

# *Ne ... que* in English–French Acquisition: Lexical Storage or Syntactic Calculations?

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## 1. Introduction

Second language (L2) research in the generative paradigm argues that L2 grammars develop within the strictures of the language faculty as the product of a reflex to analyze target language input (Schwartz, 1986, 1987, 1998, 1999), although the exact ingredients of this reflex in L2 acquisition are much debated. Some have assumed that the native (L1) grammar constitutes the initial state of L2 acquisition (Schwartz & Sprouse, 1994, 1996; Schwartz, 1998; and many supporters), while others believe that certain features not instantiated in the L1 grammar are not available for L2 analyses (Hawkins & Chan, 1997; Hawkins & Hattori, 2006; Tsimpli & Roussou, 1991; Tsimpli & Dimitrakopoulou, 2007), or that functional categories cannot initially be deployed in L2 grammar construction (Vainikka & Young-Scholten, 1996a, b). Others have highlighted the role of computational issues arising in the spelling out of features (Prévost & White, 2000; Lardiere, 1998) and the role of a phonological filter on production (Goad, White & Steele, 2003). The claim that L2 grammars are UG-constrained is supported by a body of research on the poverty of the stimulus in SLA which examines the development of L2 knowledge that is not the object of instruction, is not directly instantiated in the input and does not appear to follow from general strategies or general principles of inference applied to the grammatical domain (Dekydtspotter, Anderson, & Sprouse, 2007; Slabakova, 2006a, b; Schwartz & Sprouse, 2000). This research repudiates the notion that L2 development results from general cognitive ersatz strategies supplementing L1-based knowledge (cf. Bley-Vroman, 1990; Clahsen & Muysken, 1986, 1989; Meisel, 1997).

Bley-Vroman (2007) points out that the language faculty must also include a set of grammatical ‘kludges and patches’ that supplements and interacts with the generative system (Emonds, 1986; Lasnik & Sobin, 2000; McCawley, 1988; Morgan, 1972; Sobin, 1997). He proposes that L2 acquisition is not characterized by the same compositional reflex, perhaps because L2 parsing is shallower (Clahsen & Felser, 2006a, b). Under these conditions, the kludge and patch system fills the gap. The question of the respective roles of two types of representations is not new in SLA. Much of the discussion has arisen in the context of the formula-to-rule acquisition scenario in which learners are said to gain a foothold into new structures by extracting strings from the input as lexically stored chunks. Decomposition and compositional treatment follow (Hakuta, 1974; Myles, Mitchell, & Hooper, 1999; Towell, 1987; Towell & Hawkins, 1994; Schmidt, 1983; Weinert, 1995; Wong-Fillmore, 1976; cf. Raupach (1984) for chunks as a production strategy). Such chunks may provide internal input for rule-based behavior. Myles (2004) argues that the presence of both mechanisms in early stages of acquisition is most compatible with the progressive development of functional categories argued by Vainikka and Young-Scholten (1996a, b) and Hawkins (2001).

Thus, the language faculty seems to include structures resulting from processes applying to basic expressions under the mediation of principles of grammar, as well as constructions that are lexically

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stored as whole units. The semantic interpretation of derived structures follows, as de Swart (1998: 39) explains, from the “Principle of Compositionality of Meaning: The meaning of the whole is a function of the meaning of its parts and the way they are put together.” However, interpretation also includes meaning postulates which inherently specify the meaning of constructions. A well-known example of an English construction with an inherently specified meaning is the *Let Alone* construction as in “John can’t float, let alone swim!” which is not derived from the meanings of *let* and of *alone* (Fillmore, Kay, & O’Connor, 1988). In this case, the meaning of the whole is lexically stipulated independently of the meaning of the parts. We refer to such representations as holistic. The Principle of Compositionality of Meaning is a useful heuristic, but it seems to have limits. In fact, a body of research on construction grammar inspired by Fillmore (1976) explores such holistic constructions as the central building blocks of grammar (Culicover & Jackendoff, 2005; Fillmore, 1988; Goldberg, 1995; Tomasello, 2003; and many others). In SLA, Ellis (2002) reinterprets the formula-to-rule acquisition scenario in purely holistic fashion: Initial chunks first acquire slots and then develop into a system of constructions. In antithesis to the Principle of Compositionality of Meaning, Ellis (2002) follows Sinclair’s (1991: 110) Principle of Idiom, according to which “a language user has available to him or her a large number of semi-preconstructed phrases that constitute single choices, even though they might appear to be analyzable into segments.”

Hence, for any given structure, there are two potential approaches to its acquisition: lexical storage of the whole or derivation from parts. Given the existence of two mechanisms, we must address how the learning mechanism ‘decides on’ the type of analysis that a particular string in the input should receive. This is especially the case for expressions whose composition is opaque, because treatment by learners might *a priori* go both ways depending on a range of factors. Various means of selection are possible. Our working hypothesis is that learners are driven to seek a syntax-semantics composition even for opaque structures, and that lexical meaning postulates are appealed to when the meaning of the whole violates the Compositionality Principle. This seems largely compatible with the spirit of Bley-Vroman’s proposal, who notes that processing breakdown (inability to assign a full-fledged structure) may trigger massive storage of shallow representations. We could summarize this view under the motto: Holism as a last resort strategy. Other possibilities are naturally possible such as simultaneous considerations of the data by both mechanisms and selection by goodness of fit to the exposure set or/and by considerations of computational and representational efficiency. Here, we present a compositionality test. Indeed, the two representations will interact in different ways with other aspects of meaning. Hence, for specific constructions of the target language input that are not licensed by the L1 grammar, interpretation can identify the type of mechanism that was recruited.

## 2. The expressing *only* XP with *ne...que* XP in French

### 2.1. Holism versus compositionality

In order to test for the reach of such a compositional mechanism in L2 acquisition, we look for evidence that compositional mechanisms must be involved in the acquisition of constructions where holism would be expected and would have different consequences. In French, the meaning of *only* can be expressed via an adverb *seulement* ‘only’ as in (1) or alternatively via a bi-partite construction involving the particles *ne* (often found in negation but sometimes pleonastic) and *que* (generally a clausal subordinator) as in (2). In oral speech, the particle *ne* is generally dropped.

- (1) Marie a pris l’avion seulement lundi matin.  
Marie has taken the plane only Monday morning  
‘Marie took the plane only Monday morning.’
- (2) Marie n’ a pris l’avion que lundi matin.  
Marie NE has taken the plane QUE Monday morning  
‘Marie took the plane only Monday morning.’

The *ne...que* XP construction is quirky: It is not immediately evident what parts of speech are involved or how these constituents fit together. The fact that *ne...que* expresses the meaning of *only* does not

neatly follow from the knowledge that particle *ne* is associated with negation and that the particle *que* XP is generally a marker of subordination. How this form comes to have this particular meaning is puzzling. The meaning of the whole may be contextually recognizable or available via a paraphrase or translation, but this meaning of *ne...que* XP is not readily identifiable from the form *ne...que* XP, if learners are not driven by compositional mechanisms that require them to analyze this opaque structure in predetermined ways. Under these conditions, a holistic representation *prima facie* seems to be the easiest solution.

In a holistic treatment, the (*ne*)...*que* XP construction is stored as a discontinuous string, together with the postulate that it expresses *only/seulement* XP. Postulates of various types may be added in the course of acquisition. In a compositional treatment, the expression *que* XP is treated as an exceptive phrase (akin to “someone other than XP”) syntactically and semantically dependent on the negative head *ne*, following arguments by von Stechow & Iatridou (2005). The interpretation of *ne...que* XP as *only* XP is calculated. These analyses make different predictions in certain contexts. We focus here on the interaction of *ne...que* with temporal modifiers as in (3).

- (3) a. Les filles n’ont décidé de prendre l’avion que lundi matin.  
 the girls NE have decided to take the plane QUE Monday morning
- b. Les filles ont décidé de ne prendre l’avion que lundi matin.  
 the girls have decided to NE take the plane QUE Monday morning  
 ‘The girls decided to take the plane only Monday morning.’

The sentences in (3a, b) have distinct ranges of interpretation: (3a) is ambiguous between a construal where the flight departure is only Monday morning and a construal where the decision was made only Monday morning. (3b) is not ambiguous in this way. It requires that the departure be only Monday morning. The interpretation where the decision was made Monday morning is not licit.

In the compositional analysis, the placement of *ne* inherently limits the range of licit interpretations, because the *que* phrase is syntactically and semantically dependent on *ne* (Dekydtspotter, 1993). Thus, when *ne* is in the matrix clause, the *que*-marked adverb can modify either verb and still be in the scope of negation. However, when *ne* is in the embedded clause, the dependency of *que* on *ne* requires the embedded-clause attachment of the adverb. C-command relations determine the range of possible interpretations. In a holistic analysis treating *ne...que* as a discontinuous chunk with a meaning postulate, such asymmetries are unexpected. Interpretive effects such as these, therefore, require additional stipulations: resulting from observation or from general cognitive principles.

In the context of classroom learning, it is important to note that intermediate learners’ exposure to *ne...que* is severely limited: The structure is not targeted in instruction. It might be present in authentic texts brought into the classroom or uttered by the instructor. If the input is oral, it is likely that the *ne* will have been deleted. Thus, exposure to the structure is casual and not sustained. Not all intermediate learners might have been exposed to the structure. Intermediate learners have little experience with *ne...que*, let alone the full paradigm in (3) with the range of categories and non-local placement. If *ne...que* is encountered, the instructor might indicate that it is equivalent to *seulement* ‘only’ when learners enquire about its meaning. Also, in any structure that learners might encounter *ne* and *que*, it is most likely that they will be clause mates. Thus, the input that our intermediate-level students have received on the *ne...que* structure (if they have received any at all) is only of the most casual kind. There is no drilling of structure, no information about distribution, let alone information about its semantic composition.

Learners faced with two possibilities for the placement of *ne* on a task might assume that this choice signals interpretative differences, under a general principle of meaning differentiation. If the hypothesis space is reduced to two modification possibilities and two *ne* placement possibilities, there are four interactions possible, so that in a typical sample no specific patterns should arise. Although chunks are generally assumed to be unanalyzed and so not to encode constituency relations, a general strategy might, nevertheless, lead learners to construe the adverb with the verb to which *ne* is concatenated. When *ne* is concatenated to *prendre l’avion* ‘take the plane’, learners would correctly eliminate the possibility where *que lundi matin* ‘QUE Monday morning’ characterizes the decision

time. However, the hypothesis that learners construed the adverb with the verb to which *ne* is attached would not allow for the ambiguity when *ne* is attached to *ont décidé* ‘decided’. A compositional analysis of the *ne...que* structure leaves specific fingerprints in interpretation.

## 2.2. Previous results suggestive of compositionality

We summarize here findings of an experiment (Dekydtspotter & Petrush, 2006) which examined asymmetries arising in the context of intensional verbs as in (4). In (4a) the *que*-marked object NP *un acteur* ‘an actor’ can be construed as denoting a specific actor in the world whom Aurélie dreams of marrying to the exception of everyone else (specific construal) or interpreted in such a way that the interpretation of *un acteur* is strictly dependent on the situations imagined in the dream (non-specific construal). In (4b) *un acteur* is interpreted in the scope of *rêve*, so that the semantic value of *un acteur* is dependent on the situations imagined. This is because the negative head *ne* is in the scope of the intensional verb *rêve* and the interpretation of the object marked by *que* is dependent on *ne*. The preferred mode of expression for the propositions expressed by (4a) would be with a clause-mate *ne...que* relation as in (5) in association with focus.

- (4) a. Aurélie ne rêve d’épouser qu’un acteur.  
Aurélie NE dreams to marry QUE an actor.  
b. Aurélie rêve de n’épouser qu’un acteur.  
Aurélie dreams to NE marry QUE an actor.  
‘Aurélie dreams of marrying only an actor.’
- (5) Aurélie ne rêve que d’épouser un acteur.  
Aurélie NE dreams QUE to marry an actor.  
‘Aurélie dreams of marrying only an actor.’

The contrasts in (4) follow from the fact that *que* XP is an exceptive phrase dependent on negation, akin to ‘not...someone other than XP’. They do not, however, follow from a stipulation that *ne...que* XP means *only* XP. Further stipulations on the meaning postulate are possible, however. Such stipulations could either be derived from the input (but not realistic, given what we know about the input) or from a general principle of meaning differentiation. Even if learners were somehow led to assume that this difference is expressed along the specific/non-specific dimension, and if *ne* indicated a hierarchically constrained preferred scope, the precise range of patterns above would not arise. The statement: ‘Assign scope where *ne* is placed’ would not match the patterns where *ne* placed in the matrix clause allows either a specific or non-specific construal, but *ne* placed in the embedded infinitival clause inhibits the specific construal.

Dekydtspotter and Petrush (2006) tested knowledge of this asymmetry with a task including seven quadruples crossing non-specific and specific scenarios with statements containing *ne...que* as well as 12 fillers appearing in three random orders. In the non-specific scenario for (4), Aurélie fancies herself as an actor’s wife, which may vary with every copy of *Us Weekly*. Both (4a, b) are possible descriptions of this situation. In the specific scenario for (4), Aurélie imagines her life as the next wife of a specific actor, Brad Pitt, a real-life individual that is not dependent on whoever is on the cover of *Us Weekly*: (4b) is less felicitous, because it does not suggest that there is such an individual. Respondents read the contexts, evaluated how well the sentences (presented both aurally and in writing) described the situations on a Likert scale from -2 (very badly) to +2 (very well). 0 values ‘can’t tell’ were excluded from the analysis. Respondents were third and fifth semester learners as well as a group of advanced learners and NSs. Third semester learners’ exposure is highly controlled, whereas fifth semester learners receive more natural input derived from various media sources with greater likelihood of encountering *ne...que*. Intermediate learners were also divided into two groups depending on whether they reported being aware that the proposition expressed by *Marie saw only Jean*, could be also expressed as *Marie n’a vu que Jean*. Learners who were not aware of the expression presumably received only the most casual exposure to *ne...que* and might feasibly not have encountered the structure before.

Results are presented in Table 1. For third semester learners, scores were significantly higher for specific rather than non-specific interpretations with *ne* in the matrix clause,  $p = .022$ , but not with *ne* in the embedded clause,  $p = .825$ . In fifth semester learners, specific interpretations received lower scores than non-specific interpretations across the board: *ne* in matrix clause,  $p = .002$  and *ne* in embedded clause,  $p = .0005$ . The degree to which learners accepted the non-local placement of *ne* and *que* probably introduced a large degree of variability. To address this problem, those learners who assigned positive scores to *ne* in the matrix clause in specific contexts at rates above 50%, Group A ( $n = 36$ ) were examined. The hypothesis predicts that *ne* placed in the embedded-clause should inhibit this tendency. In specific contexts, there was a strong effect of *ne* in matrix versus embedded clauses,  $p = .0005$ . In non-specific contexts, there was none,  $p = .551$ . The rest of intermediate learners (Group B) showed an effect of *ne* placement in specific contexts in the opposite direction,  $p = .001$ , but not in non-specific contexts,  $p = .234$ . Learners who were not aware that *only* XP can be expressed with *ne...que* XP also exhibited relevant trends in their scoring of form-meaning pairs: Specific interpretations were sensitive to *ne* placement,  $p = .020$ . Non-specific interpretations were not,  $p = .342$ . Experts (advanced learners and NSs) showed differences between *ne* placed in matrix vs. embedded clauses in specific contexts,  $p = .025$  but no significant differences in non-specific contexts,  $p = .429$  in pooled results.

**Table 1:** Mean scores across groups per condition

Group	<i>n</i>	<i>Ne</i> in matrix clause		<i>Ne</i> in embedded clause	
		<i>Non-specific</i>	<i>Specific</i>	<i>Non-specific</i>	<i>Specific</i>
3 <sup>rd</sup> semester	24	.29 (.79)	.64 (.83)	.46 (.88)	.48 (.77)
5 <sup>th</sup> semester	32	.78 (.89)	.29 (.88)	.91 (.59)	.37 (.46)
Interm. Group A	36	.79 (.71)	.97 (.42)	.86 (.59)	.62 (.53)
Interm. Group B	20	.17 (1.0)	-.53 (.61)	.44 (.95)	.07 (.59)
Unaware	17	.77 (.80)	.87 (.52)	.61 (.66)	.57 (.55)
Advanced	11	.93 (.47)	.72 (.66)	.74 (.84)	.40 (.89)
Ntv. Fr.	22	.82 (.48)	.95 (.45)	.80 (.59)	.74 (.47)

Note: Standard deviations appear in parentheses.

Once the variability due to the locality of *ne* and *que* was taken into account *post hoc*, intermediate learners' patterns exhibited suggestive signs of a compositional treatment. If learners are driven to select a compositional treatment of *ne...que*, we expect to find evidence of the dependence of the *que* phrase on *ne* as a general property, as well as a similar distribution across groups, perhaps even in learners who report not being aware that the meaning of *only* can be expressed with *ne...que* prior to the task.

### 3. The study

If learners obey a specific compositional reflex in which the meaning of *ne...que* XP as *only* XP is derived from its component parts rather than directly stipulated of the whole, with the results of producing precise interactions, the analysis of *ne...que* XP should also interact with other scope-taking expressions, such as modifiers which may allow either matrix-clause or embedded-clause interpretations. Thus, on the compositionality assumption, the syntax of *ne...que* XP should impose restrictions on the range of licit interpretations: *ne* placed in the matrix clause will allow both embedded and matrix-clause interpretations. However, the matrix-clause interpretation should be

illicit, when the *ne* clitic is associated with the embedded verb. The central empirical question of this paper is therefore the degree to which *ne* placement affects the availability of matrix-clause versus embedded-clause interpretations of adverbials in English-French interlanguage.

We recruited learners in the third and fifth semester of French as well as native speakers. We administered a background questionnaire and excluded any respondent who had knowledge of another language with a similar bi-partite construction such as Japanese, Romanian or Spanish. We examined 28 learners in the third semester, 13 learners in the fifth semester and 11 native speakers. We know that *ne...que* is not part of the curriculum of intermediate learners that we are sampling and that no effort is made to expose students to it, so that exposure to *ne...que* is slim. A background questionnaire established that the learners' input is restricted to the classroom. The raw frequency of the *ne...que* in the input of such learners is, however, unknown at this time. It could be that exposure to *ne...que* at a relatively low frequency could have triggered acquisition in some learners, whereas the same tokens could have been ignored by other learners. The crucial aspect of the learning problem based on opacity is not affected by the number of tokens that the typical third semester and fifth semester learners may have heard. Prior to the task, the questionnaire asked learners whether they were aware that *Marie saw only Jean* could be expressed as *Marie n'a vu que Jean* in French. It seems likely that individuals who do not know that *ne...que* XP can express *only* XP in French presumably have had only the most casual exposure to the construction (if they have encountered it before). We are interested in the possibility that such learners, nevertheless, know the interpretation of the *ne...que* structure by virtue of constraints on learning. This, of course, is an empirical question.

The task was administered in a language lab. Respondents sat at a computer monitor. They had a test booklet containing forty test items consisting of contexts followed by statements instantiating the paradigm in (3). In order to control for prosody (which is a factor even in silent reading), learners accessed 40 sound files on the computer. They were told to act as scorers for a final comprehension examination in Mme Goyette's English class, following an elaborate scenario: First, Mrs. Briggs read some stories in English to pupils. The pupils would then go to Mme Goyette to relate what had happened in the story. As part of a team of graders, respondents were presented with random transcripts of proceedings with the names of pupils kept confidential. They read the stories in English, Mme Goyette's information question *Qu'est-ce que tu as compris?* "What did you understand?", and listened to the answer, which was also printed in the task booklet. Respondents were asked to evaluate how well the responses reflected the story on a scale of four values: -2, -1, +1 and +2. Respondents could opt out of scoring by checking a 'cannot decide' box. They were told to use this box only if they felt that they could not offer a judgment. Respondents were told that Mme Goyette's question could be answered in potentially more than one way and that answers could be ambiguous. They were told to proceed as quickly as possible without backtracking. To ensure that subjects understood the nature of the task, there were six training items that preceded the experimental portion of the task. There were three randomized versions of the task. Each contained the same 28 experimental items, consisting of seven quadruples, as well as 12 distracters using *seulement* 'only'. The example test item in Figure 1 illustrates how context and *ne* placement were manipulated to bias different interpretations of the *ne...que* XP.

It was Monday morning in Chicago. Stéphanie, Paulette and Régine, were excited to be going to LA the following week. However, they had been hesitating between going by car or by plane. Now, they were finally agreeing to purchase the plane tickets for a Wednesday evening departure that very afternoon. About time!

Les filles n'ont décidé de prendre l'avion que lundi matin.  
 The girls NE have decided to take the plane QUE Monday morning  
 'The girls decided to fly only Monday morning.'

FIGURE 1: EXAMPLE TEST ITEM

We calculated mean scores per subject. We first considered the data globally with a mixed-design ANOVA, seeking an effect of group, as well as an interaction of *ne* placement and construal. We then

examined trends within each group with an ANOVA. Specific theoretical expectations were examined with planned *t*-tests: when *ne* is in the matrix clause both construals of the adverb should be available; when *ne* is in the embedded clause the matrix-clause construal should be inhibited. In contexts requiring the matrix-clause construal, *ne* in the embedded clause should be rejected. In the contexts requiring the embedded-clause construal, the position of *ne* should be essentially free.

#### 4. Results

Results are presented in Table 2. An ANOVA with *ne* placement and construal as within-subject factors and group as between-subject factor revealed an effect of *ne* placement qualified by group,  $F(2, 49) = 2.941, p = 0.62$  and a main effect of construal,  $F(1, 49) = 18.715, p < .0005$ . There was a crucial interaction of *ne* placement and construal,  $F(1, 49) = 26.005, p < .0005$ , which was also qualified by group,  $F(1, 49) = 3.703, p = .032$ . There was no main effect of group. Clearly, Table 2 shows that theoretically relevant patterns arose in the data, which we further examined on a group-by-group basis. An ANOVA for third semester learners found a main effect of construal,  $F(1, 27) = 11.971, p = .002$  (the matrix construal was harder) and a crucial interaction of construal with *ne* placement,  $F(1, 27) = 7.005, p = .013$ . In contexts requiring the matrix-clause construal, *ne* in the embedded clause received significantly lower scores:  $t(27) = 2.307, p = .029$ . For contexts requiring the embedded-clause construal, no effect was found:  $t(27) = 1.528, p = .138$ . When *ne* was in the matrix clause, both interpretations of the adverb were similarly available:  $t(27) = .984, p = .334$ . When *ne* was in the embedded clause, the matrix-clause construal was seriously inhibited:  $t(27) = 4.498, p < .0005$ . An ANOVA for fifth semester learners found a main effect of construal,  $F(1, 12) = 6.995, p = .021$  (also because the matrix construal was harder), as well as a crucial interaction of construal with *ne* placement,  $F(1, 12) = 5.917, p = .032$ . In contexts requiring the matrix-clause construal, *ne* in the embedded clause received significantly lower scores:  $t(12) = 2.763, p = .017$ . In contexts requiring the embedded-clause construal, no such effect was found:  $t(12) = 1.222, p = .245$ . Turning to the availability of interpretations by syntactic structure, *ne* in the matrix clause did not statistically favor either construal:  $t(12) = .147, p = .886$ . *ne* in the embedded clause disfavored the matrix-clause construal:  $t(12) = 3.787, p = .003$ . Native speakers produced a marginal main effect of *ne* placement,  $F(1, 10) = 4.295, p = .065$ , and a crucial interaction of construal with *ne* placement,  $F(1, 10) = 7.405, p = .022$ . We first examined *ne* placement scores by construal. In contexts requiring the embedded-clause construal of the adverbial, the placement of *ne* in the matrix or embedded clause did not have a statistically significant effect:  $t(10) = 1.593, p = .142$ . In contexts requiring the matrix-clause construal, *ne* in the embedded clause received significantly lower scores:  $t(10) = 3.575, p = .005$ . Considering the availability of interpretations by syntactic structure, both interpretations were equally available when *ne* was in the matrix clause:  $t(10) = 1.334, p = .212$ ; however, the matrix-clause construal was disliked when *ne* was in the embedded clause:  $t(10) = 3.499, p = .006$ .

**Table 2:** Mean scores across groups per condition

Group	<i>n</i>	<i>Ne</i> in matrix clause		<i>Ne</i> in embedded clause	
		<i>Embedded construal</i>	<i>Matrix construal</i>	<i>Embedded construal</i>	<i>Matrix construal</i>
3 <sup>rd</sup> semester	28	.23 (.70)	.05 (.62)	.50 (.84)	-.37 (.62)
5 <sup>th</sup> semester	13	.28 (.94)	.23 (.58)	.69 (.92)	-.54 (.66)
Unaware	12	.16 (.64)	.02 (.65)	.57 (.71)	-.21 (.66)
Ntv. Fr.	11	-.46 (1.00)	.26 (1.26)	1.08 (.91)	-.53 (.91)

Note: Standard deviations appear in parentheses.

All groups showed similar patterns of asymmetry. We then examined learners who were not aware that the meaning of *only* XP can be expressed with *ne...que* XP. When *ne* was in the matrix clause, there was no statistical difference in the accessibility of the interpretations:  $t(11) = .486, p = .637$ . When *ne* was in the embedded clause, the matrix-clause construal was inhibited:  $t(11) = 2.747, p = .019$ . With the matrix-clause construal, the placement of *ne* had no effect:  $t(11) = .767, p = .459$ . With the embedded-clause construal, *ne* placed in the embedded clause had a marginal effect:  $t(11) = 2.093, p = .060$ . This pattern seems again to be revealing, although it lacks the resolution of previous findings.

## 5. Discussion

Both in English-French Interlanguage and in native French, *ne* in the matrix clause allowed the matrix-clause and embedded-clause construal of the temporal adverb, but *ne* in the embedded clause did not: The matrix-clause construal was disliked. Likewise, scores across *ne* placement possibilities were not statistically distinct in contexts requiring embedded-clause construal of adverbs, but differed significantly in contexts forcing matrix-clause construal. The simplest explanation for these effects is that the *que*-marked expression must be interpreted in the scope of *ne*. These data *prima facie* suggest a compositional treatment.

The construction is opaque: the manner in which *ne* and *que* compose lies well beyond the threshold of awareness of the naïve native speaker, let alone the average learner. This fact is reflected in instruction: the interpretation of the *ne...que* XP is treated casually. Specifically, none of the scope interactions that we have considered are ever the subject of instruction or ever mentioned in textbooks. Since the meaning is, however, either contextually salient from the presumed communicative intentions of the participants in discourse or provided by the instructor, a meaning postulate might be the fastest approach to the learning problem, as it would constitute a simple case of lexical acquisition. Once this step is taken, learners should have difficulty retreating from the lexical postulate, because it is compatible with the vast majority of tokens that learners are likely to encounter. Clearly, the patterns that we have found are not expected in such a view. The fact that these patterns arose is very surprising and suggests a compositional reflex, in which the input is structured in an analysis where *que* XP is dependent on *ne* under C-command. Such a reflex precisely determines the range of possible interpretations that are actually exhibited by learners.

The actual behavior of learners in a population of intermediate learners with only casual exposure to the construction seems to indicate the power of the Compositionality Principle. The fact that all groups exhibited similar patterns suggests that English-French learners are strongly guided to exhibit these particular reflexes. The fact that learners who reported not being aware of *ne...que* XP as an expression of *only* XP also exhibited theoretically relevant asymmetries provides additional evidence for a compositional reflex. Thus, two experiments in different domains provided evidence suggestive that English-French learners are led to analyze the *ne...que* XP structure in a way that the *que* XP is scopally dependent on the particle *ne*. We take this to be significant.

The working hypothesis that we have followed is that the holistic-compositional divide in SLA is precisely what it is in L1 acquisition, as a result of a compositional reflex. Whereas holism would have avoided the need for abstract and detailed representations, learners' behavior points to the abstractness and compositionality of the representations posited. The fact that such asymmetries arise in English-French learners seems particularly revealing. Our results, therefore, suggest that a compositional reflex indeed constrains the availability of holistic representations much as it does in L1 acquisition: TL input is submitted to this compositional reflex as soon as it can reasonably apply, allowing for word segmentation and identification of relevant categories. The evidence for a compositional reflex, when a meaning postulate as a lexical stipulation would be the fastest approach to the learning problem, offers a challenge for a range of hypotheses in which holistic representations provide a general mechanism of L2 acquisition.

## 6. Conclusions and perspectives

As White (2007) notes, research into the acquisition of L2 grammars has experienced a shift from global questions on the degree to which L2 grammar falls within the bounds of the language faculty to more specific questions about the nature of representations or mechanisms in specific domains or at specific moments of acquisition. In this spirit, we have thought to examine how English-French learners approached the opaque *ne...que* XP construction, which could potentially be treated with a meaning postulate or compositionally if learners can access the right abstract ingredients of meaning. Such a question is real: Again a non-compositional solution seems to be adopted by English speakers in the case of the *Let Alone* construction discussed in Fillmore, Kay, and O'Connor (1988). The construction is also opaque since its meaning is not directly derived from the meanings of *let* and of *alone*. Given the opacity of *ne...que* XP, a lexical meaning postulate seemed to offer a very natural solution. The facts that we have uncovered, however, speak to composition: the meaning of the whole as *only* XP appears not to be stipulated of the whole without reference to the parts, but seems derived from the contribution of the parts. In our working hypothesis in which the Principle of Compositionality restricts the use of meaning postulates to a last resort mechanism, it seems that all learners followed a deep compositional reflex preempting a lexical stipulation. The question of lexical storage and lexical stipulations in L2 acquisition (and their interactions) can be fruitfully studied in terms of holism and compositionality tests, particularly in cases where relevant aspects of the target structure are not taught and the likelihood that learners are generally exposed to relevant information is extremely remote.

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