

The Semantic Effects of Verb Raising and Its Consequences in Second Language Grammars

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1. INTRODUCTION

This chapter considers whether highly proficient second language (L2) speakers of English can distinguish meaning contrasts associated with constructions with a raising *be* and constructions with a non-raising thematic verb, as illustrated in the difference between (1a) and (1b).

- (1) a. Kim is reading a novel (event-in-progress/existential interpretation)
b. Kim reads a novel every week (habitual/generic interpretation)

It will be assumed that such contrasts are the effect of the interaction between interpretable and uninterpretable syntactic features in the T-vP configuration (in ways to be made explicit in section 3). Hence, the question is whether highly proficient L2 speakers can represent these interactions successfully in their mental grammars. Results will be presented from a study comparing the ability of proficiency-matched native speakers of Chinese, Japanese, and thematic verb-raising languages (Arabic, French, German, and Spanish) to distinguish the interpretations in (1). It is argued that Chinese and Japanese lack the uninterpretable feature that is involved in the English interpretations, whereas verb-raising languages have it. The findings suggest that the presence or absence of this feature in the L1 has persistent effects on the development of an L2 grammar. In particular, uninterpretable features not activated during primary language acquisition may no longer be accessible when exposure to the L2 occurs beyond childhood (Tsimpli, 2003). Consequently, L2 speakers construct

grammars without benefit of these features, such that their grammars are persistently divergent from those of native speakers.

Previous L2 research into verb raising has tended to focus on its surface manifestations in L2 speaker production: positioning of verbs in relation to other sentence constituents, presence of tense and agreement morphophonology (Eubank, Bischof, Huffstutler, Leek & West, 1997; Eubank & Grace, 1998; White, 1990–1991; Yuan, 2001; Zobl & Licerias, 1994; among others). However, it has recently become clear that the L2 development of abstract syntactic representations may proceed independently of the development of their morphophonological exponents (Haznedar, 2001; Lardiere, 1998a, 1998b, 2000; Prévost & White, 2000). Surface manifestations in production may therefore be a poor reflection of whether L2 speakers have acquired the appropriate representations of interpretable/uninterpretable features. Awareness of the semantic consequences of the interaction of those features is potentially a much better reflection. (For recent developments in this direction see Gabriele, Martohardjono, & McClure, 2002; Montrul & Slabakova, 2002; Slabakova, 2003). The semantic effects of raised and non-raised verb constructions are the focus here.

Crucial to the account are the claims that (a) verb raising (more specifically v-to-T raising) is an operation of narrow syntax (i.e., the component of grammar that constructs semantically relevant syntactic expressions)—hence verb raising has semantic effects; and (b) that v-to-T raising is implemented through the Agree operation involving the interaction between interpretable and uninterpretable features. In recent work, Chomsky (2001) has argued against the traditional principles and parameters assumption that v-to-T raising is part of narrow syntax. He speculates that v-to-T may be a phonological phenomenon only, that is, relevant to the interface with the sensorimotor systems but not to systems of thought:

There are some reasons to suggest that a substantial core of head-raising processes, excluding incorporation in the sense of Baker (1988), may fall within the phonological component. One reason is the expectation of (near-)uniformity of the LF-interface ... The interpretive burden is reduced if, say, verbs are interpreted the same way whether they remain in situ or raise to T or C. (p. 30)

This follows from two principles: the first “[guides] the study of language” (Chomsky, 2001, p. 2), whereas the second is a kind of design principle of the language faculty itself (Chomsky 1998):

(2) *Uniformity*

In the absence of compelling evidence to the contrary, assume languages to be uniform, with variety restricted to easily detectable properties of utterances.

(3) *A design principle*

... operations can only apply if they have an effect on outcome. (p. 24)

The strongest reason for thinking that v-to-T raising is a phonological operation and not syntactic is if it only has an outcome at PF and not at LF:

Verbs are not interpreted differently in English vs Romance, or M[ainland]Sc[andinavian] vs Icelandic, or embedded vs root structures. More generally, semantic effects of head-raising in the core inflectional system are slight or non-existent, as contrasted with XP-movement, with effects that are substantial and systematic. (Chomsky, 2001, pp. 30–31).

Similar claims can be found in the work of Hornstein (1995) and Higginbotham (2002). However, a number of writers have subsequently provided several empirical arguments that v-to-T raising must be syntactic (see, e.g., Baker, 2002; Embick & Noyer, 2001; Lasnik, 1999: 104–115; Roberts (2005), chap. 5). That assumption is made here. At the same time, we would want to maintain the Minimalist insight embodied in the design principle (3) that operations in narrow syntax should have an effect on semantic interpretation, hence that v-to-T raising has a semantic effect. This issue is pursued in the next section.

2. v-TO-T RAISING HAS SEMANTIC EFFECTS

Déchaine and Manfredi (2000) argue that v-to-T raising has semantic effects. Their discussion of this issue is embedded within a broader cross-linguistic comparison of the interpretations of what they call null tense in four language types represented by English, Italian, and two languages of the Kwa (Niger-Congo) group: Fongbe and Igbo. Null tense is the simple present form of verbs in English and Italian, and bare verb forms in Fongbe and Igbo (i.e., those lacking overt inflectional morphology). The differences between the interpretations of null tense in these languages are illustrated in (4), using Déchaine and Manfredi's descriptive labels:

	<i>Syntactic expression</i>	<i>Interpretation</i>
(4) a.	Italian	Mangia il pane Eat-3sg the bread
		(i) She is eating the bread (imperfective) (ii) She eats the bread (habitual)
b.	English	She eat-s the bread 3sg eat-3sg the bread
		(i) --- (ii) She eats the bread (habitual)

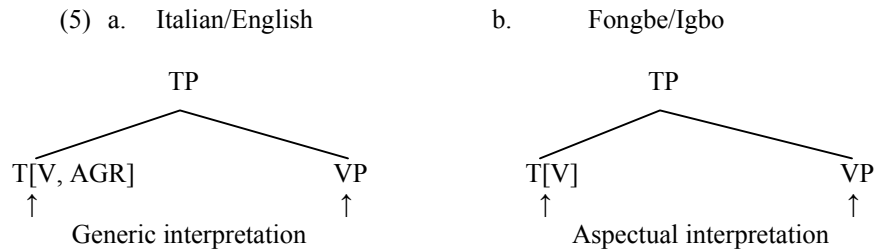
c. Fongbe	E du wO O 3sg eat bread the	(i) She ate the bread (past) (ii) She has eaten the bread (present perfect)
d. Igbo	O ri-ri akpu ahun 3sg eat bread the	(i) She ate the bread (past) (ii) ---

They argue that the differences in interpretation can be captured by two parameters of variation:

1. Whether T can be interpreted on the basis of the (lexical) aspectual properties of the VP complement, as in Fongbe/Igbo, or not as in Italian/English. The claim is that the eventive nature of *eat the bread* (an accomplishment in the terminology of Vendler, 1967) stands in for T in Fongbe/Igbo, giving the perfective interpretations of (4c-d). By contrast, in Italian/English, T has its own interpretation in these cases, independent of the aspect of the VP (see below for discussion).

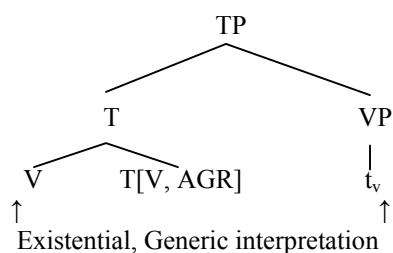
2. Whether there is thematic v-to-T raising, which is the case for Italian/Igbo but not for English/Fongbe. The presence of v-to-T raising yields an additional interpretation in Italian (by comparison with English) but reduces the number of interpretations from two to one in Igbo (by comparison with Fongbe).

Consider the consequences of these two parameters in more detail. First, Déchaine and Manfredi (2000) maintain that T has only an uninterpretable categorical feature [V] in Fongbe/Igbo, whereas in Italian/English, T has both an uninterpretable [V] and an uninterpretable [AGR] feature. The presence of [AGR] blocks the possibility of interpreting T on the basis of the aspectual properties of the VP and yields a generic/habitual interpretation:

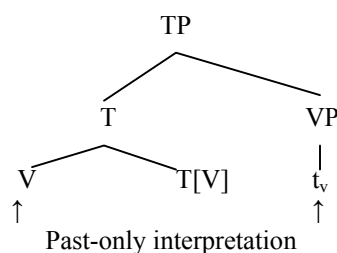


Second, the obligatory raising of v-to-T in Italian/Igbo, presumably driven by an additional strong feature of T, further affects the interpretive possibilities. In Italian it invokes an existential reading (the imperfective interpretation associated with (4a)), whereas in Igbo, it closes off one of the aspectual interpretations (the present perfect):

(6) a. Italian



b. Igbo



The logic of this approach is that uninterpretable features create structural configurations which are then automatically assigned particular interpretations by the semantic component. For example, in the case of Italian/English, the presence of uninterpretable [AGR] on T yields a generic interpretation of the T-vP configuration and blocks a temporal interpretation derived from the aspect of the verb; the feature that forces the v-to-T movement of thematic verbs in Italian yields an existential interpretation in addition to the generic interpretation. Because English does not have thematic v-to-T raising, clauses with finite thematic verbs can only be interpreted generically.

Recall that Chomsky (2001) observed that verbs are not interpreted differently whether they are in thematic verb-raising languages, like the Romance languages, or nonraising languages like English (pp. 30–31). The account proposed by Déchaine and Manfredi (2000) makes it clear that what is at stake here is not a change in the meaning of the verb as the result of v-to-T raising, but a change in the interpretation of the T-vP configuration. In fact, given the Minimalist assumptions made so far, if it is accepted that verb raising to T is an operation of narrow syntax, there must be a semantic effect on the interpretation of the T-vP configuration.

3. SEMANTIC CORRELATES OF RAISED AUXILIARY *BE* AND NONRAISED THEMATIC VERBS IN ENGLISH

The cases of interest in this article are illustrated by the italicized portions of (7):

- (7) a. Bob can't contact Julie at the moment. Apparently *she's running on the beach*/#Apparently *she runs on the beach*.
 b. To stay fit, *she runs 6 miles every week*/#*she is running 6 miles every week*.

The continuous form *be+V-ing* is incompatible with a habitual reading, and the simple form *V-s* is incompatible with an event-in-progress reading, as the symbol # (= inappropriate) indicates. The same constraints are operative when the clauses are past tense, suggesting the separability of tense from the aspectual habitual/event-in-progress readings:

- (8) a. Bob couldn't contact Julie at that time. Apparently *she was running on the beach*/#Apparently *she ran on the beach*.
 b. To stay fit, *she ran 6 miles every week*/#*she was running 6 miles every week*.

How do the ideas outlined by Déchaine and Manfredi (2000) apply to these cases? The syntactic representation of the simple present/past and progressive that will be assumed here is that proposed by Adger (2003). For Adger, the relationship between T and v in English is one of agreement, involving the interpretable features [present], [past], and [Prog(ressive)], and an uninterpretable feature [*uInfl*:] associated with v. The interpretable features value and delete the [*uInfl*:] feature of v as illustrated in (9):

- (9) a. T[past] ... v[*uInfl*:] → T[past] ... v[~~*uInfl*~~: past]
 b. [Prog] ... v[*uInfl*:] → [Prog] ... v[~~*uInfl*~~: Prog]

Verbal morphology is a PF reflex of the valuing operation, producing suppletive past tense forms like *went* and *bought* or regular past tense forms like *walked* and *shouted*, and verbs in the progressive suffixed by *-ing*: *going*, *walking*.

The operation that implements agreement is Agree, which Adger (2003, p. 68) defines as follows:

Agree

In a configuration

X[F: val] ... Y[*uF*:]

where ... represents c-command, then F checks and values *uF*, resulting in:

X[F: val] ... Y[~~*uF*~~: val]

In languages that require thematic verb raising, like French, this results from a [*uF*:] feature being strong, represented by an asterisk: [*uF*:*]. Strong features are no more than the requirement that valuing take place locally, where heads are in a sisterhood relation (Adger, 2003, p. 179). The effect of this requirement is to force v-to-T raising. Thus, v-to-T raising of thematic verbs does not occur in English because there is no requirement for the valuing of [*uInfl*:] to take place locally.

Adger treats Progressive as an independent aspectual head with the interpretable feature [Prog]. [Prog] values the [*uInfl*:] feature of v without the

requirement that *v* raise. However, the Progressive category itself has an uninterpretable [*uInfl*:] feature, which is valued by the interpretable [present] or [past] features of T. Unlike *v*, however, the [*uInfl*:] feature of Progressive is strong. The underlying sequence of heads with their features when Progressive is present is illustrated in (10):

(10) T[present] ... Progressive[*uInfl*:*], [Prog] ... *v*[*uInfl*:]

The strength of Progressive's [*uInfl*:*] feature requires local valuing by T and forces Progressive to raise to T.

Consider now how the syntactic properties of (9) and (10) link to semantic interpretation, given the proposals of Déchaine and Manfredi (2000). First, taking agreement between an interpretable and an uninterpretable feature in Adger's system as serving the function of Déchaine and Manfredi's [AGR] feature, the presence of agreement blocks the possibility of a tense interpretation based on the inherent aspectual properties of the verb. Tense interpretation is determined by T. Second, given that thematic *v* does not raise to T, simple present and simple past tenses only have a habitual/generic interpretation and not an additional event-in-progress/existential interpretation (unlike languages like French and Italian). Third, Progressive raising to T for the local valuing of its [*uInfl*:*] feature triggers an event-in-progress/existential interpretation. But unlike raised thematic verbs in French and Italian, Progressive does not have a habitual/generic interpretation. This is simply because interpretable [Prog] has valued the [*uInfl*:] feature of *v* as [*uInfl*: Prog], blocking a generic reading.¹

3.1. What Language Learners Have to Acquire

Given the analysis above, what syntactic properties do learners of English have to acquire to determine the appropriate interpretations of the simple present, past, and the progressive? First, they have to establish that *v* has an uninterpretable [*uInfl*:] feature that can be valued by interpretable features of c-commanding heads, such as T and progressive. If language learners have acquired this property, they should be able to recognize the habitual/generic interpretations of verbs in the simple present or past in English. Second, they have to establish that Progressive has a strong uninterpretable [*uInfl*:*] feature that forces raising of progressive to T. If language learners have acquired this property, they should recognize that verbs with a progressive form have an event-in-progress/existential interpretation. This last point is important. The habitual/generic interpretations determined by T-*v* agreement, and the event-in-

¹ We set aside discussion of the Celtic languages, which are ostensibly counterexamples to the whole framework assumed here. The Celtic languages raise thematic verbs to T; however, but the configurations created typically have habitual/generic interpretations but not event-in-progress (Rouveret, 1996). We thank Nigel Duffield for bringing this fact to our attention.

progress/existential interpretations determined by T-v agreement plus raising, occur freely with all types of Vendler predicate: activities, accomplishments, achievements, and statives.² This is expected on the assumption that semantic interpretation of the simple present/past and the Progressive is read off the T-vP configuration. However, there are languages where forms resembling the Progressive have interpretations that are not determined by the T-vP configuration. Rather, these forms function more like adverbs, modifying the subevent structure of the predicate. This appears to be the case in Chinese and Japanese, which are discussed in the next section.

4. DIFFERENCES BETWEEN RAISING/NONRAISING CONSTRUCTIONS IN ENGLISH, CHINESE, JAPANESE, AND THEMATIC VERB-RAISING LANGUAGES

4.1. Chinese

Chinese verbs have no overt tense or agreement morphology. Out of context, bare finite verbs can apparently refer to past, present, or future events (examples from Tsang, 2003):

- (11) Wo (jintian/zuotian/mingtian) qu tushuquan
 I (today/yesterday/tomorrow) go library
 ‘= I am going to the library (today)’
 ‘= I went to the library (yesterday)’
 ‘= I will go to the library (tomorrow)’

² Although Progressive can occur with all predicate types, as the following illustrate,

- i. Tom is running (activity)
- ii. Eric is baking a cake (accomplishment)
- iii. The train is arriving (achievement)
- iv. Tomoko is standing by the lake (stative)

there are some restrictions. It cannot normally co-occur with individual-level statives like *know*, *understand*, *believe* (in contrast to stage-level statives such as *stand*, *sit*, *stay*). It is also awkward with some, but not all, achievements: *?He was noticing a change in his friend's attitude*, *?She is finding her key*. These look like idiosyncratic co-occurrence restrictions based on semantic incompatibility. We make the assumption here that Progressive can occur with all predicate types, but some cases are infelicitous for semantic reasons.

Furthermore, thematic verbs do not raise to T in finite clauses (Yuan, 2001). This suggests that Chinese finite T lacks interpretable [present], [past] features and *v* lacks the [*u*Infl:] feature, both of which are present in English.³

Although Chinese appears to lack the syntactic features that would trigger habitual/generic and event-in-progress interpretations, it has a set of aspectual modifiers whose distribution is determined by the inherent aspectual properties of the modified predicate. The modifier closest in interpretation to *be* + -ing is *zai*, which adds an in progress interpretation to the predicate. However, *zai* is restricted to occurring with activities and accomplishments (examples from Clancy Clements, 2003):

- 12 a. Ta zai chang (activity)
 He/she in-progress sing
 ‘He/she is singing’
 b. Zhangsan zai xie yifeng xin (accomplishment)
 Zhangsan in-progress write one letter
 ‘Zhangsan is writing a letter’

Li and Shirai (2000, pp. 98–99) observe that *zai* is incompatible with achievements and statives:

- (13)a. *Zhangsan zai dao jia
 Zhangsan in-progress arrive home
 ‘Zhangsan is arriving home’
 b. *Zhangsan zhe-jī tian zai xin gui
 Zhangsan this-CL day in-progress believe ghost
 ‘Zhangsan is believing in ghosts these days’

This would follow if *zai* is not an exponent of the syntactic Progressive category but rather an adverbial restricted to modifying predicates with specific aspectual characteristics.

L1 speakers of Chinese learning English would therefore need to acquire the interpretable [present], [past] features of T, the [*u*Infl:] feature of *v*, and learn that *be* is an exponent of Prog which has a [*u*Infl:*] feature.

4.2. Japanese

Japanese finite verbs have overt tense morphology but no agreement morphology: *-(i)ta* indicates ‘past’ and *-(i)ru* ‘nonpast’:

³ It is not clear whether bare finite accomplishment predicates have unmarked past and present perfect readings, which Déchaine and Manfredi’s (2000) account of Fongbe would predict also applies to Chinese.

- (14)a. Taro-wa kinoo siken-o uke-ta
 Taro-top yesterday exam-Acc take-past
 ‘Taro took an exam yesterday’
- b. Taro-wa ima siken-o uke-te iru
 Taro-top now exam-Acc take-in-progress nonpast
 ‘Taro is taking an exam now’
- c. Taro-wa asita siken-o uke-ru
 Taro-top tomorrow exam take-nonpast
 ‘Taro will take an exam tomorrow’

Although sometimes cliticizing onto thematic verbs, *-(i)ta* and *-(i)ru* appear to be tense auxiliaries (Okuwaki, 2000) rather than exponents of agreement between T and v. This suggests that Japanese T has the interpretable features [present], [past] but that v does not have uninterpretable [*uInfl*:].

Like Chinese, Japanese has an aspectual modifier for highlighting an in progress interpretation: *-te*. This attaches to a thematic verb and is sensitive to the subevent structure of the predicate. Unlike Chinese, where *zai* is restricted to activities and accomplishments, *-te* can appear with all verb types, but there is a shift of interpretation with predicate type. Where the predicate involves a process (activity), *-te* gives rise to an in progress reading. When the predicate involves a state (achievement), *-te* gives rise to a perfective reading. Compare the following (examples from Hirakawa, 2001):

- (15)a. Gakusei-ga hasi-te i-ru
 Student-Nom run-ongoing nonpast
 ‘The student is running’
- b. Hikoki-ga kuka-ni tui-te i-ru
 Plane-Nom airport-at arrive-ongoing nonpast
 ‘The plane has arrived at the airport’

In (15a), *-te* modifies the process of the activity of running giving the event-in-progress reading; in (15b), *-te* modifies the state subevent of the achievement *arrive*, highlighting the state as ongoing. The behavior of *-te* in (15) is consistent with the claim that it lacks a [*uInfl*:] feature, unlike English *be*; *-te* is an aspectual modifier not grounded in tense, and *-(i)ta* and *-(i)ru* are pure temporal markers that do not enter an agreement relation with either v or with *-te*.

L1 speakers of Japanese acquiring English would therefore need to establish that English T has interpretable [present], [past], like Japanese; that v has a [*uInfl*:] feature; and that *be* has a [*uInfl*:*] feature.

4.3. Thematic Verb-Raising Languages

Space precludes discussion of each of the verb-raising languages represented in the empirical study reported in section 5 (Arabic, French, German, and Spanish). French is used for illustrative purposes. In the verb-raising languages in question, past and nonpast are distinguished, and verbs inflect for tense and agreement (hence *v* agrees with T):

- (16) a. Jean lit tous les soirs
 Jean read-nonpast all the evenings
 ‘Jean reads every evening’
 b. Jean lisait tous les soirs
 Jean read-past-imperf all the evenings
 ‘Jean (used to) read every evening’

This is consistent with T having interpretable [present], [past] features and *v* having an uninterpretable Infl feature, just like English. Unlike English, however, finite thematic verbs have both a habitual/generic and an event-in-progress reading:

- (17) a. Jean lit tous les soirs/Jean lit à présent
 ‘Jean reads every evening’/‘Jean is reading at the moment’
 b. Jean lisait tous les soirs /Jean lisait quand je suis arrivé
 ‘Jean (used to) read every evening’/ ‘Jean was reading when I arrived’

Assuming Adger’s (2003) account of raising as a requirement for the local valuing of an uninterpretable feature, *v* in the verb-raising languages has a strong [*uInfl*:*] feature. This requires thematic verbs to raise to T. Following Déchaine and Manfredi (2000), the requirement for syntactic agreement yields a habitual/generic interpretation, and local valuing yields the event-in-progress interpretation. L1 speakers of verb-raising languages, then, have the featural properties of T and *v* that English does, and additionally a property that English does not have: The [*uInfl*:*] feature of thematic *v* is strong. In the acquisition of English, speakers of these languages must learn that strong [*uInfl*:*] is a feature of Progressive *be*, but *v* has weak [*uInfl*:].

4.4. Implications for L2 Acquisition

Ostensibly, English provides positive evidence for the featural properties of its basic T-vP configurations: Bound inflectional morphemes *-s/-ed* on thematic verbs (as well as irregular past tense forms) signal that T distinguishes [present], [past] and that thematic verbs agree with T. The *be* + *-ing* construction appears with all predicate types (with some exceptions; see footnote 2), producing an

event-in-progress/existential interpretation. This suggests that Progressive is a syntactic category and not a predicate modifier. The distribution of finite *be* with negation and VP adverbs also provides positive evidence that *be* raises. If L2 speakers have access to the resources of Universal Grammar, the prediction is that proficient L2 speakers of English would establish the feature representations of the T-vP configuration and their interpretive consequences, whatever the first language they speak. Positive evidence should trigger the appropriate feature values in question.

5. AN EMPIRICAL STUDY

5.1. Test Instrument

To test proficient L2 speakers' awareness of the main contrasts between raised and nonraised verb constructions in English, an acceptability judgment task was designed. Items in this task consisted of an opening context, two potential continuations of the context, and a 5-point scale for rating the appropriateness of the continuation to the context. For example:

- (18) Whenever Mary and Alan meet ...
- | | |
|--|---------------|
| a. they talk about Linguistics until late | -2 -1 0 +1 +2 |
| b. they are talking about Linguistics until late | -2 -1 0 +1 +2 |

Each pair of continuation sentences always displayed a contrast between a finite thematic verb with a habitual/generic interpretation (continuation (a) in (18)) and *be* + *-ing* with an event-in-progress/existential interpretation (continuation (b) in (18)). The initial contexts varied, however, in whether they privileged a habitual/generic continuation or an event-in-progress/existential continuation. For example, in contrast to (18), there were test items like (19).

- (19) Bob can't contact Julie at the moment ...
- | | |
|---|---------------|
| a. Apparently she runs on the beach | -2 -1 0 +1 +2 |
| b. Apparently she is running on the beach | -2 -1 0 +1 +2 |

Whereas the context in (18) privileges a habitual/generic continuation, in (19) it privileges an event-in-progress/existential continuation. The assumption was that speakers' ability to identify appropriate continuations would provide evidence for how well they interpret the meaning contrast between nonraised finite thematic verbs and raised auxiliary *be* and, by implication, whether they have acquired the language-specific featural properties of T and v in English.

The test instrument involved 60 contexts with pairs of continuation sentences as in (18) and (19). In 40 cases, one continuation sentence contained a finite thematic verb and the other *be* + *-ing* (the remaining 20 items were distractors). Half of the 40 test items involved the present tense and half the past

tense. An additional variable distinguishing continuations was a contrast among predicate types: activities, achievements and statives. For example, there were contrasts between continuations involving activity predicates like (18) and achievement predicates like (20):

- (20) Because the ground is so soft ...
 a. the tent collapses every time we try to construct it -2 -1 0 +1 +2
 b. #the tent is collapsing every time we try to construct it -2 -1 0 +1 +2

The distribution of continuations by predicate type is illustrated in Table 1. The (individual level) statives used in the test (*own, know, mean, believe*) were infelicitous with *be + -ing*. Because the contrast between appropriate and inappropriate continuations in the test was based on comparing finite thematic continuations with *be + -ing* continuations, such contrasts could not be constructed with statives.

Table 1. Distribution of predicate types in the test items

Tense	Predicate type		
	Activity	Achievement	Stative
Present			
thematic verb	4	4	4
<i>be + -ing</i>	4	4	*4
#thematic verb	4	4	--
# <i>be + -ing</i>	4	4	--
Past			
thematic verb	4	4	4
<i>be + -ing</i>	4	4	*4
#thematic verb	4	4	--
# <i>be + -ing</i>	4	4	--

= inappropriate to the context; * = ungrammatical

An illustrative set of test items is given in the appendix of this chapter. The 60 items in the test were randomized. Informants were taken through worked examples in preparation for the test, and the use of the rating scale was explained as follows: "We would like you to make a judgement about the appropriateness of EACH sentence to the context by circling a number on the scale: +2 if you think it is fully appropriate, -2 if you think it is very odd; or any of -1, 0, and +1 if you find the sentence is more or less appropriate to the context." Three practice examples preceded the main test, which were not scored. All the test items were recorded by a native speaker onto tape, and informants both heard each context with its continuation and read the item in a booklet (bimodal presentation). The recording allowed the pace of the test to be controlled (it lasted for about 22 minutes).

5.2. Informants

Experimental informants were selected on the basis of high matched proficiency scores on the Oxford Placement Test (Allan, 1992). Only speakers who reached the minimum score for advanced proficient user on this test were included in the analysis. Informant details are given in Table 2.

Table 2. Informant details

L1 = n	OPT mean	OPT range	Age range	LOE range
NS = 10	--	--	28-52	--
Chinese = 8	178	170-184	21-31	11-25
Japanese = 10	176	172-187	21-40	11-28
Verb-raising ⁴ = 10	177	172-189	19-34	7-19

OPT = Oxford Placement Test (Allan, 1992)

170–190 = advanced proficient user to near-native expert user

LOE = length of exposure to English in years (classroom and immersion)

5.3 Results

Mean overall rating scores for appropriate and inappropriate continuations with finite thematic verbs (habitual/generic interpretation) in the present and past tense are given in Table 3. (Example of an appropriate continuation: *Whenever Mary and Alan meet ... they talk about Linguistics until late.* Example of an inappropriate continuation: *Bob can't contact Julie at the moment ... #Apparently, she runs on the beach.*)

Table 3. Mean ratings of appropriate and inappropriate continuations with finite thematic verbs in the present and past

	Present		Past	
	Appropriate	Inappropriate	Appropriate	Inappropriate
NS = 10	1.95	-1.12	1.99	-1.07
Chinese = 8	1.85	-0.60	1.71	0.08
Japanese = 10	1.92	-0.52	1.83	-0.42
Verb-raising = 10	1.94	-0.56	1.69	-0.49

+2 = fully appropriate; -2 = very odd

⁴ The verb-raising group consisted of the following L1 subgroups: two Arabic speakers, two French speakers, four German speakers, and two Spanish speakers. Given the prediction that high proficiency L2 speakers should establish targetlike representations of the English T-vP configuration (if the full resources of UG are available to them), the fact that different verb-raising L1s are involved should make no difference to the outcome.

Paired samples *t* tests confirmed that each group is distinguishing significantly ($p < .05$) between contexts where the simple present or past with thematic verbs is an appropriate continuation and contexts where it is not. The results show that all groups draw a broad distinction between appropriate and inappropriate uses of finite thematic verbs in the present and past. This suggests that they recognize the habitual/generic interpretation assigned to nonraised finite thematic verbs in English, disallowing event-in-progress/existential readings for such verbs.

Mean overall rating scores for appropriate and inappropriate continuations involving *be + -ing* (event-in-progress/existential interpretation) are given in Table 4. (Example of an appropriate continuation: *As a result of global warming ... many species of plant are disappearing*. Example of an inappropriate continuation: *Whenever Mary and Alan met ... #they were talking about Linguistics until late*.)

Table 4. Mean ratings of appropriateness of continuations involving *be + -ing* in the present and past

	<i>Be + -ing</i> present		<i>Be + -ing</i> past	
	Appropriate	Inappropriate	Appropriate	Inappropriate
NS = 10	1.98	-1.55	1.74	-1.15
Chinese = 8	1.22	-0.85	1.05	-0.61
Japanese = 10	1.23	-0.93	1.12	-0.78
Verb-raising = 10	1.63	-0.41	1.74	-0.28

+2 = fully appropriate; -2 = very odd

Here again paired samples *t* tests confirmed that each group is distinguishing between contexts where a *be + -ing* construction is appropriate and where it is not ($p < .05$). Notice, however, that the Chinese and Japanese groups' mean ratings of appropriate are less strong than those of either the native controls or the verb-raising group, and that the mean ratings of inappropriate by the verb-raising group are less strong than those of the native controls or the Chinese and Japanese groups. One-way ANOVAs showed a main effect for group for each of the conditions. In the appropriate conditions there was a significant difference between groups in the present ($F_{(3,34)} = 4.107$, $p = .02$) and in the past ($F_{(3,34)} = 5.833$, $p = .003$). Post hoc Scheffé tests indicated that the difference was between the native group and the Chinese and Japanese groups, but not between the natives and the verb-raising group. A striking contrast occurred in the inappropriate condition. Again there was a main effect for group in the present ($F_{(3,34)} = 5.364$, $p = .004$) and the past ($F_{(3,34)} = 2.991$, $p = .04$), but here Scheffé tests showed that the difference was between the native group and the verb-raising group, not between the native controls and the Chinese and Japanese groups.

There is a view in the L2 research literature that observed differences between nonnatives and natives in performance tasks are not relevant in testing whether L2 speakers have the full resources of the language faculty (UG)

available to them in constructing grammars for target languages. The crucial factor is whether an L2 grammar distinguishes UG-determined contrasts significantly. If it does, this is evidence that the grammar is UG constrained. Martohardjono (1998) expresses the rationale for this position as follows: “[In performance tasks,] we would expect various extragrammatical factors to intervene in this, as in any other type of task, with the result of depressing L2 learners’ accuracy rates vis-à-vis NS rates (p. 155).” (For similar discussion, see White, 2003, p. 26). If we follow this line of reasoning with respect to the results in Tables 3 and 4, the three L2 groups have established target English feature representations for T and v because they are distinguishing significantly between the appropriate and inappropriate interpretations of the simple present/past tense and the Progressive determined by those features. However, the fact that there are significant differences between the L2 groups is troubling. It is logically possible that L2 speakers are making a distinction between two properties for different reasons than natives. If divergence between native speakers and non-natives were just the effect of extragrammatical factors, all L2 speakers might be expected to be affected in the same way. It would be unexpected for advanced-proficiency-matched L2 speakers to perform differently depending on the L1 they speak. The differences between the L2 groups therefore merit closer scrutiny. Table 5 presents the mean rating scores of appropriate continuations involving *be + -ing* broken down by predicate type: Activities and achievements (statives are not included because they cannot co-occur felicitously with *be + -ing*; see table 6 for ratings of statives with *be + -ing*).

Table 5. Mean ratings of appropriate continuations involving *be + -ing* by predicate type

	Present		Past	
	Activity	Achievement	Activity	Achievement
NS = 10	2.00	1.95	1.95	1.53
Chinese = 8	1.81	0.63	1.88	0.22
Japanese = 10	1.70	0.75	1.90	0.33
Verb-raising = 10	1.85	1.40	2.00	1.43

+2 = fully appropriate; -2 = very odd

Paired samples *t* tests showed that all groups were significantly more likely to accept *be + -ing* as an appropriate continuation when the verb involved was an activity than when it was an achievement, with the exception of the native controls, who showed no significant difference in the present. However, one-way ANOVAs revealed important between-group differences. Where activities were concerned, there was no main effect for group; hence, all groups were responding in the same way to the appropriate use of *be + -ing* with activities. But in the case of achievements, both in the present and the past, there was a main effect for group. For the present condition, $F_{(3,34)}$ was 4.683, $p = .008$. A post hoc Scheffé test showed that the effect was between the native controls and the Chinese speakers ($p = .028$) and the Japanese speakers ($p = .037$), but not

between the natives and the verb-raising group. For the past condition there was also a main effect for group ($F_{(3,34)} = 4.883$, $p = .006$), and again, the difference was between the native controls and the Chinese and Japanese groups, although on a post hoc Scheffé test this did not reach significance (NS-Chinese $p = .061$; NS-Japanese $p = .07$).

It is clear from Table 5 that an important difference arises between the Chinese/Japanese speakers on the one hand and the speakers of verb-raising languages on the other with respect to the interpretation of *be + -ing* with achievement predicates. The Chinese/Japanese are considerably less likely than natives to accept appropriate event-in-progress/existential readings with achievements than with activities, although this is not true of speakers of verb-raising languages.

Table 6 breaks down the mean ratings of inappropriate continuations involving *be + -ing* by predicate type. Included here are the ratings of the statives; those selected for the test were always infelicitous with *be + -ing*.

Table 6. Mean ratings of inappropriate continuations involving *be + -ing* by predicate type

	Present		
	#Activity	#Achievement	#Stative
NS = 10	-1.15	-0.85	-1.75
Chinese = 8	-0.50	-0.66	-1.13
Japanese = 10	-0.78	-0.95	-1.05
Verb-raising = 10	-0.03	-0.80	-0.43
	Past		
	#Activity	#Achievement	#Stative
NS = 10	-0.85	-0.85	-1.75
Chinese = 8	-0.03	-0.66	-1.13
Japanese = 10	-0.35	-0.95	-1.05
Verb-raising = 10	-0.38	-0.80	-0.43

+2 = fully appropriate; -2 = very odd

One-way ANOVAs showed that there was a main effect for group on every condition except inappropriate continuations involving *be + -ing* in the past with achievements. On all the other conditions post hoc Scheffé tests indicated that there was a significant difference ($p < .05$) between the native control group and the verb-raising group, but not between the native controls and the Chinese and Japanese groups. Speakers of verb-raising languages were significantly less likely to reject a habitual/generic reading for *be + -ing* than the other groups, even when statives were involved.

Summarizing so far, the Chinese and Japanese groups are significantly less likely to accept *be + -ing* with an event-in-progress/existential reading with achievements than the native speaker or verb-raising groups. The verb-raising group is significantly less likely to reject a habitual/generic reading for *be + -ing* than the Chinese, Japanese, or native groups (with the exception of past tense

achievements). Given that the Chinese and Japanese groups appear to disfavor event-in-progress/existential readings for *be + -ing* with achievements, an interesting question is how they treat the inappropriate continuations involving simple present and past tense forms of thematic verbs in these contexts. Recall that each test item involved a context followed by two possible continuations. In the contexts where a *be + -ing* form was appropriate, the inappropriate continuation was a thematic verb in a present or past tense form (e.g., *As a result of global warming ... (a) many species of plant are disappearing (b) # many species of plant disappear*). The mean ratings of all four groups on these items are displayed in Table 7:

Table 7. Mean ratings of appropriate and inappropriate continuations with achievement predicates

	Present		Past	
	<i>be + -ing</i>	#thematic verb	<i>be + -ing</i>	#thematic verb
NS	1.95	-0.70	1.53	-0.80
Chinese	0.63	0.09	0.22	0.72
Japanese	0.75	-0.05	0.33	0.45
Verb-raising	1.40	-0.38	1.43	0.05

+2 = fully appropriate; -2 = very odd

Paired samples *t* tests showed that the responses of the native controls and the verb-raising group are significantly different in both the present and the past (native speakers: present $t = -14.17$, $p < .01$; past $t = -6.61$, $p < .01$ /verb-raising group: present $t = -6.23$, $p < .01$; past $t = -3.55$, $p < .01$). The responses of the Chinese and Japanese group, however, are not significantly different. And observe that in the past they are rating the inappropriate simple thematic verbs as more appropriate with an event-in-progress/existential interpretation than the *be + -ing* form. In other words, the Chinese and Japanese speakers do not know the interpretive difference between *be + -ing* and the simple forms of verbs when the predicates involved are achievements, whereas the speakers of verb-raising languages do.

6. DISCUSSION

The fact that all of the L2 groups distinguish appropriate from inappropriate uses of the simple present/past with thematic verbs, and appropriate from inappropriate uses of *be + -ing* in the acceptability judgment task suggests that their interlanguage grammars are representing a contrast between the habitual/generic interpretation and the event-in-progress/existential interpretation of finite verbs. However, the between-group differences in the type of responses suggest that the representational contrasts in question may not

be the same across the groups, nor the same as that of native speakers. Closer examination of the responses of the nonnative speakers revealed that there was a major difference in the way that the Chinese and Japanese speakers interpreted simple present/past and *be + -ing* with the achievement predicates and the way the native controls and speakers of verb-raising languages treated the same items (although there was no difference between the Chinese/Japanese speakers and the native controls where activity predicates were concerned). Table 7 suggests that Chinese and Japanese speakers cannot distinguish a contrast between the use of the Progressive and the use of the simple present/past tense when the predicate is an achievement and the intended interpretation is event-in-progress/existential. In fact, in the past they prefer simple thematic verbs over the use of *be + ing*. This is consistent with them having failed to establish the [*uInfl.**] feature on Progressive that forces the event-in-progress/existential interpretation for *be + -ing*, whatever the predicate. Instead, the Chinese and Japanese groups are treating *be + -ing* as if it were a predicate modifier restricted to occurring with activity predicates. This is reminiscent of the behavior of *zai* in Chinese and *-te* in Japanese, forms that behave like adverbial modifiers.

The performance of the Chinese/Japanese speakers displayed in Table 7, particularly on the past tense cases, also indicates that they are allowing thematic verbs to have event-in-progress/existential interpretations. This is consistent with them having failed to establish [*uInfl.*] on *v*. Recall that it is this feature, forcing agreement between T and *v*, that is claimed to trigger the habitual/generic interpretation. The absence of this feature would allow other possible interpretations. The findings are consistent, then, with the Chinese and Japanese speakers distinguishing the interpretation of *be + -ing* constructions and simple thematic verbs, but on the basis that *be + -ing* is a VP modifier that adds the interpretation in progress to the predicate, and simple thematic verb forms are used elsewhere. As a predicate modifier, rather than the exponent of the syntactic category Progressive, *be + -ing* is entirely compatible with activities, but when achievement predicates are involved, the Chinese/Japanese informants have difficulty determining whether *be + -ing* or simple verb forms should be used.

The speakers of verb-raising languages are indistinguishable from the native controls in determining when *be + -ing* is appropriate, and this is unaffected by predicate type, as Tables 5 and 7 show. This is consistent with speakers of verb-raising languages having established that Progressive has a [*uInfl.**] feature giving rise to an event-in-progress/existential reading. At the same time, the speakers of the verb-raising languages were significantly less likely than the other three groups to reject a habitual/generic interpretation for *be + -ing*. This is a somewhat surprising result. It is the pattern found with simple thematic verbs in the verb-raising languages, where, for example, *Jean lit* can be interpreted either as 'John reads' or 'John is reading'. It might suggest that *be + -ing* is not being treated as a morphological reflex of a syntactically independent

Progressive category, but as a light verb that has raised from the vP, with the same interpretive consequences as thematic verb raising. This is, of course, speculative and requires further investigation.

The L2 speakers involved in the study were all highly proficient in English, as measured by an independent test. English appears to provide positive evidence for the uninterpretable [*uInfl:*] feature of v and the [*uInfl:**] feature of Progressive through the morphological inflections *-s/-ed* (and irregular past tense forms), the nonraising of thematic verbs, and the raising of *be*. If the construction of an L2 grammar in later L2 acquisition benefits from the full availability of the resources of UG, it would be expected that speakers from any L1 background would successfully represent the uninterpretable features. L2 learners may not be as categorical in their responses in a performance task as natives, and this might be expected where extragrammatical factors are involved. What has been found, however, is that speakers of verb-raising languages do not differ from natives in judging the appropriateness of *be + -ing* with an event-in-progress/existential reading across predicate types, but Chinese and Japanese speakers do significantly. Furthermore, Chinese and Japanese speakers do not differ from natives in judging the inappropriateness of habitual/generic readings with *be + -ing*, but speakers of verb-raising languages do significantly.

Thus, although the L2 speakers in the present study are making the right distinctions with respect to the interpretations of simple finite tense forms and *be + -ing*, their grammatical representation of these distinctions is different from that of native speakers. It has been suggested that this is consistent with the Chinese and Japanese speakers having failed to establish uninterpretable [*uInfl:**] on Progressive and [*uInfl:*] on v, features that are not present in their L1s. If correct, this finding supports a claim about the nature of L2 acquisition in older learners that goes back to the work of Tsimpli and Roussou (1991) and Smith and Tsimpli (1995) and finds recent expression in Tsimpli (2003). The claim is that although interpretable syntactic features provided by UG are available for use in grammar construction throughout life, uninterpretable features that are not instantiated in primary language acquisition may be subject to a critical period. Where such features are not available, L2 learners use other UG-determined resources to model input. In the present case, the Chinese and Japanese speakers appear to treat *be + -ing* as an aspectual VP modifier rather than as a reflex of Progressive with a strong [*uInfl:**] feature. Because they have also failed to establish [*uInfl:*] on v, they cannot determine the interpretive contrast between simple tense forms and *be + -ing* when achievements are involved. The speakers of verb-raising languages do not have such problems because their L1s have an instantiated [*uInfl:*] feature. There appears to be a persistent L1 effect, however, in allowing *be + -ing* to have both an event-in-progress/existential interpretation and a habitual/generic interpretation. We speculated that this might be the result of a failure to identify *be + -ing* as the exponent of an independent Progressive category.

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APPENDIX: SAMPLE OF TEST ITEMS

Activity	<p>Present tense - habitual/generic continuation</p> <p>Twice every week, instead of taking his car ...</p> <p>(a) Bob walks from his house to the station</p> <p>(b) #Bob is walking from his house to the station</p>
Activity	<p>Past tense - event-in-progress/existential continuation</p> <p>When the phone rang ...</p> <p>(a) Barry was watching television</p> <p>(b) #Barry watched television</p>
Achievement	<p>Present tense - habitual/generic continuation</p> <p>Because the ground is so soft ...</p> <p>(a) the tent collapses every time we try to construct it</p> <p>(b) #the tent is collapsing every time we try to construct it</p>
Achievement	<p>Past tense - event-in-progress/existential continuation</p> <p>When the lifeboat arrived ...</p> <p>(a) waves were already crashing over the deck of the ship</p> <p>(b) #waves already crashed over the deck of the ship</p>
Stative	<p>Present tense - habitual/generic continuation</p> <p>Marion has no desire to have a big, powerful car.</p> <p>(a) She owns an old Morris Minor</p> <p>(b) *She is owning an old Morris Minor</p>