a word to host a clitic but also with its interaction with postlexical stress rules. While nonclitics are subject to those rules, there is no question of applying such rules to clitics. In sum, the application of RCR only creates a prosodic effect reminiscent of cliticization in strings that do not contain any inherent clitic(s).

4. Prepositions

Now that we have identified the crucial properties of Czech clitics as compared to nonclitics, we can address the issue of simplex (monosyllabic) prepositions. Their surface prosodic behavior is different from that of the inherent clitics in that they can occur with stress; on the other hand, their ability to host clitics cannot be easily tested.[8] Since they represent a closed-class category, they could, in theory, be classified either way. I will show that the key to determining their status is their interaction with RCR.

Prepositions fall into two subclasses: the so-called primary and secondary prepositions. Aside from morphological differences due to different historical origins, they also differ in their interaction with the postlexical stress rules and in their prosodic behavior in general. We consider secondary prepositions first.

4.1 *Secondary prepositions*

Prepositions such as *skrz* 'through', *dle* 'according to', *stran* 'with respect to', *kol* 'around', and a few others have been described as being always without stress (Vachek 1968: 103), and Jakobson (1926: 806) even explicitly

[7] It should also be pointed out that the discourse-related stress removal should not be interpreted as simply equivalent to phonological focus marking in Czech. Rather, it is only one manifestation of a complex system of marking discourse structure, which relies primarily on word order and on specific melodic patterns realized over a given IP (see Daneš 1957, MČ III). Stress removal is just a concomitant phenomenon specific to configurations with adjacent stresses.

[8] With respect to hosting enclitics, this criterion is irrelevant since the prepositions fail as syntactic hosts (Fried 1994, Halpern 1995), and it is hard to tell whether or not they can host proclitics. Plausible arguments could be made both for the scenario in which the preposition would host a proclitic coordinator, and for the case in which both the coordinator and the preposition would be proclitics hosted by the following nominal.

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calls them proclitics; his view is largely motivated by their syntax and by the possibility of inserting a pause to their left but not to their right. Given the data below, this would certainly seem to be the correct conclusion:

(16) (a) [dle přẽdpisu]
according.to directive
'according to the directive'
(b) [stran nãdcházejících] [vőleb]
as.to up-coming elections
'as to the upcoming elections'

The facts are, however, somewhat more complex. When the preposition is followed by a pronominal adjective or a numeral, it surfaces with stress, while the following pronoun/numeral is stressless (the opposite pattern is also possible, though (17a) is more typical):

(17) (a) [strãn vašeho] [ődvolání]
as.to your appeal
'as to your appeal'
(b) [stran vášeho] [ődvolání]
'as to YOUR appeal'
(18) (a) [skřz tři] [zãhrady]
through three gardens
'through three gardens'
(b) [skrz tři̋ zahrady]
'through THREE gardens'

Pairs like (17) and (18) resemble the stress patterns we observed with the nonclitics, suggesting that these prepositions are in fact independent phonological words, not inherent clitics, and that their stress behavior is again a function of focus marking. As pointed out earlier, the elements in question, functionally very similar to what languages like English subsume under the category of determiners, tend to have referents that are both topical and active in the discourse and therefore can easily accommodate the default stress-initial pattern.[9] Examples of this scenario, far more common, are in the (a) strings. If the pronouns or numerals belong to a constituent under focus, however, they trigger the RCR rule and the result is loss of stress on the preposition, as in the (b) examples. By the same token, the iambic configuration of stress in (16), where the preposition is followed by a content word, represents the expected distribution of discourse functions in a basic prepositional phrase: the prominent element is the NP, not the preposition.

[9] Notice that while in (17a) the pronoun *vašeho* is stressless by default, the numeral *tři* in (18a) is stressless as a result of the RCR rule applied over the NP *tři zahrady* first. In addition to the anticipatory nature of the rule (the rightward element is crucial for identifying the correct structural description), sentences like (18) also indicate that the rule applies right to left in cases where there are more than two adjacent stresses.

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This analysis is further confirmed by sequences in which the noun complement of the preposition is a topical element, such as in (20) as a follow-up to (19).

(19) Ten nepořádek$_i$ na ulici byl neúnosný
that mess on street was unbearable
'The messiness of the street had become too much.'

(20) (a) [Strán toho$_i$] [ták] [pódávali] [stížnost].
as.to it-GEN also filed complaint
'After all, they ended up filing a complaint about it.'
(b) *[Stran tóho] [ták] [pódávali] [stížnost].

As indicated by the coindexing, the pronoun *toho* 'it' in (20) has its discourse antecedent in the topic of the previous sentence (*nepořádek* 'mess' in (19)) and in this configuration, only the unmarked, trochaic stress pattern is possible.

4.2 *Primary prepositions*

The most recalcitrant problem in the study of stress distribution in Czech has been the prosodic behavior of the so-called primary prepositions, a small group of (mostly) monosyllabic words such as *na* 'on', *u* 'near', *pod* 'under', *před* 'before', *do* 'into'. The most striking prosodic characteristic of these words is the fact that they are almost always stressed, while the first word to their right is stressless:

(21) (a) [ná stromě$_N$]
on [a/the] tree
(b) [ná vysokém$_{Adj}$] [strómě$_N$]
on [a] tall tree
(c) [ód řádně$_{Adv}$] [zvólené$_{Adj}$] [vlády$_N$]
from [a] legally elected government

This fact alone makes it doubtful that they could be classified as clitics, but existing descriptions of these patterns are ambiguous. A clitic-like analysis seems to be behind the statement that the prepositions 'take over the stress of the following word' (MČ I: 100). On the other hand, Jakobson's (1926: 808) formulation that 'the loss of the stress on the first syllable of a word following a stressed monosyllable' suggests that he views the prepositions as phonological words, although it is hard to know with certainty as he does not give any examples. Either approach entails some compromises in formulating the simplest and most plausible rules for their use, especially when we consider that the patterns are somewhat fluid.

First of all, we must note that the stress pattern illustrated in (21) can be found most consistently only with structures corresponding to (21a): a preposition and a bare noun. Branching structures present a more

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complicated picture, with greater fluctuations in stress assignment. It is generally agreed that the scenario displayed throughout (21) is by far the prevalent stress pattern (and certainly the one favored by prescriptive grammars), but according to my own observation, as well as sources in the Czech phonological literature (Vachek 1968: 103 ff.), the iambic configuration is possible as well, as shown in (22). The question marks indicate relative markedness.

(22) (a) ??[na strőmě]
on [a/the] tree
(b) ?[na výsokém] [strőmě]
on [a] tall tree
(c) [od řádně] [zvőlené] [vlády]
from [a] legally elected government

It is true that the iambic pattern in (22a) is felt by most speakers as highly marked: either as a regional dialectal variant or as belonging to a somewhat substandard stylistic register. But (22b) and especially (22c) are harder to reject even in standard speech. And in some cases, such as in (23), the iambic pattern is far more likely to occur, even though the stress-initial pronunciation is never excluded entirely.

(23) (a) [pod neuvěřitelně] [másívním] [lůstrem]
under [an] incredibly massive chandelier
(b) [do nějhlubší] [tmý]
into [the] deepest darkness

At first glance, the patterns of usage suggest that the likelihood of a stress-initial configuration is in inverse proportion to the degree of branchingness of the NP: the heavier the NP, the less likely it is that the stress will appear on the preposition. The syntactically 'heavier' nature of a constituent typically correlates with its higher significance from the discourse point of view, which, in turn, should be associated with relatively richer semantic content. And this expectation seems to be reflected in the choice of a stress pattern. Superlatives (23b) or adverbs qualifying an adjective in the NP (22c, 23a) are more likely to retain their stress than further unqualified adjectives (21b), pronouns, or bare nouns (21a). We can thus formulate a semantically/pragmatically motivated hierarchy of the stress-shift triggers, with the likelihood of shift increasing from left to right:

(24) $\left\{\begin{matrix}\text{superlative}\\ \text{adverb}\end{matrix}\right\} < \left\{\begin{matrix}\text{plain adjective}\\ \text{possessive \& demonstrative pronoun}\\ \text{numeral}\end{matrix}\right\} < \begin{matrix}\text{bare}\\ \text{noun}\end{matrix}$

This observation is significant in two ways: (i) it suggests that the internal structure of the NP plays a role in the prosodic behavior of these prepositions and (ii) it is consistent with the discourse-related factors that license the application of RCR in case of monosyllabic nonclitics. The preposition is

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likely to be stressless if the rightward element is explicitly marked [+Focus]; otherwise the generally preferred falling melody with initial stress is assigned, leading to a stress shift. Thus in explaining the behavior observed with (heavily) branching NPs, we can again appeal to the contextual organization of the constructions in question. As a result, the primary prepositions look a lot like phonological words that are subject to such adjustments.

What is peculiar is the pattern associated with nonbranching structures. The overwhelmingly preferred stress-initial pattern shown in (21a) sets them apart from most of the branching structures, but it also contrasts with the iambic stress typical for the secondary prepositions in comparable environments (16a). The difference between the two classes of preposition can be, at least in part, attributed to their different historical origins: the 'younger' age of the secondary prepositions correlates with their richer semantics, which in turn makes them relatively more discourse-prominent and therefore more easily subject to regular discourse-governed operations.[10] This difference alone, however, does not address the persistent trochaic pattern associated with the primary prepositions in nonbranching structures in contrast to the branching ones. Here the relevant issue might be a special morphosyntactic status of these prepositions. Evidently, they form a relatively tight unit with the noun – in some sense, they are equivalent to case marking in that they help encode syntactic relations of given NPs in a sentence. The combination of the preposition and the noun is analogous to a phonological compound, adopting the default stress pattern of morphological compounds with a monosyllabic first constituent.[11] When the NP is branching, however, the close relationship between the preposition and the noun is to some extent disrupted and as a consequence, the initial stress is not as rigidly applied.

Some evidence of the special relationship between the preposition and the bare noun can be found in the way a rhythmic clash is resolved when the prepositional phrase follows a monosyllabic word. Consider the following pair of examples:

[10] It would make little difference if we were to derive the difference in prosodic behavior between the two classes of prepositions from a stipulated difference in their syntax. Even if we assumed that secondary prepositions are complement-taking predicates and the primary ones just NP-internal functional elements, this structural difference would leave it as an arbitrary fact that both syntactic categories happen to behave the same when the NP, whether a complement or not, is branching. Finally, we might also consider the well-known fact that the primary prepositions include a subset of single-consonant members (such as *v* 'in'), which, without argument, are inherently stressless. While this subset is not relevant to the question pursued in this paper, they can serve as a further illustration of what a phonologically mixed bag the primary prepositions are and of the fact that simple syntactic classification (for example NP-internal vs. NP-external prepositions) is not necessarily a good predictor of the prepositions' prosodic behavior.

[11] This hypothesis would also help to explain the marginally occurring disyllabic allomorphs of the primary prepositions. They always remain stressed and always form a single stress unit with the noun: *pőde dveřmi* vs. **pode dvéřmi* vs. **pőde dvéřmi* 'under the door'.

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(25) (a) [Ǎt' [na nikoho]] [nĕčeká]$_{\text{Focus}}$.
DM on nobody NEG-waits
'Let [him/her] go ahead WITHOUT WAITING for any [late-comers].'
(b) [At' [nǎ nikoho]$_{\text{Focus}}$] [nĕčeká]$_{\text{Focus}}$.
'Let [him/her] go ahead WITHOUT WAITING FOR ANY [LATE-COMERS].'

These patterns suggest that for the purpose of RCR, the preposition and the noun behave like a single unit with the common pattern of stress on the preposition. As indicated by the translations, each sentence again fits a different discourse situation. The version in (25a) can be used, for example, in a context created by a question 'What if somebody's late?', where the focus is on the action taken under the given circumstances. In contrast, (25b) would be a more appropriate answer to a general question such as 'What should he/she do?', where no specific conditions are established by the previous discourse.[12]

These two sentences show a monosyllabic phonological word (*at'*) followed by a prepositional phrase (*na nikoho*). That sequence starts out with two adjacent stresses – one on the initial discourse marker, another on the preposition; the inner set of brackets indicates that the prepositional phrase is taken as a single rhythmic unit. In a partial representation of the two sentences, stress reduction applies as follows:

(26) (a) ǎt' [nǎ nikoho] → ǎt' [na nikoho] (as in 25a)
(b) ǎt' [nǎ nikoho]$_{\text{Focus}}$ → at' [nǎ nikoho …]$_{\text{Focus}}$ (as in 25b)

If the preposition truly behaved like a prosodically independent word, the repeated right-to-left application of RCR would yield the following results:

(27) (a) ǎt' nǎ nǐkoho → [Ǎt' na nikoho]
(b) ǎt' nǎ nǐkoho …$_{\text{Focus}}$ → *[Ǎt' na] [nǐkoho …]$_{\text{Focus}}$

Nothing would change about deriving the pattern in (25a); all the stresses except the leftmost one would be gradually eliminated. However, (25b) would have its counterpart in the unacceptable (27b) and not even the change of direction would make any difference: left-to-right application would result in (27b) for both inputs.

The question remains of how to define the relationship between the primary preposition and the noun. One might consider the possibility of treating the prepositions as word-internal affixes, which would at least provide a straightforward account of the stress distribution: as a lexical

[12] We might also add that the distribution of stress is not affected by the scope of focus, that is, whether the word *nikoho* is part of a larger segment under focus, as in (25b), or under narrow focus. In fact, the latter would be most neutrally expressed through different word order (*Ǎt' nečeká* [*nǎ nikoho*]$_{\text{Focus}}$ 'Let him go ahead without waiting for ANY [late-comers]'). Recall the well-established fact mentioned in fn. 7 that stress assignment is not the only (not even the primary) device for focus marking in Czech.

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process, prefixation (like compounding) necessarily results in the stress-initial pattern. But such an approach would oversimplify the nature of the problem by reducing it to a clear-cut division between nonbranching and branching structures, which is not warranted by the data.

One point to consider in this context has been already discussed: even branching structures often appear with the trochaic pattern, which suggests that the primary prepositions are not independent enough to be sensitive to RCR with the complete regularity characteristic for all the nonclitics, including the secondary prepositions. We can further note that the dependent behavior shown in (25) is not limited to nonbranching structures either.

(28) (a) [Ǎt' [na žádný]] [strőmy] [nělеze]$_{\text{Focus}}$.
DM on none trees NEG-climbs
'[Tell him] NOT TO BOTHER climbing any trees.' (It's too much hassle.)

(b) [At' [nǎ žádný]$_{\text{Focus}}$] [strőmy]$_{\text{Focus}}$ [nělеze]$_{\text{Focus}}$.
DM on none trees NEG-climbs.
'[Tell him] NOT TO CLIMB ANY TREES.' (I forbid him.)

Though the difference in interpretation is more subtle here than in (25), it still follows the same general pattern. The emphasis in (28a) is on the act of 'not climbing' in the context of something like 'What if he climbs up and prunes the top of the tree?', while (28b) would be a natural response to a more general remark such as 'Look, he's running straight to those trees!'. If the preposition were fully independent, the application of RCR would result in an unacceptable stress distribution for (28b), shown below.

(29) ǎt' nǎ žádný …$_{\text{Focus}}$ → *[Ǎt' na] [žádný …]$_{\text{Focus}}$

Finally, the prepositions behave as if they were merely a subconstituent of a phonological word in their interaction with the only phonological test available, namely final devoicing in clusters consisting of an obstruent followed by a sonorant (*-dl-*, *-dr-*, *-zm-*, etc.) The obstruent undergoes final devoicing when the cluster straddles a word boundary, as expected, but not word-internally. The two-word sequences in (30) show the devoicing of the final /d/ and /z/, in contrast to the single words in (31), in which the same obstruents remain voiced:

(30) (a) [t]
|
napřed letěl
at.first flew-SG
'first [he] flew'

(b) [s]
|
odvez matku
drive.away mother-ACC
'give mother a ride'

(31) (a) [d]
|
předloni
'the year before'

(b) [z]
|
vezme
'will take'

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In failing to devoice their final consonants, the prepositions, shown in (32) and (33), pattern after the single words in (31).[13] And notice that the same behavior applies regardless of what follows the preposition structurally:

(32) (a) [d] (b) [z]
| |
před létem bez matky
'before summer' 'without mother'

(33) (a) [d]
|
před letním slunovratem
'before [the] $summer_{Adj}$ $equinox_{N}$'
(b) [z]
|
bez mezinárodně uznaných smluv
'without $internationally_{Adv}$ $recognized_{Adj}$ $treaties_{N}$'

In order to maintain the affix analysis, we would have to concede that it is indeed a very special kind of affixation in that a particular affix can attach indiscriminately to a number of lexical categories (Adv, Adj, N), but only in case that a noun is also present in the same phrasal constituent (for example, **bez*+*mezinárodně* on its own is not a possible formation). No other affixes in the language display similar properties.

Based on all these facts, I would conclude that while the primary prepositions show some behavior of phonological words, their membership in that class is rather tenuous. They can undergo RCR (a sign of independence), but in a very restricted way, depending on the shape of the NP. On the other hand, a decidedly dependent behavior shows in their interaction with the final devoicing rule, regardless of the internal structure of the NP. In the next section, I will attempt to incorporate their idiosyncratic properties into the overall picture of proclisis in Czech as it emerges from all the facts presented here.

[13] This argument should not be affected by strings such as /pod oknem/ → [potʔoknem] 'under the window' or /v Americe/ → [fʔamerice] 'in America', where the final (or even single) consonant of the preposition does become devoiced. These are more plausibly the result of voicing assimilation triggered by the glottal stop, not examples of final devoicing. Note that the prevocalic insertion of the glottal stop is not limited to word-initial positions and is thus more indicative of morphemic than word boundaries. It is commonly used to break up word-internal -VV- sequences (as in [po+otevřel]/[po+ʔotevřel] 'he opened') and is regularly attested after a consonant as well, resulting in word-internal devoicing, for example [pot+ʔotáska]/[pod+otáska] 'secondary question'. The patterns with the prepositions could thus be explained as instances of regressive voicing assimilation, which applies with equal regularity within words and across word boundaries. The examples involving the glottal stop might be unusual only in that this segment is not part of the Czech phonemic inventory and yet it triggers voicing assimilation just like any other obstruent in the language.

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5. Synthesis

We have established three criteria critical for the distinction between inherent clitics and phonological words in Czech: ability to appear with stress (vs. unwavering stresslessness), interaction with the RCR rule, and the ability to host clitics. Their application to our data gives us the summary in Table 1; 't' indicates the trochaic pattern ($\acute{\sigma}\ \sigma$), 'i' indicates the iambic, proclitic-like pattern ($\sigma\ \acute{\sigma}$), and the symbol '>' reads 'is preferred to'.

	NONCLITICS					CLITICS
		$COMP_{ncl}$ & Det.	Prepositions			
			Secondary	Primary		
				Branching N	Bare N	$COMP_{cl}$
stress	✓	✓	✓	✓	–	–
RCR	✓	✓	✓	✓	(✓)	–
host clitics	✓	✓	n/a	n/a	n/a	–
RCR effects	t > i	i > t	i > t	i > t	(t > i)	–
	CONTENT	FUNCTION				

Table 1
Data summary

Looking first at the upper portion of the table, above the horizontal double line, we see the sharp contrast between the first two columns on the left and inherent clitics on the right. The remaining classes, that is the prepositions, seem to be sliding, left to right, from being more like phonological words to being more like clitics. If we ignore the issue of hosting clitics, which is impossible to test on these items, the other two criteria group together the secondary prepositions with the primary ones in branching structures as resembling nonclitics, whereas the primary prepositions in nonbranching structures do not look like either category. The parentheses around the checkmark for the ability to surface stressed indicate that the presence of stress here is not derived through the same mechanism that applies to the other classes, that is not through the RCR rule. The dotted line between the branching vs. bare Ns indicates that this distinction is somewhat fluid.

Consistent with this classification, the semantically and pragmatically conditioned effects of the RCR principle only add finer-grained differentiation within the nonclitics, as shown for each class below the double line. This additional dimension also helps bring out and clarify the status of the distinction between content words and function words with respect to cliticization. In a binary model, the relationship appears arbitrary for Czech: while all content words are nonclitics, function words fall into both categories. It turns out, however, that the crosslinguistically observed correlation between clitic-hood and the function-word status holds even in Czech, only it manifests itself in more subtle ways. In particular, function

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words are characterized by their preference for the proclitic-like (iambic) stress patterns, but this relationship in itself does not reveal which iambic patterns are obligatory and which are optional. Additional criteria still must be considered.

The prosodic behavior of the content words is as we would expect it to be. The fact that the majority of function words tend to lose their stress more readily, showing the iambic stress marking associated with proclitics, is no mystery either: the difference in relative semantic prominence between them and the following NP sets up an environment that triggers the RCR rule. And similarly for the primary prepositions in branching structures, except that they may be even further differentiated according to the relative semantic prominence of the word that immediately follows them; recall the hierarchy in (24). The primary prepositions in nonbranching structures then seem to throw this well-behaved system off, since they tend to prefer the pattern associated with quintessential nonclitics (that is content words). But as again indicated by the parentheses, the preferred trochaic stress pattern is NOT a regular, expected effect of RCR, but a manifestation of their special relationship with the noun, possibly representing a historical relic. As such, it only confirms the dependent side of their ambiguous nature.

What conclusions about proclisis in Czech can we now draw? The rightmost column in Table 1 clearly identifies inherent proclitics (that is the complementizers discussed in section 2). Everything else falls into the nonclitic category, although the decision about the primary prepositions necessarily feels somewhat arbitrary. But the nonclitics in general are not all equally independent along two parameters: their readiness to lose their lexical stress and their interaction with the RCR rule. This characteristic suggests a broader notion of clisis, centered around a particular prosodic behavior. In order to capture this dimension of proclisis in Czech, it seems useful to introduce the notion of 'derived clisis', understood as prosodically clitic-like behavior of inherent nonclitics under specific, well-defined conditions. On this view, what emerges from the facts summarized in Table 1 is a hierarchy of prosodic clitic-hood, which ranks both inherent clitics and nonclitics by their propensity toward a prosodically clitic-like behavior. The relative position on this hierarchy reflects the semantic and pragmatic conditioning associated with the operation of the RCR rule: from the unrestricted application typical of the indisputable nonclitics to progressively more limited application all the way to complete irrelevance of that rule for inherent clitics. The primary prepositions in nonbranching structures fall outside this hierarchy. We can then make a choice to leave them there, as a genuinely transitional category, or we can link them to nonclitics, based on their prosodic behavior, which consistently follows the best examples of nonclitic-hood even though the similarity is only superficial, as noted earlier.

The data discussed in this paper speak to some of the issues that are at the heart of the debate on the nature of clisis in general. If prosodic dependence

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is one of the defining properties of clitics, we could draw the conclusion that any prosodically dependent word is a 'phonological clitic – a view often taken by Czech grammarians, further supported by the observation that all such words also happen to be monosyllabic. Under this interpretation, clisis could be seen as a type of prosodic behavior, in which a prosodically dependent element leans on an independent one, regardless of the fact that such words do not form a homogeneous category along any number of other parameters. If, on the other hand, we take a narrower view, in which clitichood is a rather complex category representing a type of linguistic unit with idiosyncratic properties beyond just the prosodic dependence, a number of the broadly defined 'phonological clitics' turn out not to be clitics after all.

The material also brings up another point of general theoretical interest. Since this paper is not intended as a case study in the merits of the Prosodic Hierarchy (Selkirk 1981, Nespor & Vogel 1982 and others), any reference to its proposed constituents has been deliberately avoided. But any discussion of clisis necessarily bears on the theory of phrasal phonology and particularly on the status of Clitic Group (CG) as a distinct constituent. We might ask how, if at all, the descriptive notion of 'rhythmic unit' relates to CG in the Hierarchy. Let us at least outline some of the difficulties the data will pose for the CG claim, leaving their solution to future research.

It is hard to draw parallels to Hayes' 1989 conception of CG, beyond confirming his observation that its proposed properties 'cannot be universal'. Since he defines clitics strictly syntactically, as 'grammatical words', prosodic cliticization is only a function of particular differences in syntactic structure. Thus his CG could, paradoxically, apply only to those Czech items that are prosodically, and often syntactically as well, inherent nonclitics but can optionally lose their independence, resulting in 'derived clitics'. Moreover, Hayes' predictions about prosodic dependence based on the number of intervening syntactic boundaries are not borne out by the data: the RCR rule is clearly oblivious to the relative number of syntactic boundaries, and so is the idiosyncratic behavior of the primary prepositions.

At first glance, Nesport & Vogel's 1986 nonsyntactic definition of CG seems more suitable for the data at hand. Since Czech inherent clitics do not affect the stress of their host, they would be classified as word-external, attaching at the level of Phonological Phrase (Pp). In order to capture the fact that RCR does not apply to these word-external clitics, we could assume CG as a special domain for clitic attachment and then posit Pp as the domain of RCR. Unfortunately, the primary prepositions would still act exceptionally on either level. Their ability to interact with RCR would place them at the level of Pp, although we know that certain restrictions would have to be stipulated. But if Pp is their proper domain, which would be compatible with the analysis developed in this paper, we would expect final devoicing to apply. And this dilemma cannot be solved by having them attach at the CG level, as inherent clitics, even if we assumed that final

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devoicing does not act in the domains below Pp. At a minimum, such an assumption would throw into chaos the definition of inherent clitic-hood in Czech. For example, 2P enclitics would either have to be Pp-level clitics, in contrast to proclitics, because they do not block final devoicing, as shown in (34c),

(34) (a) [p]
|
[Nezlob$_w$ matku$_w$]$_{Pp}$
NEG-anger-IMP mother-ACC
'Don't give your mother a hard time.'

(b) [b]
|
obmyslný$_w$
cunning

(c) [p]
|
[neb$_w$ = mu]$_{CG}$ lhali$_w$
for he-DAT.CL lied-3PL
'for they lied to him'

or CGs containing enclitics would have to be explicitly exempt from blocking the devoicing rule. All in all, it is not readily apparent that relying on a rigidly formed intermediate constituent such as CG can address these contradictions in an insightful way. It remains to be worked out, therefore, how the Czech facts do fit the claims of the Hierarchy and its proposed constituents.

6. Conclusions

The goal of this study has been three-fold: (i) to investigate a diverse set of Czech words of unclear prosodic status in order to identify the criteria that will reliably separate clitics from nonclitics in the language, (ii) to construct a unified account of proclisis in Czech, and (iii) to draw some conclusions relevant to the issues of clisis in general.

(i) Czech proclitics are inherently stressless words that require a phonologically independent host to their right. They cannot combine with enclitics to form a 'default' phonological word. In contrast, nonclitics possess the ability to host clitics and have lexically assigned stress. They also differ from clitics in that they are subject to postlexical stress rules, while the clitics remain intact. The purpose of the postlexical stress manipulation is to remove rhythmic clashes created by adjacent stresses; the operation is conditioned by the relative semantic prominence of the relevant elements and by the overall discourse structure.

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(ii) While it is possible to unambiguously identify inherent proclitics, the class of nonclitics includes items (specifically, primary prepositions in certain syntactic and semantic environments) that resist straightforward classification. Furthermore, any monosyllabic nonclitic is disposed to occasional clitic-like behavior. This creates the effect of clisis as a complex category which may include clitics in the strict sense as well as various kinds of derived clitics that prosodically resemble inherent clitics.

Inherent vs. derived clitics also differ in the types of information that play a role in their identification. Inherent proclitics in Czech are defined primarily by their idiosyncratic syntactic and prosodic behavior. Derived clisis is subject to a phonological rule that is sensitive to semantic, pragmatic, and prosodic considerations. It is quite revealing, then, that in evaluating the most problematic group, the primary prepositions, relevant information comes practically from every level of representation and with contradictory results. Their phonological and syntactic properties point to a dependent status, while the semantic and pragmatic factors sometimes follow the derived clitics, suggesting independence, and other times trigger completely idiosyncratic behavior.

(iii) Without denying the existence and legitimacy of binary distinction into clitics vs. nonclitics, the approach adopted in this paper provides a motivated and disciplined way of linking the two categories. Put differently, it allows us to capture the striking similarities in certain behaviors between clitics and nonclitics without ignoring their equally important differences. The result is a rich picture of clisis as a process in which phonological, prosodic, syntactic, semantic, and pragmatic considerations must all be taken into account.

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