

*Syntactic operations exceed what the interfaces can account for
(or: The heartbreak of interface-driven syntax)*

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1. OVERVIEW

- This talk argues against the possibility of a syntax that is entirely interface-driven
- Consequently, insofar as we need a wholesale alternative to formal features, the interfaces are probably the wrong place to go looking for it
 - because, even in the best case, interface considerations will be able to subsume only a *proper subset* of formal features

1.1. PREMISES

P1: An ‘interface’ between syntax and some other module of grammar, \mathcal{M} , is defined as the (representational or derivational) point at which the primitives and processes of \mathcal{M} replace those of syntax.

- In particular, the set of primitives/processes available at the interface should be the intersection of the primitives/processes of syntax with those of \mathcal{M} .

✦ So, for example, consider a hypothetical condition like (1):

(1) The complement of a head H^0 cannot move to / remerge in [Spec,HP].

- Suppose we found that (1) were correct; we could not then claim that it applied “at the interface” —
 - since there is no \mathcal{M} aside from syntax itself that is supposed to deal in primitives like *head*, *spec*, and *move/remerge*

⇒ Saying that (1) is an “interface condition” would mean that there are two modules that deal in the primitives of syntax

- which I take to be in conflict with the very definition of a module

*Thanks to Mark Baker, Theodore Levin, and Maria Polinsky, to the audience at WAFL 9 (Cornell), and to audiences at the linguistics colloquia at Cornell, UCLA, and the University of Maryland, for feedback on earlier versions of this work. For the Kaqchikel data herein, I owe a very special thank you to Ana López de Mateo. Section 3.2 builds partly on joint work with Theodore Levin and with Jaklin Kornfilt; they should not, however, be held responsible for the conclusions I draw here. All errors are my own.

P2: Both overt agreement in φ -features (“ φ -agreement”) and morphologically-expressed case (“m-case”) are syntactic phenomena

- *pace* Bobaljik 2008, Marantz 1991, McFadden 2004, inter alia (notwithstanding the fact that, like many other things in syntax, their effects are visible at PF)

- This may very well be derivable from P1; but it has in fact been argued on independent grounds (Preminger 2014), roughly:
 - m-case feeds φ -agreement, which in turn feeds the kind of movement that has LF consequences
 - in particular: movement to subject position (which has consequences for scope)
- ⇒ both m-case and φ -agreement must occur in the part of the grammar that affects both PF and LF — a.k.a., “syntax”

1.2. THE GENERAL STRUCTURE OF THE ARGUMENT(S)

- Let δ be some process or property of syntactic derivations that is manifestly obligatory
 - To derive the obligatoriness of δ from interface conditions, there must be a way to identify all and only those structures in which δ is suppressed
 - so that they can be flagged as “crashing” at the relevant interface
- [NB: Any single δ will be *necessary-but-insufficient* for grammaticality; so flagging all the instances where δ has applied (as “non-crashing”) won’t do.]

✦ And all of this needs to be done in a way that does not violate P1

- We will see two examples (namely, δ =agreement and δ =case) where a P1-compliant identification mechanism is not available
 - ⇒ meaning the obligatoriness of the relevant δ s cannot be derived from interface considerations

2. AGREEMENT

2.1. GENERAL

- A useful straw-man to keep in mind throughout section 2 is the *uninterpretable features* proposal (Chomsky 2000, 2001)
 - where certain features are “illegible” at the interfaces

- and (for some reason?) the interfaces cannot simply ignore features that are illegible
 - instead, if such features reach the interfaces untouched, the result is a crash
- ✦ But the intended conclusion is broader than “*uninterpretable features* don’t work” —
 - as noted above, the idea is to show that there is no way to enforce the occurrence of agreement using a condition evaluated at the interfaces
 - be it with uninterpretable features, or otherwise

Let us adopt the following labels:

H^0 = some head (e.g. a finite verb)
 α = some phrase (e.g. a nominal/DP argument) whose features control agreement morphology on H^0

- There is, by now, substantial evidence that agreement¹ is subject to the structural conditions in (2):
- (2) a head H^0 can agree in some feature f with a DP α only if:
 - i. H^0 c-commands α
 - ii. H^0 and α are in the same locality domain
 - iii. there is no bearer of valued f that c-commands α and is c-commanded by H^0
- Now, suppose that—empirically speaking—we observe that agreement between some particular H^0 and some particular α is obligatory
- ✦ Here’s what the interfaces can’t do:
 - they can’t impose a restriction saying, “any H^0 and α that satisfy (2.i–iii) with respect to some feature f must agree in f ”
 - because evaluating whether a triplet $\langle H^0, \alpha, f \rangle$ satisfies (2.i–iii) requires access to syntax-specific primitives
 - and therefore, can only be done **in syntax**

¹Here and throughout, the term ‘agreement’ refers to morpho-phonologically overt covariation in φ -features between a verb or tense/aspect/mood-marker and a nominal argument. No stance is taken about other phenomena that have been (or may yet be) conjectured to arise via the same underlying mechanism (cf. Zeijlstra 2004, Kratzer 2009, among others).

See Preminger & Polinsky 2015 for a recent review of the various types of evidence that have accumulated in favor of (2) and against various conceivable alternatives.

- What the interfaces can do is inspect the state of H^0 and/or α themselves
- ✦ Not surprisingly, perhaps, both alternatives have been proposed:
 - the *inspect H^0* variant is called “uninterpretable φ -features”
 - the *inspect α* variant is called “the Case Filter”²
- If either (or both) of these two variants worked—as a way of enforcing the occurrence of agreement—then the obligatoriness of agreement could be derived from interface conditions
- ✦ Alas, neither of these variants work.

2.2. OMNIVOROUS AGREEMENT IN KICHEAN AGENT-FOCUS

- (3) 3PL \gg 3SG
- a. ja rje’ x-**e**/* ϕ -tz’et-ö rja’
 FOC them COM-**3pl**/***3sg**.ABS-see-AF him
 ‘It was them who saw him.’
- b. ja rja’ x-**e**/* ϕ -tz’et-ö rje’
 FOC him COM-**3pl**/***3sg**.ABS-see-AF them
 ‘It was him who saw them.’
- (4) 1(2) \gg 3
- a. ja rat x-**at**/***e**-ax-an rje’
 FOC you(sg.) COM-**2sg**/***3pl**.ABS-hear-AF them
 ‘It was you(sg.) who heard them.’
- b. ja rje’ x-**at**/***e**-ax-an rat
 FOC them COM-**2sg**/***3pl**.ABS-hear-AF you(sg.)
 ‘It was them who heard you(sg.)’

²This implicitly assumes a causal relationship between agreement with α and the assignment of case to α . As it turns out, this assumption doesn’t work (contra, e.g., Chomsky 2000, 2001; see Preminger 2011b, 2014 for the relevant argumentation). But as we will see, the interface-driven treatment of agreement fails even if we grant this assumption.

(5) OKAY TO HAVE TWO PLURALS, OKAY TO HAVE NO PLURALS

- a. ja röj x-*oj*-tz'et-ö rje'
FOC **us** COM-1pl.ABS-see-AF **them**
'It was us who saw them.'
- b. ja ri xoq x-*φ*-tz'et-ö ri achin
FOC **the woman** COM-3sg.ABS-see-AF **the man**
'It was the woman who saw the man.'

- What this is not: [Preminger 2014:18-20, 67-73, 89, 123-128]
 - Multiple Agree³
 - feature-percolation⁴
 - a morphological effect (e.g. portmanteau morphemes)
 - the effects of a scale/hierarchy (e.g. reflecting “cognitive salience”)⁵
 - multiple lexical variants of the probe (cf.: C⁰[+decl] vs. C⁰[+decl, +wh])

Here are schemata of a few derivations —

- and what we would need the interfaces' verdict to be in each case

	PROBE	SUBJ	OBJ	desired verdict	
a.	H ⁰	'e-'	3pl	3sg	✓ (agreement w/closest available pl target) [= <i>ex. (3a)</i>]
b.	H ⁰	'e-'	3sg	3pl	✓ (agreement w/closest available pl target) [= <i>ex. (3b)</i>]
c.	H ⁰	φ	3sg	3pl	✗ (“gratuitous non-agreement”: pl target available) [= <i>cf. (6b)</i>]
d.	H ⁰	φ	3sg	3sg	✓ (no pl targets, no agreement) [= <i>ex. (5b)</i>]

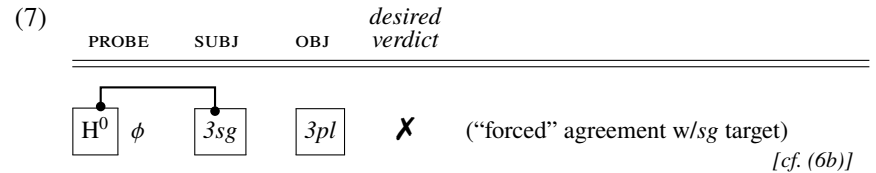
³Anagnostopoulou 2005, Hiraiwa 2001, 2004, inter alia.

⁴Chomsky 1973, Cowper 1987, Gazdar et al. 1985, Grimshaw 2000, Kayne 1983, Webelhuth 1992, inter alia.

⁵Dayley 1978, Mondloch 1981, Norman & Campbell 1978, Smith-Stark 1978, inter alia; see also Stiebels 2006.

What rules out “gratuitous non-agreement”, as schematized in (6c)?

- Can it be ruled out because of a property of the *probe* (H⁰)—e.g. an unchecked “uninterpretable feature”?
- No. — There are two possibilities to consider:
 - If 3sg targets can remove this property (“check the uninterpretable feature”), then (7) should be good... contrary to fact:



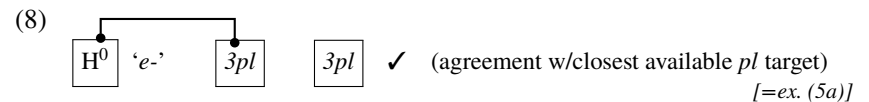
- If 3sg targets cannot remove this property (“check the uninterpretable feature”), and only 3pl ones can, then (6d) (above) should be bad... — again, contrary to fact.

Crucially, the same contradiction obtains *even if we avail ourselves of covert expletives, and/or other undetectable agreement targets.*

- Suppose H⁰ in (6d) successfully agrees with some XP β; then either:
 - (i) β is formally singular → ⊥
 - if H⁰ could target singular DPs, (7) would be okay, contrary to fact
 - (ii) β is formally plural → then H⁰, having agreed with β, would be spelled out as 'e-' (pl.) → ⊥
 - this is simply not so, in the relevant cases (e.g. (6d))

- Can “gratuitous non-agreement” be ruled out because of a property of one of the DP arguments—e.g. a lack of “Case”—that causes ungrammaticality at the interface?

- No. If DPs in this language/construction *needed* to be agreed with, then (6a–b) would be bad—as would (8), below—contrary to fact.



Interim summary:

- A theory where the occurrence of agreement is enforced *at the interfaces* is not viable
- Consequently, any reduction of syntax to “interface needs” can at best be partial
 - since it would not include agreement

3. CASE

3.1. GENERAL

- A useful straw-man to keep in mind throughout section 3 is the *Case Filter* proposal (Chomsky 1981, Vergnaud 1977/2006)
 - where the valuation of a noun phrase’s case feature(s) is enforced via a late-applying representational condition
(see also Chomsky & Lasnik 1977)

↔ But as in section 2, the intended conclusion is broader than “the *Case Filter* doesn’t work” —

- the idea is to show that there is no way to enforce the valuation of case features using a condition evaluated at the interfaces

.....

- I will focus, here, on the assignment of accusative (ACC)
- As with regard to agreement (§2), there is copious evidence regarding the sensitivity of the assignment of ACC to fine-grained structural properties
- For concreteness, I will adopt the implementation given in (9):

(9) a nominal/DP α is assigned ACC as soon as there is a nominal/DP β **such that:**⁶

- i. β c-commands α
- ii. β and α are in the same locality domain
- iii. β is caseless

- While I think it is fairly clear that (9) does better than its alternatives (see, e.g., Baker & Vinokurova 2010, Marantz 1991, McFadden 2004) —
 - the argument does not depend on adopting (9) in particular
 - all that is crucial is that the assignment of ACC is sensitive to factors that are clearly syntactic in nature

- Now, suppose that—empirically speaking—we observe that some nominal/DP α must surface bearing ACC

↔ Here’s what the interfaces can’t do:

- they can’t impose a restriction saying, “any α for which there is a β that satisfies (9.i–iii) must bear ACC”
 - because evaluating whether a pair $\langle \alpha, \beta \rangle$ satisfies (9.i–iii) requires access to syntax-specific primitives
 - and therefore, can only be done **in syntax**

- What the interfaces can do is inspect the state of α itself:
 - if the interfaces flagged any derivation in which α did not receive case as ungrammatical;
 - and the only opportunity for this particular α to get case was via the configuration in (9);
 - then the obligatoriness of this instance of ACC could be derived from interface conditions.

↔ Alas, this doesn’t work.

⁶It is possible that (9) needs to be parameterized, so that it is suppressed in so-called “ergative languages.”

3.2. RAISING-TO-ACCUSATIVE IN SAKHA⁷

- (10) a. Sardaana **Aisen**-*(y) beqehee [бүгүн *t* kel-er dien] ihit-te
Sardaana **Aisen**-*(ACC) yesterday today come-AOR COMP hear-PAST.3
'Sardaana heard yesterday that Aisen is coming today.'
- b. Sardaana beqehee [бүгүн **Aisen**-*(y) kel-er dien] ihit-te
Sardaana yesterday today **Aisen**-*(ACC) come-AOR COMP hear-PAST.3
'Sardaana heard yesterday that Aisen is coming today.'
- [Vinokurova 2005:363; annotations added]

- As (10a) illustrates, ACC on the raised embedded subject is obligatory when it has raised (across a matrix adverb)

What rules out “gratuitous non-ACC” on *Aisen* in (10a)?

- If this is to be derived from interface conditions —
 - there must be a way to detect the ill-formedness of the ACC-less version of (10a) by inspecting [_{DP} *Aisen*] alone
 - Prima facie, what (10b) shows is that there is nothing wrong with an instance of [_{DP} *Aisen*] that has not been assigned ACC
- ⇒ The interface-driven approach to case is forced into the following position:
- the embedded clause in (10b) has a property *p* — (say, the ability to “assign NOM case”) — that ameliorates whatever representational lacuna the ACC-less version of [_{DP} *Aisen*], in (10a), has
 - But at the same time, the embedded clause in (10a) must lack property *p*
 - otherwise, the ACC-less variant of (10a) would be fine
 - ✦ What ensures that the embedded clause in (10a) will lack property *p*?
 - It must be the case that having property *p* would prevent the movement seen in (10a) from happening
 - as per, e.g., Chomsky’s (2001) *Activity Condition*

⁷This subsection builds partly on joint work with Theodore Levin and with Jaklin Kornfilt; see Kornfilt & Preminger 2015, Levin & Preminger 2015.

- That, unfortunately, just doesn’t seem to be so (at least not in Sakha):⁸
- (11) min **ehigi**(-ni) [бүгүн *t* kyaj-yax-xyt] dien erem-mit-im
I **you**(-ACC) today win-FUT-2pl.S that hope-PST-1sg.S
'I hoped you would win today.'
- [Vinokurova 2005:361; annotations added]

- The distinction between (10a) (obligatory ACC on the raised subject) and (11) (optional ACC on the raised subject) is simply a matter of the nominal’s position relative to VP-peripheral adverbs
 - as such, it is replicable even in monoclausal contexts:⁹
- (12) a. Masha salamaat-*(y) **turgennik** *t* sie-te
Masha porridge-*(ACC) **quickly** eat-PAST.3sg.S
'Masha ate the porridge quickly.'
- b. Masha **turgennik** salamaat-(#y) sie-te
Masha **quickly** porridge-(#ACC) eat-PAST.3sg.S
'Masha ate porridge quickly.'
- [Baker & Vinokurova 2010:602]
- The reason it looks like there’s “optionality” in (11) is because there is no adverb there to delimit the edge of the matrix VP
 - What the contrast between (10a) and (11) shows is that this is not about adjacency to the verb—e.g. (*pseudo*-)incorporation
 - contrary to what some have claimed (Baker & Vinokurova 2010, Levin & Preminger 2015)
 - It is simply about being inside or outside (the matrix) VP
 - ✦ But this means that having property *p* — (whatever it is that allows embedded subjects to surface without ACC) — does not prevent movement out of the embedded clause
- ⇒ Contradiction.

⁸The embedded verb in (11) shows full agreement with the raised embedded subject, in both number and person. Sakha also allows partial agreement (in number but not in person) on the embedded verb, in which case accusative on the raised embedded subject becomes obligatory (rather than optional, as it is in (11)); see Vinokurova (2005:361). Note, however, that the subject in (10a) is 3rd person, meaning the string in question is compatible with both a full agreement parse and a partial agreement parse (as far as the agreement morphology in the embedded clause is concerned). Therefore, the possibility of partial agreement does not explain the obligatoriness of accusative in (10a) (cf. Baker 2011:893–896).

⁹As Baker & Vinokurova (2010:602) note, accusative in (12b) is possible only if the object bears contrastive focus, hence the ‘#’ annotation (w.r.t. a neutral context).

Interim summary:

- The ungrammaticality of the ACC-less version of a sentence like (10a) cannot be determined by inspecting the relevant DP alone
 - instead, it requires inspecting the structural configuration in which that DP occurs
 - in a way that requires reference to syntax-specific primitives
- Consequently—again—any reduction of syntax to “interface needs” can *at best* be partial
 - since it would not include case (or agreement)

4. IMPLICATIONS FOR CHOMSKY’S STRONG MINIMALIST THESIS

- Chomsky (2004) proposes a division of the properties of language—and consequently, of the task facing the language-acquirer—as in (13):

- (13) i. language-specific factors
ii. interface conditions
iii. general properties
(of cognition, or of the physical world more generally)

- The *Strong Minimalist Thesis* (SMT) is:

- (14) there are no properties that fall under (13.i)

[Chomsky 2004:106]

- But we have seen that neither agreement nor case can be accounted for using (13.ii)...



5. CONCLUSION

- Neither the occurrence of agreement nor the occurrence of (accusative) case can be derived *at the interfaces*
- Therefore: if there is an outright alternative to formal features, the interfaces are not where it will be found

REFERENCES

- Anagnostopoulou, Elena. 2005. Strong and weak person restrictions: a feature checking analysis. In *Clitic and affix combinations: theoretical perspectives*, eds. Lorie Heggie & Francisco Ordonez, Linguistics Today 74, 199–235. Amsterdam: John Benjamins.
- Baker, Mark C. 2011. When agreement is for number and gender but not person. *Natural Language & Linguistic Theory* 29:875–915, doi: <10.1007/s11049-011-9147-z>.
- Baker, Mark C. & Nadya Vinokurova. 2010. Two modalities of Case assignment: Case in Sakha. *Natural Language & Linguistic Theory* 28:593–642, doi: <10.1007/s11049-010-9105-1>.
- Bobaljik, Jonathan David. 2008. Where’s phi? Agreement as a post-syntactic operation. In *Phi Theory: phi-features across interfaces and modules*, eds. Daniel Harbour, David Adger & Susana Béjar, 295–328. Oxford: Oxford University Press.
- Chomsky, Noam. 1973. Conditions on transformations. In *A festschrift for Morris Halle*, eds. Stephen R. Anderson & Paul Kiparsky, 232–286. New York, NY: Academic Press.
- Chomsky, Noam. 1981. *Lectures on government and binding*. Dordrecht: Foris.
- Chomsky, Noam. 2000. Minimalist inquiries: the framework. In *Step by step: essays on minimalist syntax in honor of Howard Lasnik*, eds. Roger Martin, David Michaels & Juan Uriagereka, 89–155. Cambridge, MA: MIT Press.
- Chomsky, Noam. 2001. Derivation by phase. In *Ken Hale: a life in language*, ed. Michael Kenstowicz, 1–52. Cambridge, MA: MIT Press.
- Chomsky, Noam. 2004. Beyond explanatory adequacy. In *Structures and beyond*, ed. Adriana Belletti, The Cartography of Syntactic Structures 3, 104–131. New York, NY: Oxford University Press.
- Chomsky, Noam & Howard Lasnik. 1977. Filters and control. *Linguistic Inquiry* 8:425–504.
- Cowper, Elizabeth. 1987. Pied piping, feature percolation and the structure of the noun-phrase. *Canadian Journal of Linguistics* 32:321–338.
- Dayley, Jon P. 1978. Voice in Tzutujil. *Journal of Mayan Linguistics* 1:20–52.
- Gazdar, Gerald, Ewan Klein, Geoffrey K. Pullum & Ivan A. Sag. 1985. *Generalized Phrase Structure Grammar*. Cambridge, MA: Harvard University Press.
- Grimshaw, Jane. 2000. Locality and extended projections. In *Lexical specification and insertion*, eds. Peter Coopmans, Martin Everaert & Jane Grimshaw, 115–134. Amsterdam: John Benjamins.
- Hiraiwa, Ken. 2001. Multiple Agree and the defective intervention constraint in Japanese. In *The proceedings of the MIT-Harvard joint conference (HUMIT 2000)*, ed. Ora Matushansky, MIT Working Papers in Linguistics 40, Cambridge, MA: MITWPL, 67–80.
- Hiraiwa, Ken. 2004. *Dimensions of symmetry in syntax: agreement and clausal architecture*. Doctoral dissertation, Cambridge, MA: MIT.

- Kayne, Richard S. 1983. Connectedness. *Linguistic Inquiry* 14:223–249.
- Kornfilt, Jaklin & Omer Preminger. 2015. Nominative as *no case at all*: an argument from raising-to-ACC in Sakha. In *Proceedings of the 9th Workshop on Altaic Formal Linguistics (WAFSL 9)*, eds. Andrew Joseph & Esra Predolac, MIT Working Papers in Linguistics 76, Cambridge, MA: MITWPL, 109–120.
- Kratzer, Angelika. 2009. Making a pronoun: fake indexicals as windows into the properties of pronouns. *Linguistic Inquiry* 40:187–237, doi: <10.1162/ling.2009.40.2.187>.
- Levin, Theodore & Omer Preminger. 2015. Case in Sakha: are two modalities really necessary?, *Natural Language & Linguistic Theory* 33:231–250, doi: <10.1007/s11049-014-9250-z>.
- Marantz, Alec. 1991. Case and licensing. In *Proceedings of the 8th Eastern States Conference on Linguistics (ESCOL 8)*, eds. German Westphal, Benjamin Ao & Hee-Rahk Chae, Ithaca, NY: CLC Publications, 234–253.
- McFadden, Thomas. 2004. *The position of morphological case in the derivation: a study on the syntax-morphology interface*. Doctoral dissertation, Philadelphia, PA: University of Pennsylvania.
- Mondloch, James L. 1981. *Voice in Quiche-Maya*. Doctoral dissertation, Albany, NY: State University of New York.
- Norman, William M. & Lyle Campbell. 1978. Towards a Proto-Mayan syntax: a comparative perspective on grammar. In *Papers in Mayan linguistics*, ed. Nora C. England, University of Missouri Miscellaneous Publications in Anthropology 6, 136–156. Columbia, MO: University of Missouri.
- Preminger, Omer. 2011a. *Agreement as a fallible operation*. Doctoral dissertation, Cambridge, MA: MIT.
- Preminger, Omer. 2011b. Asymmetries between person and number in syntax: a commentary on Baker’s SCOPA. *Natural Language & Linguistic Theory* 29:917–937, doi: <10.1007/s11049-011-9155-z>.
- Preminger, Omer. 2014. *Agreement and its failures*. Linguistic Inquiry Monographs 68, Cambridge, MA: MIT Press, doi: <10.7551/mitpress/9780262027403.001.0001>.
- Preminger, Omer & Maria Polinsky. 2015. *Agreement and semantic concord: a spurious unification*. Ms. URL: <http://ling.auf.net/lingbuzz/002363>.
- Smith-Stark, Thom. 1978. The Mayan antipassive: some facts and fictions. In *Papers in Mayan linguistics*, ed. Nora C. England, University of Missouri Miscellaneous Publications in Anthropology 6, 169–187. Columbia, MO: University of Missouri.
- Stiebels, Barbara. 2006. Agent Focus in Mayan languages. *Natural Language & Linguistic Theory* 24:501–570, doi: <10.1007/s11049-005-0539-9>.
- Vergnaud, Jean Roger. 2006. Letter to Noam Chomsky and Howard Lasnik, in 1977. In *Syntax: critical concepts in linguistics*, eds. Robert Freidin & Howard Lasnik, vol. 5, 21–34. London: Routledge.
- Vergnaud, Jean-Roger. 1977. *Open letter to Chomsky and Lasnik*. April 1977, available at <http://ling.auf.net/lingbuzz/000461>.
- Vinokurova, Nadya. 2005. *Lexical categories and argument structure: a study with reference to Sakha*. Doctoral dissertation, Utrecht: UiL-OTS. LOT dissertation series.
- Webelhuth, Gert. 1992. *Principles and parameters of syntactic saturation*. Oxford: Oxford University Press.
- Zeijlstra, Hedde. 2004. *Sentential negation and negative concord*. Doctoral dissertation, Amsterdam: University of Amsterdam.

svn revision code: 8062