'Real' and apparent optionality in second language grammars: finiteness and pronouns in null operator structures

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'Real' and apparent optionality in second language grammars: finiteness and pronouns in null operator structures

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The existence of optionality in acquisitional data presents a problem to the view that developing grammars do not include more than one grammatical system at any stage. In this article data from Greek and Spanish, on the one hand, and English, on the other, constitute the background for the discussion of the existence of 'true' optionality in second language (L2) grammars and its potential persistence at advanced proficiency levels. We also discuss the relation between optionality and finiteness features in L2 grammars as well as how morphology interacts with the development of null operator structures (NOS). Specifically the article deals with the use of pronouns or empty categories in NOS and their relation to finiteness. We discuss the role of clitics in adult second language acquisition when the first language (L1) and the L2 differ in the choices of the pronominal system and in their choice for a gap or clitic pronoun in NOS. The subjects studied are speakers of Greek and of Spanish, languages with clitics, learning English, a language without clitics, as well as speakers of English learning Greek or Spanish. The data collected support the claim that optionality is found in developing grammars but not randomly. First, there is a difference in the degree and nature of optionality found developmentally in advanced as opposed to intermediate learners; secondly, the degree of optionality depends on the morphological richness characterizing L1 and L2 in relation to the phenomena studied. Thus, English learners of Spanish or Greek show more optionality in the use of clitic

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pronouns and less evidence for a correlation between finiteness and clitics in NOS. On the other hand, Spanish/Greek learners of English show constrained optionality in the use of empty categories or pronouns in NOS.

I On optionality

Current models of generative grammar – such as Minimalism (Chomsky, 1995) or Optimality Theory (e.g., Grimshaw, 1997) – are categorical in nature: they allow for just one option out of a set of candidates and rule out all others. It is, however, well known that there are cases in which more than one form of a certain construction exist within one grammar. This can be observed both in steady-state and in developing grammars, in first language (L1) acquisition as well as in second language (L2) acquisition (e.g., for L1 acquisition, Wexler, 1994; Hyams, 1996; for L2 acquisition, Eubank, 1996, Sorace, 1999; 2000; Prévost and White, 2000) and it obviously represents a challenge for the view just mentioned. One of the usual examples of optionality in both L1 and L2 grammars is the use of finite and nonfinite verb forms in matrix clauses, where the target language only allows finite verbs. The stage of development characterized by this optionality is referred to as the Optional Infinitive Stage (or Root Infinitives) (see, amongst others, Poeppel and Wexler, 1993, Wexler, 1994).

One of the ways of analysing optionality is to allow some optionality, provided the alternatives are equivalent with respect to the cost of the derivation, and thus satisfy economy conditions. Alternatively, it could be shown that the optionality attested is more apparent than real: this is the case if the alternative options are equivalent from the point of view of meaning but their distribution is constrained by different discourse conditions.

Some studies take optionality to be a property of developing L2 grammars (e.g., White, 1991; 1992; Eubank, 1994; 1996; Sorace, 1999; 2000; Prévost and White, 2000). The potential sources of optionality in L2 grammars are argued to be similar to those of L1 grammars, namely underspecification of feature values on functional categories due to temporary or permanent inaccessibility of target options or nontarget-like analysis of the input. For example, underspecification is a source of

optionality in Eubank's (1994; 1996) 'valueless features' approach, according to which at initial developmental stages all functional categories are transferred from the L1 but without their specified value, so functional features are valueless until the learner acquires their particular value in the target grammar. This seems to be a case of 'true' optionality, as more than one option is possible in the same context during early L2 development, as Eubank (1994; 1996) has claimed with respect to verb movement.[1]

As optionality is also attested in advanced L2 grammars, it could be argued to characterize all stages of L2 development (Sorace, 1999; 2000). Beck (1998) accounts for the resilience of optionality by claiming that there is a permanent impairment in the learners' grammatical representation. As opposed to Eubank's approach, this one predicts that optionality will not disappear. A different view on the source of optionality is Haznedar and Schwartz's (1997) and Prévost and White's (2000) Missing Surface Inflection Hypothesis. These authors see optionality as a surface phenomenon that is due not to an impairment in the representation of L2 features but to difficulties in their language specific morphological realization. According to this view, finite forms are fully specified, while nonfinite forms are underspecified and can be used when the corresponding finite form is not accessible. This approach shifts the optionality problem to a Phonological Form interface (PF-interface) phenomenon that does not pertain to the derivation as such. Viewed from this perspective, true optionality is not a property of L2 syntax.

Further support for this claim can be found in Robertson (2000), where it is argued that optionality in L2 grammars is only apparent: in his view L2 grammars are subject to different conditions from those that hold in the target grammar. The use of articles by Chinese learners of English looks optional if observed from the perspective of the English grammar, but in fact the occurrence or omission of the article is shown to depend on its recoverability from the context and on lexical transfer. Thus, for example, article omission is found in contexts where hearer knowledge of the referent is established, whereas no article omission is found in contexts where the reference is ambiguous.

[1]But see Parodi (1998; 2000) against 'true' optionality in this case.

Most studies so far have concentrated on optionality in verb movement leaving other areas unexplored, with the notable exception of Robertson's (2000) study on article omission. Among these, pronominal clitics are particularly useful elements to test in the interlanguage because their distribution does not show a strict correspondence between meaning and form, as is usually the case with strong pronouns. In Cardinaletti and Starke's (1999) terms, strong pronouns are 'richer' in syntactic structure and related semantic features of referentiality than clitics, which are 'severely deficient' in both morphosyntactic and semantic terms. In terms of acquisition, strong pronouns in languages like English do not give us clear evidence as to whether it is the form that leads to acquisition of meaning or vice versa, since the correspondence is one-to-one. However, when L1 differs from L2 in terms of the choices available in the pronominal system, strong pronouns can be morphologically 'misanalysed' as clitics or vice versa. In this case, the misanalysis starts from some similarities in interpretation between clitics and pronouns in the L1 and the L2 respectively, and carries over to form. Thus, although object clitics in French, for example, are used in some contexts where English uses pronouns, the overlap is not complete. For example, unlike pronouns, clitics cannot be used in coordination structures; they may show constraints on animacy and so on (for a list of the relevant properties, see Cardinaletti and Starke, 1999).

On the other hand, languages with and without clitics also show differences in the presence or absence of a pronominal element in certain structures. In particular, it is common to find use of a pronominal clitic in Romance languages in contexts where English, a language without clitics, would opt for an empty category instead of a full pronoun. Null operator structures (NOS), the topic of this study, are shown to illustrate this difference in the use of a clitic as opposed to an empty category (see Section II). In the L1/L2 case, this difference allows us to examine the syntactic properties of clitics as opposed to empty categories and the possibility of misanalysis at the level of form with no interference from interpretation in the L2 grammar. What is particularly interesting is to see whether the L1/L2 difference in the choice of clitic vs. empty category, is further affected by the saliency of overt morphology as a cue to L2 development. In other words, overt vs. zero morphology

(clitics vs. empty categories) in syntactic structures where L1 differs from L2 only with respect to the choice of clitic vs. empty category can shed light on the facilitating or inhibiting effect that overt morphology plays in L2 acquisition. We thus assume that the investigation of clitics in various syntactic contexts of the L2 grammar allows us to separate their morpho-phonological, syntactic and semantic properties in L2 development.

This article deals with the use of pronouns or empty categories in NOS and their relation to finiteness. Null operator structures include tough-movement structures (which we call Adjectival NOS, e.g., *John is easy to please*), Degree Clauses (e.g., *This food is too hot to eat*), Purposive Clauses (e.g., *I chose this book to read on the plane*) and some other types (see below). They share the property of forming a dependency between the embedded object with an argument (subject or object) in the matrix clause. One of the basic crosslinguistic differences found in these structures is the choice of an overt element or an empty category in the object position. Languages with clitics, like Spanish and Greek, can use clitics in NOS whereas languages without clitics, like English, opt for an empty category. This choice appears to depend also on the finiteness of the subordinate clause in the NOS. In English, the embedded clause is nonfinite whereas in Spanish or Greek the clause can or must be finite.

Accordingly, we discuss the role of clitics in adult second language acquisition when the L1 and the L2 differ in the choices of the pronominal system (+/− pronominal clitics) and in their choice for a gap (empty category) or clitic pronoun in NOS. The subjects studied are speakers of Greek and of Spanish, languages with clitics, learning English, a language without clitics, as well as speakers of English learning Greek or Spanish.

The article is organized as follows: in Section II we give an overview of null operator structures in English, Spanish and Greek, as well as of the conditions on the use of clitics or gaps in these structures. Section III presents the research questions and Section IV the methodology adopted for the testing. Section V is devoted to the results: the first part describes the cases in which English is the L1 and Greek or Spanish the L2, while English is the L2 in the data presented in the second part of the section. The article closes with a discussion in Section VI.

II On null operator structures in English, Spanish and Greek

Null operator structures (henceforth NOS) have been argued to include a variety of sentences whose shared semantic and syntactic property is the presence of a Null Operator (NO) in the CP domain (see, amongst many others, Chomsky, 1977; 1986; Browning, 1987; Lasnik and Stowell, 1991; Wilder, 1991; Contreras, 1993). The NO binds the complement position, and identification is fulfilled by some type of predication or binding relation with a DP in the matrix clause. Depending on the particular analysis, the clustering of sentences that are subsumed under NOS differ. Nevertheless, within the set of NOS have been included degree clauses (DCs), adjectival NOS (A-NOS), purposive clauses (PCs), topicalization structures, and restrictive relatives without an overt *wh*-phrase.[2] For the purposes of the current study, the NOS discussed are of the first three types in English, Spanish and Greek as native and second languages. The examples in (1) illustrate the relevant structures in English:

1) a. This dress is too big to wear. — degree clause (DC)
   b. The food is ready to put in the oven. — adjectival NOS (A-NOS)
   c. I need your coffee-maker to use at the party. — purposive clause (PC)

Before introducing congeneric examples in Spanish and Greek, it is important to point out the two major differences between these languages, on the one hand, and English, on the other. First, Spanish and Greek are null-subject languages whereas English is not. Secondly, English and Spanish/Greek differ in terms of the pronominal systems they use. Specifically, clitic pronouns exist in Spanish and Greek but not in English.[3]

[2]It is of crucial importance to clarify at this point that there are important semantic and syntactic differences between the structures subsumed under NOS (see references above). Such differences have to do with the subordinate clause being a complement or an adjunct, the antecedent being in an A- or A′-position, the antecedent being in the matrix subject or object position, etc. Although clustering these structures together on the basis of a shared property is rather risky in view of the differences mentioned, it is nevertheless possible given that there is typological evidence showing that this shared property leads to the NOS sentences being clustered together in typologically distinct languages, e.g., Greek vs. English vs. Spanish. The theoretical discussion in this section is meant to indicate that the clustering of these structures under the NOS umbrella is not unjustifiable and, furthermore, that it renders the question of L2 development in such typologically distinct languages interesting.

[3]Although van Riemsdijk (1999) has argued for the existence of clitics in English, e.g., y' (vs. *you*), '*m* (vs. *him*, *them*) and '*r* (vs. *her*), it is possible that their existence as clitics, if perceived as such by L2 learners, is restricted to the phonological level and does not extend to the syntactic one. Furthermore, although these reduced English forms are subject to similar restrictions of occurrence

Syntactically, the distribution of clitics differs from the syntactic behaviour of 'strong' pronouns, giving rise to interesting patterns. Clitic pronouns in Spanish and Greek are used in contexts in which English would use a strong pronoun or an empty category, depending on the structure in question. This use of clitics in contexts where an empty category would be the only option in English stems from the fact that pronominal clitics are specified as morphological agreement markers, similar to subject–agreement markers on Spanish and Greek verbs (compare, amongst others, Theophanopoulou-Kontou, 1986; Anagnostopoulou, 1994; Androulakis, 1998; Tsimpli, 1999). English, on the other hand, lacks such agreement markers; thus, strong pronouns and empty categories have a different feature specification and function than clitic pronouns (Cardinaletti and Starke, 1999). Given that the choice of a clitic in Greek and Spanish, as compared to a strong pronoun or an empty category in English, are not in a one-to-one correspondence, but instead the choices are partially overlapping, the prediction is that L2 development would show mapping problems in this domain.[4]

In this study, the choice of both Spanish and Greek as null subject and clitic-containing languages is based on the differences between these languages in their use of clitics in NOS. Specifically Greek has a much wider use of clitics than Spanish.

Greek and Spanish sentences involving NOS are exemplified in (2)–(5) below; compare with (1). Given that Spanish allows for an option of a finite or nonfinite subordinate clause in each of the relevant structures, the examples (3)–(5) are presented in pairs:

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in coordination contexts, etc., as is the case for Romance and Greek clitics, they do not seem to be used as the 'default' or even 'unique' option in a particular syntactic context: for example *I took them* vs. *I took 'm* can be used interchangeably with the same interpretation. Thus, in English the choice appears to be open in colloquial, spoken language subject to phonological restrictions rather than a syntactic option as is the case for the Romance and Greek pronominal systems.

[4]Mapping problems concern the appropriate matching of morphophonological realization and abstract feature specification in a language. Although this mapping appears automatic in native grammars, it has been considered responsible for developing or deviant grammars (e.g., for L2 acquisition, see Lardiere, 1998). Such problems are, at best, PF-interface problems and, in L2 acquisition, reveal problems that usually refer to parametric options where L1 and L2 differ.

Greek

2) a. Afto to forema ine poli fardhi ja na *(to) foresis. (DC)
This-NOM the dress is too big for *sub*. it-wear-2s
'This dress is too big for you to wear.'
b. To fajito ine etimo na *(to) valume sto furno. (A-NOS)
The-NOM food is ready *sub*. it-put-1P in the oven
'The food is ready to put in the oven.'
c. Xriazome ti kafetjera su ja na *(ti) xrisimopiiso sto party. (PC)
Need-1S the coffee-maker your for *sub*. it-use-1S at-the party
'I need your coffee-maker to use at the party.'

Spanish DC

3) a. Este vestido es demasiado grande para que (tú) *(lo) uses. (+finite)
This dress is too big for that (you) it.M.SG wear.*sub*.2s
b. Este vestido es demasiado grande para usar– (? lo). (−finite)
This dress is too big for wear.*inf* –it.M.S
'This dress is too big for you to wear.'

Spanish A-NOS

4) a. La comida está lista para que (tú) *(la) pongas en el horno. (+finite)
the food is ready for that (you) it.F.SG put.*subj.2S* in the oven
b. La comida está lista para poner – (?la) en el horno. (−finite)
The food is ready for put.*inf*– (it:F.S) in the oven

Spanish PC

5) a. Necesito tu cafetera para que María la use en la fiesta. (+finite)
need.1S your coffee-maker for that María it.f.S use.*subj.3S* at the party
b. Necesito tu cafetera para usar (la) en la fiesta. (−finite)
need.1S your coffee-maker for use.*inf* (it.f.s) at the party.

Notice that in the Greek and Spanish examples above, there are differences in the optionality or obligatory presence of the object clitic. Specifically, Greek always requires the presence of a clitic in NOS whereas Spanish shows optionality in case the subordinate clause is infinitival, but not when it is finite. These differences are related to the following more general characteristics of each language:

- Greek is a language without infinitives; clauses that correspond to English infinitives are always morphologically subjunctive. Clitics are, thus, obligatory in Greek NOS. Spanish, on the other hand, has both subjunctive and infinitival clauses. Clitics are required to occur in finite (subjunctive) NOS and are optional in infinitival ones.
- The Greek subjunctive is morphologically marked on a mood marker *na* and not on the verb. Subjunctive clauses do not allow a complementizer

to introduce them (see Agouraki, 1993; Philippaki-Warburton, 1994). Spanish, on the other hand, marks subjunctive on the verb but a subjunctive clause is introduced by the (subjunctive) complementizer *para que*.

We assume that the presence of an overt complementizer in the Spanish case renders the clause more 'opaque' than the corresponding Greek subjunctive or the Spanish infinitive. The opacity distinction between Greek and Romance subjunctives is based on the subject agreement specification on the verb form and also on the semantic richness of the subjunctive mood in each case. Specifically, Romance subjunctives, possibly due to the binary distinction of tense-dependent clauses between subjunctive and infinitive (see Joseph, 1983) associate use of the subjunctive with a specific type of verbs and structures as well as with disjoint reference between the matrix and the embedded subject (Picallo, 1985; Terzi, 1991). On the other hand, in the absence of infinitives, Greek subjunctives used in subordinate clauses express tense-dependency regardless of subtle modal differences between matrix verbs and with no constraints on the interpretation of the embedded null subject[5].

Note that Spanish infinitives in examples (3)–(5) above are introduced by a prepositional complementizer, namely *para*, unlike the English infinitive; compare (1).

With respect to the differences between the English and the Greek NOS examples in (1) and (2) respectively, we note:

- the contrast between the Greek subjunctive and English infinitive in the subordinate clause; and
- the clitic in the embedded object position in the Greek example as opposed to the empty category (gap) in the English case.

[5]The subjunctive can also be found in a few marked matrix contexts which necessarily express modality, e.g.:

Na efevje!
SUBJECT was-leaving
'I wish he would leave!'

Even in these cases, the subjunctive is structurally and semantically dependent on some modal operator.

With regard to the latter distinction, compare the examples in (1) with the ones in (6) below. Notice that when an overt subject is present in English degree and adjectival NOS, the presence of the pronoun is more acceptable:

6) a. This book is too big to carry (*it) / for you to carry (?it). (DC)
b. The food is ready to put (*it) in the oven
…for us to put (?it) in the oven. (A-NOS)
c. I need a coffee-maker to use (*it) in the party. (PC)

With respect to finiteness, the Greek subjunctive does not carry independent morphological tense specification, but only agreement marking. In this respect then, Greek subjunctives and English infinitives may be similar in the grammar of the Greek and English native speaker respectively in that they each constitute the 'nonfinite' option in opposition with the other 'tensed' options within the same language. We would however claim that the finiteness of the Greek verb is important insofar as agreement, and therefore a 'subject', is specified. Specifically, whereas in the English examples an overt subject is possible only if it is introduced by the prepositional complementizer *for*, in Greek the subject is always specified on the agreement morphology of the (subjunctive) verb form.

Moving a step further, it could then be argued that the obligatory presence of a clitic pronoun in the Greek subjunctive clauses is related to the subject agreement specification on the verb form that creates an opaque clausal domain (discussed above in relation to differences between Romance and Greek subjunctives) (see Progovac, 1992; 1993). The opacity of the clause renders a resumptive clitic pronoun obligatory. This suggestion implies that in languages like English where a NOS is always nonfinite a difference in the acceptability of an overt pronoun in the embedded object position may arise when a '*for* XP' subject is expressed as opposed to no subject at all. In the native English data, such a difference is found in degree structures[6]; see (6) above.

[6]The reason why a clear difference between a '*for* XP' and no subject is not found in adjectival NOS and purposive clauses may have to do with other differences that distinguish between NOS generally (see Anderson, (2002). For example, adjectival NOS are analysed by some as complement rather than adjunct clauses; purposive clauses have a pragmatically unmarked interpretation of the same 'subject' in both the matrix and the purposive clause (see the example in (3) above).

The suggested correlation between finiteness (in particular, subject agreement specification) and the resumptive clitic option is also found in Spanish, a language with a tripartite distinction between indicative, subjunctive and infinitival verb forms. Unlike English and Greek, Spanish allows for two alternatives in the choice of the verb form: subjunctive or infinitive. If the choice is the subjunctive, the clitic is required whereas in the infinitive the clitic is optional but rather marginal, as illustrated in the examples in (3)–(5) above.

A more formal analysis of the opacity effect present in the subjunctive but not in the infinitival case involves the notion of 'weak islands' (see Cinque, 1991; Manzini, 1995). Assuming that finiteness is a feature specified on T, the agreement specification resides in this position (Chomsky, 1995). This is consistent with the idea that Spec, TP is the subject position and that nominative case is a feature associated with it. We will assume that it is the agreement features on T, rather than tense itself, which are responsible for creating this opacity effect on the grounds that the subjunctive is not fully specified for tense (unlike the indicative). Given the Spanish facts exemplified above, it appears that agreement rather than tense distinguish between the infinitival and the subjunctive cases. Recall, however, that the Romance subjunctive is associated with a number of properties that are not found in the Balkan languages (including Greek), e.g., subject obviation and a tense paradigm in the subjunctive mood (Picallo, 1985; Terzi, 1991). In the Balkan case the subjunctive has subsumed a more grammaticalized function than the Romance subjunctive and can be found in a wider range of syntactic and semantic contexts (Joseph, 1983). Nevertheless, despite these differences between the Spanish subjunctive and the Greek subjunctive, both share the notion of tense-dependency within each language.

1 Clitics vs. gaps in null operator structures

In terms of the defining properties of NOS in all three languages discussed here, we will assume that there is some type of dependency formed between the antecedent (subject of predication), the null operator and the category in the complement position of the

embedded clause. A simplified version of three types of NOS is provided below:

7) a. this food$_i$ is [$_{DegP}$ too hot [$_{CP}$ Op$_i$ *PRO*$_{arb}$ to eat e_i]] (Degree NOS)
b. I chose [$_{DP}$ this book$_i$ [Op$_i$ *PRO*$_j$ to read e_i on the plane]] (Purposive NOS)
c. Mary$_i$ is [$_{AP}$ nice [$_{CP}$ Op$_i$ *PRO*$_{arb}$ to look at e$_i$]] (Adjectival NOS)

Based on the distinction between quantificational and nonquantificational operators (Lasnik and Stowell, 1991), the null operator in NOS is of the second type, the implication being that the co-indexed trace/pronoun in the object position is not a variable but a null epithet instead (Tsimpli, 1999). On the assumption that recoverability (RC) is one of the conditions on empty categories, the difference between Greek and Spanish subjunctive NOS on the one hand, and English NOS on the other, is related to the recoverability requirement. In particular, in English infinitival NOS the dependency between the antecedent (subject of predication), the null operator and the gap is sufficiently 'local' given that the embedded CP is 'transparent': it is nonfinite with a zero complementizer. Thus, the recoverability condition for the gap is met. On the other hand, Greek and Spanish subjunctive NOS involve a finite embedded T and, in Spanish, an overt complementizer too. These properties increase the opacity of the clause, thus requiring the presence of a clitic pronoun specified for the agreement features matching those of the antecedent's.

Turning now to finiteness, given that T is [+finite] in Greek and Spanish subjunctive NOS, in the sense of agreement features specified on T, the dependency formed between the antecedent, the null operator in the CP domain of the embedded clause and the co-indexed category in the complement position is blocked, thus violating the RC. The presence of a clitic pronoun is then required. There are, then, two conditions that seem to be responsible for blocking the RC: the first is the nature of the null operator (i.e., a nonquantificational operator binding a null epithet) and the second is the finiteness of the clause in the sense of a subject being morphologically identified. A quantificational operator, usually overt, will satisfy RC by an ordinary binding relation between itself and the empty category. The null operator in NOS, however, mediates between the antecedent and the category in the complement position; lacking overt agreement features, the operator has to form a

dependency between the C position and the object position in the VP. Assuming that there are potentially two functional heads hosting agreement features, e.g., T and light *v* for subject and object respectively, the requirement for the null operator translates into a requirement for zero specification on these heads in order for the dependency between itself and the object to be well formed (a head-dependency in the sense of Manzini (1995), or along the lines of Relativized Minimality (Rizzi, 1990)). In subjunctive clauses, the agreement features on the T head block the dependency – since there are feature values specified on T in this case – and the structure has to include a resumptive clitic to satisfy RC.

The implication of the above suggestion is that in Spanish infinitival NOS, the absence of agreement features on T does not have any blocking effect: thus the clitic pronoun is not required,[7] but it is optionally present as shown in the examples above; compare (3b), (4b) and (5b) above.

Turning to the role of an overt vs. null complementizer, the optionality of the clitic in Spanish infinitival clauses appears problematic in view of the English examples, which lack a '*for* XP' subject, and disallow an overt pronoun in the gap; see (6). If Spanish infinitives are equivalent to English infinitives why are clitics optionally present in Spanish NOS? An obvious difference between the two languages is the overt prepositional complementizer in Spanish NOS as opposed to the null one in English. If the null operator resides, as is generally assumed, in the C domain, a filled C head (at least in terms of its feature specification) appears in the head-dependency formed between the null operator and the empty category in the complement position. That the nature

[7]This implies that if one follows the assumption that PRO has null case (Chomsky and Lasnik, 1993; Chomsky, 1995), only the absence of agreement features, but not of a subject position as well, is responsible for blocking the dependency in NOS; otherwise, infinitival NOS in Spanish should also require a clitic pronoun, contrary to fact. This raises a question regarding the 'opacity' effect claimed for English '*for* XP' subjects in NOS; i.e., why does the overt subject increase opacity whereas PRO does not, given that no agreement features are involved? A possible answer to this question comes from the idea that English, being a nonnull subject language, never forms a head-dependency in NOS but a specifier-dependency instead. Again, in Relativized Minimality terms, the dependency formed in English in order to satisfy recoverability does not refer to agreement features, the language being in the nonnull subject set. If this line of reasoning is correct, then what should matter is the presence of an overt subject blocking the null operator: null epithet dependency but not the presence of a PRO with no independent agreement features.

of the complementizer is relevant to the degree of 'markedness' of the clitic is shown by the examples below:

8) a. Esos libros son fáciles *de* traducir– (?*los*) al francés.
these books are easy to translate.*inf* (*them) into French
'These books are easy to translate into French.'
b. Los autos son demasiado caros *para* cambiar– (los) todos los años.
the cars are too expensive for change.*inf* (*them) every year
'Cars are too expensive to change every year.'

The use of a clitic in adjectival NOS – e.g., (8a) – is more marked than in degree clauses; e.g., (8b). This difference can be attributed to the different properties of *de* and *para*, similarly with the difference between *á* and *de* in French.[8] In particular, assuming that complementizers differ in terms of their feature-specification, it could be argued that *para* renders the clause more opaque and this, in turn, favours the presence of a clitic.

This is reminiscent of a distinction between complementizers which are, to various degrees, associated with finiteness (agreement) features either in terms of their own morphological form (e.g., the *que*/*qui* alternation in French) or in their c-selectional properties in relation to the T head (for the Flemish complementizer, see Rizzi, 1990; Haegeman, 1997). Thus, we could suggest that *para* is a prepositional complementizer compatible in terms of feature-specification with a [+/−finite] T whereas *de* obligatorily selects a nonfinite T head (similarly to the English null complementizer in NOS). In case a [+finite] T is selected by *para,* the form of the complementizer is changed into *para que* and a subject (overt or *pro*) is also present. Finally, English '*for*' necessarily requires an XP subject and cannot introduce subjectless infinitival clauses.[9]

To summarize, the theoretical hypotheses underlying the L2 research questions presented below are:

- that the two properties that distinguish between Greek/Spanish on the one hand, and English on the other, are the use of a resumptive clitic

[8]On the difference between *à* and *de* in French, see Canac Marquis, 1996.

[9]Spanish infinitival NOS disallow subjects whereas English *for*-NOS do not. We assume that the difference lies in the case assigning properties of the prepositional complementizer in each language. The case property of C is a feature distinguishing between *para* and *for*, where the former does not allow for the accusative marked subject expected in an infinitival clause. The case property is, as such, associated with the relation between C and the T head C selects. Thus, the null complementizer and *for* in English are options both available with nonfinite T, whereas in Spanish *para* and *para que* are determined by the C–T dependency.

pronoun in the former but not in the latter and the finiteness of the NO clause in the form of the subjunctive in the first two languages but not in English; and

- that these two properties are related in terms of the opacity effect, i.e., the effect that subject agreement features of null subject languages have on the null operator-null epithet dependency formed in NOS.

In English the nonfiniteness of the NOS allows for an empty category in the complement position; in other words, the infinitival clause in English does not create opacity with regard to the recoverability condition on empty categories. However, the option between the null and the overt (*for*) complementizer in English leads to differences in opacity since *for* obligatorily introduces an overt subject XP and, as such, the opacity of the embedded clause increases.

III Research questions and predictions

The aim of investigating NOS in the L2 grammars of Spanish, Greek and English is to shed some light on the following questions:

9) a. Is there real optionality in the use of clitics in developing L2 grammars?
   b. Does optionality persist even in the upper group of L2 learners?
   c. Is optionality related to the development of finiteness features (in the NOS data) in the L2 grammars?
   d. Is there a difference between Greek/Spanish on the one hand and English on the other, as second languages, with respect to the target use of NOS? (i.e., is development faster or showing less optionality in the former group of languages than in English?)
   e. How does morphology (in particular, agreement features) interact with the development of NOS? Is there a difference in building an L2 grammar which is morphologically more impoverished than the L1 (and vice versa)?

Assuming a distinction between 'real' and 'apparent' optionality, where the former can only characterize a transition stage in language development rather than a final stage (even if this final stage is still non-target-like), the prediction in relation to questions (9a–c) is that 'real' optionality will be found in lower groups of learners, whereas 'advanced' learners should show either no optionality (i.e., target-like performance) or 'apparent' optionality.[10] In the latter case, we expect to

[10]Although none of the hypotheses concerning optionality in developing L2 grammars suggest the possibility of 'real' optionality in early stages and 'apparent' optionality in more advanced L2

find a correlation between the use of clitics or empty categories, on the one hand, and finiteness or opacity effects, on the other. Therefore, advanced speakers of L2 English (with Greek or Spanish L1) should either perform in a native-like way or allow object pronouns in 'opaque' domains only, i.e., in clauses introduced by a '*for* XP' subject.

As far as questions (9d–e) are concerned, our prediction is that morphological 'richness' would give a different pattern of optionality in advanced stages of L2 acquisition. In particular, in L1 Greek/Spanish and L2 English we expect learners to look for morphological cues for finiteness/opacity in the L2 NOS. Thus, we predict that the presence of a '*for* XP' subject in the English infinitival clause will allow object pronouns; in the absence of a '*for* XP' subject, object pronouns should be disallowed in English L2.

In the case of English L1 and Greek/Spanish L2, we expect more 'unrestricted' optionality to be attested. Morphological cues are strong and sufficient for the learner to move, even superficially, from the L1 option (empty category) to the L2 option (clitic pronoun), but the correlation between finiteness and clitics is predicted not to be found. The reason stems from the assumption that, although L2 acquisition is UG-constrained, formal features (like agreement and therefore resumptive clitics) present learnability problems to adult L2 learners (see Hawkins and Chan, 1996; Tsimpli, 1997).

Overall then, it appears that in both of the above scenarios, L2 learners will approximate but will not attain target-like performance in the relevant structures. However, we predict that strong morphological cues in L1 and absence thereof in L2 would give rise to constrained optionality based on UG-options which, nevertheless, are found as such neither in the L1 nor in the target L2. On the other hand, weak morphological cues in L1 and strong ones in L2 allow learners to abandon the zero option (i.e., the gap) early on in development, but the optionality in the use of overt morphology (clitics in our study) is 'real' in that the required correlation between finiteness and clitics is not acquired.

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grammars, we would like to maintain this distinction as an option that sets apart early L2 development from advanced L2 grammars of a more stable nature, regardless of their degree of deviation from the target grammar (i.e., the possibility of fossilization).

IV Methodology

The research questions were tested in a study which involved 98 subjects, as illustrated in Table 1 below.[11] The subjects were assigned to different levels of L2 proficiency according to the results of a cloze test. Three groups could be distinguished among the learners of Greek: a lower intermediate, an upper intermediate and an advanced group. The learners of Spanish were divided into two groups (intermediate and advanced), and so were the learners of English.[12] The subjects were recruited from local language schools, local schools, evening classes and university students in Cambridge.

The methodology used was an acceptability judgement task as described in Bard *et al*. (1996). This involves gradability judgements in which subjects are required to classify utterances on a scale they establish themselves. Bard *et al*. (1996) validate the estimations in terms of self-consistency. The different scales are then converted into logarithms in order to make them comparable.

The stimuli were presented visually and aurally, having been recorded by native speakers. Murphy (1997) shows that the modality of the presentation affects performance on an acceptability judgement task. Using both the visual and the aural modality should make the evidence more compelling than using just a visual presentation. The order was randomized.

Table 1 Subjects included in the study

L1 English – L2 Spanish	18
Native Spanish (control)	9
L1 English – L2 Greek	15
Native Greek (control)	14
L1 Spanish – **L2 English**	20
L1 Greek – **L2 English**	14
Native English (control)	8

[11]The small numbers of Greek learners of English and English learners of Greek appear problematic for robust conclusions to be drawn on this basis. English learners of Greek at the University of Cambridge are a very small minority, especially when also searching for different developmental groups. Greek learners of English, on the other hand, were not many due to the fact that only the ones included matched developmental groups. In any case, the study was intended to be a pilot one, and the conclusions drawn have to be considered tentative.

[12]Notice that the test does not include beginners: a certain proficiency level is required to test the relevant questions involving pronouns and clitics.

The test consisted of grammatical and ungrammatical sentences involving the NOS structures presented here. The gap (in English) and clitic (in Greek and Spanish) always involved the direct object position. Thus, only accusative clitics were tested. The choice of accusative rather than dative or genitive clitics is based on the fact that both Spanish and Greek display stricter conditions on the use of accusative as opposed to genitive or dative clitics. The prediction therefore is that accusative contexts should provide us with more clear-cut answers. For the L1 English – L2 Spanish group the test consisted of 22 items out of 79, for the L1 English – L2 Greek group of 24 out of 66 sentences. For the L1 Spanish – L2 English there were 22 NOS out of 63 test items, and 28 out of 66 for the L1 Greek – L2 English group. The remaining test items included a variety of structures with or without clitic pronouns: relative clauses, *wh*-interrogatives, topicalization and clitic-doubling structures, half of which were grammatical and half ungrammatical. Given that the differences between these structures are sufficiently strong in both interpretation and syntactic properties, we consider them distractors in relation to the NOS test items presented here.

The results are presented in figures that show the rankings assigned to the test items by the different groups of subjects. These rankings are expressed in logarithms. Since we are interested in the nature and the degree of optionality in L2 grammars we compare the rankings for the different structures tested within a group (and not the absolute ranking across groups).

V Results

In order to address the research questions presented in Section III regarding optionality, the effects of morphological richness in L2 development, and the correlation between finiteness and clitic pronouns in NOS, we consider each type of NOS studied first in the L2 Spanish or L2 Greek of the native speakers of English, and then in the L2 English of native speakers of Spanish or Greek.

1 English as an L1

a Purposive clauses (PC): The results on purposive clauses for learners of Spanish and of Greek respectively are illustrated in Figure 1a for

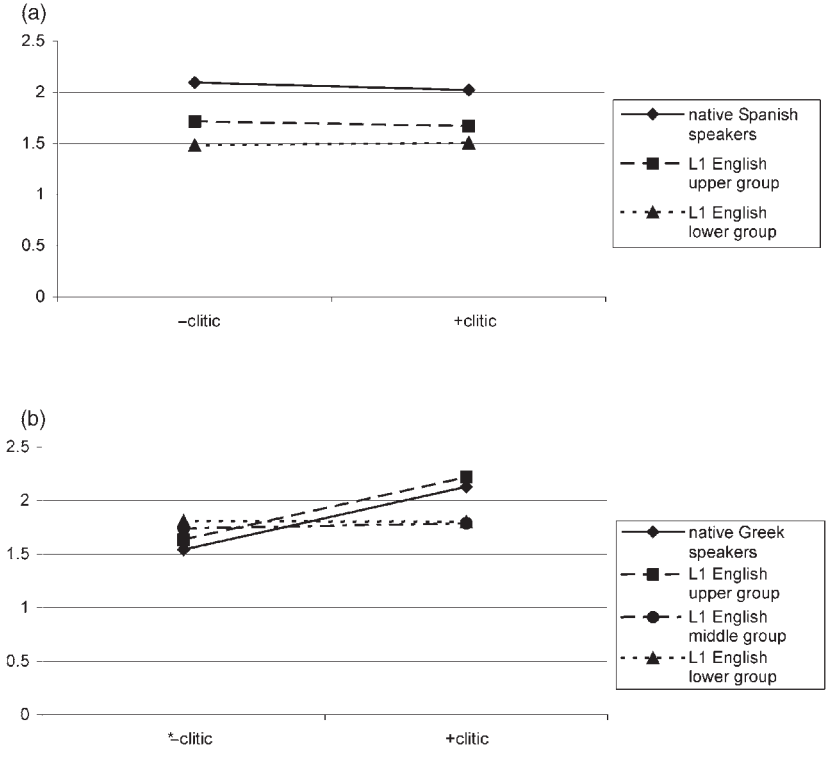

Figure 1 Purposive clauses (a) L1 English – L2 Spanish. (b) L1 English – L2 Greek

Spanish and Figure 1b for Greek. The different conditions are shown on the *x*-axis. Recall that in purposive clauses – examples (1c), (2c) and (5b) – English requires an empty category in the object position of the verb. In the Spanish equivalent, an infinitival clause,[13] the clitic is optional, whereas in Greek, a finite subjunctive clause, it is obligatory.

The Spanish data give a clear picture of optionality, both for the native Spanish speakers and for both groups of English learners of Spanish. (Paired samples *t*-test: native speakers: $t(8) = 1.20$, n.s.; $t(1.200)$, n.s.; upper learners' group: $t(8) = .68$, n.s.; $t(.682)$, n.s.; lower learners' group: $F(8)$, $t(.198)$, n.s.) A developmental effect in the learners' judgements is neither expected nor observed. The data do not provide evidence on the relation between finiteness and the use of a clitic; however, notice that there is no evidence of L1

[13]We only tested nonfinite purposive clauses in Spanish.

transfer either, since this would result in a preference for gaps over filled traces.

The results for the native Greek speakers show a significant preference for a clitic (paired samples *t*-test: $t(13) = 4.92$, $p < .001$). However, the learners' judgements do not show a clear preference for PC with or without a clitic, although the upper group of learners show the tendency to approximate native-speaker behaviour. The lower group gives a picture of 'real' optionality. (Upper group of learners: $t(4) = 1.26$, n.s.; lower group $t(4) = .42$, n.s.) We have no clear evidence here for a correlation between finiteness and the obligatory presence of a clitic other than the preference for the clitic shown by the upper group of learners.

b Adjectival null operator structures: In English adjectival null operator structures, as in the case with PCs, the object position must be empty (a gap), in contrast to Greek adjectival NOS where the clitic is obligatory. In Spanish the clitic is obligatory if the clause is finite and optional if it is not.

The results are presented in Figure 2a for Spanish and Figure 2b for Greek. +/–FOR on the table indicates whether the embedded clause includes an overt subject NP or not. A Spanish –FOR clause is nonfinite, while a +FOR clause is finite (subjunctive) with an NP subject overtly realized. Recall that Greek adjectival NOS are always finite; thus, the difference between +/–FOR corresponds to the presence vs. absence of an overtly realized subject NP only.

In the Spanish data there is an overall significant interaction of clitic and finiteness ($F(1,24) = 19.077$, $p < .001$). Native Spanish speakers judge according to the expectations: they disprefer the presence of the clitic in the nonfinite clause and its absence in the finite clause.[14] The effect of the clitic is significant ($F(1,8) = 11.031$, $p < .02$); there is also a significant interaction of clitic and finiteness of the clause ($F(1,8) = 6.66$, $p < .04$). The two groups of learners differ: the upper

[14]Spanish speakers' judgements on nonfinite clauses show a strong preference for a gap. Theoretically, as mentioned in Section II.1, nonfinite clauses allow either for a gap or a clitic. It is possible that the judgements are due to a task effect where native speakers noticed the contrast between finite and nonfinite complements and judged contrastively, i.e., made clearer judgements than expected.

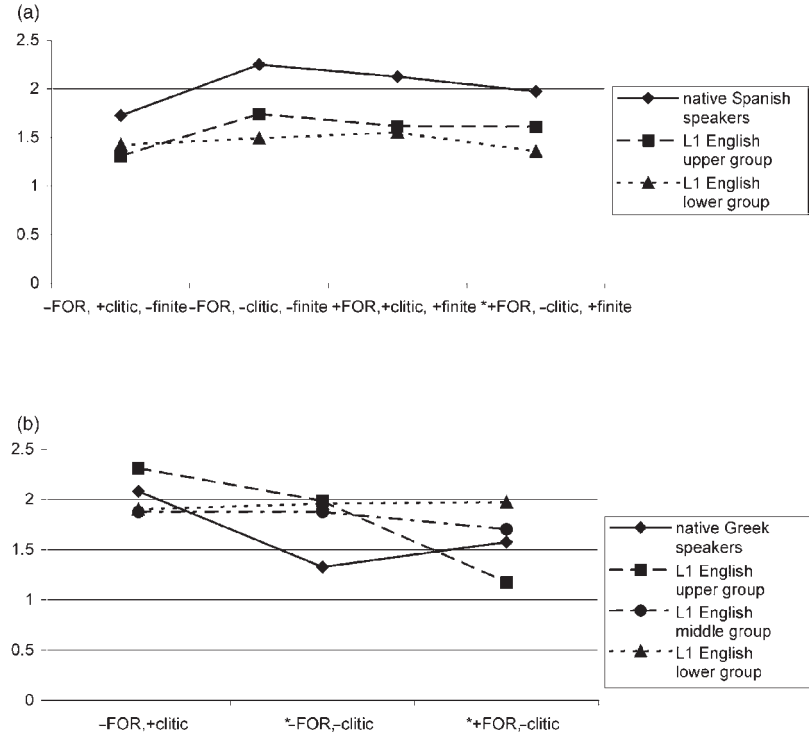

Figure 2 Adjectival NOS (a) L1 English – L2 Spanish. (b) L1 English – L2 Greek

group patterns similarly to the native speakers and shows evidence of a significant interaction between finiteness and the use of a clitic ($F(1,8) = 16.201, p < .01$). At the same time, the upper group of learners show optionality in the presence or absence of a clitic in a finite clause, showing no significant difference in their judgements. This is possibly an indication that despite the significant interaction found between finiteness and a clitic there is no correlation established yet in their grammar. The lower group, on the contrary, exhibits optionality in their judgements on the presence or absence of clitics, which crucially does not depend on the finiteness of the clause ($F(1,8) = 3.565$, n.s.). This is, then, 'real' optionality. As mentioned above, these results are not compatible with an L1 transfer analysis, given that English A-NOS require a gap in the complement position.

As for Greek L2, we observe a grammaticality effect: the means rating suggests that grammatical structures are rated higher than ungrammatical ones. (ANOVA: $F(2,50) = 6.495, p = < .01$). The native Greek speakers judge the test items as expected, i.e., they show a grammaticality effect encompassing all three structures, i.e., a significant preference for a clitic in the object position ($F(2,26) = 10.599, p < .001$). The upper group of English learners also show this preference, which in this case is marginally significant ($F(2,8) = 4.034, p = < .07$). The two lower groups of learners show optionality in their judgements; we have thus no indication as to the correlation between finiteness and resumptive clitics in NOS (middle group: $F(2,8) = 1.443$, n.s.; lower group: $F(2,8) = .971$, n.s.).

c Degree clauses: The results for degree clauses are presented in Figure 3a for Spanish and Figure 3b for Greek, which should be read similarly to Figure 2. +FOR in Figure 3a indicates a finite clause with an overt subject, whereas −FOR indicates an infinitival one. Recall that Spanish degree structures display a correlation between the finiteness of the clause and the presence of a clitic. Greek degree clauses, represented in Figure 3b, are always finite (subjunctive); the difference lies in the presence of an overt subject in +FOR clauses vs. a null subject in –FOR clauses.

In the native Spanish speakers we observe a significant effect of the clitic (ANOVA: $F(1,8) = 14.639, p = < .01$) and marginally significant effect of finiteness ($F(1,8) = 4.0706, p = < .07$). For the learners of Spanish, however, there is no clear evidence of an effect or interaction involving finiteness and clitics (clitic: upper group: $F(1,8) = 2.121$, n.s.; lower group: $F(1,8) = 2.013$, n.s.; finite: upper group: $F(1,8) = 2.188$, n.s.; lower group: $F(1,8) = 0.11$, n.s.; clitic by finite: upper group: $F(1,8) = .499$, n.s.; lower group: $F(1,8) = 2.096$, n.s.).

Recall that in Greek degree clauses the clitic is obligatory and subject agreement is always specified. This is clearly reflected in the judgments of the native Greek speakers, as presented in Figure 3b: according to ANOVA the means indicate that structures with clitic are rated significantly higher ($F(2,26) = 20.214, p = < .001$). The picture is different, however, for all groups of English learners of Greek: these data fail to show a correlation between finiteness and the obligatory

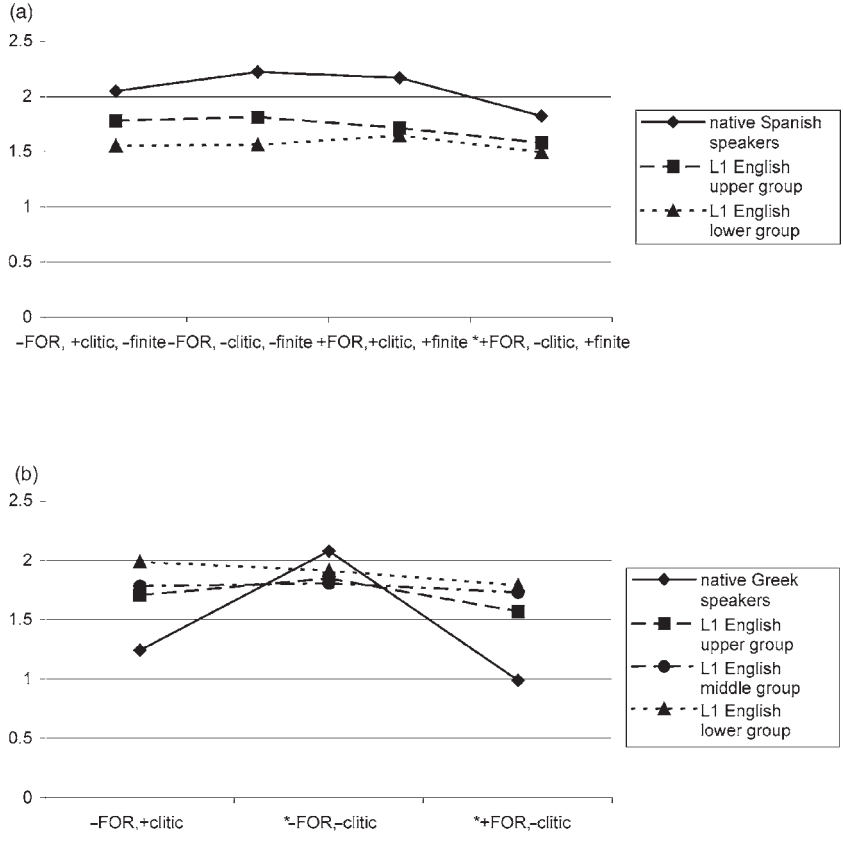

Figure 3 Degree structures (a) L1 English – L2 Spanish. (b) L1 English – L2 Greek

presence of a clitic (upper group: $F(2,8) = 1.069$, n.s.; middle group: $F(2,8) = .117$, n.s.; lower group: $F(2,8) = 1.519$, n.s.). This indicates that the learners show optionality in their judgements regarding the presence or absence of a clitic, independently of the presence or absence of an XP subject.

d Summary: All in all, the results from English L1 and Spanish/ Greek L2 show the following similarities in the three NOS tested: the lower groups of learners show 'real' optionality in that they neither distinguish between the choice of clitic vs. gap, nor do they regulate their choice on the basis of the finiteness of the clause. Specifically, in Spanish L2 the

difference between a finite or an infinitival clause does not determine the choice between clitic or gap in the lower group of learners. In Greek L2, where no distinction between finite and infinitival clauses is available, the difference between an overtly expressed and a null subject does not give rise to distinct judgements on clitics as opposed to gaps.

The upper group of English learners of Spanish or Greek L2 shows a different picture depending on the structure involved. Specifically, in Spanish and Greek A-NOS the upper groups of English learners show near-native performance. In Spanish A-NOS they distinguish between finite and infinitival clauses and judge the presence of the clitic accordingly. In Greek A-NOS, a dislike for cliticless A-NOS is also found in the judgements of the upper group of learners. Recall that in Spanish nonfinite purposive clauses, optionality is target-like and this is what we find in all groups studied. If we consider Spanish and Greek DCs, however, the upper groups of learners do not show evidence for any correlation between finiteness and the clitic or in the obligatory presence of the clitic in Greek DCs. Finally, the upper group of learners shows a similar pattern of performance as native speakers in Greek PCs, although results do not show significant differences in the presence or absence of clitics. The implication is that development in the use of clitics in NOS does not take place across-the-board but depends on the properties of the construction involved. We address this issue in the final section.

It appears that more target-like performance is found in learners of Spanish compared to learners of Greek. This could be due to the fact that Spanish, unlike Greek, includes the option of nonfinite NOS with a gap in the object position, similar to the English L1. It is possible then that acquisition of Spanish NOS is facilitated by the fact that the L2 exhibits a clear juxtaposition between finite and nonfinite NOS, which correlates with the clitic vs. gap option. The absence of this option in Greek L2 is probably responsible for the difference in L2 performance of English (L1) speakers.

2 English as an L2

The results for the different structures studied are presented in Figures 4–6, which are similar to those in the previous section. In this case, however, the L1s are Spanish or Greek and the L2 English.

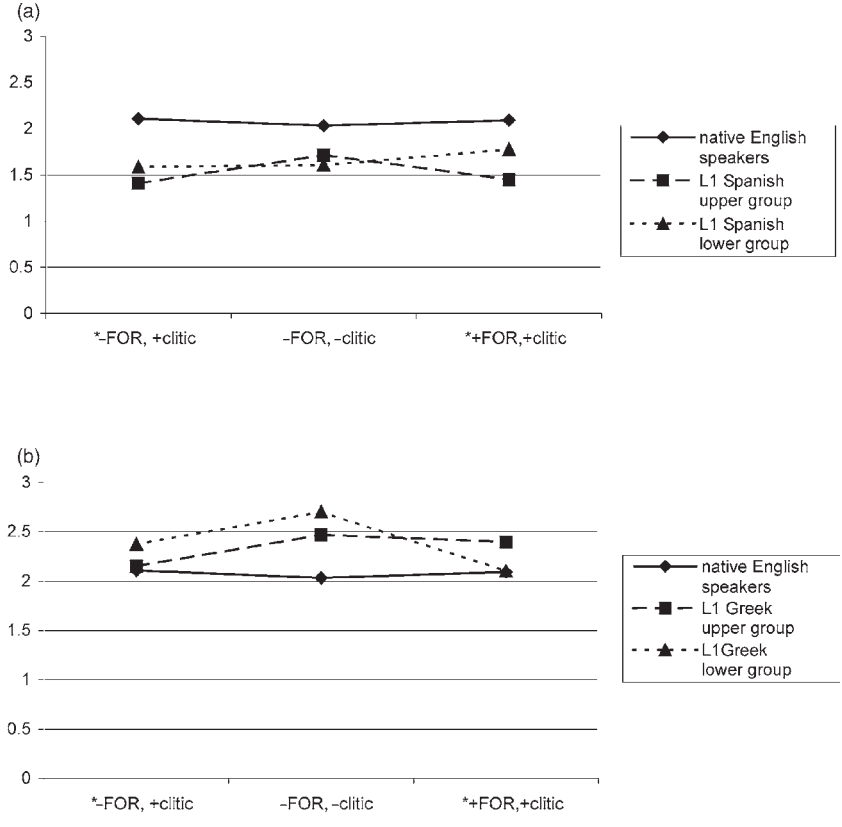

Figure 4 Purposive clauses (a) L1 Spanish – L2 English. (b) L1 Greek – L2 English

a Purposive clauses: Figures 4a and 4b present the results from PCs in L2 English. +/–FOR indicates clauses with and without *for* respectively in English; +/–clitic indicates the presence or absence of a pronoun in the test items. Recall that English requires empty categories. The asterisk marks an ungrammatical option in English.

The results, tested by ANOVA, reveal no significant effects of the presence or absence of a pronoun in the test sentences for native speakers ($F(2,14) = .044$, n.s.). This is an unexpected result since it is standardly assumed that the gap is the only option in English PCs.[15]

[15]There are two possible reasons for this unexpected result. The first has to do with an underlying difference in the representation of PCs. Specifically, PCs, unlike A-NOS, may be true adjuncts to VP and as such the requirement for an empty category in the object position is relaxed. Alternatively, the

An interaction with clauses with or without *for* was neither expected nor found. No significant effects were found for the learners either (upper group of Spanish learners of English: $F(2,18) = 3.028$, n.s.; lower group of Spanish learners of English: $F(2,18) = 1.128$, n.s.; upper group of Greek learners of English: $F(2,16) = 1.640$, n.s.; lower group of Greek learners of English: $F(2,6) = .543$, n.s.). In other words, optionality in the choice of a pronoun or a gap was shown in the judgements of all groups.

b Adjectival null operator structures: The subjects' judgements on adjectival null operator structures in L2 English are shown in Figure 5a for L1 Spanish and Figure 5b for L1 Greek. Native English speakers significantly prefer the absence of the pronoun and reject filled traces independently of the presence of *for* and an overt subject (ANOVA: $F(1,7) = 12.960, p < .01$); in other words, there is an effect of the clitic, but no interaction with *for*, which is the expected result. The same holds for both groups of Spanish learners: for the upper group of Spanish learners $F(1,9) = 21.350$, $p < .01$ and for the lower group of Spanish learners $F(1,9) = 35.395$, $p < .001$. This indicates a strong preference for the absence of the pronouns in all groups.

For the Greek learners of English, on the other hand, there is no significant effect of the pronoun (upper group of Greek learners: $F(1,7) = 2.711$, n.s.; lower group: $F(1,3) = .000$, n.s.) or its interaction with *for* (upper group: $F(1,7) = .569$, n.s.; lower group: $F(1,3) = 1.562$, n.s.). This result indicates that learners show optionality in the use of pronoun vs. gap in A-NOS of English as an L2. However, there is a developmental tendency in the preferences expressed by judgements of the lower group and judgements of the upper group. Specifically, whereas the upper group shows a preference for gaps in their judgements, the lower group shows a preference for gaps in +FOR clauses and for +clitic in −FOR clauses. This is an unexpected pattern. Given that it is found in the lower group of

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reason may have to do with the fact that the test items included more ungrammatical than grammatical sentences (5 ungrammatical and 2 grammatical) and, as a result, judgements on grammatical items are not sufficient to give statistical differences. However, given that all test items were spread in the test with many distractors preceding and following them, this explanation may not be accurate. We would thus suggest that the judgements of the native English speakers indicate that PCs have a different status from the other NOS tested.

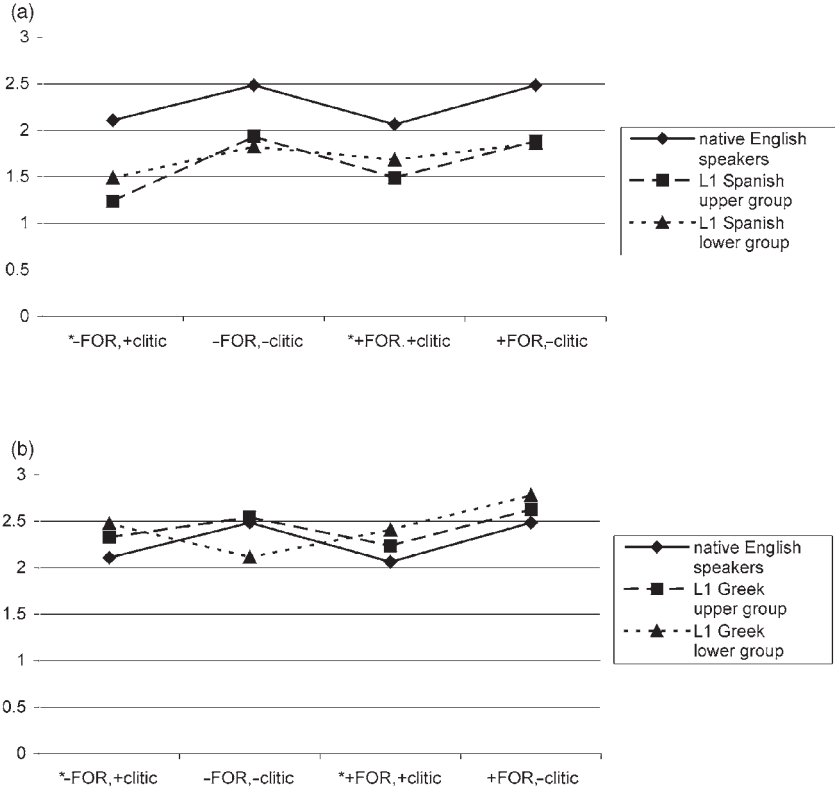

Figure 5 Adjectival NOS (a) L1 Spanish – L2 English. (b) L1 Greek – L2 English

learners, which, in general, shows more unconstrained optionality, it is possible that the tendency observed is an attempt to regularize grammatical options, albeit in an unprincipled way. We believe that this tendency could be ignored on the grounds that it is attested in the lower group only and it does not give rise to significant results. On the other hand, the preference for gaps found in the judgements of the upper group of learners is an indication that the L2 grammar has 'noticed' the target preference. Given that these are nonsignificant results, we cannot suggest that in later stages of development the upper group will show no preference for +clitic, i.e. no L1 effects. It thus remains an open question.

c Degree clauses: We now turn to degree clauses, illustrated in Figure 6a for L1 Spanish and Figure 6b for L1 Greek, parallel to the

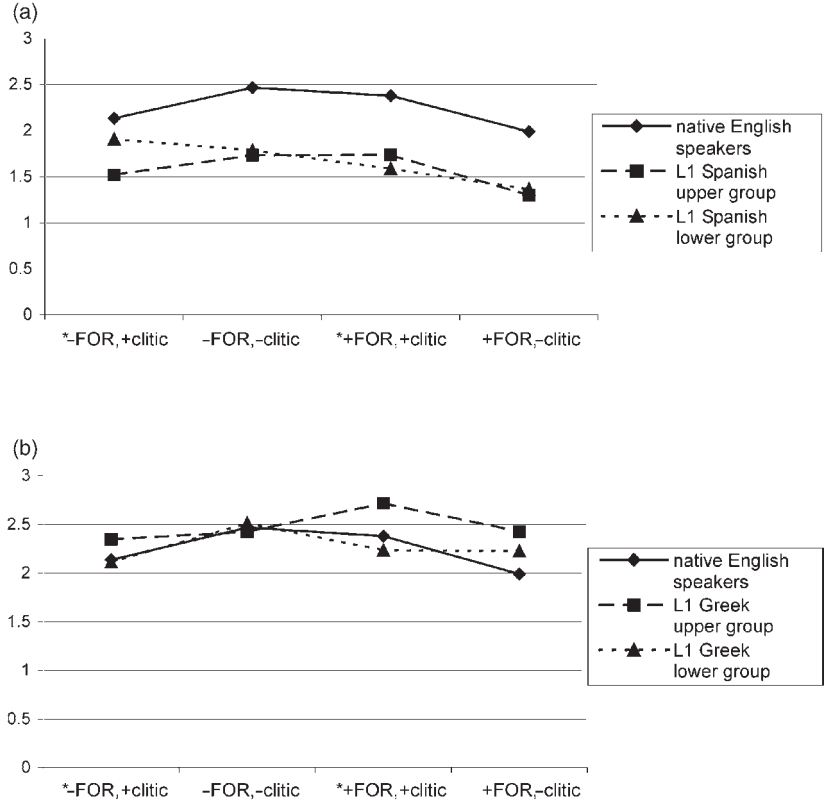

Figure 6 Degree structures (a) L1 Spanish – L2 English. (b) L1 Greek – L2 English

figures above. A significant interaction of *for* and pronoun can be observed in the native English speakers according to ANOVA ($F(1,7) = 7.414$, $p < .04$), who reject the pronoun in a clause not introduced by *for*. Notice, however, that as mentioned in the discussion in Section II, English NOS with an overt subject (i.e., +FOR contexts) favour the presence of the object pronoun.

The upper group of Spanish learners of English prefer the option without pronoun in the clauses without *for* and they accept the filled gap in those with *for*, without reaching significance ($F(1,9) = 2.550$, n.s.). For the lower group of Spanish learners there are significant effects of *for* ($F(1,9) = 10.499$, $p < .02$) and of pronoun ($F(1,9) = 5.002$, $p < .06$ marginal). The effect goes, however, opposite to the English choice: these learners prefer a pronoun in a +FOR clause and

they do not reject it in a –FOR. In other words they prefer filled traces overall. This is compatible with the requirement for a clitic in a finite clause in the L1 Spanish. This may indicate a L1 transfer effect: recall that in Spanish the clitic in an infinitival clause is optional, whereas it is required in a finite one.

If we turn our attention to the Greek learners of English, no significant effects of the interaction of *for* and clitic were observed (upper group: $F(1,8) = 1.520$, n.s.; lower group: $F(1,3) = .707$, n.s.).

d Summary: The results from the L2 English data show, in the first place, language-based differences. The data from the Greek learners of English do not show a picture of developmental differences between the upper and the lower proficiency groups: we can observe optionality for all groups and in all structures. This differs from the picture found in the Spanish learners of English where the upper group of learners approaches the native English speakers in their judgements. It also differs from the English L1/Greek or Spanish L2 data, where in the majority of cases the upper group of learners was near-native in their acceptability of clitics.

For the Spanish learners of English and, interestingly, for the native English speakers we observe structure-based differences. In purposive clauses no significant differences between the different conditions are evident either for the Spanish learners or for the native English speakers. In A-NOS the native English speakers significantly prefer the gap, and so do both groups of Spanish learners. In degree clauses an opacity effect can be observed both for the native English speakers and for the upper group of learners, who show a preference for a gap in –FOR clauses; but they not reject the pronoun in a +FOR clause. The lower group of Spanish learners, on the other hand, require a pronoun in this clause type.

Finally, it is noteworthy that the English native-speaker group did not perform as the literature would suggest. In particular, PCs were judged as optionally allowing for a gap or a pronoun, whereas A-NOS showed a clear preference for a gap with no effect found on the basis of the +/−FOR condition. DCs, on the other hand, showed the expected correlation between +/−FOR and the use of a pronoun or gap. These results from the English natives show a clear structure-based preference for gaps or pronouns with or without the +/−FOR condition involved.

VI Discussion

On the background of the results just summarized we can now return to the research questions and the related predictions. The first question to be asked is whether there is optionality in the use of clitics in developing L2 grammars. The results appear to support our prediction, namely that unconstrained optionality is observed in the lower groups. Our prediction, however, that optionality should not be found in advanced learners is not confirmed by all of the results in this study. It is then possible that either:

- 'real' optionality disappears and gives its place to 'apparent' optionality only in very advanced or near-native speakers of a second language; or
- 'real' optionality never disappears and it is a characteristic of developing but also final-state L2 grammars.

The first possibility requires further empirical evidence from near-native speakers while the second implies that final-state L2 grammars differ from final-state L1 grammars in that the former allow 'real' optionality in cases where the latter do not.

Given that our results also show L1-based differences, it is possible that the optionality observed even in the upper group of Greek learners of English is due to the difference between Spanish and Greek with respect to the tested structures. Recall that Spanish learners of English approximate native-like performance more than Greek learners of English. Specifically, learners of English with Spanish L1 show no optionality in their judgements of English A-NOS, similar to native English speakers. Moreover, they show no optionality in their judgements of English DCs. Greek learners of English, on the other hand, show no optionality in their judgements of English A-NOS, whereas in the other structures' optionality persists even in the judgements of the upper group. We would like to argue that this persistent optionality found in the upper group of Greek learners of English is due to the fact that Greek does not show a distinction between finite and nonfinite clauses. The absence of this distinction and the obligatory presence of a clitic in Greek NOS prevents Greek learners of English from abandoning the clitic/pronoun option in the English nonfinite clauses. If this

line of reasoning is correct, then the target-like performance attested in Greek learners of English in A-NOS is the result of the difference in the underlying representation of A-NOS compared to degree NOS and to purposive NOS. Specifically, whereas A-NOS involve a complement nonfinite clause, the embedded clause in degree and purposive NOS has an adjunct status (see also footnote 15 above).

Although the choice of Spanish and Greek was motivated by the differences in NOS found in the two languages, no explicit prediction was made about the nature of optionality in L2 acquisition of Spanish as opposed to Greek. With respect to the results from the upper group of English learners of Greek and English learners of Spanish, the picture is clearer in the latter case. These learners show no optionality in their use of clitics vs. gaps in L2 Spanish. Note, however, that of the two choices available in Spanish one corresponds to the English option. The binary distinction found within the same language, i.e. [+finite, +clitic], [–finite, –clitic] offers a clearer picture to the researcher and possibly, by the same token, to the learners. On the other hand, it is possible that the fact that both English and Spanish share the nonfinite one improves the performance of the L2 learners superficially. In other words, since input and output converge in this case, it is unclear whether the optionality observed is a property of the developing grammar or, simply, target-like performance.

The results from this study also show structure-based differences in the native English speakers' judgements. Whereas A-NOS give the clearest data in that no optionality is observed in the presence of a pronoun filling the gap position, PCs allow for filled gaps depending on the presence of an overt subject in the embedded clause. DCs produce mixed results with persistent – and unexpected – optionality in the native speakers' group. These results from the native speakers of English show that the underlying structural differences in the representation of NOS are responsible for the choice between a gap or a pronoun in each case.

Note furthermore that this difference in the representation of A-NOS on the one hand, and degree and purposive clauses on the other, is found to affect L2 performance too, more clearly in the data from Greek learners of English. Moreover, English learners of Spanish and Greek show target-like judgements in A-NOS, whereas Greek PCs and DCs

are problematic in that optionality is found even in advanced English learners. Similarly, English learners of Spanish show no correlation between finiteness and the presence of clitics in Spanish DCs. Therefore, we have evidence for structure-based differences affecting the degree of (real or apparent) optionality from English speakers judging NOS in their L1 English or from the L2 learners judging sentences in English, Greek or Spanish L2. We can then conclude that L2 grammars do not simply map surface L1 representations to corresponding L2 input, but access underlying structural differences too.

With respect to the role of morphological cues, their saliency in the L1 as opposed to the L2 and the respective directionality of difficulty in L2 acquisition, recall that Spanish and Greek learners of English were predicted to show less and constrained (i.e., 'apparent') optionality than English learners of Spanish and Greek. This prediction was based on the assumption that the strength of morphological cues in L1 Spanish or Greek would lead these learners of English to look for finiteness features that correlate with pronominal objects. The results show that this prediction is on the right track for the Spanish learners of English. In most of the structures tested, the upper group of Spanish learners of English show target-like preferences (significant in A-NOS, DC). Greek learners of English only show this target-like preference in A-NOS but not in the other two structures, for reasons discussed above.

When L1 is English and L2 Greek or Spanish, the directionality of morphological cues in acquisition is reversed: from less to more. In this case, we predicted more unconstrained optionality to be found in advanced learners. This is indeed what we find with the exception of A-NOS where target-like performance is found. The absence of a correlation in L2 Spanish finite vs. infinitival NOS and clitics vs. gaps indicates that acquisition proceeds independently for each domain. In the absence of this correlation, the optionality attested in advanced English learners of Spanish and Greek appears to be 'unconstrained', in that the required link between finiteness and gap-filling is not observed.

Notice that it cannot be claimed that English speakers lack this correlation in the underlying representation of the L1. After all, not only is it assumed to be a UG-option but it is also found in their native language where gaps and infinitives co-occur in NOS. What we suggest is that in case the L1 marks this UG-based correlation by overt

morphology, the L2 learner 'looks for' it in the L2 input. A similar finding is reported by García Mayo *et al*. (2001): bilingual Basque–Spanish children acquiring English produce English subject pronouns or a 'resumptive' copula as agreement markers under the rich morphological requirement of the L1 (see also Tsimpli and Roussou, 1991). In other words, given that both Basque and Spanish have rich agreement morphology on the verb, finiteness in L2 English is deviantly marked by the use of overt material in the IP area, either in the subject position or on the head of Inflection. Similarly, the English L2 data of Greek speakers in Tsimpli and Roussou (1991) show high acceptability of subject pronouns in structures where a gap should be expected. The analysis proposed involves a misanalysis of English pronouns as agreement markers on the verb. It is argued that this misanalysis is caused by the impoverished nature of overt finite morphology on the English verb compared to the Greek verb. On the other hand, lack of overt morphology in the L1 has an inhibitory effect on the analysis of the L2 input giving rise to more persistent optionality.

VII Conclusions

Overall, this pilot study of pronominal clitics in developing L2 grammars has allowed us to examine 'real' (unconstrained) and 'apparent' (constrained) optionality in L2 grammars. It appears that 'real optionality' is found in lower groups of learners whereas advanced learners perform differently depending on (1) structure-based properties and (2) the morphological richness of their L1 compared to L2. In relation to (1), A-NOS give the clearest results with no optionality observed in any of the groups of learners. Purposive clauses also mostly produce results which conform with the lack of unconstrained optionality, whereas degree clauses are problematic even for the upper groups of learners. As for (2), English learners of Spanish or Greek show more optionality in their use of clitics compared to Spanish (and, less so, Greek) learners of English.

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