

Semantic evidence for functional categories in interlanguage grammars

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This study investigates how semantic properties of functional categories are acquired by second language (L2) learners in an instructional setting. The following properties of the functional category (FC) of AspectP are under investigation:

- 1) English simple present tense cannot denote an ongoing event;
- 2) progressive morphology is needed for an ongoing interpretation; and
- 3) English bare verbal forms denote closed, or completed, events.

All three properties are not instantiated in Bulgarian. Only the first two properties are explicitly taught in English classrooms in Bulgaria, while the third is not. A Truth Value Judgement Task, a guided composition task and a proficiency test were administered to 112 Bulgarian learners of English and 24 native speaker controls. Results indicate that L2 learners at all proficiency levels are aware of the English aspectual contrasts. These findings suggest that L2 learners are able to acquire interpretable formal features not transferable from their native language. Furthermore, they are able to acquire properties of the grammar that are not explicitly taught in language classrooms.

I Introduction

In recent years, the question of whether Universal Grammar (UG) is available in second language (L2) acquisition has been approached from the perspective of the acquisition of functional categories (FCs) and the formal features associated with them. With respect to the accessibility of formal features of FCs not instantiated in the native language (L1), researchers appear to be divided into two basic positions. There are those who argue that full functional representations (including feature strength and semantic import) are in principle attainable by adult learners (Schwartz and Sprouse, 1994, 1996; Gavrusseva and Lardiere, 1996; Grondin and White, 1996; Epstein *et al.*, 1996; Haznedar and Schwartz, 1997; Lardiere, 1998a; 1998b; 2000; Duffield and White, 1999; Prévost and White, 2000a; 2000b; Hawkins, 2001). The apparent variability in the L2 learners' overt morphology production is attributed, generally speaking, to

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difficulties in identifying and/or producing the particular morphological realization of FCs. While these researchers diverge on the source of the initial representations of FCs (whether they come from the L1 or directly from UG), they share the core notion that FCs and their abstract features are not impaired in interlanguage. I label this position the Full Functional Representation position.

The other view rejects the attainability of new FCs in the L2. Tsimplici and Roussou (1991), Smith and Tsimplici (1995), Hawkins and Chan (1997), Liceras *et al.* (1997), Beck (1998), among others, have argued that adult learners only have access to those features (or feature strength values) available from their native language, and thus FCs not instantiated in the L1 will be impossible to acquire. Meisel (1997) claims that L2 learners do not have access to full specifications of functional features because L2 acquisition, unlike L1 acquisition, is not constrained by UG. The common ground between these positions is assumed impairment in the functional domain. I refer to the latter view as the Impaired Functional Representation position (following Prévost and White, 2000b: 110).¹

Related to the accessibility issue is the question of how exactly the L2 acquisition of FCs proceeds, and what can be considered evidence for successful acquisition. Within the Minimalist paradigm (Chomsky, 1995; 1998), FCs, such as Complementizer, Tense, Determiner and Negation consist of sets of formal features (e.g., \pm wh, case, number, gender, finiteness, etc.) and related morphophonological forms (e.g., *that*, *-ed*, *-s*, *the*, *not* in English). Features vary as to their strength: strong features often correlate with overt morphology and are checked overtly prior to spell-out, whereas weak features tend to correlate with lack of morphology and are checked at LF (however, for arguments against this claim, see Sprouse (1999). Parameter values make part of lexical entries of FCs and are encoded in the strength of associated features (Borer, 1984; Wexler and Manzini, 1987; Chomsky, 1995). For language acquisition to take place, children select from a universal inventory of categories and features, those relevant to their language and learn to associate these sets of features with morphemes and certain meaning. Thus, the acquisition of a

¹Note that Prévost and White (2000b: 110) include in the Impaired Representation Hypothesis positions arguing for a more local type of impairment, namely, the selective impairment of functional feature strength, resulting in random verb movement. These are proposals advanced in Eubank (1993/94), Eubank *et al.* (1997) and Beck (1998). My approach in this article cannot inform the debate between proponents of impaired vs. unimpaired feature strength, since I am looking at semantic, and not syntactic, import of functional category knowledge.

functional category comprises at least three different types of knowledge:

- morphological reflexes: target-like usage of inflectional morphology (if any);
- syntactic reflexes: knowledge of feature strength, which would result in movement prior to or after spell-out, case-marking, etc.; and
- semantic reflexes: knowledge of the semantic properties of the functional category, or what meanings are computed when the particular functional category is checked.

In the L2 acquisition situation, the task of the L2 learner is to acquire new features, together with their strength, morphological realization and semantics; or to learn that features already instantiated in his or her L1 have different strength or meaning in the L2. If building L1 and L2 linguistic representations involves the acquisition of three distinct types of knowledge, then, in principle, these processes can be dissociated in time and/or success of acquisition. What is more, any one and/or all of the three types of knowledge can constitute evidence for a functional category being successfully and fully acquired. The existing L2 functional category research has aimed to explain morphological variability in production and has argued that syntactic distributions, case marking, etc., rather than target-like form of the morphological markers, attest to the underlying full representation of a functional category. In this article, the semantic import of FCs is brought into the picture (see also Montrul and Slabakova, 2002; Slabakova and Montrul, 2002). I investigate the acquisition of viewpoint aspect (Smith, 1997) – also known as grammatical, or sentential, aspect – by Bulgarian native speakers learning English. I compare the acquisition of three aspectual semantic properties, two of which are explicitly taught in language classrooms. The third property is not taught and its semantics is arguably underrepresented in the input addressed to classroom language learners. I show that most learners who have engaged the aspectual functional category in their interlanguage grammars are equally accurate in comprehending the taught and the untaught semantic properties.

II Parameterizing viewpoint aspect

1 Aspectual oppositions

Tense and aspect are inflectional markers of temporality on the verb (Comrie, 1976; Bybee, 1985). Tense is a deictic (referential)

category that relates situations to some reference time, usually the moment of speech (Comrie, 1976). Linguists refer to this property as temporal anchoring. Aspect is concerned with temporality in a different way: it refers to the internal temporal structure of a situation as described by verbs and phrases (Comrie, 1976; Chung and Timberlake, 1985; Smith, 1991; 1997). Aspect is the property that makes it possible for a sentence to denote a complete or an incomplete event. It can be encoded in the lexical classes of verbs, usually called 'lexical aspect', or it can be grammaticalized and marked by inflectional morphology on the verb, such as perfective or progressive morphemes. The latter is what Smith (1991; 1997) terms 'viewpoint aspect'.

Lexical aspect – also called *Aktionsart* (from German 'kinds of action'), situation aspect (Smith, 1991; 1997) or VP aspect (Travis, 1991; Tenny, 1994; Schmitt, 1996; Slabakova, 1997; 2001; Zagona, 1999, among many others) – is a semantic property that depends on the meaning of the verb and properties of its internal argument. Vendler's (1967) four different aspectual categories, as shown in (1), are widely used in the literature to differentiate lexical classes of verbs:

- | | |
|------------------|---|
| 1) states: | <i>know, be, love</i> |
| activities: | <i>run, bake cake, drink beer</i> |
| accomplishments: | <i>run a mile, bake two cakes, drink the bottle of beer</i> |
| achievements: | <i>realize, die, find a wallet</i> |

States, such as *know, be, love* have no internal structure whatsoever. Activities are homogeneous processes going on in time without an inherent endpoint. Accomplishments involve a process going on in time and an inherent culmination point after which the event can no longer continue. Finally, achievements have an inherent culminating point, but the process leading to that point is instantaneous. Activities, accomplishments and achievements are known as dynamic, or eventive, classes because they have a process component (Verkuyl, 1993).

Aspect is also expressed morphosyntactically on the verb, by perfective and imperfective tense morphemes to indicate 'different ways of viewing the internal temporal constituency of a situation' (Comrie, 1976: 3). This 'viewpoint aspect' (Smith, 1991; 1997) is also referred to as grammatical aspect, since it is expressed by inflectional morphemes, or sentential (IP) aspect (Schmitt, 1996), since it has scope over the whole sentence. The distinction is illustrated with an accomplishment predicate in the past simple and past progressive tenses:

- 2) a. Tim built a gazebo.
 b. Tim was building a gazebo.

2 English viewpoint aspect and a possible explanation

Languages vary not only in the strength of functional features, but also in semantic features encoded by the morphosyntax, whether temporal anchoring, aspect, mood, etc. Thus, English differs from German, Romance and Slavic with respect to the semantics of the present tense. It is well known that the English simple tense cannot denote ongoing events.

- 3) a. * She eats an apple right now. #ongoing event
 b. She is eating an apple right now. ongoing event
 c. She eats an apple (every day). habitual event

With stative predicates, however, the ongoing reading of the English present is possible.

- 4) a. Mike is lazy. characteristic state
 b. Mike is being lazy today. temporary state

Furthermore, the English bare infinitive denotes not only the processual part of an event but includes the completion of that event. English accomplishment and achievement predicates in the infinitive (without any aspectual morphology) have only complete events in their denotations.

- 5) a. I saw Mary cross the street. completion entailed
 b. I saw Mary crossing the street. no completion entailed

In trying to explain the relationship between the facts illustrated in (3a) and (5a), many researchers have noticed that English verbal morphology is impoverished (Bennett and Partee, 1972; Landman, 1992; Roberts, 1993; Giorgi and Pianesi, 1997; Zucchi, 1999). Of particular interest is Giorgi and Pianesi's recent proposal. English verbs, they argue, are 'naked' forms that can express several verbal values, such as the bare infinitive, the first and second person singular, and the first, second and third person plural. Many English words are even categorially ambiguous in that they can either identify an 'object' or an 'action', such as *cry*, *play*, *drive* and many others. Giorgi and Pianesi (1997) propose that verbs are disambiguated in English by being marked in the lexicon with the aspectual feature [+perf], standing for 'perfective'. English eventive verbs acquire categorial features by being associated with the

aspectual marker [+perf]. In other words, English (eventive) verbs are inherently perfective and include both the process part of the event and its endpoint. Thus, children acquiring English can distinguish verbal forms from nominals, whose feature specification bundle will exclude the feature [+perf]. In Romance, Slavic and Germanic languages other than English, on the other hand, all verbal forms have to be inflected for person, number and tense. Thus, nouns and verbs cannot have the same forms, unlike English, in which zero-derivation abounds. The Bulgarian verb, for example, is associated with typical verbal features as [+V, person, number], and it is recognizable and learnable as a verb because of these features. Nominal inflections are distinguishable from verbal ones. Bulgarian verbs are therefore not associated with a [+perf] feature.

Giorgi and Pianesi further argue that the speech event, which constitutes the reference point for the present tense, is punctual, or instantaneous. Since a perfective predicate entails the closure of the denoted event, it cannot be simultaneous with the punctual speech event. Hence, no ongoing or progressive interpretation is possible for a perfective event in the present. Giorgi and Pianesi (1997: 163) formulate the following constraint:

- 6) The Punctuality Constraint: A closed event cannot be simultaneous with a punctual event.

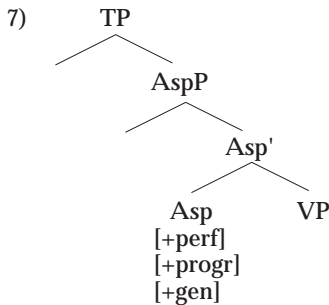
This impossibility accounts for the crosslinguistic differences observed in the interpretation of the present tense. In languages where the verb denotes a closed event (e.g., English), the present tense cannot have an ongoing interpretation. In languages where the verb has no such restriction (e.g., German, Italian, Spanish, Bulgarian) the present tense can be used to describe an ongoing event simultaneous with the speech event.

The logical question that arises is: How are the habitual and the progressive interpretations in English at all possible if eventive verbs always denote closed events (associated with a feature entailing topological closure)? How are stative verbs associated with verbal categorial features if they are not marked [+perf] in the lexicon? In the case of the present tense habitual interpretation of eventive predicates, Giorgi and Pianesi propose that the present simple tense is characterized by a quantificational feature associated with a generic operator (hypothesized by Chierchia, 1995), which gives it its habitual interpretation. Habitual events (e.g., *John eats an apple for breakfast every day*) are in fact a series of closed events, each consisting of *eat an apple completely*, in an open-ended interval. Thus, the generic operator contributed by the

present tense inflection is not incompatible with the predicate's lexical meaning of closure. Furthermore, Chierchia (1995) and Giorgi and Pianesi (1997) argue that habituais and statives can be analysed as having similar properties (a quantificational feature and a generic operator), in a way neutralizing, or overriding, the verb's perfectivity.²

In the case of the progressive, the *-ing* morpheme contributes an intensional operator (Dowty, 1979; Landman, 1992), ensuring that the larger interval where the event is completed is not in the actual world but in a suitable possible world.³ Recall that all eventive predicates have a processual part. Assuming that the progressive refers to an intensionally perfective event, the ongoing interpretation is possible for the processual part of the event. Thus, the presence of the feature [+perf] is compatible with the continuous reading of the progressive.

A possible syntactic analysis, following Giorgi and Pianesi (1997) (irrelevant details omitted) is given in (7).⁴



² Chierchia (1995) suggests that in the case of habituais, the quantificational feature and the generic operator are the head and the specifier, respectively, of an aspectual projection. In the case of statives, however, they are internal to the VP projection. Giorgi and Pianesi's proposal differs from Chierchia's in the details, since they propose that in both cases there is an aspectual projection that specifies the verb as a habitual or a stative.

³ To illustrate the definition of 'intensional', consider Landman's (1992) example.

- i) God was creating a unicorn, when He changed His mind. (Landman's example 9)

Verbs such as *create* are called 'extensional' because they normally presuppose the existence of their objects. The unicorn comes into existence only when the event reaches its inherent endpoint (since we suppose that no partial unicorns are actual unicorns). Note that the sentence in (i) does not denote the existence of an actual unicorn, since God's creative act stopped midway. But a unicorn does exist in a suitable possible world *w'*, a continuation of the actual world *w* that simply did not come to pass. Sentences entailing such worlds are termed 'intensional'; the intensionality is contributed by the progressive tense morphology. That is why the truth of (i) requires the existence of a possible world *w'* in which there exists a closed event of creating an actual unicorn.

⁴ For further details of the semantic and syntactic analyses, refer to the original literature (Chierchia, 1995; Giorgi and Pianesi, 1997).

The [+perf] feature is lexical, hence, it is present in all English dynamic verbs and is related to their categorial specification. The [+progr] feature is encoded in the *-ing* progressive affix and combines with the perfective feature without any conflict, as explained above. The same is true of the generic operator and quantificational feature of statives (encoded lexically) and habituals (encoded in the present tense affix). However, when [+progr] and [+gen] (generic) are not available in the feature bundle of a verbal form, leaving it anchored to the present speech event, the conflict between lexical perfectivity (closure) and the punctual nature of the speech event cannot be resolved. Hence, the ongoing interpretation of the present simple tense is unavailable in English. Notice that all interpretations attributed to English verbal forms result from various (possible and impossible) combinations of lexical and functional semantic features, checked in the functional category AspP.

3 The native contrast

Unlike English, Bulgarian has no present progressive tense and the present simple tense is ambiguous between a habitual and an ongoing event or state. This is true of eventive verbs as in (8) and of stative verbs as in (9) below. The example in (9c) is a (rare) case of deadjectival verb formation with a stative meaning, also expressed with the present tense.

- | | | |
|-------|--------------------------------------|----------------------|
| 8) a. | Maria sega jade jabǎlka. | simultaneous event |
| | Maria now eat-PRES apple | |
| | 'Mary is eating an apple right now.' | |
| b. | Maria jade jabǎlka vseki den. | habitual activity |
| | Maria eat-PRES apple every day | |
| | 'Mary eats an apple every day.' | |
| 9) a. | Maria e mǎrzeliva. | characteristic state |
| | Maria is-PRES lazy | |
| | 'Mary is lazy.' | |
| b. | Maria v momenta e mǎrzeliva. | temporary state |
| | Maria at this moment is-PRES lazy | |
| | 'Mary is being lazy.' | |
| c. | Maria sega mǎrzeluva. | temporary state |
| | Maria now be-lazy-PRES | |
| | 'Mary is being lazy.' | |

Bulgarian verbs do not need to be marked [+perf] in the lexicon. Consequently, Bulgarian equivalents to bare infinitives do not entail completion of the event.

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- 10) Ivan vidja Maria da presi na ulicata. no completion entailed
 Ivan saw Maria to cross on street-DET
 'John saw Mary crossing the street.'

Thus, Bulgarian and English exhibit a contrast in the present viewpoint aspect. The Bulgarian present tense neutrally expresses simultaneous events and states; in order to denote habitual events, adverbials (e.g., *every day*) or habitual context are needed, but the verbal form does not change. It follows that the Bulgarian functional category AspP does not have to check the feature [+perf] because the verbal root does not carry this feature from the lexicon.

4 L1 Acquisition of English viewpoint aspect

Assuming an analysis arguing that all English verbal forms are perfective, or entail closure of the event, it is pertinent to ask whether children acquiring English respect this aspectual restriction. In other words, do they only use eventive verbs in habitual contexts and not in ongoing event contexts? Hoekstra and Hyams (1998), and Hyams (2001a; 2001b) have asked this question in relation to their study of children's root infinitive, or optional infinitive, production.⁵ It is important to recall that in Giorgi and Pianesi's proposal, the feature [+perf] is lexical, hence both finite and bare forms in early grammar should have a habitual interpretation. Torrence (2000), cited in Hyams (2001b), analysed Adam's files in the CHILDES database from the age of 3;2 (i.e., three years and two months) to 3;5 to determine whether the verb denoted an ongoing or a habitual activity. Below are some examples of sentences with habitual (11) and ongoing interpretation (12).

- 11) a. Paul always get off blanket.
 (talking about Paul who has crawled off the blanket)
 b. *Adam*: Robin break it, your pen.
 Adult: No, he didn't break it.
 Adam: Robin always be naughty when he break pens.
- 12) a. Adam write pencil. (while writing on someone's pen)
 b. Dat a turn. (while turning a ring on someone's finger)

⁵ This phenomenon is attested in many languages and widely discussed in the L1 acquisition literature. Children use infinitival forms in root contexts, as in (i), examples from Hyams (2001b).

i)	a.	Zahne	pussen	German
		teeth	brush-INF	
	b.	Dormir	tout	French
		sleep-INF	all	naked
	c.	Niet	neus	Dutch
		not	nose	blow-INF

Hyams (2001b) describes two stages in Adam's acquisition of the Punctuality Constraint in English. One is around age 2;3 to 3;1, when the child's bare verbal forms overwhelmingly refer to ongoing events (see Table 1), while his finite forms (present tense with third person singular *-s* counted only) refer to habitual events. Such a stage is also attested in the Nina (age 2;4–2;9) and Naomi's (age 2;1–3;3) CHILDES files; see Table 2. A later stage in Adam's speech comes at 3;2 to 3;5, when the habitual interpretation on both bare and finite forms increases dramatically (see Table 3).

As Tables 1–3 show, there is a clear aspectual difference in the usage of bare verbal forms and finite forms. At ages 2-3 children seem to know that English finite forms should be interpreted to denote habitual events. Still, it has to be explained why the Punctuality Constraint does not include bare forms, as it obviously does in adult grammars; see example (5a). The answer to this question, according to Hyams (2001b), lies at the interface between morphosyntax and semantics. She proposes that, at an early stage in the child's grammar, the bare form is a pure *realis* form (part of the mood opposition *realis-irrealis*). It is temporally unanchored

Table 1 Ongoing vs. habitual interpretation of bare eventive verbs for Adam (2;3 to 3;1)

Ongoing interpretation	43	(91%)
Habitual interpretation	4	(8%)
Total	47	

Source: from Ud Deen, 1997, cited in Hyams, 2001b.

Table 2 Ongoing vs. habitual interpretation of bare and finite (*-s*) eventive verbs for Nina (2;4 to 2;9) and Naomi (2;1 to 3;3)

	Bare form	Finite (<i>-s</i>) form
Ongoing interpretation	24 (83%)	3 (12%)
Habitual interpretation	5 (17%)	26 (88%)
Total	29	29

Source: Madsen and Gilkerson, 1999.

Table 3 Ongoing vs. habitual interpretation of bare and finite (*-s*) eventive verbs for Adam (3;2 to 3;5)

	Bare form	Finite (<i>-s</i>) form
Ongoing interpretation	5 (20%)	2 (3%)
Habitual interpretation	20 (80%)	55 (97%)
Total	25	57

Source: Torrence, 2000.

through a tense chain, so it has no specific temporal reference. Hence, it does not need to obey the Punctuality Constraint, which crucially operates over the temporal anchoring of the perfective verb to the punctual speech event. Hyams proposes that ‘the alternation between finite and non-finite root clauses is not a case of true grammatical optionality, but falls out of the child’s attempt to set up a system of semantic oppositions and map them onto morphosyntactic structures’ (Hyams, 2001b: 10). What is important to notice here for the purposes of the present article is that, from the onset of speech, English children almost never use finite present forms to refer to ongoing events, thus demonstrating (at least partial) observance of Giorgi and Pianesi’s Punctuality Constraint. At a later stage, still subsumed by the root infinitive stage, they learn that bare verbs also observe this aspectual restriction. Next, I turn to predictions about how this process will unfold in acquiring an L2, when the native language provides no clue as to the semantic restriction to be acquired.

III Learning task and predictions

In this study, I have sought to test whether learners are aware of the semantic entailments of simple and progressive viewpoint aspect in English. The learning task of Bulgarian speakers is, generally put, acquiring the functional category of AspP in English (grammatical, viewpoint aspect) with all its semantic effects. In particular:

- learning that all English eventive verbs are marked in the lexicon with a [+perf] feature and that it is necessary to check it in the functional category AspP; consequently, English bare verbs denote a closed event;
- learning that the present tense in English is associated with a quantificational feature and a generic operator, checked in the same functional category;
- learning that the progressive morphology associates the continuous interpretation with the processual part of the event, leaving its eventual closure unspecified; in other words, learning that progressive morphology is needed for a simultaneous interpretation.
- learning to dissociate stative from eventive verbal predicates with respect to the present aspectual tenses: unlike eventive verbs, statives can have a habitual interpretation in the simple tense, while progressive states denote a temporary state.

No such semantic features will be provided to the learners from

their Bulgarian grammar as part of the verbal form. First, Bulgarian verbal roots are not lexically marked as [+perf]. As a consequence, the only Bulgarian present form is normally used with an ongoing interpretation. Secondly, the quantificational feature and the generic operator in Bulgarian are introduced by adverbials like *every day, always, etc.*, or by context, but crucially not by the verbal form. Thirdly, the language has no progressive tense, hence no [+progr] feature is encoded in the Bulgarian verbal form. As a result, Bulgarian stative verbs do not distinguish the 'temporary state' meaning available in English.

The parametric trigger for acquiring the closed interpretation of English bare verbal forms, according to Giorgi and Pianesi (1997: 164), is the fact that English inflectional morphology is highly impoverished, as a result of which verbs and nouns very often sound identical. In other words, it is impossible to predict whether a word like *dress*, for example, is a verb or a nominal. In order to be distinguished from nominals, English verbs are associated with a [+perf] feature in the lexicon. The trigger has to do with inflectional morphology and is extremely salient in the input; thus, it obeys Lightfoot's (1991) definition of a syntactic trigger. Children and L2 learners will have plenty of linguistic evidence to set their parameter on the value 'verbal forms are marked [+perf] in the lexicon'. Once they notice the impoverished morphology, they will also have access to the closed interpretation. That, in turn, will clash with the universal Punctuality Constraint (a closed event cannot be simultaneous with the punctual speech event), prompting them to realize that the progressive affix with its intensional feature is necessary in order to express ongoing events. Simultaneously, learners will acquire the habitual interpretation of the simple tense (the only one available), brought forward by its generic operator to make the closed event an open-ended series of closed events.

Note that the morphological trigger in this case is quite different from its semantic consequence, namely, English bare forms denote only closed events. Thus, while the trigger is clear and salient in the input, it is hard to imagine learners being consistently exposed to the consequence. A learning scenario in which a learner hears a sentence like *I saw her cross the street* and is given evidence that the event of crossing the street has to be complete for the sentence to be true, is certainly not impossible, but highly unlikely, especially in language classrooms. Furthermore, the hypothetical learning scenario above involves negative evidence, or explicit positive evidence, which is argued not to be able to engage properties of UG (e.g., Schwartz, 1993). Figure 1 schematizes the L2 learning task.

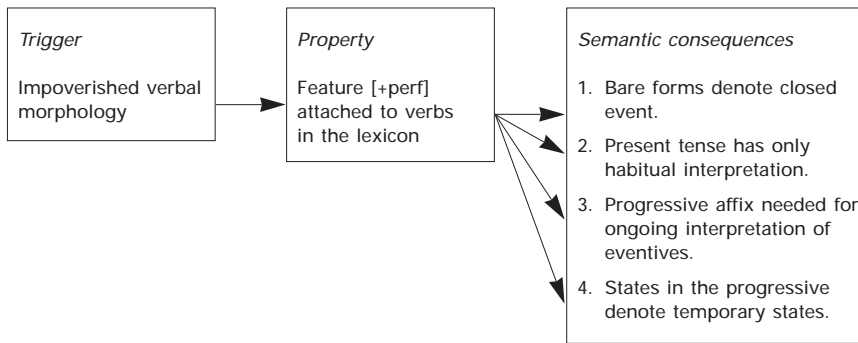


Figure 1 Learning tasks of Bulgarians acquiring English viewpoint aspect

Next, I consider what predictions the Full Functional Representation (FFR) and the Impaired Functional Representation (IFR) positions make with respect to the learning tasks outlined above. There are two factors that may influence this particular acquisition process. First, none of the semantic properties that have to be acquired can be transferred from the native language of the learners. If learners unconsciously map L1 feature values onto the L2 morphology, thereby achieving 'L1 syntax with L2 lexical items' (Hawkins and Chan, 1997: 216), they will be completely misled and will not be able to comprehend even the most basic English input. Secondly, of the four semantic properties under investigation (see Figure 1), the second, third and fourth are introduced, discussed and drilled in language classrooms. The first one, however, is not explicitly taught. The FFR predicts that the semantic properties will be successfully acquired, since learners have access to the relevant features even if they are not utilized in the L1. Furthermore, since its parametric trigger is abundantly salient, learners will be able to ultimately acquire the crucial untaught property, even though its semantic consequence is arguably underrepresented in the input.

The IFR, on the other hand, predicts that no knowledge of semantic features will be attained, even by the most proficient learners, since learners have no access to the universal array of formal features other than the ones supplied by the L1. Another prediction of the IFR is that some intermediate and advanced learners might be able to 'mimic' the linguistic behaviour of the natives, by memorizing inflectional paradigms and generally absorbing surface properties of the classroom input. However, this learned linguistic behaviour will only superficially resemble the native one, since the underlying representations of FCs will still be deficient. Thus, in Table 4 the *yes* in quotation marks will be due to

Table 4 Predictions of the FFR and IFR Hypotheses

	Full Functional Representation		Impaired Functional Representation	
	Taught properties	Untaught property	Taught properties	Untaught property
Less advanced learners	yes/no	yes/no	'yes'/no	no
More advanced learners	yes	yes	'yes'	no

different underlying mechanisms, such as learning, but not acquisition.

IV The experiment

1 Methodology

a Participants: There were 112 Bulgarian learners of English taking part in the experiment, as well as 24 native speaker controls. Testing was done in Iowa City and Varna, Bulgaria. All but two of the participants were students. Their mean age was 18.3 years, and they had all started learning and/or using English for communication after 12 years of age. The nonnative speakers were typical instructed learners. English instruction in Bulgaria begins in the sixth grade and continues through high school. Students typically have three 45-minute lessons per week, and instructors are not native speakers. In addition, students are usually exposed to considerable amounts of native English input through popular cable television channels and the internet. Their motivation to learn English for practical and professional purposes is quite high.

b Test instruments: Part One of the Michigan Test was used for establishing the learners' proficiency levels. It consists of a multiple-choice grammatical test, comprising 40 sentences with one blank each. Participants had to choose the appropriate word(s) to fill in the blank, out of four choices. For example:

- 13) 'When will you return my book?'
 'Not for a while. I'm only _____ it now.'
 a) to start
 b) starting
 c) started
 d) having started

Based on the results of this test, learners were divided into low intermediate, high intermediate and advanced groups.

The second task of the study was an Elicited Production Task. Participants had to write short compositions describing two pictures (see Appendix 1), designed to elicit present simple and progressive morphology. Lexical items and expressions to use in the compositions were supplied on the test sheet. The first phrase of the composition was also provided. It was expected that in the first part of the composition, describing what Tony does every day, learners will use present simple morphology. The second picture shows what Tony is doing on his day off, so as to elicit present progressive morphology.

Finally, a Truth Value Judgement Task (TVJT; Crain and Thornton, 1998) with written stories was used. Sixty story-sentence combinations, arranged in quadruples (see example below), were judged by the participants. The Bulgarian native speakers saw the story in Bulgarian and the sentence in English, to ascertain that they understood the context. Further examples of each condition are given in Appendix 2.

14) Example of a test quadruple:

Whenever I decide to go to the seaside, my car breaks down. This happened last year, and the previous one, too. It is such a pain to start fixing the car in the middle of the trip. But I don't like calling for road assistance, I am a self-help guy. Will I be unlucky this year, too?

I am fixing my own car. True False

Whenever I decide to go to the seaside, my car breaks down. This happened last year, and the previous one, too. It is such a pain to start fixing the car in the middle of the trip. But I don't like calling for road assistance, I am a self-help guy. Will I be unlucky this year, too?

I fix my own car. True False

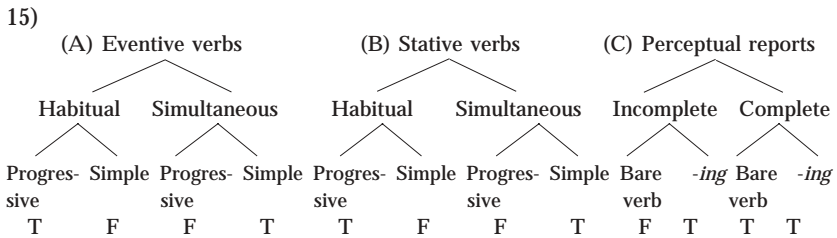
Tony is a good mechanic. However, he rarely gets the chance to show his skills. His mother's car broke down yesterday. He has decided to fix it before school this morning. Look, he is almost late for school.

Tony is fixing his mother's car. True False

Tony is a good mechanic. However, he rarely gets the chance to show his skills. His mother's car broke down yesterday. He has decided to fix it before school this morning. Look, he is almost late for school.

Tony fixes his mother's car. True False

The research design of the TVJT was as follows: Condition A included 16 story-sentence combinations with eventive predicates, crossing simple and progressive present tense with habitual and simultaneous context; see example in (14) above. Condition B included 16 story-sentence combinations with stative predicates. Condition C included 16 story-sentence combinations combining perceptual reports with bare infinitives and *-ing* forms. Condition D comprised 6 true and 6 false distractors. The research design is illustrated in (15), where the aspectual class of verb is given on the first line, the type of context situation is on the second line, the choice of verbal form is on the third line and the target answer (True or False) is on the fourth line.



V Results

1 Results on the proficiency test

Table 5 gives the range, mean and standard deviations of the three groups' scores on the Michigan Test of English Proficiency, Part One. One-way ANOVA ($F = 17.26$, $p < .0001$) indicates that the three groups are significantly different from each other in L2 proficiency.

2 Results on the Elicited Production Task

All but 11 learners in the low intermediate proficiency group produced target-like inflectional morphology in the present simple and progressive aspect. Of those 11 participants, none omitted

Table 5 Mean scores on the proficiency test (maximum possible = 40)

	Low Intermediate (<i>n</i> = 32)	High Intermediate (<i>n</i> = 41)	Advanced (<i>n</i> = 39)
Range	7–15	16–28	29–39
Mean	12.78	22.17	33.38
S.D.	1.69	4.05	3.33

inflectional morphology altogether. Error rates vary between 23% and 87% of obligatory contexts. Furthermore, of the 11 participants who produced non-targetlike morphology, all exhibited correct Nominative case checking and some demonstrated knowledge of correct verb movement (e.g., *He decide to take a long bath and to not think about work*).

It was intended to find beginning learners who do not produce inflectional (tense and agreement) morphology and would therefore be considered not to have engaged the FCs AspP and TP in their interlanguage grammars. However, none of the participants in the present experiment fall clearly in this category. This fact is probably due to the intensive teaching and drilling of the simple and progressive present tenses from day one of English classroom instruction. Following Lardiere (1998a; 1998b) and Prévost and White (2000a; 2000b), I assume that all participants in the study have acquired the syntactic properties of the FCs under investigation, although they may have problems mapping them to the appropriate morphology all the time.⁶

3 Group results on the Truth Value Judgement Task

All three learner groups were roughly equally accurate on the fillers (see Figure 2), and there is no effect of proficiency level. Thus, one can be certain that the participants were paying attention and were capable of fulfilling the requirements of the test. All further differences are due to the groups' different knowledge of aspectual tense properties. The rest of the data were subjected to a repeated measures ANOVA, with group as between factor and condition (A, B, C), truth (T, F) and Aspect (simple, progressive) as within factors. Table 6 summarizes the results. The lack of significant effect for truth ($p = .1$) indicates that participants were not biased towards a True answer.

Figure 3 presents the mean accuracy (in percentage) on eventive sentences. In this condition, learners judged whether present simple or progressive sentences matched habitual or ongoing event stories. There were significant effects of story ($F(1, 134) = 9.41, p < .003$) and simple vs. progressive aspect ($F(1, 134) = 31.7, p < .0001$). However, there was no effect of group ($F(3, 134) = 2.47, p = .064$). *Post hoc* Tukey HSD comparisons between controls and the three learner groups were also not significant. In other words, even the low proficiency learners were as accurate as the native speakers in

⁶ All the statistical analyses (to be presented below) were repeated with the 11 learners who have some problems with the morphology removed from the Low Intermediate group. Although the accuracy means are slightly higher, the statistical effects remain unchanged.

recognizing the semantic effects of the simple present and progressive morphology. An unexpected finding here is the low accuracy (50%) of native speakers on the combination of a simultaneous story and simple present tense sentence. This goes against the predictions of the literature on English grammatical aspect, and is most probably an effect of the particular test. Recall that the English simple tense has another, restricted reading usually

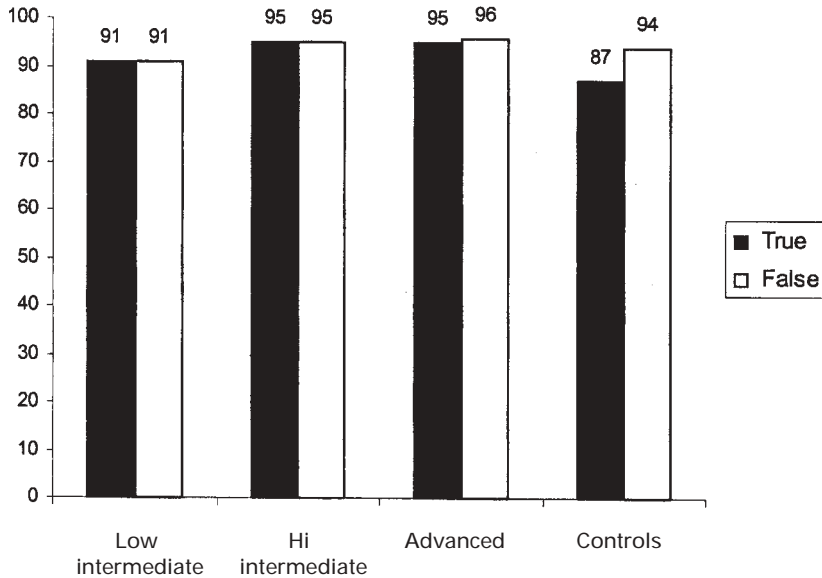


Figure 2 Mean accuracy on fillers (percentage)

Table 6 Statistics of difference in experimental conditions

Effects and interactions	<i>F</i>	<i>df</i>	<i>p</i>
Group	5.21	2, 134	.002*
Condition	4.16	2, 134	.017*
Truth	2.56	1, 134	.1
Aspect	58.46	1, 134	.0001*
Condition × Truth	16.46	2, 133	.0001*
Condition × Group	2.89	6, 268	.009*
Aspect × Group	2.02	3, 134	.12
Truth × Group	9.10	3, 134	.0001*
Condition × Aspect	17.24	2, 133	.0001*
Aspect × Truth	.0001	1, 134	.99
Cond × Asp × Truth × Group	2.94	6, 268	.009*

Note: *significant at the $p < .05$ level.

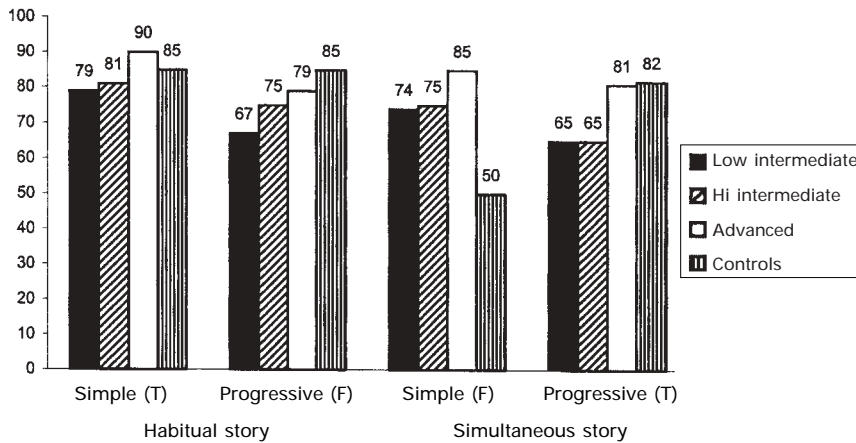


Figure 3 Mean accuracy on simple vs. progressive eventive sentences (percentage)

called 'reportive present' or 'commentator's present'. This reading can be found in stage directions, in radio and television sports commentaries, and the like, where an observer describes a sequence of events simultaneous with the speech time. The native speakers participating in this experiment are clearly accessing this restricted reading in half of their answers, because the context stories strongly resemble reportive discourse.⁷ Note also that none of the learner groups are aware of this reading.

Figure 4 presents the mean accuracy (in percentage) on stative sentences. In this condition, participants were judging whether sentences like *Mary is lazy* vs. *Mary is being lazy* map felicitously to habitual or simultaneous stories. There were significant effects of story ($F(1, 134) = 70.3, p < .0001$) and group ($F(3, 134) = 3.18, p = .0026$). However, *post hoc* Tukey HSD comparisons show that the group effect is only due to the significant contrast between the low intermediate and the advanced groups' accuracy. In other words, even if different among themselves, all learner groups are not less accurate than the natives. Furthermore, there was no effect of aspect ($F(1, 134) = 1.34, p = .25$), suggesting that learners are equally accurate in recognizing the meaning of simple and progressive morphology.

Figure 5 presents the mean accuracy on bare verbs versus *-ing* forms combined with incomplete or complete event context. The

⁷To the best of my knowledge, this meaning of the present simple tense is still awaiting its semantic and syntactic analysis.

most significant findings are reflected in the first and third groups of columns. Advanced learners are even more accurate than native speakers in their knowledge that an English bare verb denotes a complete event, and consequently is incompatible with an incomplete event story (see first group of columns). Even more importantly, all learner groups are quite accurate in attributing a complete interpretation to the bare verb, a property that cannot transfer from the L1, as example (10) indicates. Note also that both native speakers and advanced learners prefer to combine complete

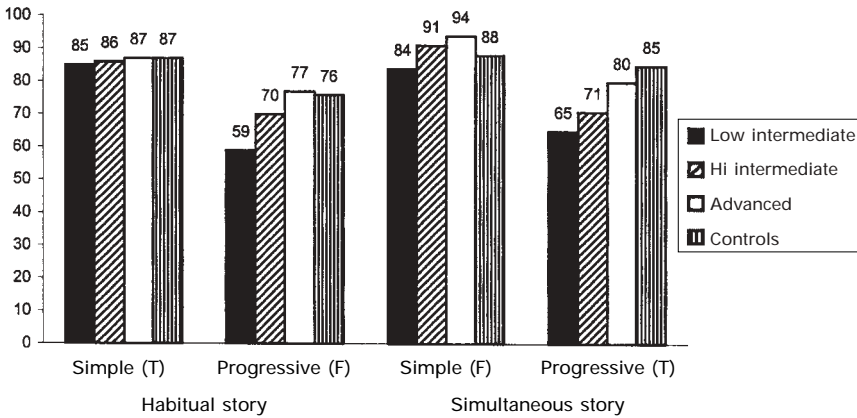


Figure 4 Mean accuracy on simple vs. progressive stative sentences (percentage)

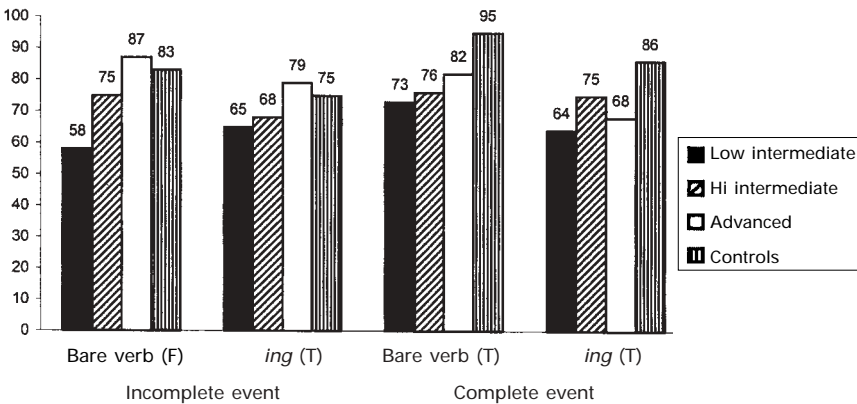


Figure 5 Mean accuracy on bare verbs vs. -ing form on perceptual reports (percentage)

event stories with a bare verb form, although the *-ing* form is not ungrammatical. In other words, both groups focus on completion in the context of a telic event. There was a significant effect of group ($F(3, 134) = 10.28, p < .0001$). This time, *post hoc* Tukey HSD comparisons indicated that the control group was significantly more accurate than all learner groups; in addition, the advanced group was also significantly different from the low intermediate group. However, no significant effects of complete vs. incomplete event story ($F(1, 134) = 1.39, p = .24$) and bare vs. progressive verbal form ($F(1, 134) = 0.79, p = .78$) were found, indicating that participants in each group were equally accurate with the two types of context and the two types of morphology.

4 Individual results on the Truth Value Judgement Task

Three out of four (75%) correct answers was used as the cutoff point for accepting that a participant is accurate on a certain construction. Tables 7 to 9 present individual accuracy on the three experimental conditions. Individual results roughly follow and confirm the group accuracy percentages.

Table 7 Number of individual participants who were accurate on simple vs. progressive eventive sentences in habitual (HAB) vs. simultaneous (SIM) context (percentages in brackets)

Group	Simple-HAB (T)	Progressive-HAB (F)	Simple-SIM (F)	Progressive-SIM (T)
Low ($n = 32$)	24 (75)	18 (56)	20 (63)	17 (53)
High ($n = 41$)	34 (83)	30 (73)	30 (73)	24 (59)
Advanced ($n = 39$)	36 (92)	27 (69)	33 (85)	30 (80)
Control ($n = 24$)	21 (88)	19 (79)	9 (37)	19 (79)

Table 8 Number of individual participants who were accurate on simple vs. progressive stative sentences in habitual (HAB) vs. simultaneous (SIM) context (percentages in brackets)

Group	Simple-HAB (T)	Progressive-HAB (F)	Simple-SIM (F)	Progressive-SIM (T)
Low ($n = 32$)	32 (100)	19 (59)	29 (90)	20 (63)
High ($n = 41$)	40 (98)	28 (68)	41 (100)	32 (78)
Advanced ($n = 39$)	37 (95)	31 (80)	39 (100)	34 (86)
Control ($n = 24$)	24 (100)	21 (87)	24 (100)	19 (79)

Table 9 Number of individual participants who were accurate on bare verb vs. *-ing* form in perceptual reports (percentages in brackets)

Group	Bare-ATEL (F)	<i>-ing</i> -ATEL (T)	Bare-TEL (T)	<i>-ing</i> -TEL (T)
Low (<i>n</i> = 32)	14 (44)	20 (62)	23 (72)	19 (60)
High (<i>n</i> = 41)	34 (83)	25 (61)	22 (53)	32 (78)
Advanced (<i>n</i> = 39)	36 (92)	32 (82)	31 (80)	25 (64)
Control (<i>n</i> = 24)	20 (80)	20 (80)	24 (100)	21 (84)

VI Discussion and conclusions

The basic issue addressed in this study is nonnative speakers' access to semantic features of FCs not available in their native language. Two sides of FC knowledge were tested: inflectional morphology and semantics. Results on the Elicited Production task show that all learners are aware of the functional morphology signalling simple and progressive aspect in English. More than 90% of all participants were target-like in their use of *-s*, *-ed* and *-ing* endings. The rest of the learners demonstrated some omissions of inflectional morphology, but no errors of commission. This is hardly surprising since tense-aspect inflectional morphology is the first grammatical feature learners of English in an institutional setting address from the start. Thus, we can safely assume that all participants in the experimental study had already engaged the functional category AspP in their interlanguage grammar. However, learning a language crucially involves mapping the semantic features of target FCs onto their grammatical (morphosyntactic) encoding. The question, then, is whether knowledge of inflectional morphology translates into knowledge of semantic properties.

Let us summarize the findings of the Truth Value Judgement Task and compare them to the predictions of the FFR and IFR positions in Section III above. I focus on the less proficient learners first. One thing to notice in Figures 3 to 5 is that these learners are quite accurate in mapping the present simple tense to habitual context (roughly around 80%), while they are slightly less accurate in recognizing the progressive form semantics (around 65%). This contrast may be due to the fact that the generic, or habitual, meaning, can be expressed by the present tense form in the L1, even though it has to be supported by adverbials and/or context. Thus, if beginning learners are directly mapping simple present tense forms in the L1 and the L2, then their semantic acquisition process will be facilitated by the fact that the habitual meaning is available in both cases. The progressive meaning, on the other hand, is associated with a different piece of morphology in the L2, making

the process of form–function mapping more problematic. On the crucial untaught property tested in condition C, the learners as a group are 58% accurate, which is better than chance ($p = .045$). More than half of individual learners (ranging from 53% to 100%; see Tables 8 and 9) have acquired successfully every aspect of the taught properties. Importantly, 44% to 72% of individuals were successful on the different mappings of the untaught property (Table 9).

Let us evaluate these findings in the light of the acquisition outcome predictions. The FFR position predicts that, among beginning learners, there will be some successful and some unsuccessful acquirers of both the taught and the untaught properties. The IFR makes a similar prediction with respect to the taught properties but differs in its prediction with respect to the untaught property. The present findings clearly come on the side of the FFR.

Next, let me turn to the advanced and high intermediate learners. These are quite accurate in their knowledge that, in the case of eventive predicates, progressive morphology encodes an ongoing event, and present simple morphology encodes a habitual event. In other words, they have acquired the correct English values of the [+gen] and [+progr] features. The contrast between eventive and stative verbs is also part of their interlanguage grammar. They are aware of the fact that the present simple tense in English can encode characteristic states. They are also highly accurate in their rejection of a simple present sentence and a temporary state combination (Figure 4), thereby demonstrating knowledge of the contrast between sentences like *She is lazy* vs. *She is being lazy*. In terms of features, they are aware of the fact that the feature [+gen] is inherent in states, and that the feature [+progr] therefore gives rise to a temporary state interpretation.

Crucially for teasing apart the predictions of the FFR and IFR positions, advanced and high intermediate learners perform accurately (75% and 87%, respectively) in rejecting bare verb and atelic story combinations, while recognizing the fact that English bare verbs denote closed events (Figure 5). In other words, they have learned that English eventive verbs are lexically marked with the feature [+perf]. Let me reiterate that this knowledge does not come from their native language, in which the equivalent of the infinitival form is open to both complete and incomplete interpretations; see example (10) above. More proficient learners also follow native speakers in their preference for combining bare verbs with telic stories, thus indicating that the endpoint of the event and not its progress is salient for them.

Clearly, the semantic properties of the functional category AspP (its feature values) have been acquired successfully by the more advanced Bulgarian learners of English. This finding argues against predictions of the IFR position, for example, the failed formal features hypothesis of Hawkins and Chan (1997), whereby the interlanguage grammar, after a critical period, is restricted only to formal features of FCs transferred from the L1. Furthermore, while the aspectual properties of present simple and progressive English verbs are explicitly taught in language classrooms, the semantic property of bare verbs encoding only closed events is not explicitly taught and is arguably very rare in the input to the learners. Thus, the present findings suggest that properties of FCs underrepresented in the input and not transferred from the native language are still accessible to L2 learners.

After establishing that it is possible to acquire semantic reflexes of FCs in the L2, let us now turn to the impact of the instruction variable. Extensive scrutiny of the instruction materials and discussions with the instructors ascertained that the present simple and progressive tense meanings are explicitly taught and drilled from the beginning of classroom instruction. On the other hand, the closed denotation of bare verb forms is not taught, and the Bulgarian teachers are not consciously aware of it. Is it the case that instruction is a significant variable, and learners were more accurate on the taught than on untaught properties?

The short answer is 'no'. Analysis of variance was performed on the data for each group, with condition as the sole factor. The low intermediate group performs equally accurately on all conditions ($F(2, 93) = 1.71, p = .185$), and so does the intermediate group ($F(2, 120) = 2.67, p = .07$). The advanced group shows a marginally significant difference for condition ($F(2, 114) = 3.11, p = .05$), but it is due to the only lower accuracy score (68%) on the *-ing* verb form combined with a telic story. As mentioned above, this combination is not ungrammatical, it is simply dispreferred. Whenever the story involves an event with a salient endpoint, it is possible to highlight the endpoint or the process leading to that endpoint. Advanced Bulgarian learners exhibit a preference for highlighting the endpoint. This preference of the advanced learners is shared by the controls, although less markedly so. In general, there seems to be no effect of instruction in Bulgarian learners' acquisition of the semantic properties of English present tenses. The theoretical implication of this finding is that all semantic effects of FCs appear to be engaged at the same time.

Even though the group results indicate that each proficiency level is equally accurate across conditions (with the notable exception

discussed above), there is a group effect in the data (Table 6). In other words, accuracy increases with higher proficiency. This is especially clear when we look at individual results in Tables 7 to 9, calculated with 75% accuracy as a cutoff point. For example, only 44% of low proficiency learners but 92% of advanced learners are accurate 3 out of 4 times in recognizing that bare verb forms do not match atelic situations (Table 9). Why is there development in the learners' accuracy if I have argued that all participants in this experiment have engaged the functional category AspP in their interlanguage grammars? Only about 10% of low proficiency learners make some errors with the present tense morphology. Does this mean that morphology is acquired before its semantic impact?

A possible explanation of this discrepancy is the context of acquisition. Several studies on the acquisition of tense/aspect morphology have indicated that, while instructed and uninstructed learners go through the same developmental stages, instructed learners outperform uninstructed learners with the use of morphology at later stages (Bardovi-Harlig, 1992; 1995). This is because tense/aspect morphology is a prominent topic in any instructional intervention, and classroom learners usually receive extensive instruction and intensive drilling of verbal endings. In her study on the development of tense/aspect morphology in English, Bardovi-Harlig (1992) finds that the development of form precedes appropriate use. Learners provide morphological markers, but sometimes in incorrect contexts. That is, fully grammatical forms emerge and are used by the learners before they carry target-like meaning. Montrul and Slabakova's (2002) findings are also along those lines. Therefore, it appears that, at least in this aspectual domain, acquisition and use of present simple and progressive morphology briefly precedes acquisition of the semantic properties associated with these aspectual tenses, at least with instructed learners.

One more unexpected finding remains to be addressed. When asked whether a simple present tense sentence (e.g., *He fixes his mother's car*) can be matched with an ongoing event story, 50% of native speaker answers were positive. As discussed above, native speakers are accessing here a particular discourse style, the *reportage* or football commentator's style. In this narrative style, events presented in the simple present tense are still interpreted as a sequence of closed complete events, but the choice of the present over the expected past simple tense renders the narrative more vivid (see illustration below). This narrative style appears frequently in contemporary literary work. The following excerpt is from Marc

Nesbitt's short story 'Gigantic' (published in *The New Yorker* on 9 July 2001, p. 76).

I *rake* dead bats from the hay floor of the bat cage and *throw* them in a black plastic bag. . . . I *pick up* a sign that says, 'Quiet! ___ sleeping!,' *slip* in the 'Bats' panel, and *place* it up front, where all the kids can see it. An hour till we open, I *go see* our one elephant, Clarice.

Note that all the events described by the italicized verbs still denote a sequence of closed events, and not ongoing, incomplete events. This usage of the present simple is a pragmatic convention of English, and its meaning is calculated at the semantics–discourse interface (for a discussion of aspectual coercion, see de Swart, 1998). This is one area in which the native speakers' and the learners' competence differ markedly. Thus, we find a clear contrast in the learners' access to semantic properties arguably within the UG hypothesis space, and to pragmatic conventions coercing aspectual meaning to achieve narrative effects.

This intriguing conjecture is also supported by parallel findings in the area of imperfect and preterite tenses in Spanish. In an experimental study of the aspectual knowledge of English native speakers learning Spanish, very advanced and even near-native L2 speakers of Spanish were found to have trouble with aspectual coercion. At the same time, these learners were indistinguishable from native speakers where grammatical aspectual competence was concerned (Slabakova and Montrul, 2002; Montrul and Slabakova, 2002). Unlike native speakers, the English-speaking learners did not judge achievement verbs in the imperfect tense to be quite felicitous when followed by a negating clause:

- 16) Los González vendían la casa pero nadie la compró
'The Gonzalez family was/were selling their house but no one bought it.'

The process of extending the period leading up to the change of state in achievement verbs is a matter of pragmatics. Aspectual coercion resolves the conflict between the verb interpretation and the tense meaning (de Swart, 1998). While English native speakers are perfectly capable of using this pragmatic mechanism in their native language as the translation of (16) shows, they do not readily transfer it to their L2, although Spanish uses a similar mechanism. The authors tentatively hypothesized that pragmatics may be outside of UG-regulated linguistic competence, and acquisition of pragmatic contrasts is not guided by the same principles that guide the acquisition of grammatical contrasts (for a similar proposal, see

Reuland, 2001: 474). Further research is needed to shed more light on this semantic competence–pragmatic competence contrast.

To conclude, in this experimental study I have sought to test the predictions of the FFR and the IFR positions with respect to the development of FCs in L2 English. I suggested that, in principle, successful acquisition of interpretable formal features can be used as an indication of presence of the relevant functional category. The experimental findings indicate that:

- 1) The formal features associated with the functional category AspP are acquirable and ‘unimpaired’ in L2 acquisition.
- 2) There is no effect of instruction in the acquisition of semantic properties.
- 3) Knowledge of morphology briefly precedes knowledge of semantics in this aspectual domain; and
- 4) Aspectual pragmatics may be outside of the UG-regulated hypothesis space, therefore presenting a challenge to learners.

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Appendix 1 Pictures shown to participants, from which they had to write short compositions

Describe Tony's Day-Off

Name:



Use the expressions: take a long bath, smoke a cigarette, read a book, drink red wine, use a pillow in the bathtub, brush his teeth, enjoy himself, put on his bathrobe, look at himself in the mirror, not think about work

Today is Tony's day off.

Describe Tony's Usual Day

Name:



Use the expressions: fry (the) potatoes, make (the) sandwiches, bake a cake, boil chicken, boil eggs, fry bacon, make bread, wash the salad, toast bread, cut the lettuce.

Every day

Appendix 2 Instructions and further examples of TVJT quadruples

In this test, you are going to read a number of stories. Below each story, there is a sentence. Please read each story carefully, and try to decide whether the sentence below adequately describes the story, or is appropriate as a continuation of the story. If the sentence is a true description of the situation in story, circle True. If the sentence is not a true description of the situation in the story, circle False. Here is an example:

Juliet wanted to speak to her friend Marty before going to bed. She called him, but he was not at home at the moment. She left a message on his answering machine.

Juliet talked to her friend Marty on the phone. True False

Juliet wanted to speak to her friend Marty before going to bed. She called him, but he was not at home at the moment. She left a message on his answering machine.

Juliet wanted to talk to her friend Marty on the phone. True False

Here are the test stories:

Condition A:

Tim is a student in the French Language School. He likes practicing his French as much as he can. His mother has bought him a subscription for a French newspaper.

Tim reads a French newspaper. True False

Tim is a student in the French Language School. He likes practicing his French as much as he can. His mother has bought him a subscription for a French newspaper.

Tim is reading a French newspaper. True False

Jenna woke up late this morning. Her neighbor, a Frenchman, had picked up her newspaper instead of his French one, and left for his office. But reading in French is not too difficult . . . Tonight she will be able to tell him about her adventure with the French newspaper.

Jenna reads a French newspaper. True False

Jenna woke up late this morning. Her neighbor, a Frenchman, had picked up her newspaper instead of his French one, and left for his office. But reading in French is not too difficult . . . Tonight she will be able to tell him about her adventure with the French newspaper.

Jenna is reading a French newspaper. True False

Condition B:

Cathie is the busiest person I have ever seen. She is usually exhausted in the evenings. But today her husband and kids have decided to give her a day off. The plan is for her to put up her feet and enjoy herself while they do everything for her.

Cathie is lazy. True False

Cathie is the busiest person I have ever seen. She is usually exhausted in the evenings. But today her husband and kids have decided to give her a day off. The plan is for her to put up her feet and enjoy herself while they do everything for her.

Cathie is being lazy. True False

I am not the world's fastest worker. My favorite occupation is lying on the grass, reading a nice book on a sunny afternoon. In fact, nothing makes me happier. Recently, however, I haven't had the opportunity to spend many afternoons enjoying myself this way. I have so much work waiting for me!

I am being lazy. True False

I am not the world's fastest worker. My favorite occupation is lying on the grass, reading a nice book on a sunny afternoon. In fact, nothing makes me happier. Recently, however, I haven't had the opportunity to spend many afternoons enjoying myself this way. I have so much work waiting for me!

I am lazy. True False

Condition C:

Matt had an enormous appetite. He was one of those people who could eat a whole cake at one sitting. But these days he is much more careful what he eats. For example, yesterday he bought a chocolate and vanilla ice cream cake, but ate only half of it after dinner. I know, because I was there with him.

I observed Matt eat a cake. True False

Matt had an enormous appetite. He was one of those people who could eat a whole cake at one sitting. But these days he is much more careful what he eats. For example, yesterday he bought a chocolate and vanilla ice cream cake, but ate only half of it after dinner. I know, because I was there with him.

I observed Matt eating a cake. True False

Alicia is a thin person, but she has an astounding capacity for eating big quantities of food. Once when I was at her house, she took a whole ice cream cake out of the freezer and ate it all. I almost got sick, just watching her.

I watched Alicia eat a cake. True False

Alicia is a thin person, but she has an astounding capacity for eating big quantities of food. Once when I was at her house, she took a whole ice cream cake out of the freezer and ate it all. I almost got sick, just watching her.

I watched Alicia eating a cake. True False