

Variation and Bulgarian Inner Aspect*

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1 Introduction

Of ongoing interest within generative grammar is the proper treatment of language variation in terms of parameters. One important recent question concerns the existence of macro-parameters. Baker (2008) outlines three ways to determine whether a parameter is macro or not, one of which relates to the size of effect, or impact of a parameter. The greater the size of effect, or impact a parameter has on the grammar of a language, the more likely this parameter is macro. In this sense, it has the feel of a classic GB-style parameter which produces large effects as a result of a richly specified universal grammar (UG) (Chomsky 1981). Under minimalism, however, UG is impoverished compared to UG under GB, leading to different expectations for the nature of a parameter (see, for instance, Boeckx in press, Sigurðsson 2004). Moreover, the clustering of effects of a single GB parameter, such as, for instance, the *null subject parameter* (see Rizzi 1982), can often be reduced to several interacting micro-parameters, based on which some have concluded that the principles and parameters endeavor has failed (see, for instance, Newmeyer 2005).¹ Moreover, Kayne (2005: 289-290), among others, has questioned how theoretically revealing the notion size of effect, or impact

* Part of this work has been carried out under grants from the Spanish Ministry of Education and Science (projects HUM2006-13295-C02-01 and HUM 2006-13295-C02-02) and from the Generalitat de Catalunya (project BFF2003-08364-C02-01), for which we are grateful.

¹ See Roberts & Holmberg (2009) for a recent discussion of the null subject parameter in minimalist term.

of a parameter really is. He notes that if we contrast the size of the effect of a parameter regulating possessors vs. a parameter regulating finite verb agreement, the size of effects may simply relate to the construction in which the relevant elements appear. Thus, the effect of the parameter regulating possessors may seem smaller than that of finite verb agreement, but this may simply reflect the fact that constructions with possessors occur less frequently than constructions with finite verb agreement. This may not be informative at all about the nature of linguistic variation or the parameters that underlie it.

The main goal of this paper is to offer a relativized view of the macro/micro distinction. We argue that the effects of the same parameter can be both micro and macro, but in different languages. In this respect the macro/micro distinction is not absolute, but relative. In this context, the question of macro vs. micro parameters has more theoretical import as their relativized status reflects a particular organization of the grammar.

Our discussion focuses on a comparison of inner aspect between Bulgarian and English. We will see that systematic aspectual differences between two different subsets of Bulgarian verbs (i.e. what we will refer to as *standard* verbs and *biaspectual* verbs) show up in English between stative and eventive predicates. Interestingly, however, the effects are restricted to a subset of verbs in Bulgarian, where they seem to extend to all verbs in English. We suggest that this difference in extension is due to different scopes of a particular parametric setting. Given the different scopes of the same parametric setting in different languages, the size of the effects of the parametric setting will differ as well, resulting in a relativized way to view the macro/micro distinction.

The paper is organized as follows. In section 2 we introduce the reader to the differences between Bulgarian biaspectual verbs and Bulgarian standard verbs. In section 3, we discuss the aspectual system of English and show how eventives and statives differ with respect to three concrete aspectual properties. In section 4, we discuss the aspectual system of Bulgarian. We see that biaspectual verbs pattern with English eventives and standard verbs with English statives with respect to the three aspectual properties. In section 5, we provide an account of this variation, based on the presence vs. absence of an aspectual projection. In section 6, we discuss the implications for the micro/macro parameter distinction. In section 7, we briefly recap the discussion.

2 Introduction to the Bulgarian verbal paradigm

2.1 Bulgarian standard verbs

Bulgarian, like other Slavic languages, shows a morphological distinction between (primary) imperfective forms, illustrated in (1a), and perfective forms, derived from the imperfective by prefixation, shown in (1b).

- (1) a. piša b. na-piša
 write.1ps.sg na-write.1ps.sg
 ‘I write’ (impf) ‘I write (down)’ (pf)

The imperfective form in (1a) is *primary* in as much as there is no overt morphological exponent of its imperfectivity. Primary perfectives, in which no perfectivizing prefix is present exists as well. Pashov (1999: 136) observes that there are about 50 in Bulgarian, including *vidja* ‘see’, *dam* ‘give’, *kupja* ‘buy’, *rodja*.² Furthermore, secondary imperfective forms can be derived by the addition of the suffix *-va*, or one of its allomorphs, illustrated in (2).

- (2) na-pis-va-m
 na-write-impf-1ps.sg
 ‘I am writing (down)’ (impf)

The data in (1) and (2) show that this subset of verbs patterns with the standard Slavic paradigm; thus we refer to them as *standard* verbs.³

In this paper, when discussing the aspectual properties of Bulgarian standard verbs we will only be concerned with primary imperfective

² More precisely, Pashov (1999: 136) claims that in Bulgarian there are about fifty primary perfective verbs which do not contain a prefix nor the semelfactive perfectivizing suffix ‘-N’, i.e. *rodja* ‘give birth’, *skoča* ‘jump’, etc. (see also Maslov 1956: 184 for further details).

³ A morphological difference between Bulgarian (and Macedonian) and other Slavic languages is that Bulgarian has retained the aorist/imperfect tense distinction. We do not address the differences between the two tenses in this paper. Note that we use the aorist tense throughout, although it is not explicitly glossed as such.

forms (ignoring habitual and general factual interpretations) and prefixed perfective forms.⁴

2.2 Bulgarian biaspectual verbs

There are also verbs in Bulgarian that can be imperfective or perfective with not overt morphological exponent: *biaspectual verbs*. They are almost exclusively loan words and usually contain the suffixes *-ira* and *-izira*. Examples are provided in (3).⁵

- | | | | |
|--------|---|----|--|
| (3) a. | oper-ira-m
operate-ira.biasp-1ps.sg
'operate' (pf/impf) | b. | organ-izira-m
organize-ira.biasp-1ps.sg
'organize' (pf/impf) |
|--------|---|----|--|

Other biaspectual verbs are formed by the suffix *-uva*: *publikuvam* 'publish', *arestuvam* 'arrest', *kormuvam* 'drive', *kritikuvam* 'criticize', *(kontra)atakuvam* '(contra) attack', *diktuvam* 'dictate', among many others (see Maslov 1963). However, this suffix is no longer productive. Nowadays there is increasing use of *-(iz)ira* to form biaspectuals and thus the number of biaspectuals with this suffix is increasing as well (see also Stancheva 2003; Pashov 1999). Additionally, biaspectual verbs can be roughly divided in two groups: 1. Native biaspectuals (*koleniča* 'kneel (down)', *broja* 'count', *venčaja (se)* 'marry, wed'); and 2. Foreign biaspectuals, i.e. verbs derived from loan words (*organiziram* 'organize', *remontiram* 'repair', *publikuvam* 'publish', etc.).

Bulgarian morphologically differentiates two classes of verbs: standard and biaspectual. We will see below that these two verb classes show distinct aspectual properties as well. In fact, as observed in MacDonald (2008b), this exact dichotomy in aspectual behavior is found in English between eventive and stative predicates. Let us first briefly review this aspectual dichotomy in English.

⁴ Slavic prefixes can be divided in two classes: lexical and super-lexical. We do not consider superlexical prefixes in this paper. See Babko-Malaya (1999), DiSciullo & Slabakova (2005), Svenonius (2004), among others, for a discussion of the two classes.

⁵ According to the Bulgarian Academy Grammar, there are around 500 biaspectual verbs with the foreign (German) suffix *-ira/-izira* (see Bulgarian Academy Grammar 1983, vol. 2: 268; Bojadiev 1998: 489, from Stancheva 2003: 98).

3 The English aspectual system

MacDonald (2008a,b) observes that English eventive predicates differ from English stative predicates with respect to three properties: 1. The *object-to-event mapping* (OTEM) property, in which the internal argument affects the aspectual interpretation of the predicate, first observed by Verkuyl (1972); 2. The *sequence of similar events* (SSE) interpretation, a particular multiple events interpretation elicited by bare plurals (BPs); and 3. The ability of a PP to turn an atelic predicate into a telic predicate. We first consider English eventive predicates in section 3.1, then English stative predicates in section 3.2.

3.1 Three aspectual properties of English eventive predicates

Since Verkuyl (1972) we have known for Germanic that an NP internal argument can affect the aspectual interpretation of a predicate. We refer to this as the OTEM property, illustrated by English in (4).

- (4) a. John drank a bottle of wine in 10 mins./#for 10 mins.
b. John drank wine #in 10 mins./for 10 mins.

The predicate in (4a) is telic, and the predicate in (4b) is atelic. The only difference between them is in the internal argument, ‘a bottle of wine’ in (4a) and ‘wine’ in (4b). For ease of exposition, we will refer to NPs like ‘a bottle of wine’ as [+q]NPs, and to NPs like ‘wine’ as [-q]NPs.

Before turning to the two other properties that differentiate eventives and statives, it is important to note that the phenomenon referred to here as the OTEM is not the same property that figures in the semantic theories of Krifka (1989, 1992), or Filip (1999) which crucially rely on incrementality. It is easy to show that the ability of an NP to affect the aspectual interpretation of a predicate (i.e. the OTEM property) is independent of that NP being an incremental theme, or establishing an incremental relation with the event. First, observe that achievements, which are not incremental theme verbs, show the OTEM. Observe that the predicates in (5) allow only an iterative interpretation in the *stop*-control construction, which is indicative of achievements (Dowty 1979).

- (5) a. John stopped having a bottle of wine (at lunch).
b. John stopped dropping the book.

Likewise, also observe that *almost* elicits an unambiguous interpretation (Dowty 1979) in which the event almost began, illustrated in (6).⁶

- (6) a. John almost had a bottle of wine (at lunch).
b. John almost dropped the book.

Observe that when these predicates take a [-q]NP internal argument, they behave like atelic predicates. First, note that a *for*-adverbial allows for a non-iterative interpretation, illustrated in (7).

- (7) a. John had wine for an hour.
b. John dropped rice for an hour.

Moreover, like other atelic predicates (see Dowty 1979), their progressive form (8a and 9a) entails their perfect form (8b and 9b respectively).

- (8) a. John is having wine.
b. John has had wine. [Entailment holds]

- (9) a. John is dropping rice.
b. John has dropped rice. [Entailment holds]

Given that achievements do not select for an incremental theme, but yet show the OTEM, we can conclude that the NP that participates in the OTEM does not have to stand in an incremental relation with the event. The same point can be made with respect to the sentence in (10).

- (10) John carried the bag into the bedroom.

Dowty (1991) observes that what is incremental here is the path, due to the presence of the goal PP. Note, nevertheless, that we still find the OTEM property (and not a *preposition to event mapping*), although the goal PP is responsible for the presence of incrementality. We can see the effect of the OTEM in (11) to (14) below.

⁶ *Almost* with accomplishments allow this interpretation, as well as an interpretation in which the event began and almost ended: *John almost drank the bottle of wine*. See also Rapp & von Stechow (1996).

- (11) John carried the bag into the bedroom #for an hour.
- (12) a. John is carrying the bag into the bedroom.
 b. John has carried the bag into the bedroom. [No entailment]
- (13) John carried sand into the bedroom for an hour.
- (14) a. John is carrying sand into the bedroom.
 b. John has carried sand into the bedroom. [Entailment holds]

With a [+q]NP direct object, there is no non-iterative interpretation, shown in (11), and no progressive to perfect entailment, shown in (12). With a [-q]NP direct object, in contrast, a non-iterative interpretation is available, shown in (13) and the progressive to perfect entailment holds, shown in (14). The OTEM is a property independent of incrementality.

Now, consider an aspectual difference between BPs and mass nouns (MNs) (i.e. [-q]NPs), illustrated in (15).

- (15) a. John drank sodas in 10 mins. for an hour straight.
 b. John drank soda # in 10 mins. for an hour straight.

In (15a) the BP elicits an SSE interpretation in which John drank one soda in 10 minutes, then another soda in 10 minutes, and so on for an hour straight. No such interpretation is available for the MN in (15b).

Finally, note a well known fact about English: A goal P can turn an activity into an accomplishment, illustrated in (16).

- (16) a. John carried a bag for 10 mins./#in 10 mins.
 b. John carried a bag into the room #for 10 mins./in 10 mins.

The transitive activity in (16a) is atelic, and becomes telic due to the addition of the goal P.

The OTEM property, the SSE interpretation of BPs, and the ability of a goal P to turn an atelic predicate into a telic predicate are three properties associated with English eventive predicates (see MacDonald 2008a,b).

3.2 English stative predicates lack these three aspectual properties

English stative predicates differ from English eventive predicates by systematically lacking the three properties that eventive predicates show (MacDonald 2008b). More concretely, first note that statives lack the OTEM property, illustrated in (17).

- (17)a. John owed a car/money for a week/#in a week.
b. John owed a stereo/equipment for a month/#in a month.

Regardless of the presence of a [+/-q]NP internal argument, these predicates are atelic. Note also that BPs with statives do not elicit an SSE interpretation, illustrated in (18).

- (18)a. John owned books (#in a week) for a month.
b. John owed cars (#in a day) for a week.

(18a) does not mean that John owned one book in a week, then another one in a week, and so on for a month. There is no SSE interpretation available. Moreover, observe in (19) that the presence of a goal preposition does not result in a telic interpretation.

- (19)a. John loved the game (to the core) for a year/#in a year.
b. John owed a car (to the bank) for a week/#in a week.
c. John was into film noir for a year/#in an year.

English eventive predicates differ systematically from stative predicates with respect to these three properties.⁷ We will now see that Bulgarian biaspectual verbs differ systematically from standard verbs with respect to these three properties as well.

⁷ Observe that when there is no goal P added to a transitive activity, it looks as if these eventive predicates behave like stative predicates: 1. They do not show the OTEM mapping property, *John carried a bag/sand for an hour*; and 2. BPs do not elicit an SSE interpretation, *John carried bags # in ten minutes (for an hour straight)*. It is important to note that transitive activities and statives crucially diverge with respect to the addition of a goal P. Whereas transitive activities become telic, see (16) above, statives do not, see (19) above. As discussed in detail in MacDonald (2008b), these patterns are expected if statives lack AspP and transitive activities (i.e. eventive predicates) project AspP. Space limitations prevent us from providing the full range of details, but see MacDonald (2008b).

4 The Bulgarian aspectual system

4.1. Bulgarian standard verbs

Given that standard verbs of Bulgarian follow the Slavic paradigm, in order to see if they show the OTEM property, we need to check both imperfective and perfective forms. Consider the imperfective in (20) first.

- (20) Ivan pi kafe /edna čaša kafe edin čas/#za edin čas
Ivan drank coffee/a cup of coffee one hour/#in one hour
'Ivan drank coffee/a cup of coffee for an hour/#in an hour.'

Observe that regardless of the presence of a [+q]NP (i.e. 'a cup of coffee') or a [-q]NP (i.e. 'coffee'), the imperfective is atelic only. Now consider the perfective in (21) below.

- (21) Ivan iz-pi kafe-*(to)/edna čaša kafe #edin čas /za edin čas
Ivan iz-drunk coffee-*(the)/a cup of coffee #one hr./in one hr.
'Ivan drank *(the) coffee/a cup of coffee #for 1 hr./in 1 hr.'

First observe that the predicate in (21) is telic. Also note the obligatory presence of the determiner when the verb is prefixed (see also Slabakova 1997, Markova 2007). This may initially look like a type of OTEM, however, it is not clear that this requirement holds for all prefixed verbs. Consider the examples in (22) below.

- (22) a. S-mlja brašno #edin čas/za edin čas.
s-ground flour #one hour/in one hour
'He ground flour #for an hour/in an hour.'
- b. Raz-bârka smes # edin čas/za edin čas.
raz-stirred mixture #one hour/in one hour
'He stirred a mixture #for an hour/in an hour.'

The prefix is present and there is bare [-q]NP internal argument. Importantly, these predicates are telic, even in the presence of this [-q]NP.⁸ Like other Slavic verbs (see Borer 2005, Schoorlemmer 1995), Bulgarian standard verbs do not show the OTEM property.

Consider now the interpretation of BPs. As MacDonald (2008a,b) observes, the SSE interpretation is only available with telic predicates. Consequently, it is only relevant to test the interpretation of BPs with perfective verbs, since, as we have just seen, perfective verbs are telic. Consider the BPs with the perfective verbs in (23).

- (23) a. #Na-pravi časovnici za 10 minuti v prodälzenie na 1 čas.
 na-made watches in 10 minutes in duration of 1 hour
 ‘He made watches in ten minutes for an hour.’
 b. #Na-risuva kartini za 10 minuti v prodälzenie na 1 čas.
 na-drew pictures in 10 minutes in duration of 1 hour
 ‘He drew pictures in ten minutes for an hour.’

No SSE interpretation is available. In (23a), for example, there is no interpretation in which he made one watch in 10 minutes, then another watch in 10 minutes, and so on for an hour straight. Rather, only a group interpretation of the BP is available in which all of the watches were made in 10 minutes. The same holds for (23b).

Note that it has been previously noted for Slavic languages that in the presence of a perfectivizing prefix, BPs do not receive an *undetermined plural* interpretation (see Di Sciullo & Slabakova. 2005 for Bulgarian, Filip 1999 for Czech, Piñon 2001 for Polish). This can be seen in (24) for Bulgarian in which the BP internal argument of the perfective verb is only grammatical in the presence of the determiner.

- (24) Deca-ta pro-četoħa knigi-*(te).⁹

⁸ Moreover, it has been previously observed (see Jackendoff 1996; Filip 2005; Nishida 1994) that the definite determiner does not necessarily induce a telic interpretation of a predicate, but in (21) a definite determiner satisfies the relevant requirement.

⁹ It should be noted that bare *knigi* is grammatical when focused. Nevertheless, as a focused element, it is essentially interpreted as definite. Also note that Di Sciullo & Slabakova (2005) observe that in the following sentence, the bare plural takes on a *strong reading*:

i. xudožnikât na-risuva kartini i izleze da gi prodade na ulicata
 the painter PV-paint-AOR/3sg pictures and went out to them sell on the street
 ‘The painter painted some pictures and went out to sell them in the street.’

children-the pro-read books-*(the)
'The children read the books.'

The prefix here is imposing an interpretation on the direct object. Based on facts like these, it has been claimed that the inverse of the OTEM holds in Slavic (Borer 2005, Filip 1999, Krifka 1992). Although this is what the data in (24) initially suggest, as Di Sciullo & Slabakova (2005) and Piñon (2001) have noted, not only is the direct object in the scope of the prefix, but so is the external argument, shown by Bulgarian in (25).

(25) Deca-*(ta) pro-četoha knigi-te
children-*(the) pro-read books-the
'The children read the books.'

Moreover, observe that the complements of goal prepositions are also in the scope of the prefix, as illustrated in (26).

(26) Edno momče za-nese edna kniga na deca-*(ta)
one boy za-carried one book to children-*(the)
'A boy carried a book to the children.'

If the effect of the presence of a prefix in Slavic resulted in the inverse of the OTEM property, it is not clear why both external arguments and complements of goal prepositions should be within its scope; for, since Tenny (1987) we know that external arguments do not *measure out* the event, i.e. do not participate in the OTEM. Moreover, we know that the complements of goal prepositions do not participate in the OTEM either (MacDonald 2008a,b). Thus, neither a [-q] external argument, as in (27a), nor a [-q] complement of a goal preposition, as in (27b), can turn a predicate atelic.

(27) a. Wildlife ate a bag of trash in 10 minutes/#for 10 minutes.
b. John carried a bag into water in 10 minutes/#for 10 minutes.

These effects of the perfectivizing prefix are not the result of the inverse of the OTEM property.

This suggests that, given the right context, the overt determine is not always necessary.

Finally, consider whether or not the presence of a preposition can turn an (atelic) imperfective verb into a telic predicate. The data in (28) shows that this is not possible.

- (28) a. Nosi kufar-a v staja-ta 1 čas/#za 1 čas.
 carried suitcase-the in room-the 1 hour/#in 1 hour
 ‘He carried the suitcase in(side) the room for an hour/
 #in an hour.’
- b. Kara kola-ta do Barselona 1 čas/#za 1 čas.
 drove car-the to(ward) Barcelona 1 hour/#in 1 hour
 ‘He drove the car to(ward) Barcelona for an hour/
 #in an hour.’

Irrespective of the presence of a preposition, these imperfective verbs are atelic. As has been previously noted for Slavic languages in general (see, for example, Beck & Snyder 2001), Ps in Bulgarian do not turn atelic predicates into telic predicates.¹⁰

Bulgarian standard verbs pattern with English stative predicates by lacking the OTEM property, by not allowing an SSE interpretation of BPs, and by the inability of Ps to make atelic predicates telic.

4.2 Bulgarian biaspectual verbs.

The sentences in (29) illustrate that Bulgarian biaspectual verbs show the OTEM property.

- (29) a. Konsumira butilka-ta s bira #1 čas/za 1 čas.
 consumed bottle-the with beer #1 hour/in 1 hour
 ‘He consumed the bottle of beer #for one hour/in one hour.’
- b. Konsumira bira 1 čas/#za 1 čas.
 consumed beer 1 hour/#in 1 hour
 ‘He consumed beer for one hour/#in one hour.’

In (29a) the presence of the [+q]NP results in a telic interpretation of the predicate, and in (29b) in the presence of a [-q]NP internal argument, the predicate is atelic. This is the OTEM property. Consider another set of examples in (30) which show a slightly different behavior.

¹⁰ One might protest that these Bulgarian Ps do not turn atelic predicates into telic predicates because they cannot be interpreted as goal Ps when the verb is in imperfective. Regardless, no P can turn an atelic predicates into a telic predicate with standard verbs.

- (30) a. Degustira edin kašon s vino 1 čas /za 1 čas
 tasted one box with wine 1 hour/in 1 hour
 ‘He tasted one box of wine for 1h/in 1h.’
 b. Degustira vino 1 čas /#za 1 čas
 tasted wine 1 hour/#in 1 hour
 ‘He tasted wine for 1 hour/#in 1 hour.’

In the presence of the [+q]NP in (30a) the predicate shows an aspectual ambiguity between a telic and an atelic interpretation. Nevertheless, when a [-q]NP is present, as in (30b), only an atelic interpretation is available. This is also indicative of the OTEM property. In fact, we find the same patterns in English, illustrated in (31).

- (31) a. John read poetry for an hour/#in an hour.
 b. John read a newspaper for an hour/in an hour.

Bulgarian biaspectuals show the OTEM property. (Slabakova 1997 and Di Sciullo & Slabakova 2005 observe this as well.) Now consider the interpretation of BPs with biaspectuals. Consider the examples in (32).

- (32) a. Objadva jabâlki za 10 minuti v prodâlzenie na 1 čas.
 had-dinner apples in 10 minutes in continuation of 1 hour
 ‘He had apples in ten minutes for an hour for dinner.’
 b. Remontira časovnici za 10 minuti v prodâlzenie na 1 čas.
 repaired watches in 10 minutes in continuation of 1 hour
 ‘He repaired watches in 10 minutes for an hour.’

BPs with Bulgarian biaspectual verbs can elicit an SSE interpretation of the predicate. Now consider the aspectual contribution of Ps in (33).

- (33) a. Kormuva kola-ta 1 čas/#za 1 čas.
 drove car-the 1 hour/#in 1 hour
 ‘He drove the car for one hour/#in one hour.’
 b. Kormuva kola-ta v kletka-ta 1 čas/za 1 čas.
 drove car-the in cell-the 1 hour/in 1 hour
 ‘He drove the car in(to) the parking space for/in one hour.’

Observe that (33a) allows only an atelic interpretation without the presence of a PP. When the PP is added, a telic interpretation becomes available, and the PP is interpreted as a goal. Note also that an atelic

interpretation is still available, and on this interpretation the PP is not interpreted as a goal. We see a similar pattern with English ambiguous goal-location PPs, illustrated in (34).

- (34) a. John drove the car for an hour/#in an hour.
 b. John drove the car under the bridge for an hour/in an hour.

Without the PP, in (34a), there is only an atelic interpretation available. When the PP is added, as in (34b), a telic interpretation becomes available and the PP is interpreted as a goal. Note also that an atelic interpretation is still available, and, on this interpretation, the PP is not interpreted as a goal. This is yet another way in which Bulgarian biaspectual verbs pattern with English eventive predicates.

5 Accounting for the aspectual variation

In sections 3-4 we have seen that with respect to the three aspectual properties, Bulgarian biaspectual verbs pattern with English eventive predicates and Bulgarian standard verbs pattern with English stative predicates. This is summarized in Table 1:

English eventives	Bulgarian biaspectuals	English statives	Bulgarian standard verbs
OTE mapping		OTE mapping	
SSE interp. of BPs		SSE interp. of BPs	
(Goal) Ps → Telic predicate		(Goal) Ps → Telic predicate	

Table 1: Summary of distribution of the three aspectual properties

MacDonald (2008a,b) argues that the three aspectual properties that English eventives show is dependent on an aspectual projection—AspP—between vP and VP.¹¹ If he is correct, then considering that Bulgarian biaspectual verbs also show these three properties, it is natural to conclude that Bulgarian biaspectual verbs also project AspP.¹²

If we take (at least some) language variation to be accounted for by the presence vs. absence of an element, be it a functional projection (see

¹¹ Travis (1991, 2000) also argues that there is an aspectual projection between vP and VP.

¹² Note that almost all of the loan verbs which enter Bulgarian tend to be formed by the suffix *-(iz)ira* and are biaspectual. It is tempting to take this suffix as the overt manifestation of the aspectual head Asp.

Thráinsson's (1996) "Limited Diversity Hypothesis"), or a feature (see Chomsky's (2000, 2004) assumptions regarding the EPP/OCC), we have a straightforward account of both English stative predicates and Bulgarian standard verbs: they both lack AspP. If these three aspectual properties are dependent on the presence of AspP, then the lack of the aspectual projection entails a lack of these three properties.

The presence of AspP in both English eventive predicates and Bulgarian biaspectuals explains the presence of these three properties; the absence of AspP in both English stative predicates and Bulgarian standard verbs explains the absence of these three properties. The lack of AspP, however, does not explain why English stative predicates lack event structure (ES)¹³ (i.e. are stative) while Bulgarian standard verbs can have ES (i.e. are not *all* stative). We offer an answer in the following section.

6. An aspectual parameter & the micro/macro distinction

In this section we suggest that the difference in ES between English statives and Bulgarian standard verbs is related to a more abstract aspectual parameter regulating the way in which the ES properties of a predicate are expressed; we refer to this parameter as ES-Par. Consequently, AspP itself is not the parameter; the availability of AspP is the result of one of the two available parametric settings of ES-Par.

To begin, contrast English and Bulgarian with respect to the presence of AspP in the syntactic derivation and the availability of ES for that predicate. In English, as we have seen, ES is dependent on the presence of AspP. That is, if AspP is present in the syntactic derivation, the predicate is eventive (i.e. has ES), and if AspP is not present, the predicate is stative (i.e. has no ES). Considering Bulgarian standard verbs, ES is not dependent on AspP. As we observed in the previous section, there are standard verbs that are eventive. In Bulgarian ES is available independently of the presence of AspP in a syntactic derivation. From these observations, we make the following suggestion regarding ES-Par. On one setting of ES-Par (say +ES-Par), AspP is an available functional projection in the inventory of functional projections; on the opposite setting (i.e. -ES-Par) AspP is simply not an available functional projection in the inventory of functional projections. Consequently, when a language is +ES-Par, AspP is available and can freely enter a syntactic

¹³ We take event structure to refer to event portions that make up the event (i.e. what might be called subevent structure), such as the beginning or the end to an event (as in Demirdache & Uribe-Echebarria's (2000, 2004) event bounds), and perhaps duration.

derivation; when it does, the result is an eventive predicate; when it does not, the result is a stative predicate. In a –ES-Par language, AspP is not even available for a syntactic derivation; consequently, ES is not dependent on AspP. The result is a fundamentally different system for the expression of ES (i.e. a system with a Slavic aspectual profile).

If this is the correct way to understand this abstract aspectual parameter, then Bulgarian turns out to be a mixed system. On the one hand, there are standard verbs, which, by assumption, are –ES-Par; on the other, there are biaspectual verbs, which since they pattern with English eventives, must be +ES-Par. In contrast, all English verbs seem to be +ES-Par. The result is a contrast between Bulgarian and English with respect to the percentage of verbs that are +ES-Par. Essentially, all verbs in English are +ES-Par, while only a subset of verbs in Bulgarian are +ES-Par. This is shown schematically in Table 2.¹⁴

English verbs	Bulgarian verbs	
All verbs	Biaspectuals	Standard verbs
+ES-Par verbs	-ES-Par verbs	

Table 2: Schematic illustration of the scope of +ES-Par

We can conceptualize the size of the effect of +ES-Par in terms of its scope over the verbs of a language. In these terms, +ES-Par has wider scope in English than in Bulgarian, since it scopes over all English verbs, but only over a subset of Bulgarian verbs.

Consider the implication that this has for the distinction between micro and macro parameters in terms of the size of effect, or impact of a parameter (see Baker 2008, Kayne 2005). First, note that if our characterization of ES-Par is correct, then technically speaking, all verbs of both English and Bulgarian are in the scope of ES-Par, since for any verb in either language, it is in the scope of either +ES-Par or –ES-Par. Consequently, the absolute effect of the parameter is the same for English and Bulgarian.¹⁵ To speak of the size of effect of a parameter then, we

¹⁴ Roberts & Holmberg (2009) ask if a single parameter can have opposite settings in the same language. Bulgarian provides an affirmative answer to this question.

¹⁵ Unless there is a hierarchy of parameters (see Roberts & Holmberg 2009), such that for a parameter to even be available to play a role in a language another parameter must have a

must speak of the size of effect of one of the parametric settings in a language, as outlined, for example, in Table 2. Consider the effect of +ES-Par. In English, all verbs are in the scope of +ES-Par, while in Bulgarian, only a subset of verbs is in the scope of +ES-Par. Consequently, +ES-Par has an effect on a larger percentage of English verbs than Bulgarian verbs. This suggests that +ES-Par is more macro in English, yet more micro in Bulgarian. This, in turn, suggests a relativized notion of the micro/macro distinction, not an absolute one. Moreover, note that if we consider the size of effect of –ES-Par, it will turn out to be more macro in Bulgarian and more micro in English. The result is the same: a relativized notion of the micro/macro distinction. A relativized notion of the micro/macro distinction raises questions about the organization of the grammar, which we must leave for future research.

7 Conclusion

We have seen that on the one hand, English eventive predicates and Bulgarian biaspectual verbs pattern the same by showing three concrete aspectual properties. We suggested that an aspectual projection—AspP—was responsible for these three properties. On the other hand, English stative predicates and Bulgarian standard verbs pattern the same by lacking these three properties, because, as we suggest, they lack AspP. We also saw that event structure properties of English were dependent on AspP, while this is not the case for Bulgarian standard verbs. We offered an explanation in terms of an abstract aspectual parameter regulating the event structure properties of a predicate. We saw that the parametric setting of this parameter has different scopes in Bulgarian and English, which led us to postulate a relativized notion of the micro/macro parameter distinction.

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particular setting, it is difficult to see how we can talk in terms of the size of the effect of a parameter itself. We must always talk in terms of the effect of one parametric setting.

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