

# ARGUMENT STRUCTURE AND MULTICOMPETENCE\*

Patricia Balcom  
Université de Moncton

## ABSTRACT

Cook (1991, 1992) discussed the question of ultimate attainment in second language acquisition in terms of what he called 'multicompetence'. He proposed that the internalized L2 grammars of very advanced (native-like) learners are different from those of monolingual native speakers, although their performance is similar, since the L1 and L2 grammars may influence each other.

This article explores the acceptance and use of inappropriate passive morphology by very advanced francophone learners of English, comparing their linguistic performance (measured by a fill-in-the-blanks task) and linguistic intuitions (measured by a grammaticality judgement task) to those of native speakers of English with very little previous exposure to French.

The results supported Cook's multicompetence hypothesis. The very advanced learners had performance which was indistinguishable from that of native speakers on the controlled production task. However, there were significant differences between the two groups in their acceptance of inappropriate passive morphology on the grammaticality judgement task, particularly with verbs having a Theme in subject position and describing a state or change of state.

## 1. INTRODUCTION

Cook (1991, 1992) discussed the question of ultimate attainment in second language acquisition (SLA) under the rubric of what he called 'multicompetence', that is, 'the compound state of a mind with two grammars' (1991: 112). First, he proposed that the internalized L2 grammars of native-like learners are not the same as those of monolingual native

---

\* This research was supported by research grant #004109 from the Faculté des études supérieures et de la recherche, Université de Moncton, for which I am grateful. Earlier versions of this paper were presented at the conference «Les Acadiens et leur(s) langue(s)», Moncton N.B., August 1994; Second Language Research Forum '94, Montréal, Qué., October 1994; and the 18th Annual Meeting of the Atlantic Provinces Linguistic Association, St. John, N.B., October 1994. I would like to thank the audiences for their questions and comments, and an anonymous reviewer for thought-provoking comments. A paper in French describing this study will appear in *Les Actes du colloque «les Acadiens et leur(s) langue(s)»*.

speakers, although their performance is similar, since the L1 and L2 grammars may influence each other (1992: 62). Although few studies have been conducted with seemingly native-like learners, many of those which have been done (Birdsong 1992, Connors & Ouellette 1993, Coppieters 1987, Sorace 1993), confirmed Cook's proposal: although the subjects' linguistic performance was similar to that of native speakers, their intuitions of grammaticality differed.<sup>1</sup> However, in these studies there was no test of the subjects' performance on the particular linguistic phenomena examined in the grammaticality judgement task, but only a global measure of their native-like performance; the ability to speak fluently, a self-evaluation and/or an evaluation by the researcher. Thus it is possible that their performance also differed from that of native speakers, but that the particular items studied in the judgement task did not occur in their performance, either through avoidance or happenstance.<sup>2</sup>

Cook then raised a separate but related issue: whether multicompetent speakers have two separate internalized grammars, or one integrated grammar for both languages. Since the multicompetence hypothesis is based on the principles and parameters framework (Chomsky 1981, 1992), Cook was able to modularize the question of the final state in SLA. He proposed that the linguistic competence of multicompetent learners be examined in the various components of the grammar in order to determine in which modules the grammars merge and where they separate. Based on previous research, Cook concluded that the lexicon is integrated for the two languages. However, he noted that previous studies had examined only word lists (spelling and cognates for example), and that there was a lack of studies dealing with complete lexical entries 'with [their] syntactic and semantic subcategorization' (1992: 569), that is, their argument structure.

This paper will explore the acceptance and use of inappropriate passive morphology (*be* and the past participle, henceforth *be + en*) by very advanced Acadian learners of English as a Second Language (ESL) based on two tasks incorporating verbs from the same classes: 1) a fill-in-the-blanks passage, a controlled measure of performance; and 2) a grammaticality judgement, an (indirect) measure of linguistic competence. The decision to

---

<sup>1</sup> Some of Birdsong's non-native subjects did perform within the same range as native speakers on some tasks. In White & Genesee's (1996) study, there were no significant differences between near-native and native speakers on a grammaticality judgement and a question-formation task.

<sup>2</sup> Birdsong (1992) and White & Genesee (1996) made a similar point.

study inappropriate *be + en* was made because several studies (Balcom 1993, Hirakawa 1994 and Zobl 1989) found that learners from various linguistic backgrounds used and/or judged inappropriate *be + en* to be grammatical, particularly with unaccusatives.<sup>3, 4</sup> The acceptance and use of passive morphology may therefore give insights into the representation of argument structure in interlanguage grammar.

## 2. ARGUMENT STRUCTURE

There are various theories of argument structure (Pinker 1989, Rappaport & Levin 1988, Zubizarreta 1987 for example) but this study is based on Grimshaw (1990). Argument structure is 'a lexical representation of grammatical information about a predicate' (Grimshaw 1990: 1), and is a level of representation which maps lexical conceptual/semantic structure onto D-structure. Under Grimshaw's theory, argument structure represents prominence relations among arguments, and prominence is determined by both thematic and aspectual properties of the predicate. With regard to thematic prominence, Grimshaw (p. 8) assumed the thematic hierarchy shown in (1) below, which determines which argument will be the external argument, and thus the grammatical subject:

### (1) THEMATIC HIERARCHY

(Agent (Experiencer (Goal/Source/Location (Theme))))

<sup>3</sup> An anonymous reviewer questioned my classification of the fill-in-the-blanks task as a test of production. It differs from a judgement task in that subjects are required to produce a form in a concrete situation rather than evaluate a sentence presented by the researcher. A similar task, the C-test, in which the latter half of every second word is deleted and subjects complete the word, is viewed as a lexical task which is 'contextualized in real language use' (Singleton & Little 1991: 66). Chapelle (1994) concluded that learners' output with content words on a C-test requires productive ability as well as knowledge of formal properties of words and word-formation processes. I would like to thank Margaret Des Brisay, Makiko Hirakawa and Alan Juffs for helping me to clarify this point. The classification and interpretation remain mine alone.

<sup>4</sup> Originally, an additional reason for studying inappropriate *be + en* was that many verbs with no external argument take the auxiliary *être* in compound tenses in French (Grimshaw 1990), providing a possible situation for transfer from the L1 by francophone subjects. However, both Jory (1987) and Péronnet (1991) indicated that all verbs, with the exception of passive constructions, occur with the auxiliary *avoir* in compound tenses in Acadian French, the variety spoken by the subjects in this study, so the hypothesis was abandoned.

However, she showed that this hierarchy alone will not account for differences between *frighten* and *fear* verbs, and proposed an aspectual dimension of prominence as well, where activities are more prominent than states or changes of state, and where causes are always maximally prominent:

(2) (Cause(other(...)))

According to this two-dimensional approach to linking, the external argument (and hence the grammatical subject) is the one which is maximally prominent both thematically and aspectually.

Grimshaw's theory of argument structure was chosen because at the time it was innovative in its conception of argument structure as consisting of two dimensions, a thematic and an aspectual/causal tier. The fact that the interaction of the thematic and aspectual hierarchies determines mapping to D-structure positions provided a framework with several variables which might influence subjects' acceptance or use of inappropriate *be + en*, for example Theme versus cause. Moreover, her account of passivization, which suppresses the external argument regardless of its thematic role, offered a potential representation of argument structure for verbs with which learners use or accept inappropriate *be + en*.

### 3. THE STUDY

The verbs in this study belong to classes of verbs with different argument structures, both with and without external arguments and with different aspectual properties.<sup>5</sup>

EXPERIENTIAL VERBS (Radford 1988) *occur, happen, take place, arise* and transitive verbs with a similar meaning: *experience, undergo, meet with*. The former have a Theme in subject position (3), while the latter have an Experiencer (4).<sup>6</sup>

<sup>5</sup> Although some of these verbs are considered sub-classes of unaccusatives, I have kept them separate for the purposes of this study.

<sup>6</sup> The thematic roles in parentheses represent the thematic tier, with double parentheses representing an internal argument. Numbers represent relative prominence on the aspectual tier, where 1 represents the first sub-activity in an accomplishment and is thus more prominent than the second sub-event, which represents a state or change of state. Causes are always maximally prominent aspectually.

- (3) 'The accident happened.'  
*happen*  
 ((Theme))  
 2
- (4) 'Mary experienced this.'  
*experience*  
 (Experiencer (Theme))<sup>7</sup>  
 1 2

PSYCH-VERBS *scare* and *please* v. *fear* and *like*. The first class can have a Theme in subject position which causes the psychological state of the Experiencer (5), while the second has an Experiencer in subject position which experiences the psychological state (6).

- (5) 'This scares Mary.'  
*scare*  
 ((Experiencer (Theme)))<sup>8</sup>  
 2 1
- (6) 'Mary fears this.'  
*fear*  
 (Experiencer (Theme))  
 1 2

UNACCUSATIVE VERBS with a transitive counterpart, using the verbs *close*, *sink*, *stick* and *break*. Although the Theme is not prominent either thematically or aspectually, it is promoted to subject position in the unaccusative alternation since there is only one argument.

- (7) 'The door opened.'  
*open (unaccusative)*  
 ((Theme))  
 2

<sup>7</sup> Grimshaw does not discuss this verb class, but it patterns with the *fear* class in having a syntactic passive, indicating that the Experiencer is an external argument with these verbs. Grimshaw noted (p. 26) that at this point her theory can only stipulate that *fear* type verbs pattern in the same way as those with agentive subjects because of their similar syntactic behaviour.

<sup>8</sup> The Experiencer is more prominent on the thematic tier, while the Theme, which causes the psychological state of the Experiencer, is more prominent on the aspectual tier. Since no argument is maximally prominent on both tiers, there is no external argument. Causes are always linked to the subject position.

MIDDLE CONSTRUCTIONS, like unaccusatives, have a transitive counterpart and a Theme in subject position, as in (8), but differ in that there is an obligatory adverbial in middle constructions, and they describe a state rather than a change of state (Fagan 1988, Hale & Keyser 1987, Keyser & Roeper 1984, Massam 1992, Stroik 1992, 1995 for example).<sup>9</sup> The verbs *set up* and *cut* were used in this study.

- (8) 'This bread cuts easily.'  
*cut* (*middle*)  
 ((Theme))  
 2

INSTRUMENTAL: Sentences with instrumental subjects, with the verbs *cut* and *open*. Grimshaw did not include this thematic role in her hierarchy, but it is generally accepted that the Instrument is promoted to subject position if there is no Agent, Source or Goal (Fillmore 1968). Because the Instrument is a cause<sup>10</sup> it is maximally prominent on the aspectual tier.

- (9) 'The key opened the door.'  
*open*  
 (Instrument (Theme))  
 1                      2

VERBS OF MEASURE (*weigh* and *cost*) and PERCEPTION VERBS (*taste* and *smell*) have a Theme promoted to subject position and a complement which attributes a property to the Theme. For the purposes of this discussion, their argument structure would be like (3), (7) and (8).<sup>11</sup>

In summary, verbs with different argument structures were utilized in this study: verbs with a Theme in subject position describing a state or a change of state, as in (3), (7), (8) and verbs of measure and perception; verbs with an Experiencer which is an external argument in subject position, as in (4) and (6); and verbs with subjects which are not prominent

<sup>9</sup> Under Grimshaw's analysis middle constructions do not have an implicit Agent (p. 136), *contra* Ackema & Schoorlemmer (1994), Fagan (1988), Hale and Keyser (1987), Keyser & Roeper (1984), Massam (1992), Roberts (1987), Stroik (1992, 1995) among others. If there is an implicit agent in middle constructions, their argument structure would be like that of passive constructions, as in (14) below, rather than (8).

<sup>10</sup> Jackendoff views Instrumental subjects as 'inanimate Instigators' (1990: 295, fn 8).

<sup>11</sup> In addition they have a small clause complement predicated of the Theme: [ \_\_\_ [taste] [soup [good]]].

thematically but are causes, and therefore maximally prominent aspectually, as in (5) and (9).

### 3.1 Experimental tasks

#### 3.1.1 Grammaticality judgement

The grammaticality judgement comprised 35 sentences containing the verbs described above. Twenty sentences were grammatical and fifteen ungrammatical, with inappropriate *be + en*. All sentences were from 9-13 words in length, consisting of a main clause and a subordinate adverbial clause. The adverbial clause was used first to provide a context for the main clause, and in cases where a passive reading would be possible, an agent was included in the adverbial clause to discourage a passive reading, for example:

*\*The door was closed smoothly because Mary had remembered to oil the hinges*

Subjects were asked to mark sentences as grammatical, ungrammatical or 'not sure', and to correct those they considered ungrammatical. An example of each class is shown in (10):

#### (10) VERB CLASSES

Experiential with a Theme in subject position:

*The riot occurred after the police officers had been acquitted.*

Experiential with an Experiencer in subject position:

*Many professors experience feelings of anticipation before they meet their students.*

Psych-verbs with a Theme in subject position:

*The results pleased the students, although the professor was unhappy.*

Psych-verbs with an Experiencer in subject position:

*Many people like their coffee before they get out of bed.*

Unaccusatives with a transitive counterpart:

*\*The door was closed smoothly because Mary had remembered to oil the hinges.*

Middle Constructions:

*This bread cuts easily when it isn't frozen solid.*

Sentences with an Instrumental subject:

*The key will open the door if you insert it properly.*

Verbs of measure:

*\*This dress was only cost \$40, because Janet bought it on sale.*

b. Correction      Mary's gum stuck to the wall.

In these instances, the subjects marked the stimulus as being ungrammatical and provided what they considered a corrected response. Other corrections included making changes to tense or aspect, substituting one preposition, conjunction or determiner for another and changing gerunds for infinitives. In all cases, grammatical sentences were marked as being ungrammatical, and the types of changes listed above were made to render the sentences grammatical in the opinion of the subjects. For this reason, responses were examined for the presence or absence of *be + en* rather than only for whether the subjects judged sentences as grammatical or ungrammatical.<sup>14</sup>

#### 4.2 Controlled production task

There was also a great deal of variability in responses to the fill-in-the-blanks passage with regards to tense, aspect, use of modals and past participial forms. Therefore, responses were again analyzed for the presence or absence of *be + en*, and for their appropriateness in context.

#### 4.3 Experimental groups

As mentioned above, there were two experimental groups; one in which the majority (75%) were in first year and another in which almost 90% were in their third or subsequent year. The responses of the two groups were compared on both tasks. Since there were no significant differences between the two groups, their responses were combined to facilitate analysis.

### 5. RESULTS

#### 5.1 Controlled production task

It is clear from Table 1 below that the learners and native speakers were quite similar in their use of *be + en* in the fill-in-the-blanks passage. Due to

---

<sup>14</sup> According to Hedgcock (1993), factors other than implicit knowledge which may influence learners' judgements of grammaticality include explicit instruction and negative evidence (correction), as well as 'parsability' and 'euphony' (Hedgcock 1993: 13, citing Birdsong 1989b.) Birdsong (1992) found that the native speakers of French in his study accepted or rejected sentences based on 'stylistics and comprehensibility' (p. 72). Having subjects correct sentences they consider ungrammatical is one way of enabling the researcher to get beyond such factors.

the low frequencies of *be + en* it was not possible to perform the  $\chi^2$  test, so group means were also calculated. Responses were considered to be correct if they did not include inappropriate *be + en* and if they were appropriate in context, although they might be otherwise incorrect (i.e., 'dropped' for 'dropped'; 'sweaped' for 'swept'; a simple past form where the perfect or progressive would be preferable). The learners' group mean was 99.68 and the standard deviation 0.87, while the native speakers' mean was 99.25 and the standard deviation 1.19. A T-test shows that the differences were not significant ( $t = 0.59$ , 58 df).

**Table 1**  
Frequency of *be + en* in the Controlled Production Task

		Without <i>be + en</i>		With <i>be + en</i>	
		N	(%)	N	(%)
Native speakers	(N = 28)	1025 <sup>15</sup>	(99.0)	10	(1.0)
Learners	(N = 32)	1180	(99.7)	4	(0.3)

## 5.2 Grammaticality judgement

On the other hand, the results presented in Table 2 show that there *are* differences between the native speakers and the very advanced learners in their acceptance of *be + en* in the grammaticality judgement. Learners accepted inappropriate *be + en* 12% of the time (182/1470 responses), while native speakers did so only 7% of the time (135/1960 responses). These differences are significant ( $\chi^2 = 36.02$ , 2 df,  $p < 0.001$ ).

Given that the grammaticality of the stimulus may have an effect on response patterns, the two groups' responses to grammatical stimuli only and to ungrammatical stimuli only were also compared, and differences at the same level of significance observed ( $\chi^2 = 19.09$ , 2 df and  $\chi^2 = 21.54$ , 2 df respectively). A comparison factoring out 'not sure' responses was also made, and the results were still significant. Using the Yates correction factor for a two-way  $2 \times 2$  table,  $\chi^2 = 27.33$ ,  $p < 0.001$ .

<sup>15</sup> There was one case of no response.

**Table 2**  
**Frequency of *be + en* in the Judgement Task—all classes of verbs**

Class of verb	Native speakers (N = 56)						Learners (N = 42)					
	Without <i>be + en</i>		With <i>be + en</i>		Not sure		Without <i>be + en</i>		With <i>be + en</i>		Not sure	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
Exp. [E]	160	(95)	2	(1)	6	(4)	116	(92)	3	(2.5)	7	(5.5)
Exp. [T]	423	(94)	5	(1)	20	(4)	295	(88)	19	(6)	22	(7)
Unacc. [T]	463	(83)	54	(10)	43	(8)	340	(81)	61	(14)	19	(6)
Instru. [I]	104	(93)	4	(3.5)	4	(3.5)	83	(99)	0	(0)	1	(1)
Percep. [T]	111	(99)	0	(0)	1	(1)	84	(100)	0	(0)	0	(0)
Measure [T]	105	(93)	2	(2)	5	(5)	77	(92)	6	(7)	1	(1)
Middle [T]	123	(55)	67	(30)	34	(15)	72	(43)	91	(54)	5	(3)
Psych. [E]	106	(95)	0	(0)	6	(5)	80	(95)	0	(0)	4	(5)
Psych. [T]	104	(93)	1	(1)	7	(6)	79	(94)	2	(2)	3	(4)
TOTAL	1699	(87)	135	(7)	126	(6)	1226	(83)	182	(12)	62	(4)

## Key:

Exp. = experiential verb  
 Unacc. = unaccusative with transitive counterpart  
 Instru. = verb with an Instrumental subject  
 Percep. = perception verb  
 Psych. = Psych-verb

[T] = Theme in subject position  
 [E] = Experiencer in subject position  
 [I] = Instrument in subject position

To clarify the differences between the two groups and to try to understand the reasons for their divergence, the verbs were separated into those where the grammatical subject was a Theme, and those where the subject had another thematic role (either Experiencer or Instrument). Table 3 shows the responses to sentences where there is a Theme in the subject position.

**Table 3**  
**Frequency of *be + en* in the Judgement Task—Theme in subject position**

	Without <i>be + en</i>		With <i>be + en</i>		Not sure		TOTAL	
	N	(%)	N	(%)	N	(%)	N	(%)
Native speakers	1329	(85)	129	(8)	110	(7)	1568	(100)
Learners	947	(81)	179	(15)	50	(4)	1176	(100)

The differences between the experimental group and control group in the frequency of their responses with *be + en* are highly significant ( $\chi^2 = 39.52$ , 2 df,  $p < 0.001$ ). If 'not sure' responses are excluded, the differences

remain significant. Using the Yates correction factor for a two-way  $2 \times 2$  table,  $\chi^2 = 29.40$ ,  $p < 0.001$ . However, as can be seen in Table 4, the differences between the two groups in the frequency of their responses with *be + en* in sentences where the subject has another thematic role (Experiencer or Instrument) are not significant ( $\chi^2 = 0.323$ , 2 df,  $p < 0.9$ ).

**Table 4**  
**Frequency of *be + en* in the Judgement Task**  
**Other thematic roles in subject position**

	Without <i>be + en</i>		With <i>be + en</i>		Not sure		TOTAL	
	N	(%)	N	(%)	N	(%)	N	(%)
<b>Native speakers</b>	370	(94)	6	(2)	16	(4)	392	(100)
<b>Learners</b>	279	(95)	3	(1)	12	(4)	294	(100)

Examining each verb class and taking the grammaticality of the stimulus into consideration, there are significant differences between the learners and native speakers in judgements of *be + en* with all verb classes where the grammatical subject is a Theme, and where the verb describes a state or change of state, basically the class of unaccusatives (Grimshaw 1990).

## 6. DISCUSSION

This study consisted of a controlled production task and a grammaticality judgement task incorporating verbs from the same classes. The results demonstrated that the experimental subjects, very advanced learners of ESL, did not have the same intuitions of grammaticality as the anglophone subjects, although their performance was similar. This research thus confirms Cook's first proposal, as well as the studies by Connors & Ouellette (1993), Coppieters (1987) and Sorace (1993), but with one difference. As mentioned above, in the studies cited there was no comparison of subjects' performance and judgements with the same linguistic phenomena. In this study, subjects were chosen based on similar criteria to those used in previous research, but their performance on the particular verb classes studied in the grammaticality judgement was also tested. Moreover, previous studies explored a variety of morphosyntactic and syntactic phenomena. This study confirms those findings, but in another component of the grammar—the lexicon.

Cook's second question—whether the mental lexicon of multicompetent learners is integrated or separate for the two languages—cannot be con-



## REFERENCES

- ACKEMA, P. & SCHOORLEMMER, M. 1994. The middle construction and the syntax-semantics interface. *Lingua* 93: 59-90.
- BALCOM, P. 1993. This structure is occurred in students' writing: licensing non-agentive subjects. Paper presented at the Second Language Research Forum, Pittsburgh, PA, March.
- BIRDSONG, D. 1992. Ultimate attainment in second language acquisition. *Language* 68: 706-55.
- CHAPELLE, C.A. 1994. Are C-tests a valid measure for L2 vocabulary research? *Second Language Research* 10: 157-187.
- COOK, V. 1991. The poverty of the stimulus argument and multicompetence. *Second Language Research* 7: 103-117.
1992. Evidence for multicompetence. *Language Learning* 42: 557-591.
- CHOMSKY, N. 1981. *Lectures on Government and Binding*. Dordrecht: Foris.
1992. A minimalist program for linguistic theory. *MIT Occasional Papers in Linguistics* 1.
- CONNORS, K. & OUELLETTE, B. 1993. Meaning and grammaticality in the awareness of native speakers and advanced learners. Paper presented at the 10th AILA World Congress, August, Amsterdam.
- COPPIETERS, R. 1987. Competence differences between native and non-native speakers. *Language* 63: 544-73.
- FAGAN, S. 1988. The English middle. *Linguistic Inquiry* 19: 181-203.
- FILLMORE, C.J. 1968. The case for Case. In E. Bach & R.T. Harms (eds.), *Universals in Linguistic Theory*. New York: Holt, Rinehart and Winston, 1-88.
- GRIMSHAW, J. 1990. *Argument Structure*. Cambridge, MA: MIT Press.
- HALE, K. & KEYSER, S.J. 1987. A view from the middle. *Lexicon Project Working Papers 10*, Center for Cognitive Science, MIT.
- HEDGCOCK, J. 1993. Well-formed vs. ill-formed strings in L2 metalingual tasks: specifying features of grammaticality judgements. *Second Language Research* 9: 1-21.

- HIRAKAWA, M. 1994. Why do L2 learners passivize unaccusatives? Paper presented at Second Language Research Forum '94, October, Montréal.
- JACKENDOFF, R. 1990. *Semantic Structures*. Cambridge, MA: MIT Press.
- JORY, D. 1987. *Écoutons parler les Acadiens*. Point-de-L'Église N.-É.: Les presses universitaires de l'Université Sainte-Anne.
- KEYSER, S.J. & ROEPER, T. 1984. On the middle and unergative constructions in English. *Linguistic Inquiry* 15: 381-416.
- MASSAM, D. 1992. Null objects and non-thematic subjects. *Journal of Linguistics* 28: 115-137.
- PÉRONNET, L. 1991. Système des modalités verbales dans le parler acadien du sud-est du Nouveau-Brunswick. *Revue de l'Association de linguistique des provinces atlantiques* 13: 85-99.
- PINKER, S. 1989. *Learnability and Cognition: The Acquisition of Argument Structure*. Cambridge, MA: MIT Press.
- RADFORD, A. 1988. *Transformational Grammar: A First Course*. Cambridge: Cambridge University Press.
- RAPPAPORT, M. & LEVIN, B. 1988. What to do with  $\theta$ -roles. In W. Wilkins (ed.), *Thematic Relations. (Syntax and Semantics 21)*. San Diego: Academic Press, 7-36.
- ROBERTS, I.G. 1987. *The Representation of Implicit and Dethematized Subjects*. Foris: Dordrecht.
- ROEPER, T. 1987. Implicit arguments and the head-complement relation. *Linguistic Inquiry* 18: 267-310.
- SINGLETON, D. & LITTLE, D. 1991. The second language lexicon: some evidence from university-level learners of French and German. *Second Language Research* 7: 61-81.
- SORACE, A. 1993. Incomplete vs. divergent representations of unaccusativity in non-native grammars of Italian. *Second Language Research* 9: 22-47.
- STROIK, T. 1992. Middles and movement. *Linguistic Inquiry* 23: 127-137.
1995. On middle formation: A reply to Zribi-Hertz. *Linguistic Inquiry* 26: 165-171.

- WHITE, L. & GENESEE, F. 1996. How native is near-native? The issue of ultimate attainment in adult second language acquisition. To appear in *Second Language Research*.
- ZOBL, H. 1989. Canonical typological structures and ergativity in English L2 acquisition. In S. Gass & J. Schachter (eds.), *Linguistic Perspectives on Second Language Acquisition*. Cambridge: Cambridge University Press, 203-221.
- ZUBIZARRETA, M.L. 1987. *Levels of Representation in the Lexicon and in the Syntax*. Foris: Dordrecht.