

Minimalist variability in the verb phrase*

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This paper discusses language variation from a minimalist perspective. Building on work from MacDonald (2006, 2008a,b), I discuss a clustering of inner aspectual properties from English eventive predicates, which Russian lacks. Interestingly, English statives also lack this cluster. I offer an account for the presence vs. absence of this aspectual cluster in terms of the presence vs. absence of an aspectual projection AspP. In this way, cross-linguistic and intra-linguistic variation in inner aspect are formally indistinct. I discuss why this is not unexpected under Minimalism and briefly contrast this minimalist conclusion with the minimalist approach to variation suggested by Sigurðsson (2004) in which languages share the same underlying elements, but vary in terms of which of them are pronounced.

1. Introduction

This paper addresses language variation in the domain of inner aspect. I follow Thráinsson (1996: 257) who lays out a *Limited Diversity Hypothesis* related to cross-linguistic and intra-linguistic variation. Consider for the moment the first clause: “It is not the case that all FCs [(i.e. functional categories)] are instantiated in all languages”. Note that Chomsky (2000: 109) assumes the same thing for the EPP feature; he assumes that for the phase heads C/v it varies parametrically. Language variation of this form, in which one language has an element (a feature or functional projection) and another language lacks that element, falls out under the assumption that there is a universal feature set (Chomsky 2000, 2001, 2007) and that languages will differ by having different subsets of those features. I argue that we find precisely this situation in the domain

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of inner aspect. Specifically, I claim that English has an aspectual projection AspP between *v*P and VP and that Russian lacks AspP.¹

Consider now the second clause of Thráinsson's (1996: 257) *Limited Diversity Hypothesis*: "The FCs selected by a given language may not be present in all clause types of that language".² I follow Thráinsson here as well and argue that while English has the functional category AspP, it is not present in every verb phrase. Specifically, I claim that the verb phrase of English eventives has AspP while the verb phrase of English statives lacks AspP. This is also consistent with Chomsky (2000: 109) who not only assumes that the EPP feature for the phase heads *C/v* varies parametrically among languages, but that if it is available, it is optional. At the level of the English verb phrase, AspP is optional; when present, the predicate is interpreted as eventive, when absent as stative.

Interestingly, if we consider a subset of English verbs, we can understand this optionality to manifest itself differently. While there are verbs that head predicates consistently interpreted as eventive (e.g. *eat*, *run*) and verbs that head predicates consistently interpreted as statives (e.g. *owe*, *own*), there are verbs that head predicates that can sometimes be interpreted as eventive and sometimes as stative (e.g. *cover*, *surround*). These are aspectually variable verbs. (See Borer 2005, Maienborn 2005, Smith 1983, Zucchi 1998 and references therein for a discussion.)³ I will suggest that their aspectual variability can be accounted for by the optional presence/absence of AspP.

Under the picture so far outlined, there are three types of language variation in inner aspect: cross-linguistic (English vs. Russian), intra-linguistic (English eventives vs. English statives), and optional variation (stative-eventive aspectual variable verbs). Although, there are three types of variation, they are all accounted for in the same way: the presence vs. absence of AspP. I argue that under one conception of Minimalism, this is precisely what we expect. For note that in order to formally differentiate among elements that vary cross-linguistically from elements that vary intra-linguistically and both from elements that vary optionally, each element would have to be marked differently. The mere introduction of

1. At a first pass, the claim that Russian lacks AspP may initially seem to go against previous accounts of Russian in which there is a +/-perfective/bounded feature on the head of AspP, or accounts in which AspP is related to case assignment. See for instance, Bailyn (2004), Pereltsvaig (2000), Richardson (2003), Schoorlemmer (1994), Szucsich (2001). These previous accounts are not directly concerned with the range of properties discussed below, and consequently, it is not immediately clear that the AspP proposed here, with the specific properties dependent on it, is the same AspP in previous studies.

2. The third and final clause, which is not immediately relevant to the present paper reads as follows: "The sequence (c-command relations) of those functional categories (dominance relations between the functional projections) that are directly related to morphological distinctions may vary from language to language, consistent with the Mirror Principle." (Thráinsson 1996: 257).

3. It is important to note that when I refer to aspectually variable *verbs*, I use it as shorthand for verbs that can head predicates that can be interpreted as more than one aspectual predicate type. Since, at least, Verkuyl (1972) we know that other elements in the verb phrase can affect aspectual interpretation, as we will see below.

these markers would multiply the number of linguistic elements which would add more computational complexity, and tend away from “conceptual ‘good design’ conditions” on the assumption that “less machinery is better than more” (Chomsky 2000: 145). Under a minimalist approach, the only motivation to linguistically differentiate between these types of variation would be empirical. We will see below that inner aspect does not supply the empirical motivation. In fact, the data here from inner aspect supports a minimalist notion of language variation in which cross-linguistic variation, intra-linguistic variation and optional variation are formally indistinguishable; it is all just variation.

The paper is organized as follows: In Section 2, I argue for the presence of AspP between *v*P and VP in English by considering the distinct aspectual interpretations and distributions of mass nouns (MNs) and bare plurals (BPs). I also discuss elements that can contribute to the aspectual interpretation of a predicate and their structural position relative to AspP; specifically I discuss goal and location PPs and external argument introducing CAUSE. In Section 3, I argue that Russian lacks AspP based on the diagnostics developed in Section 2. In Section 4, using the same diagnostics that determined that Russian lacks AspP, I argue that English statives also lack AspP. I also briefly discuss stative-eventive aspectual variable verbs. In Section 5, I briefly contrast *silence*⁴ approaches to variation (Kayne 2005, 2008, Sigurðsson 2004) with the approach argued for here, and note one crucial difference between them: the relevance of interpretation.

2. Evidence for AspP in English

In this section, I argue for the existence of AspP between *v*P and VP (see also Travis 1991, 2000), and claim that there are three properties dependent on its presence. In Section 2.1, I discuss the aspectual interpretation and distribution of MNs. In Section 2.2, I discuss the aspectual interpretation and distribution of BPs. In Section 2.3, I discuss goal and location PPs and the external argument introducing predicate CAUSE and their (in)ability to contribute to the aspectual interpretation of a predicate.

2.1 Mass nouns and their aspectual affect

Consider the well-known effect that an argument of the verb can have on the aspectual interpretation of a predicate (see Dowty 1979, Krifka 1989, Verkuyl 1972 among others) in (1).

- (1) a. John ate an apple in ten minutes/#for ten minutes.
 b. John ate cheese #in ten minutes/for ten minutes.

In (1a) *an apple* denotes a specified quantity of material (see Verkuyl 1972) and the predicate is telic, as evidenced by the ability of the time span adverbial (i.e. *in ten*

4. The heading *silence variation* comes from Sigurðsson (2004).

minutes) to identify the end of the event, and by the incompatibility of the *for*-adverb on a single event (i.e. non-iterative) interpretation.⁵ I will refer to an NP of this type as a [+q]NP (*q* for *specified quantity of A* (Verkuyl 1972)). In (1b), on the other hand, *cheese* (a [-q]NP) does not denote a specified quantity of material and the predicate is atelic, as evidenced by the inability of the time span adverbial to identify the end of the event and by the compatibility of the *for*-adverb on a single event interpretation. Depending on the value of the [q] feature of the NP, the predicate is telic or atelic. I refer to this phenomenon as the *object-to-event mapping* (OTEM) property.⁶

Consider another test for the (a)telicity of the predicate: the progressive-to-perfect entailment (Dowty 1979). When the predicate is telic there is no entailment, as illustrated in (2). When the predicate is atelic, there is an entailment, as illustrated in (3).

- (2) a. John is eating the apple.
 b. John has eaten the apple.
 (3) a. John is eating cheese.
 b. John has eaten cheese.

If John is eating an apple (2a), it does not entail that he has eaten an apple (2b).⁷ In contrast, if John is eating cheese (3a), it does entail that John has eaten cheese (3b). The only difference between these sentences is the [q] feature of the NP internal argument, which again illustrates the OTEM property.

Note that it is not the case that syntactically all NPs can participate in the OTEM (see also Tenny 1989). Consider the constructions in (4).

- (4) a. John carried the bag into the bedroom in ten minutes/#for ten minutes.
 b. John pushed the cart into the garage in ten minutes/#for ten minutes.

In both (4a) and (4b) the time span adverbial can modify the end of the event and the *for*-adverbial is incompatible.⁸ Observe in (5) and (6) that both (4a) and (4b), respectively, fail the progressive-to-perfect entailment test as well.

5. The time span adverbial can also identify the beginning of the event as well (see Dowty 1979 and Filip 1999 for Czech). I ignore this interpretation of the time span adverbial throughout the discussion.

6. Note that it is not clear that this phenomenon is the same as that accounted for by a homomorphic mapping in the sense of Krifka (1989, 1992), since this homomorphic mapping is intimately linked to incrementality, and the OTEM is not linked to incrementality. Note that achievement predicates are headed by verbs that do not take incremental themes, yet, they show the OTEM property. So, for example, *John dropped the book #for ten minutes* is out on a single event interpretation, while *John dropped paper for 10 minutes* is not. This is due to the [+q]NP *the book* vs. the [-q]NP *paper*.

7. It is important that the two sentences refer to the same event.

8. The *for*-adverb is incompatible on a single event interpretation. It is compatible on an iterative interpretation, which also shows that the predicate is telic. Alsina (1999), MacDonald (2006), and Tenny (1989) observe that the interpretation of the durative phrase depends on the (a)telicity of the predicate.

- (5) a. John is carrying the bag into the bedroom.
 b. John has carried the bag into the bedroom.
- (6) a. John is pushing the cart into the garage.
 b. John has pushed the cart into the garage.

Observe that when a [-q]NP direct object is added, the time span adverbial can no longer identify the end of the event and the *for*-adverb becomes compatible, as illustrated in (7).

- (7) a. John carried sand into the bedroom #in ten minutes/for ten minutes.
 b. John pushed furniture into the garage #in ten minutes/for ten minutes.

Moreover, observe that the progressive-to-perfect entailment now holds, as illustrated in (8) and (9).

- (8) a. John is carrying sand into the bedroom.
 b. John has carried sand into the bedroom.
- (9) a. John is pushing furniture into the garage.
 b. John has pushed furniture into the garage.

These data confirm that direct object NPs can participate in the OTEM in English. Consider [-q]NPs as the complement of goal Ps in (10).

- (10) a. John carried the bag into water in ten mins./#for ten mins.
 b. John pushed the cart into water in ten mins./#for ten mins.

The time span adverbial can identify the end of the event and the *for*-adverb is incompatible. These predicates are telic; the [-q]NP complement of the goal P does not affect the aspectual interpretation of the predicate. Consider the progressive-to-perfect entailment with these sentences, in (11) and (12).

- (11) a. John is carrying the bag into water.
 b. John has carried the bag into water.
- (12) a. John is pushing the cart into water.
 b. John has pushed the cart into water.

In both cases the entailment fails. The [-q]NP complement of the goal P does not elicit an atelic interpretation of the predicate, because it cannot participate in the OTEM.

Following MacDonald (2006, 2008a,b), I claim that Agree with an aspectual projection (AspP) between *v*P and VP syntactically instantiates the OTEM. If the NP that values AspP is [-q] then the predicate will be atelic. If the NP that values AspP is [+q] then the predicate will be telic.⁹ This straightforwardly explains why a NP complement

9. I am ignoring transitive activities (e.g. *John carried a bag/sand #in ten minutes/for ten minutes*) in which the [q] feature of the NP does not affect the aspectual interpretation of the predicate. Note that, as we saw above in (4–12), once a goal PP is added, the NP internal argument patterns exactly as the predicates in (1–3) with respect to the OTEM. See MacDonald (2008b) for a discussion.

of a goal P cannot participate in the OTEM: it is not the closest NP to Asp and therefore cannot Agree with it. Furthermore, syntactically instantiating the OTEM as an Agree relation predicts that external argument NPs cannot participate either. The data in (13) indicate that this prediction is borne out.

- (13) a. Wildlife ate the bag of trash in ten minutes/#for ten minutes.
 b. Livestock pushed the cart into the barn in/#for ten minutes.

The time span adverbial can identify the end of the event and the *for*-adverb is incompatible. The predicates are telic regardless of the [-q] feature of the external argument NP. The lack of entailment in the progressive-to-perfect test further confirms this, as shown in (14) and (15).

- (14) a. Wildlife is eating the bag of trash.
 b. Wildlife has eaten the bag of trash.
 (15) a. Livestock is pushing the cart into the garage.
 b. Livestock has pushed the cart into the garage.

An external argument NP cannot participate in the OTEM because of the nature of Agree. It is too high in the structure to Agree with Asp.

2.2 Bare plurals and their aspectual affect

It is often assumed that MNs and BPs elicit the same aspectual interpretation. The data in (16) seem to support this assumption.

- (16) a. John drank a pitcher of beer # for ten minutes.
 b. John drank beer/bottles of beer for ten minutes.

The predicate in (16a) is telic and as such the *for*-adverb is incompatible. Nevertheless, in the presence of either a MN or a BP internal argument, the *for*-adverb becomes compatible, as illustrated in (16b). Although these data initially seem to support the assumption that the aspectual effect of a MN is the same as the aspectual effect of a BP, a difference between them comes out in the presence of a time span adverbial, as shown in (17).

- (17) a. John drank bottles of beer in ten minutes (for an hour straight).
 b. John drank beer #in ten minutes (for an hour straight).

In (17a) the BP is compatible with both the time span adverbial and the durative phrase on the interpretation that John drank one bottle of beer in ten minutes, then another bottle of beer in ten minutes and so on for an hour straight. The BP elicits what I will refer to as a *sequence of similar events* (SSE) interpretation, an iterative (and therefore telic) interpretation in which there is a different token in each iterated event, although of the same type. No such interpretation is available with the MN in (17b). The MN (i.e. the [-q]NP) elicits an atelic interpretation of the predicate. BPs and MNs elicits

distinct aspectual interpretations of a predicate. Let us determine now the distribution of the SSE interpretation of BPs. Consider the BP direct objects in (18).

- (18) a. John carried bags into the bedroom in ten minutes (for an hour straight).
 b. John pushed carts into the garage in ten minutes (for an hour straight).

In both (18a) and (18b) both the time span adverbial and the *for*-adverb are compatible as expected. The interpretation of (18a) is that John carried one bag into the bedroom in ten minutes and then he carried another bag into the bedroom in ten minutes and so on for an hour straight. This is the SSE interpretation. An SSE interpretation is available in (18b) as well. Consider BPs as the complement of goal Ps in (19).

- (19) a. John carried the bag into bedrooms in ten minutes (for an hour straight).
 b. John pushed the cart into garages in ten minutes (for an hour straight).

In both (19a) and (19b) an SSE interpretation is available. In (19a) the interpretation is that John carried a bag into one bedroom in ten minutes, then he carried it into another bedroom in ten minutes and so on for an hour straight. These data show that, not only do MNs and BPs elicit distinct aspectual interpretations of the predicate, they also show distinct aspectual distributions.

I claim that for a BP to elicit an SSE interpretation of a predicate it must move to Spec,AspP to do so. On the SSE interpretation I assume that BPs are existential quantifiers and they move to Spec,AspP to bind a variable inside the domain of aspectual interpretation. Below in Section 4, I motivate the existence of the domain of aspectual interpretation as a syntactic space defined by AspP and everything AspP dominates; for now I simply assume its existence.¹⁰

This movement analysis of BPs makes a prediction: BP external arguments cannot elicit an SSE interpretation, as they are above AspP. The data in (21) show that this prediction is borne out.

- (21) a. Animals ate the bag of trash in ten mins. (#for an hr. str.)
 b. Boys drank the bottle of soda in ten mins. (#for an hr. str.)

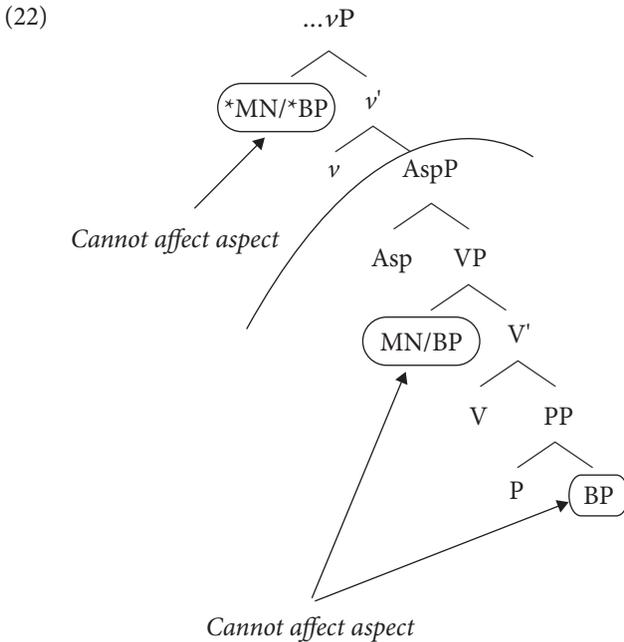
There is no SSE interpretation in (21a) or (21b). (21a) does not mean that one animal ate a bag of trash in ten minutes, then another animal ate a bag of trash in ten minutes,

10. Consider potential support for the movement analysis of BPs in the elicitation of the SSE interpretation: *John painted a picture of grapes in a minute # (for ten minutes straight)*. There is no SSE interpretation here. A possible reason is that the BP *grapes* cannot escape the complex NP to get to Spec,AspP. It is worth noting, however, as pointed out by an anonymous reviewer that *picture* NPs allow WH-words to escape: *What did John paint a picture of?* This raises a question about the movement analysis of BPs. Note however, that it may be the case that existential quantifiers cannot move out of this complex NP. For example, in *Every boy painted a picture of a girl*. It is not clear to me that *a girl* can get wide scope over *every boy* without the whole *picture* NP scoping higher than *every boy*. The judgment here, nevertheless, is not very robust, and there is some native speaker variation with respect to the judgment in question.

and so on for an hour straight. Likewise, (21b) does not mean that one boy drank a bottle of soda in ten minutes, then another boy drank a bottle of soda in ten minutes and so on for an hour straight. The *for*-adverb is not compatible at all with the predicates in (21). These facts can be straightforwardly accounted for under the assumption that a BP must move to Spec,AspP in order to elicit an SSE interpretation of a predicate; in these cases the external argument BP simply merges too high to do so.

2.3 Location and goal PPs, CAUSE and their (lack of) aspectual affect

I have summarized the facts from Sections 2.2 and 2.3 in tree format in (22) below.



BP and MN external arguments cannot affect the aspectual interpretation of the predicate. BP and MN internal arguments and BP complements of goal Ps can. From this picture there seems to be a generalization forming: only elements below AspP can affect the aspectual interpretation of a predicate. In this section, I argue explicitly for this generalization and claim that there is a domain of aspectual interpretation defined as AspP and everything AspP dominates. For elements to be able to contribute to aspectual interpretation they must fall within the domain of aspectual interpretation.

Consider an aspectual difference between goal and location PPs made evident in (23) and (24) respectively.

- (23) a. John carried the bag into the bedroom in/#for ten minutes.
- b. John pushed the cart into the garage in/#for ten minutes.

- (24) a. John carried the bag (at the park) # in/for ten minutes.
 b. John pushed the cart (in the store) # in/for ten minutes.

Whereas a goal PP can make a transitive activity telic (23), a location PP cannot (24). The location PP does not affect the aspectual interpretation of a predicate. Now consider a structural difference between goal and location PPs brought out in the *do so* construction illustrated in (25).

- (25) a. ??John carried a bag into the room and Frank did so into the barn.
 b. John carried a bag in the room and Frank did so in the barn.

Goal PPs are quite marked in the *do so* construction which indicates that they merge low in the verb phrase, whereas location PPs are perfectly grammatical, indicating that they are adjoined to, or above *vP*. There is a structural difference between goal and location PPs alongside their aspectual difference. Goal PPs are low in the verb phrase, and consequently below *AspP*, and can affect the aspectual interpretation of the predicate. Location PPs are adjoined to *vP*, and consequently above *AspP*, and cannot affect the aspectual interpretation of the predicate. Arguably, the ability of a goal PP to affect the aspectual interpretation of a predicate results, at least in part, from merging below *AspP*.¹¹ In contrast, the inability of location PPs to affect the aspectual interpretation of a predicate results, at least in part, from adjoining above *AspP*. If this is the case, then we have a straightforward structural account of ambiguous location/goal PPs, which are two ways ambiguous. Consider one such PP in (26).

- (26) John carried a bag under the bridge.

There is a goal of motion interpretation in which John was not under the bridge, but then came to be under the bridge carrying the goat there. There is also a located motion interpretation in which John was under the bridge throughout the entire goat-carrying event. By adding a time span adverbial we disambiguate for a goal of motion and telic interpretation of the predicate, as illustrated in (27).

- (27) John carried a bag under the bridge in 10 minutes.

By adding a *for*-adverb we disambiguate for a location and atelic interpretation, as illustrated in (28).¹²

- (28) John carried a bag under the bridge for 10 minutes.

Furthermore, when we create a *do so* construction from a sentence with an ambiguous location/goal PP, we disambiguate for a location interpretation, as expected.

11. This seems to be a necessary although not a sufficient condition. A PP must introduce a particular property in addition to being merged below *AspP* as argued in MacDonald (2006, 2008b).

12. There is also an iterative interpretation in the presence of a *for*-adverb. On the iterative interpretation, the predicate is telic, and there is alone a goal of motion interpretation available. This makes the same point I am making above.

- (29) John carried a bag under the bridge and Bill did so under the tree.

I conclude that we can account for ambiguous location/goal PPs in structural terms. I assume that the location interpretation results from adjoining to, or above, ν P and that the goal interpretation results from merging low in the verb phrase. By adjoining to, or above, ν P a PP is structurally higher than AspP, and thus it cannot affect aspectual interpretation. In contrast, by merging low in the verb phrase a PP can affect aspectual interpretation precisely because it is lower than AspP. The two-way ambiguity of location/goal PPs has a structural source.¹³

Now consider a conclusion reached by Hay, Kennedy & Levin (1999) that CAUSE is outside the aspectual calculation of a predicate. They discuss one set of verbs that participates in the causative-inchoative alternation, so-called degree achievements. Degree achievements are aspectually ambiguous (Dowty 1979), as indicated by the compatibility of both the time span adverbial and the *for*-adverb, as illustrated in (30).

- (30) a. The soup cooled for 10 minutes/in ten minutes.
b. The empire expanded for a month/in a month.

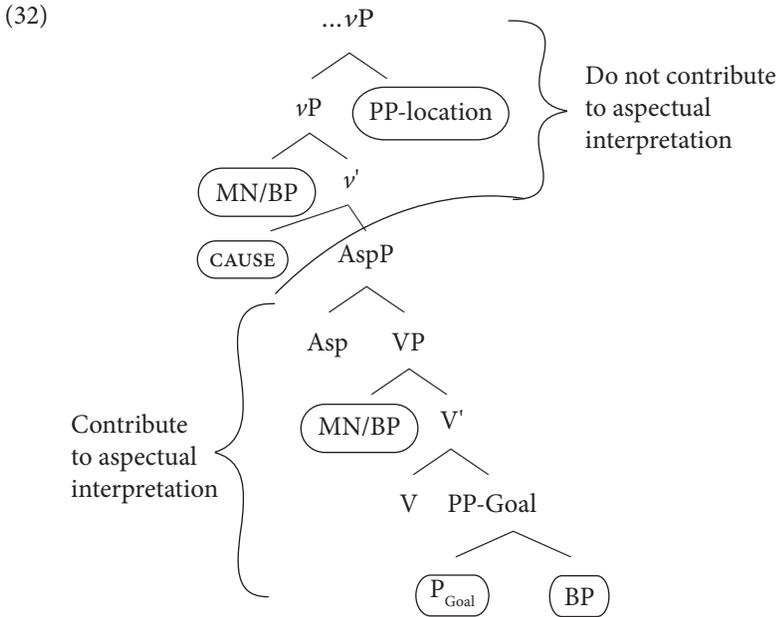
With the *for*-adverb, there is an atelic interpretation and with the time span adverbial there is a telic interpretation. What Hay, Kennedy and Levin (1999) observe is that adding an external argument causer does not affect the aspectual ambiguity of the predicate. This is illustrated in (31).

- (31) a. John cooled the soup for 10 minutes/in ten minutes.
b. The king expanded the empire for a month/in a month.

Both the *for*-adverb and the time span adverbial continue to be compatible. Hay, Kennedy and Levin (1999) rightly conclude that CAUSE is outside aspectual interpretation. Since CAUSE introduces an external argument causer, we can conclude that it is above AspP; this can explain why it is outside the aspectual interpretation of the predicate.

Consider the range of elements that can and cannot contribute to the aspectual interpretation of a predicate, summarized in (32).

13. Tungseth (2005) has a similar proposal for Norwegian ambiguous location/goal PPs, relating the location interpretation to the PP being high in the structure and the goal of motion interpretation to the PP being low in the structure.



Location PPs, external argument MNs and BPs and CAUSE cannot contribute to the aspectual interpretation of the predicate; these elements are structurally higher than AspP. Goal PPs, BP complements of goal Ps, and internal argument MNs and BPs can contribute to the aspectual interpretation of the predicate; these elements are structurally lower than AspP. Based on these facts I conclude that there is a domain of aspectual interpretation defined as AspP and everything AspP dominates, and that only elements within the domain of aspectual interpretation can contribute to the aspectual interpretation of the predicate.

3. No evidence for AspP in Russian

Given the conclusions from Section 2, if there is a language that lacks AspP, we expect that this language also lacks the three properties argued to be dependent on AspP: 1. The OTEM; 2. The SSE interpretation of BPs; and 3. The domain of aspectual interpretation, i.e. the ability of a PP to turn an atelic predicate into a telic predicate. In this section I argue that Russian is such a language.

Consider some general facts about the Russian verb. There is a morphological distinction between *primary imperfective* forms and *perfective* forms marked by the addition of a perfective prefix; this is illustrated in (33) and (34) respectively.¹⁴

- (33) a. *čitat'* "read"
 b. *pit'* "drink"
 c. *pisat'* "write"
- (34) a. *pro-čitat'* "read"
 b. *vy-pit'* "drink"
 c. *za-pisat'* "write down"
 d. *pod-pisat'* "subscribe"

The discussion surrounding the aspectual properties of Russian will be limited to the verb forms in (33) and (34). Nevertheless, note that there are also *secondary imperfective suffixes*: (y)va in (35).

- (35) a. *pro-čit-yva-t'*
 b. *y-pi-va-t'*
 c. *za-pis-yva-t'*
 d. *pod-pis-yva-t'*

Moreover, Russian can stack perfective prefixes as illustrated in (36a), and can have *primary perfective* forms of a verb (i.e. perfective verbs without a prefix), as shown in (36b).¹⁵

- (36) a. *po-v-stav-a-t'*.¹⁶
 DSTR-*in-stand*-IMP-INF^P
 "stand up one by one"
- b. *Ja kupil pivo.*
 I bought-PERF beer
 'I bought a beer.'

Finally, it should be noted that it has been argued that perfectivizing prefixes in Russian (and Slavic more generally) are not a homogeneous group (Borik 2002, Ramchand 2004, Schoorlemmer 1994, Slabakova 1997, Svenonius 2004); there are arguably at least two distinct groups often referred to as *lexical* and *superlexical* prefixes, or *internal* and *external* prefixes. I do not discuss the range of differences between these two

14. Examples in (33–35) are based on examples from Borik (2002: 4–6). A primary imperfective form, out of context, can have a progressive interpretation, a habitual interpretation or a present perfect (i.e. general factual) interpretation Borik (2002: 46). I only consider the progressive interpretation in this paper.

15. The example in (36a) is taken from Svenonius (2004: 239).

16. DSTR here stands for distributive interpretation.

types of prefixes here. However, the prefixes that I do discuss correspond to lexical/internal prefixes.

3.1 No object-to-event mapping in Russian

Given that Russian makes a morphological distinction between imperfective and perfective forms (see (33) and (34)), in order to determine whether or not NPs enter into the OTEM, we must check both imperfective and perfective forms of the verbs. First consider the imperfectives in (37).

- (37) a. *Ja pil butylku vina/vino *za čas/v tečeniji časa.*¹⁷
 I drank-IMP a bottle of-wine/wine *in hour/during hour
 ‘I drank a bottle of wine/wine in an hour/for an hour.’
- b. *Mary čitala knigu/poèziju *za čas/v tečeniji časa.*
 Mary read-IMP a book/poetry *in hour/during hour
 ‘Mary read a book/poetry in an hour/for an hour.’

In (37a) there is both a [+q]NP (*butylku vina* ‘a bottle of wine’) and a [-q]NP (*vino* ‘wine’). Independently of the [q] feature of the internal argument NP, only the *for*-adverb is compatible. (37b) illustrates the same thing. This indicates that these forms are atelic. Consider the perfective verb forms in (38).

- (38) a. *Ja vypil butylku vina/vino za čas/*v tečeniji časa.*
 I drank-PERF a-bottle of-wine/win in hour/*during hour
 ‘I drank a bottle of wine/wine for an hour.’
- b. *Mary pročitala knigu/poèziju za čas/*v tečeniji časa.*
 Mary read-PERF a book/poetry in hour/* during hour
 ‘Mary read a book/poetry for an hour.’

These sentences are the same as those in (37) except that the verb has a perfective prefix. What we see is that independently of the [q] feature of the internal argument NP, perfectives are only compatible with the time span adverbial.¹⁸ This indicates that these verb forms are telic.

When the verb is in the imperfective form, the predicate is atelic independently of the [q] feature of the NP internal argument. When the verb is in the perfective, the predicate is telic independently of the [q] of the NP internal argument. The [q] feature

17. Note that native speakers find *butylku vina* ‘bottle of wine’ a bit odd when appearing with a verb in the imperfective. In contrast a [+]NP like *knigu* ‘book’ is fine (with a verb like ‘read’) and we find the same patterns discussed above.

18. Recall that I am only concerned with lexical prefixes. With superlexical prefixes *po* and *pro*, the *for*-adverb is compatible while the time span adverbial is not (see Borik 2002).

of the NP internal argument does not affect the aspectual interpretation of the predicate (see also Schoorlemmer 1995); there is no OTE mapping in Russian.

3.2 No sequence of similar events interpretation in Russian

Consider the interpretation of BPs when the verb is imperfective, in (39).

- (39) a. *Mary jela jabloki.*
 Mary ate-IMP apples
 ‘Mary ate apples.’
 b. *Mary čitala knigi.*
 Mary read-IMP books
 ‘Mary read books.’

There does seem to be a potential SSE interpretation here. Nevertheless, I contend that this is just a result of the vague denotation of the BP which allows for a context in which one apple was eaten, then another and so on for the sentence in (39a) and for a context in which Mary read one book, then another and so on for the sentence in (39b). Consider the interpretation of the BPs in (40).

- (40) a. Billy ate cookies for dinner last night.
 b. Joe sold cars for a month to try to support his habits.

From the sentence in (40a) we do not know how many cookies Billy ate. Billy could have eaten one cookie, then another and so on, which seems like an SSE interpretation. Nevertheless, it could be the case for example that he ate only half of a cookie or that he ate from a mass of cookie bits.¹⁹ For sentence (40b), Joe could have sold one car, then another car and so on for a month. In fact it is pragmatically salient. Nevertheless, the sentence in (40b) is also perfect in a context in which Joe (a car salesman) sold one car or no cars at all. These interpretations result from the vague denotation of the BP. I claim that this is the source of the apparent SSE interpretation of the BPs in (39), and that there is no SSE interpretation at all.

Moreover, recall from (17–19) above that the time span adverbial is compatible with the predicate on the SSE interpretation because the predicates on an SSE interpretation are telic. Observe the incompatibility of the time span adverbial with BPs in an atelic (transitive activity) predicate in (41).

- (41) a. John drove cars #in a day (for a month straight).
 b. John carried bags #in ten minutes (for an hour straight).

We just saw in (37) that the time span adverbial is not compatible with imperfective forms of the verb in Russian. Thus, it is unlikely that the imperfective allows for an SSE

19. De Swart (2006: 173) notes a similar interpretation for French in *manger des frites* ‘eat French fries’ in part as a result of the article *des*.

interpretation of BPs. It is more likely that the perfective would allow for an SSE interpretation of BPs, since they are telic, as noted above in (38). Consider the interpretation of BPs with the perfective in (42).

- (42) a. *Mary sjela jabloki.*
 Mary ate-PERF apples
 ‘Mary ate the apples.’
 b. *Mary pročitala knigi.*
 Mary read-PERF books
 ‘Mary read the books.’

There is only a group interpretation of the BPs in (42). As indicated by the translations, the best interpretation of these BPs are as *the apples* and *the books*. BPs with perfective forms do not elicit an SSE interpretation of the predicate; BPs in Russian do not elicit an SSE interpretation.²⁰

3.3 No domain of aspectual interpretation in Russian

The ability of a PP to change an atelic predicate into a telic predicate was argued above to be dependent on the domain of aspectual interpretation. Consider the aspectual effect of a PP in Russian, illustrated in (43).

- (43) a. *Fermer tasčil²¹ brevno v ambar *za čas/v tečeniji časa.*
 the farmer dragged-IMP the log into the barn *in hour/during hour
 ‘The farmer dragged the log into the barn in an hour/for an hour.’
 b. *Koška lezla na krišu doma *za čas/v tečeniji časa.*
 the cat climbed-IMP onto the roof of the house *in an hour/for an hour
 ‘The cat climbed onto the roof of the house in an hour/for an hour.’

Given that the presence of a perfective prefix results in a telic interpretation of a predicate, we need only test the aspectual effect of a goal PP on imperfective verb forms, since they are atelic. As illustrated in (43) above, independently of the presence of the PP, only the *for*-adverb is compatible. A PP does not license the time span adverbial as it does in English. PPs do not turn atelic predicates into telic predicates in Russian. (Beck and Snyder 2001, Snyder 1995 observe this as well.) There is no domain of aspectual interpretation in Russian.

Russian lacks the OTEM, the SSE interpretation of BPs and the domain of aspectual interpretation. We can explain this straightforwardly if we assume that these three

20. In MacDonald (2008: 149 fn. 16), I state: “Russian does have a distributive prefix *pere* that requires the presence of a BP internal argument (Gillian Ramchand p.c.)...” This is an erroneous statement. This error is wholly my responsibility.

21. Some may prefer *taskal* a non-directed version of “drag”.

properties are dependent on the presence of AspP (as argued above) and that Russian lacks AspP. I claim that Russian lacks AspP. This conclusion supports Thráinsson's (1996) *Limited Diversity Hypothesis* in which not every functional category is instantiated in every language. Furthermore, it also suggests that languages can vary by having different subsets of features (Chomsky 2000, 2001, 2007).²²

4. No evidence for AspP in English statives

In this section, I argue that English stative predicates lack AspP. Observe first, in (44), that the [q] feature of the NP internal argument does not affect the aspectual interpretation of a stative predicate.

- (44) a. John owned stereo equipment/a T.V. for a month.
 b. John loved a woman/peanut butter for (about) a week.

The predicates are atelic regardless of the NP internal argument. Stative predicates do not exhibit the OTEM property. The data in (45) show that there is no SSE interpretation elicited by BPs either.

- (45) a. John owned books for a month.
 b. John loved olives for (about) a week.

It is not the case that (45a) means that John owned one book, then another and so on for a month. Likewise, (45b) does not mean that John loved one olive, then another one and so on for (about) a week. Moreover, observe that the time span adverbial is incompatible with these sentences, as illustrated in (46).

- (46) a. John owned books (#in a week) for a month straight.
 b. John loved olives (#in a day) for (about) a week straight.

Finally, the sentences in (47) show that when a goal PP is added to stative predicates, a telic predicate does not result. Statives lack the domain of aspectual interpretation.

22. Note that it has been claimed that the inverse of the OTEM holds in Slavic (Borer 2005, Filip 1999, Krifka 1992). That is, the prefix imposes a concrete aspectual interpretation on the direct object, so that there is a type of *event-to-object mapping* (ETOM). An approach along these lines would not need to assume the absence of AspP in Russian and its presence in English. A fundamental problem with this type of approach, nevertheless, is that often the interpretation imposed by Slavic prefixes is not limited to the direct object, but the external argument as well. Di Sciullo & Slabakova (2005) and Piñon (2001) note this for the group interpretation of bare plurals. This suggests that the OTEM and the ETOM have distinct distributions and are arguably not the same phenomenon. Moreover, it has been observed that these effects on the interpretation of an NP are limited to incremental theme verbs (Filip 1999). If this is the case, then we have another reason to think that the inverse of the OTEM does not hold in Slavic, since as noted in footnote 6, there is no necessary relation between the OTEM and incrementality.

- (47) a. John owed a car (to the bank) for a week/#in a week.
 b. John loved the game (to the core) for a year/#in a year.
 c. John was into the brownies last night for an hour/#in an hour.

English statives lack the OTEM, the SSE interpretation of BPs, and there is no domain of aspectual interpretation. English statives lack AspP.

English eventives show a clustering of properties argued above to be dependent on AspP. Both Russian and English statives systematically lack this clustering of properties, which I take to indicate that Russian and English statives differ minimally from English eventives by lacking AspP. Note moreover that verbs that vary aspectually between a stative and an eventive interpretation (below in 48), considered here a form of optional variation, can be assumed to be a result of the presence vs. absence of AspP as well. Simply put, on the stative interpretation I assume that AspP is not present, while on the eventive interpretation, AspP is present. The verbs in (48) show this optional variation, as indicated by the compatibility of the time span adverbial on the eventive interpretation and the *for*-adverb on the stative interpretation.

- (48) a. The snow covered the field in an hour/for an hour.
 b. The army surrounded the compound in an hour/for a day.

5. Conclusion and consequences

The situation discussed above in which cross-linguistic variation, intra-linguistic variation and optional variation in inner aspect can be accounted for by the presence vs. the absence of AspP suggests that variation is just variation. Under Minimalism, this situation is not totally unexpected, since if there were a formal difference between cross-linguistic variation, intra-linguistic variation and optional variation, the elements undergoing cross-linguistic variation would have to be marked differently from elements under-going intra-linguistic variation and both differently from elements undergoing optional variation. Simply by marking these elements as distinct elements multiplies the number of linguistic elements which adds more computational complexity, and tends away from “conceptual ‘good design’ conditions” on the assumption that “less machinery is better than more” (Chomsky 2000: 145). Another way to arrive at the same conclusion that there is no formal difference between cross-linguistic and intra-linguistic variation is by recognizing the fact that there is no formal way of determining whether two languages are two separate languages or two dialects of the same language. If there is no formal way of distinguishing between languages and dialects, then there is no formal way to determine whether variation is occurring between two different languages or between two dialects of the same language. That is, there is no formal way to distinguish between cross-linguistic and intra-linguistic variation. We arrive at the same conclusion: language variation is just language variation.

Interestingly, Sigurðsson (2004), based on assumptions regarding language acquisition and a direct mapping from (universal) narrow syntax to PF expressions, arrives at a minimalist conclusion that languages, to a large extent, will vary in terms of what portions of shared structure will be pronounced. Kayne (2005, 2008) also argues for variation in terms of the (lack of) pronunciation of certain shared elements. The crucial difference between variation in terms of the presence vs. absence of structure and silence variation is in the semantic effect. In silence variation approaches, a fundamental assumption is that the same interpretation is involved. In contrast, in the present approach in terms of the presence vs. absence of structure, differences of interpretation arise (although cf. Fukui 1995 for a different take). As another example of the type of variation argued for here, consider Bošković (2008) and Bošković & Gajewski (to appear), who argue that languages without articles differ from languages with articles in that the former lack a DP layer while the latter have a DP layer. They discuss a range of differences between these two sets of languages which they argue can be explained via the presence vs. absence of DP. One such difference is of particular interest to the present discussion. They claim that the absence of DP in article-less languages accounts for the lack of negative raising predicates. Simplifying significantly, without the definite article, a language cannot “construct a world-sum denoting predicate”, which is a crucial aspect in their analysis of the formation of negative raising predicates based on the *excluded middle presumption*. The main point here is that there is a concrete relation between the presence vs. absence of a DP and semantic interpretation. I would like to suggest here that the variation that we have between Russian and English, and between English eventives and English statives does reflect an underlying structural difference that has semantic consequences. In this respect it crucially differs from silence variation approaches.

In this context, a general picture of the range and effects of different types of variation begins to take shape. On the one hand, we find variation in the (lack of) pronunciation of common structure, and, on the other, we find variation in the presence vs. absence of underlying structure itself. Both types of variation, moreover, find motivation through minimalist reasoning.

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