





- ‘The parrot flew onto the table.’
- c. Popugaj v-letel v komnatu na stol.  
parrot in-flew in room-acc on table-acc  
‘The parrot flew into the room, onto the table.’
- d. \* Popugaj v-letel na stol v komnatu.  
parrot in-flew on table-acc in room-acc

Seventh, there are semantic parallelisms between prefixes and prepositions. The first parallelism concerns localization. P elements as prefixes make verbs perfective (9), (10); they localize reference time wrt. event time. Ps as prepositions localize the first argument wrt. the second argument – see (7b) and (8b) - because prepositions typically are two-place predicates. The second parallelism concerns definiteness. Ps as prefixes make reference time definite, see Ramchand (2004, 22) for meaning of the perfective aspectual head introducing the reference time variable  $t$ :

- (13)  $[[\text{Asp}]] = \lambda P \lambda t [\text{there is a single unique moment } t_{\text{def}} \text{ in the event that is salient}] \exists e: [P(e) \ \& \ t = t_{\text{def}} \in \tau(e)]$

And P elements as prepositions make arguments definite. It is known that there is a link between non-structural cases and definiteness (specificity); see e.g. Starke (2001). Therefore PPs and arguments with a non-structural case are islands for extraction, as demonstrated in examples (14)-(16). Compare also Yadroff & Franks (2001), who argue that English definite prepositional *to the women* is fissioned (functional phrase with features: definite, goal, case) Russian dative *ženšīnam*.

- (14) a. Popugaj v-letel v komnatu. (R)  
parrot-nom in-flew in room-acc  
‘The parrot flew into the room.’  
b. \* Čto popugaj v-letel v t?  
what parrot-nom in-flew in
- (15) a. Popugaj v-letel v komnatu so stolom. (R)  
parrot-nom in-flew in room-acc with table  
‘The parrot flew into the room with the table.’  
b. \* S čem popugaj v-letel v komnatu t?  
with what parrot-nom in-flew in room-acc
- (16) a. On veril knjigam s beloju polki. (R)  
he believed books-dat from white shelf  
‘He had a trust in books from the white shelf.’  
b. \* S kakoj polki on veril knjigam t?  
from which shelf he believed books-dat

## 2. Analysis: Tense-features

In this section, I am going to answer the question what is responsible for the parallel behavior of prefixes and prepositions. Pesetsky & Torrego (2006) propose that prepositions bear a val(ued) tense feature (T-f). I follow their proposal and since I argue that prefixes and prepositions are identical elements (that is, Ps), both bear a val T-f (the value could be specified as definite, bounded or quantized).

## 2.1. P elements and arguments

Selection of a DP by a P can be treated as Agree, i.e. as a probe-goal relation. Since probes are unval(ued) features in minimalism (e.g. Chomsky 2000) and nominal heads bear val  $\phi$ -fs (gender, number, person), I assume that Ps bear unval  $\phi$ -fs. This is supported by the fact that there are languages with P Agreement, e.g. Hungarian, Irish or Welsh. Pesetsky and Torrego (2004, 2006) propose that structural case is unval T-f on the nominal head N (D) and that it is valued by head T and T<sub>0</sub> (Asp). Thus, I will extend their proposal and argue that all cases - not only structural cases - are unval T-f on N. This means that Agree between a P and DP values the unval T-f on DP (it gets a case) and values the unval  $\phi$ -fs on P (it gets agreement morphology, which is overt e.g. in Irish). Examples (17) and (18) show that case - i.e. val T-f - on DPs is indeed a reflection of the localization relation. Different cases, in fact, mean different localization. The directional meaning is typically expressed by accusative, as shown in (17a) and (18a), the locative meaning is typically expressed by locative, as in (17b) and (18b), and the source meaning is expressed by genitive, as in (17c) and (18c).

(17) a.	v komnatu in room-acc 'into the room'	b.	v komnate in room-loc 'in the room'	c.	iz komnaty out.of room-gen 'out of the room'	(R)
---------	---	----	---	----	--	-----

(18) a.	na střechu on roof-acc 'onto the roof'	b.	na střeše on roof-loc 'on the roof'	c.	ze střechy out.of roof-gen 'from the roof'	(CZ)
---------	--	----	---	----	--	------

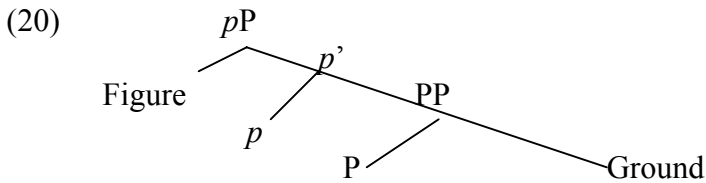
## 2.2. Aspectual head

### 2.2.1. Aspectual head and perfectivity

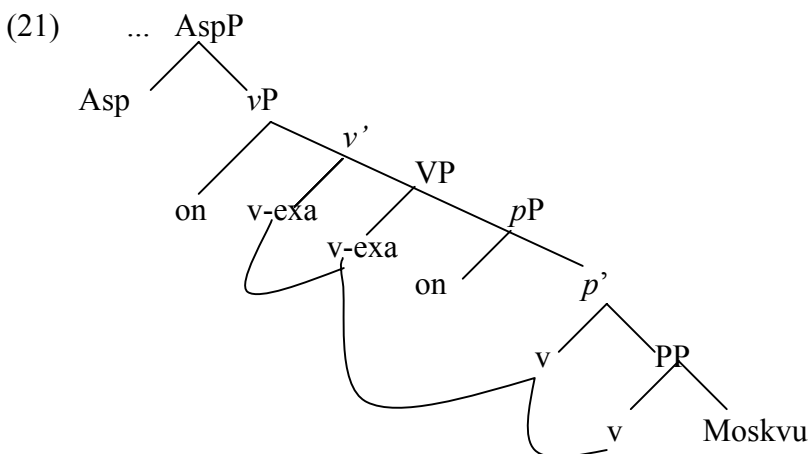
Almost all prefixes make verbs perfective; there are only a few exceptions. Therefore I propose that T-f on Asp(ectual) head is unvalued and that this feature selects an element with val T-f. Recall that I have argued that prefixes are Ps and that Ps have val T-f. Thus, let us look at how it works e.g. in the case of (19).

- (19) On v-exal v Moskvu (R)  
 he in-drove in Moscow-acc  
 'He drove to Moscow.'

Since prepositions are two-place predicates, PPs will be decomposed. I follow Svenonius (2004), who decomposes prepositional phrases into *pP* and *PP*, similarly to verbal phrases; consider (20).



The head *p* introduces the Figure argument and *P* introduces the Ground argument. The Figure argument is located, moved or characterized wrt. the Ground argument. Consequently, the relevant part of sentence (19) looks like (21).



The *P* element *v* - which bears val T-f and unval  $\phi$ -fs - is merged with *Moskva*, which bears unval T-f and val  $\phi$ -fs. Agree happens and  $\phi$ -fs on the *P* element *v* are valued by  $\phi$ -fs on *Moskva* and T-f on *Moskva* is valued by T-f on *v*, which gives accusative *Moskvu*. Then, *p* is merged and *v* moves to *p*. In the next step, *on* is merged with *p'*, hence *on* as Figure is located wrt. the Ground argument *Moskvu*. Then, *exa* is merged and *v* incorporates into it and then *vexa* incorporates into the head *v*. *On* is moved to Spec,*vP*. Then Asp (with its unval T-f) selects *vP* and the incorporated *P* element *v* values T-f on Asp as perfective. Given the meaning of the perfective head in (13) and the lexical properties of the *P* element *v*, the definite reference time corresponds to the transition between the process subevent and the result subevent. This means that *on* reached *Moskvu*.

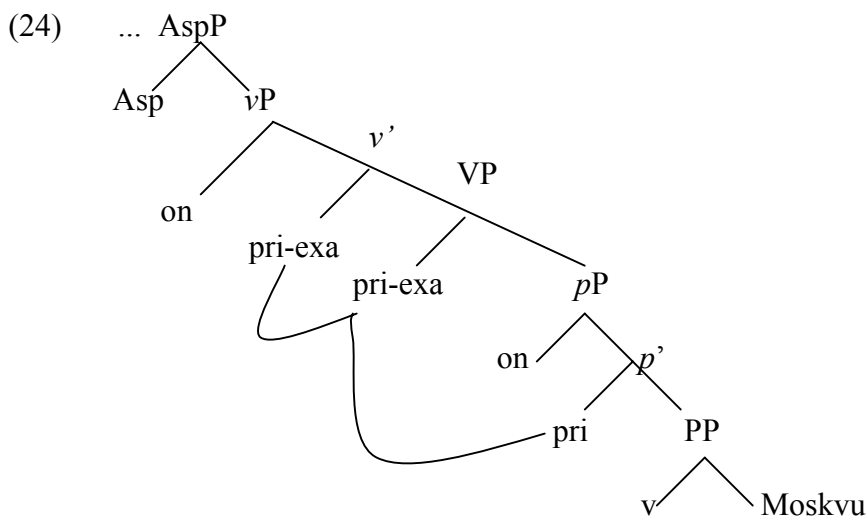
A comparison of (19) and (22) reveals that prefixes value T-f on Asp as perfective but prepositions do not. Thus, there is a correlation between movement of *P* and perfectivity. Since the *P* element *v* does not move out of *pP* in sentence (22), T-f on Asp is valued as imperfective by the

val T-f of the verb *exa*. Consequently, we get the indefinite reference time and the sentence does not imply that *on* reached *Moskvu*. The verbal predicates and the *pP* predicate combine via event identification.

- (22) On *exal* v *Moskvu*. (R)  
 he drove in Moscow-acc  
 ‘He was driving to Moscow.’

A prefix may differ from the preposition, as shown by the following example. In this case, there are two different P elements, as illustrated in the partial derivation in (24).

- (23) On *pri-exal* v *Moskvu*. (R)  
 he by-drove in Moscow-acc  
 ‘He came to Moscow.’



The P element *v* is merged as P and *pri* is merged as *p* and then it incorporates into the verb and values T-f on Asp as perfective. Given the meaning of the perfective head in (13) and the lexical properties of *pri*, the definite reference time again corresponds to the result transition.

### 2.2.2. Aspectual head and case

We have seen that P with its val T-f values unval T-f on Ground, which is manifested by case. However, Figure cannot get a case in *pP* because it is not c-commanded by a P element. Example (25) shows that Figure *vroucí kávu* gets structural accusative.

- (25) ... a do-lila do mého šálku vroucí kávu. (SYN2005#83162410)  
 and to-poured to my cup hot-acc coffee-acc  
 ‘and she topped up my cup with hot coffee.’

I assume that structural accusative – unval T-f on DPs - is valued by the aspectual head because: Firstly, AspP is present in every sentence; every verb must be perfective or imperfective. And structural accusative is not valued by *v* because stative predicates have no causer (i.e. they have no *v*P) but accusative objects are possible, as shown in (26).

(26) *ljubit'* Mashu (R)  
 love Masha-acc  
 'to love Masha'

Secondly, there is a relation between prefixes and the aspectual head and case of direct objects may be affected by the added prefix. Consider (27), where the cumulative prefix *na* changes the case of the plural object.

(27) a. *nesti cvety* b. *na-nesti cvetov* (R)  
 carry flowers-acc CUM-carry flowers-gen  
 'to carry flowers' 'to carry a lot of flowers'

Third, in Polish, genitive on the internal argument in partitive constructions is restricted to the perfective predicates (Błaszczak 2007).

Fourth, it is known that in Russian partitive genitive on the object is also triggered by the perfective aspect.

Fifth, in certain languages, there is a clear correlation between aspect and the form of the objective case; see e.g. Kiparsky (1998) for the accusative-partitive alternation in Finnish.

Sixth, it is also a well-known fact that in Germanic languages internal arguments can affect aspectual properties of the whole event.

Seventh, in aspect split languages, a particular case is restricted to certain aspect, e.g. in Hindi ergative is restricted to the perfective aspect (Woolford 2007).

Thus, given the Phase Impenetrability Condition in (28), Figure has to move to the edge of the *v*P phase to be accessible for the aspectual head.

(28) Phase Impenetrability Condition (Chomsky 2000, 108)

In phase  $\alpha$  with head H, the domain of H is not accessible to operations outside  $\alpha$ ;  
 only H and its edge are accessible to such operations.

Then, when unval  $\varphi$ -fs on Asp probe, Agree can happen and  $\varphi$ -fs on Asp are valued by  $\varphi$ -fs on Figure and T-f on Asp (which has been valued by the P element incorporated into the verb) values T-f on Figure as structural accusative, as demonstrated by sentence (25). Existence of Agree between Asp and Figure is supported by example (29), where  $\varphi$ -fs on *přidělanou* Agree with  $\varphi$ -fs

on *poličku*. The control example (30) shows that *přidělanou* in (29) is not just an adjectival modifier of *poličku*.

- (29) Pavel má tu poličku přidělanou. (CZ)  
 Pavel-nom has the shelf-fem.sg.acc by-made-fem.sg.acc  
 ‘Pavel has fixed the shelf.’  
 ‘Somebody has fixed the shelf for Pavel.’

- (30) Pavel má tu přidělanou poličku. (CZ)  
 Pavel-nom has the by-made-fem.sg.acc shelf-fem.sg.acc  
 ‘Pavel owns the fixed shelf.’

If the aspectual head is present in every sentence, then the same holds for structural accusative. Therefore I assume that DPs can get more cases. They are visible e.g. in Korean or in Lardil (see Richards 2007 for Lardil examples). Here it means that DP is spelled out with the last tense value or structurally, with the highest tense value. Thus, e.g. in sentence (19) *On vexal v Moskvu.*, T-f on *on* is firstly valued by Asp and then by T as nominative. The same happens in passives, consider example (31). T-f on Figure *vroucí káva* is also firstly valued by Asp and then by T.

- (31) Vroucí káva byla do-lita do mého šálku.  
 hot-nom coffee-nom was to-poured to my cup-gen  
 ‘Hot coffee was poured into my cup.’

However, only structural cases can be overwritten. Since the Ground argument is trapped - spelled out - in the *pP* phase, T cannot value its T-f as nominative, as demonstrated by (32) for the prepositional case and (33) for inherent dative.

- (32) a. \* Do můj šálek byl do-lit. (CZ)  
 to my-nom cup-nom was-3.sg.m to-poured-3.sg.m  
 b. Do mého šálku bylo do-lito.  
 to my-gen cup-gen was-3.sg.n to-poured-3.sg.n  
 ‘Something was poured into my cup.’

- (33) a. \* Pavel byl dán knihu. (CZ)  
 Pavel-nom was-3.sg.m given book-acc  
 b. Jirka dal Pavlovi knihu.  
 Jirka-nom gave Pavel-dat book-acc  
 ‘Jirka gave Pavel a/the book.’

### 2.2.3. Two T-fs and two structural accusatives

In this section, I argue that val T-f on P elements links nominal reference to temporal reference and that this feature is responsible for islandhood. We have seen that there are two types of val T-f on the aspectual head. The first type is perfective, which is valued by Ps (and in a few cases by a



perfective verb). The second type is imperfective, which is valued by imperfective verbs. Both types can value unval T-f on DPs as structural accusative. So, one can ask whether the accusatives are not different. Certain data show that in fact they are different; (non-)islandhood of accusative DPs is dependent on the value of T-f, as shown by the contrast in example (34). In (34a) unval T-f on *dopis* is valued by the imperfective T-f on Asp, which has been valued by the verb. In contrast, in sentence (34b), unval T-f on *dopis* is valued by the perfective T-f on Asp (which has been valued by the prefix) and the sentence is degraded. Example (35) shows that the same holds for mass nouns. Compare also Krifka (1992), who shows that aspect marking affects the reference type of nouns in Slavic.

- (34) a. [O čem]<sub>1</sub> Pavel psal dopis t<sub>1</sub>? (CZ)  
 about what Pavel-nom wrote letter-acc  
 ‘About what was Pavel writing a/the letter?’  
 b. ?? [O čem]<sub>1</sub> Pavel do-psal dopis t<sub>1</sub>?  
 about what Pavel-nom to-wrote letter-acc  
 ‘About what did Pavel write a/the letter?’
- (35) a. [Z jaké oblasti]<sub>1</sub> pil Pavel víno t<sub>1</sub>? (CZ)  
 From which area drank Pavel-nom wine-acc  
 ‘From which area was Pavel drinking wine?’  
 b. ?? [Z jaké oblasti]<sub>1</sub> vy-pil Pavel víno t<sub>1</sub>?  
 From which area out-drank Pavel-nom wine-acc  
 ‘From which area did Pavel drink up the wine?’

The following example shows that boundedness (definiteness) is also present in the case of prefixed adverbs. In contrast to the unprefixed adverb in (36a), the adverb with P element *do* in (36b) is bounded.

- (36) a. kdy b. do-kdy (CZ)  
 when to-when  
 ‘when’ ‘till when’

Thus, islandhood is due to val T-f on P elements. This feature can apply either directly - as in examples (14)-(16), where P selects the appropriate arguments – or indirectly, as in (34b) and (35b), where the valued T-f on the prefix values T-f on Asp, and this feature in turn values the unvalued T-f on DP.

### 2.3. Superlexical Ps and lexical Ps

There are many similarities between superlexical prefixes and lexical prefixes. Therefore, in this section, I argue that superlexicals can be merged in the same position as lexical prefixes. Firstly,



merger of the prefix - whether it should be merged low or high in the clausal structure - would have to be sensitive to these properties.

- (42) a. On do-pisal.  
 he COMPL-wrote  
 ‘He finished writing.’
- b. nužno do-pisat’ stroku (R)  
 necessary to-write line-acc  
 necessary COMPL-write line-acc  
 ‘It is necessary to add the/a line’  
 ‘It is necessary to finish the/a line’
- (43) a. pere-čitat’ knigu  
 across-read book-acc  
 REP-read book-acc  
 ‘to read the book’  
 ‘to reread the book’
- b. pere-kričat’ ego (R)  
 EXC-shout him-acc  
 ‘to shout more loudly than him’
- c. pere-čitat’ knigi  
 DISTR-read books-acc  
 ‘to read the books’
- d. pere-šagnut’ porog  
 across-step doorstep-acc  
 ‘to cross the doorstep’

Sixth, the superlexical interpretation is also present in the case of composed adverbs, as demonstrated by *po-zadu* in (44), but the adverb does not contain as high clausal structure as would be necessary for the high superlexical merger.

- (44) po-zadu (CZ)  
 DEL-back  
 ‘a little behind’

Seventh, superlexicals can also be combined with a homophonous preposition in one sentence, as already shown by example (9). The eighth reason is that superlexicals - just like lexicals - make verbs perfective; consider (9) again. Ninth, superlexicals are a subset of lexicals; compare (45) with (46) and (47) with (48).

*Czech*

(45) LP prefixes: do-, z-, na-, nad-, od-, pře-, po-, pod-, při-, pro-, s-, v-, vy-, za-

(46) SP prefixes: do-, na-, od-, pře-, po-, při-, pro-, za-

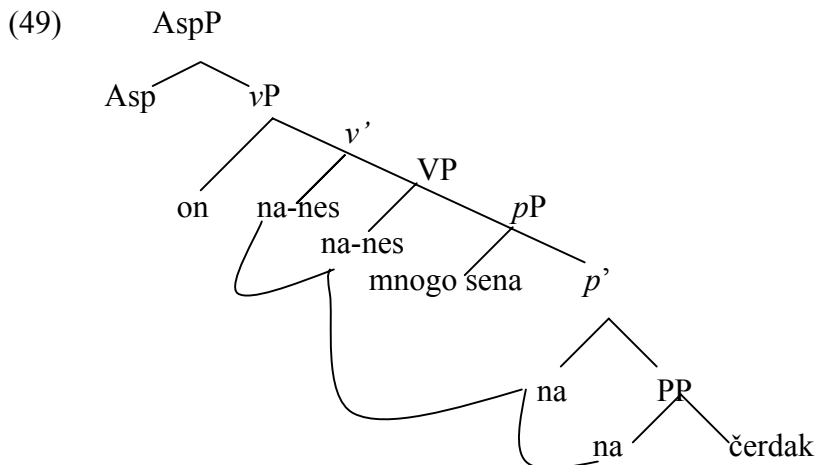
*Russian*

(47) LP prefixes: do-, iz-, na-, nad-, ot-, pere-, po-, pod-, pri-, pro-, s-, v-, vy-, za-

(48) SP prefixes: do-, iz-, na-, ot-, pere-, po-, pod-, pri-, pro-, za-

Because of these reasons, I analyze superlexical prefixes in the same way as lexicals. More specifically, for the P element *na-* in example (9) *On nanes na čerdak mnogo sena.*, I propose derivation (49). Note that in addition to the cumulative interpretation, *na-* makes the same job as lexical prefixes; it brings about a certain localization relation between Figure *mnogo sena* and Ground *čerdak*. Hence, *na-* merges as P and moves to *p*. Then, it incorporates into the verb and

values T-f on Asp as perfective. As in the case of lexicals, this gives the definite reference time and Figure *mного sena* results on Ground *čerdak*. As to the cumulative interpretation, it is not necessary for *na-* to be merged directly in AspP or in a higher, e.g. cumulative, phrase. To derive cumulativeness, it suffices to check the appropriate cumulative feature on Asp (or Cum). This is ensured by an Agree relation between a cumulative feature on the moved P element *na-* and the corresponding cumulative feature on the aspectual (cumulative) head.<sup>2</sup>



### 3. Conclusion

In this paper, I have argued that prefixes - both lexicals and superlexicals - and prepositions are identical elements: Ps. P elements bear a valued T-f and all cases are an unvalued T-f on N. DPs (NPs) can get more cases but only structural cases can be overwritten. I have also argued that T-f of P elements links nominal reference to temporal reference and that this feature is responsible for islandhood.

### References

- Arsenijević, B. (2006), Inner aspect and telicity. PhD. dissertation. Leiden University.
- Asbury, A., B. Gehrke & V. Hegedűs (2006), One size fits all: prefixes, particles, cases and adpositions as members of the category P. Handout from WECOL in Fresno.
- Błaszczak, J. (2007), The NOM/GEN “Subject” Puzzle in Polish. In: P. Kosta & L. Schürcks (eds.), *Linguistic Investigations into Formal Description of Slavic Languages*, 127-146.
- Chomsky, N. (2000), Minimalist Inquiries: The Framework. In: R. Martin, D. Michaels & J. Uriagereka (eds.), *Step by Step: Essays on minimalist syntax in honor of Howard Lasnik*. Cambridge, Mass.: MIT Press, 89-156.
- Český národní korpus – PMK 2001, Ústav Českého národního korpusu FF UK, Praha. <http://ucnk.ff.cuni.cz>.
- Český národní korpus – SYN 2005, Ústav Českého národního korpusu FF UK, Praha. <http://ucnk.ff.cuni.cz>.
- Kiparsky, P. (1998), Partitive Case and Aspect. In: M. Butt & W. Geuder (eds.), *The Projection of Arguments: Lexical and Compositional Factors*. Stanford: CSLI Publications, 265-307.

<sup>2</sup> In addition, the object must be a plural or mass noun. This can be treated as a selectional relation between the cumulative version of *na-* and the Figure argument in *pP*.

- Matushansky, O. (2002), On formal identity of Russian prefixes and prepositions. In: A. Csirmaz, Z. Li, A. Nevins, O. Vaysman & M. Wagner, (eds.), *Phonological Answers (and their corresponding questions)*. MITWPL 42, Working Papers in Linguistics, Cambridge MA, 217-253.
- Pesetsky, D. & E. Torrego (2004), Tense, Case, and the Nature of Syntactic Categories. In: J. Guéron & J. Lecarme (eds.), *The syntax of Time*. Cambridge, Mass.: MIT Press, 495-539.
- Pesetsky, D. & E. Torrego (2006), Probes, Goals and Syntactic Categories. In: Y. Otsu (ed.), *Proceedings of the Seventh annual Tokyo Conference on Psycholinguistics*.  
[http://web.mit.edu/linguistics/people/faculty/pesetsky/Probes\\_Goals\\_Pesetsky\\_Torrego.pdf](http://web.mit.edu/linguistics/people/faculty/pesetsky/Probes_Goals_Pesetsky_Torrego.pdf)
- Ramchand, G. (2004), Time and the event: The semantics of Russian prefixes. *Nordlyd* 32.2, special issue on Slavic prefixes, ed. P. Svenonius, 323-361.
- Richards, N. (2007), Lardil “Case Stacking” and the Structural/Inherent Case Distinction. *lingBuzz/000405*.
- Starke, M. (2001), Move Dissolves into Merge. Ph.D. dissertation, University of Geneva.
- Svenonius, P. (2004), Adpositions, Particles, and the Arguments they Introduce. *lingBuzz/000042*
- Yadroff, M. & S. Franks (2001), The origin of prepositions. In: G. Zybatow, U. Junghanns, G. Mehlhorn, & L. Szucsich (eds.), *Current Issues in Formal Slavic linguistics*. Frankfurt am Main: Peter Lang, 69–79.
- Woolford, E. (2007), Aspect Splits as Contextual Markedness. Ms. University of Massachusetts.  
<http://people.umass.edu/ellenw/Woolford%20Aspect%20Splits%20As%20Contextual%20Faithfulness.pdf>