The Acquisition of Clitic Pronouns in L2
European Portuguese*

1. Introduction

In this chapter we report on a study investigating the acquisition of clitic pronouns by adult second language (L2) learners of European Portuguese (EP).

The goal of this chapter is twofold. On the one hand, we aim to understand how knowledge of the syntactic properties of clitics is acquired, which may provide an insight into how the representation of clause structure develops throughout the adult L2 acquisition process. Two types of proposals may be found in the literature regarding the representation of syntactic structure at the L2 initial state. Under a strong continuity approach, all categories are available from the start of the acquisition process, whether via transfer from the learner’s first language (L1) (as in the Full Transfer/Full Access Hypothesis of Schwartz and Sprouse 1994, 1996) or via direct access to Universal Grammar (UG) (as in the Full Access Hypothesis of Epstein, Flynn, and Martohardjono 1996, 1998). A weak continuity approach, on the other hand, maintains that the initial interlanguage grammar is defective: either functional categories and related properties are taken to be absent, emerging gradually, in a bottom-up fashion, through access to UG (as in the Minimal Trees Hypothesis of Vainikka and Young-Scholten 1994, 1996a, 1996b), or functional categories are assumed to be initially transferred from the L1 grammar, but with inert feature values (as in Eubank’s 1993/1994, 1994, 1996 Valueless Features Hypothesis). Given that clitic pronouns are standardly associated with functional projections in the clause structure, investigating how knowledge of their syntactic properties develops in the grammars of L2 learners may help us decide between these two types of approaches, contributing to a better understanding of how the representation of clause structure, particularly of functional categories and their properties, develops in learners’ interlanguage.

Our second aim is to investigate whether and how the development of the morphological properties of clitics relates to the acquisition of their syntactic properties. Again, two major perspectives on the morphology/syntax interface in interlanguage grammars may be identified in the literature. According to one kind of perspective, acquisition of morphological and syntactic properties are interdependent, and morphological variability is seen as reflecting an
impaired in the underlying syntactic representations and features, which may be assumed to be transitional (e.g. Vainikka and Young-Scholten 1994, 1996a, 1996b) or permanent (e.g. Clahsen 1988; Meisel 1991). According to the second type of perspective, on the other hand, acquisition of morphology and syntax are independent of each other, and difficulties with surface morphology may occur despite evidence that associated syntactic properties have been acquired (see e.g. Rothman 2007 for review of such argumentation). An investigation into the ways in which both the morphological and the placement properties of clitics develop in interlanguage grammars may shed light on questions pertaining to the interaction of these different grammatical components in L2 acquisition.

2. Clitics in Romance L2

Previous studies on the L2 acquisition of Romance clitics (see, for example, for Spanish, Liceras 1985; Liceras et al. 1997; Duffield and White 1999; for French, Selinker, Swain, and Dumas 1975; Belletti and Hamann 2000; White 1996; Duffield et al. 2002; and, for Italian, Leonini and Belletti 2004; Santoro 2007) have shown that:

(a) there do not appear to be any significant L1 effects, with few differences found between learners, whether their L1 has clitics or not;

(b) learners follow a common developmental path in their acquisition of the syntactic properties of clitics, similar to that observed in L1 acquisition:
   – clitics do not appear systematically in the initial stages of acquisition; in these stages, learners often resort to avoidance strategies, namely, clitic omission and substitution by a strong pronoun or by a full Determiner Phrase;
   – when clitics start appearing systematically, there is rapid development and no evidence of clitic misplacement, which indicates that syntactic properties may be fully acquired;

(c) there is evidence that the morphological properties of clitics, such as their case properties, develop later than their syntactic properties (see, for example, Santoro 2007), which suggests that the two types of properties are acquired independently.

3. Placement properties of EP clitic pronouns

The placement patterns of clitic pronouns in EP are quite unique among the Romance languages. Unlike languages like Spanish and Italian,
where the alternation between proclisis (the order clitic-verb) and enclisis (the order verb-clitic) is related to finiteness (i.e. proclisis occurs with finite verbs and enclisis with non-finite verb forms), or a language like French, where proclisis occurs in all contexts apart from imperatives, in EP the two placement patterns are determined by syntactic conditions which have been fairly well described in the literature (see, among others, Madeira 1993; Duarte and Matos 2000). Enclisis occurs in the absence of certain elements in preverbal position, such as: sentential negation and negative phrases; most quantifiers; complementizers; certain classes of adverbs; wh-constituents. Both enclisis and proclisis may occur in infinitival clauses introduced by a preposition. See the examples in (1) to (3) below.

(1)  \textit{Ele contou-te}  \\
He told-3sg CL-dat-2sg  \\
‘He told you’

(2)  \textit{Ele não te contou}  \\
he not CL-dat-2sg told-3sg  \\
‘He didn’t tell you’

(3)  \textit{Vim para te contar / contar-te}  \\
came-1sg for CL-dat-2sg to-tell / to-tell CL-dat-2sg  \\
‘I came to tell you’

4. Clitics in the clause structure

Many different theories have been proposed to account for the placement properties of Romance clitics in general, and Portuguese clitics in particular. In general terms, syntactic analyses of clitic placement fall under one of two types of approaches: the base-generation approach (e.g Strozer 1976; Sportiche 1996), which assumes that all clitics are directly generated in their surface functional positions; or the movement approach (e.g. Kayne 1975, 1991), according to which clitics are generated in argument positions and moved to a functional position in the course of the derivation.

Most syntactic analyses of clitic placement in EP adopt a movement approach (Madeira 1993; Rouveret 1992; Martins 1994; Uriagereka 1995; Duarte and Matos 2000; etc.), assuming movement of the clitic to a functional head, although many different proposals for the target position of the clitic may be found in the literature (e.g. C, in Madeira 1993; W, in Rouveret 1992; Σ, in Martins; F, in Uriagereka 1995; AgrS (for proclitics) /AgrO (for enclitics), in Duarte and Matos 2000). The
particular order patterns found in EP are explained by assuming that functional heads not realized in other Romance languages are projected in EP (e.g. Rouveret 1992), or by assigning specific features to the relevant functional categories in EP (e.g. Martins 1994).

Although we will not commit ourselves to any particular proposal, we adopt a movement analysis of clitic placement, assuming that object clitics are generated in argument positions and reach their surface position through movement into a functional head. We also assume that, in order to derive the specific placement properties of clitics in EP, it is necessary to maintain the assumption that EP possesses certain functional properties not found in other Romance languages (either functional heads or features of functional heads). Given these assumptions, it seems clear that an understanding of how the placement properties of clitics are acquired by L2 learners may provide important insights into how knowledge of properties of the functional domain develops throughout the acquisition process.

5. L1 acquisition of EP clitic pronouns

The L1 developmental path that has been observed for EP differs significantly from that described for other Romance languages, with initial generalized enclisis and gradual acquisition of the conditions for proclisis.

In the L1 acquisition of EP, enclisis is the preferred pattern in all contexts until around 42 months, according to Duarte, Matos, and Faria (1995) (see also Frota 1994; Mateus et al. 2003). See the examples given below, where the clitic occurs postverbally in a negative context (4) and in a wh-question (5).

(4) 
\[ \text{não chama-se nada} \]
\[ \text{not calls CL-3sg nothing} \]
\[ \text{‘That’s not his name at all’ (M., 20 months)} \]
\[ \text{Target adult form: não se chama nada} \]

(5) 
\[ \text{porque é que foste-me interromper?} \]
\[ \text{why is that went-2sg CL-dat-1sg to-interrupt} \]
\[ \text{‘Why did you interrupt me?’ (R., 29 months)} \]
\[ \text{Target adult form: porque é que me foste interromper?} \]

Proclisis becomes the predominant pattern in negative sentences and in finite subordinate clauses at around 48 months.

Some of the most common features observed in the L1 acquisition of clitic pronouns in EP are use of a strong (subject) pronoun in place
of a clitic, clitic omission (Costa and Lobo 2005, this volume), ‘leism’, i.e. the substitution of the 3rd person dative pronoun for the accusative form, and reduplication of the clitic, where the clitic occurs simultaneously pre- and postverbally.

6. Predictions

With respect to the two questions at the core of our study, the approaches described in section 1 above make fairly distinct predictions. Our aim in this study is to test these predictions.

Regarding the first question, i.e. how does knowledge of the syntactic properties of EP clitic pronouns develop in the grammar of L2 learners, a strong continuity model such as Schwartz and Sprouse’s (1994, 1996) would predict L1 effects in the early stages, which might remain visible throughout the course of development. In the case of speakers of languages with clitics of the same type as those found in EP, which is the case of Romance languages such as Spanish, Italian and French, we would expect (a) clitics to be available in their early interlanguage grammars; and (b) initial transfer of the L1 properties of clitics into the L2, i.e. proclisis should be favoured with finite verbs, independently of the syntactic context. For speakers of languages which do not have syntactic pronominal clitics, as in German and English, the prediction would be that either clitics are not present in the earliest stages or, if they are, they may be misanalysed, being mistaken for forms found in the learners’ L1 (e.g. strong pronouns or inflectional elements) – in this case, we would expect initial preference for enclisis. Assuming full access to UG throughout the developmental process, learners should be able to fully acquire the syntactic properties of clitics, independently of their L1.

On the other hand, a weak continuity approach, as represented, for example, by the Minimal Trees Hypothesis of Vainikka and Young-Scholten (1994, 1996a, 1996b) makes fairly different predictions. Given that functional categories are assumed to be absent at the initial state, we would not expect clitics to occur in the early stages for any learners. Again, it is predicted that knowledge of the syntactic properties of clitics should develop gradually, and, as also expected under the Full Transfer/Full Access Hypothesis, the developmental path should be identical for all learners, but with no visible L1 effects at all.

Regarding the second question we are seeking to answer, i.e. what is the relation, if any, between morphological and syntactic properties in the development of the interlanguage grammar, an approach such as the one represented by the Minimal Trees Hypothesis, which assumes that morphological deficits reflect an impairment in the associated syntactic
representations and features, would predict that we should find evidence of acquisition of morphological properties (such as case properties) before, or simultaneously with, the emergence of placement properties.

If, however, we assume that there is a dissociation in the acquisition of morphology and syntax, and that learners may experience difficulties in the surface realization of morphological properties, despite indications that related syntactic properties have been acquired, as under the Missing Surface Inflection Hypothesis (Prévost and White 2000), we would expect to find evidence of acquisition of the placement properties of clitics in the presence of persistent problems in the realization of their morphological properties.

7. The study

We conducted two independent studies, based on two different types of data: spontaneous written production data (referred to as “the corpus study”) and data obtained from a grammaticality judgement task (“the judgement task study”). Below, the two studies are presented simultaneously, as they share some common features.

7.1. Participants

All the participants in the studies were foreign students attending Portuguese universities for periods between one semester and one year, with an age range of 18–30 years. They all attended a Portuguese language course provided by the university. Their proficiency level was determined on the basis of a placement test. On average, learners included in the elementary level had been learning Portuguese formally for a period of under 6 months, whereas learners in the intermediate level had been studying the language for a period of between 6 and 12 months, and advanced learners for periods of between 18 months and 3 years.

For the purposes of data collection, learners were divided into two L1 groups: Romance (native speakers of Italian, Spanish and French), i.e. languages with clitic pronouns; and Germanic (speakers of English, German, Dutch and Danish), i.e. languages which do not possess Romance-type clitics. In each of the studies, there was also a control group of monolingual European Portuguese native speakers.

Although it would have been desirable to have the same learner and control groups producing both types of data, this was not possible for practical reasons. However, the learner subjects in each study were
comparable regarding all the characteristics that were considered relevant, such as their L1s, ages, levels of proficiency and exposure to the L2.

7.1.1. Corpus study

The control group in the corpus study consisted of 9 secondary school students, with ages ranging between 15 and 17 years. Although subjects in the control group were in a different age group from the subjects in the learner groups, being slightly younger, we considered that this did not constitute a problem, as by the age of 15 all the relevant syntactic and morphological properties should have been fully acquired.

The distribution of L2 learners by L1s and proficiency levels is shown in table 1 below.

Table 1. Distribution of L2 learners in the written corpus

<table>
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<th></th>
<th>Elementary</th>
<th>Intermediate</th>
<th>Advanced</th>
</tr>
</thead>
<tbody>
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<td></td>
<td></td>
</tr>
<tr>
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<td>7</td>
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</tr>
<tr>
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<td>3</td>
<td>5</td>
</tr>
<tr>
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<td>German Group</td>
<td></td>
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</tr>
<tr>
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<td>1</td>
<td>1</td>
</tr>
<tr>
<td>English</td>
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<td>2</td>
<td>1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>18</td>
<td>14</td>
<td>15</td>
</tr>
</tbody>
</table>

7.1.2. Judgement task study

The control group in this study consisted of 12 university-educated native speakers, aged between 20 and 35.

The distribution of L2 learners, all of them at the elementary level, is shown in table 2 below.6
Table 2. Distribution of L2 learners in the scaled grammaticality judgement task

<table>
<thead>
<tr>
<th>Romance Group</th>
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</tr>
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<tbody>
<tr>
<td>Italian</td>
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</tr>
<tr>
<td>Spanish</td>
<td>7</td>
</tr>
<tr>
<td>French</td>
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<td>TOTAL</td>
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<tr>
<td>Germanic Group</td>
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<tr>
<td>Danish</td>
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</tr>
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<td>TOTAL</td>
<td>20</td>
</tr>
</tbody>
</table>

7.2. Methodology

7.2.1. Corpus study

The written corpus analysed in this study consists of short texts produced by the learners in the classroom, with no access to dictionaries or other support materials. Some descriptive, narrative and argumentative texts written in the course of their language classes are included in the corpus. However, a significant part of the corpus consists of narrative texts, produced specifically for the study – most of the participants were asked to write a short narrative text (the texts ranged between 100 and 600 words), starting with the sentence ‘She/He closed the door with a sigh of relief’. Each subject in the learner groups produced between one and three texts.\(^7\)

Subjects in the control group were also asked to perform the task of writing a short narrative text on the same topic as the learner groups. Each subject in the control group produced one text, ranging between 303 and 774 words.

After transcribing the texts and checking the transcriptions, all the contexts where clitics either occurred or were expected to occur were identified in the corpus. This task was performed by two different researchers, and the results obtained were then compared. Regarding the contexts where clitics were expected to occur but were not actually found, the different avoidance strategies adopted by the subjects were identified and quantified. As for the clitics found in the corpus, they were analysed with respect to:

(a) contexts of occurrence, i.e. whether they occur only in positions where clitics are licensed or whether, on the other hand, they
are also found in contexts where only strong pronouns are allowed;
(b) placement patterns in the following contexts: (i) declarative sentences and yes/no questions; (ii) negative sentences; (iii) wh-contexts; (iv) sentences with preverbal adverbs; (v) sentences with preverbal quantifiers; (vi) finite subordinate clauses; (vii) non-finite contexts;
(c) morphological realization (gender, number and case properties).

Through the analysis of the written corpus produced by L2 learners with different types of L1s (languages with and without syntactic clitics) and at three different levels of proficiency, we aimed to investigate whether there is evidence, in production data, of a developmental path in the acquisition of clitic properties, namely their distributional and morphological properties. We also hoped to ascertain what the differences in the development of the EP clitic system are between learners with different L1s, on the one hand, and to understand whether there is evidence for a mismatch between syntactic and morphological properties in the acquisition of clitic pronouns, on the other hand.

7.2.2. Judgement task study

The task used in this study aimed exclusively at assessing learners’ intuitions regarding the syntactic properties of clitics.

There were 34 sets of items in this task: 28 sets of test items and 6 sets of distractor items. The task was performed on a computer, and participants were presented with one set of items at a time. For each set, a context sentence was provided, followed by two sentences which participants were asked to judge on a scale of 1 (very bad) to 4 (very good).

Two sets of items were intended to test learners’ knowledge of syntactic restrictions on the distribution of clitics, namely the fact that they cannot occur as complements to prepositions. One of these sets, where an ungrammatical sentence with a clitic alternates with a grammatical one with a strong pronoun, is shown in (6) below.

(6) a **Context sentence:**

Compraste flores para a professora?
bought-2sg flowers for the teacher

‘Did you buy flowers for the teacher?’
b **Test sentence A:**
*Sim. Estas flores são para lhe.*
yes these flowers are for CL-dat-3sg
‘Because I bought him a toy’

c. **Test sentence B:**
*Sim. Estas flores são para ela.*
yes these flowers are for her

The remaining 26 sets of test items were designed to test knowledge of the order patterns found in different contexts. In this case, the two test sentences given in each set differed only as to the position of the clitic (preverbal or postverbal). The clitic forms were all accurate morphologically. Six contexts were investigated: (i) declarative sentences and yes/no questions (4 sets); (ii) negative sentences (6 sets); (iii) wh-contexts (4 sets); (iv) sentences with preverbal adverbs (4 sets); (v) sentences with preverbal quantifiers (4 sets); (vi) finite subordinate clauses (4 sets).

An example is given in (7) below.

(7) a **Context sentence:**
*Porque é que o teu irmão está tão contente?*  
why is that the your brother is so happy  
‘Why is your brother so happy?’

b **Test sentence A:**
*Porque comprei-lhe um brinquedo*  
because bought-1sg CL-dat-3sg a toy  
‘Because I bought him a toy’

c. **Test sentence B:**
*Porque lhe comprei um brinquedo*  
because CL-dat-3sg bought-1sg a toy

In a nutshell, the aim of this study was to investigate our first research question, by contributing to a better understanding of how knowledge of the syntactic properties of EP clitic pronouns develops in the early grammars of L2 learners and of whether there is evidence of L1 effects in these early stages.
7.3. Results

7.3.1. Corpus study

The control group in this study produced a written corpus of 5,293 words, with a total number of clitic occurrences of 205 (3.9%).

As for the learner groups, the Romance group produced a corpus of 15,614 words, containing 309 clitics (2%), whereas the Germanic group produced a total of 11,809 words, 201 of which were clitics (1.7%).

An analysis of the contexts where clitics were expected to occur but were omitted revealed that learners resort to three different avoidance strategies: replacement with a strong pronoun, clitic omission, and replacement with a Prepositional Phrase (PP). This third strategy is illustrated in (8) below.

(8) **O chefe da empresa tinha sido simpático com ela, tinha tratado a ela com respeito**

   ‘The head of the company had been nice to her, had treated her with respect’

   (L1 German, Elementary)

   **Target: ... tinha-a cl tratado com respeito**

   However, a quantification of these three strategies shows that learners make very little use of them. Only 1 example of substitution of a strong pronoun for the clitic was found (0.2% of the total number of clitics), 4 examples of substitution by a Prepositional Phrase (0.8%) and 24 clear cases of clitic omission (4.7%), the most widely used strategy. No significant differences were observed between the two language group learners.

   All the clitics appeared in clitic positions, i.e. attached to a verbal host, either preverbally or postverbally. Tables 3, 4, and 5 below show the distribution, both in the control corpus and in the learner corpora, of clitic patterns in the contexts under investigation (repeated below).

(a) Contexts where enclisis is expected:
   (i) declarative sentences and yes/no questions

(b) Contexts where proclisis is expected:
   (ii) negative sentences
   (iii) wh-contexts
   (iv) sentences with preverbal adverbs
   (v) sentences with preverbal quantifiers
(vi) finite subordinate clauses
(c) Contexts where either enclisis or proclisis are expected:
(vii) non-finite contexts

Table 3. Clitic patterns in the control corpus

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<th>(i)</th>
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<th>(iii)</th>
<th>(iv)</th>
<th>(v)</th>
<th>(vi)</th>
<th>(vii)</th>
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Table 4. Clitic patterns in the Romance corpus

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<td>(iv)</td>
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Table 5. Clitic patterns in the Germanic corpus

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<td></td>
<td>(88%)</td>
<td>(40%)</td>
<td>(67%)</td>
<td>(50%)</td>
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<td>(68%)</td>
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<td></td>
<td>(12%)</td>
<td>(60%)</td>
<td>(33%)</td>
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<td>(100%)</td>
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The graphics below (see figures 1–3) show the percentage rates for the clitic placement patterns observed in the control corpus and in the learner corpora, in the three types of contexts investigated: contexts which require obligatory enclisis (declarative sentences and yes/no questions), contexts which require obligatory proclisis (negative sentences, wh-clauses, sentences with preverbal adverbs and with preverbal quantifiers, and finite subordinate clauses), and contexts which allow both enclisis and proclisis (non-finite clauses).

Figure 1. Order patterns produced by the control group
The spontaneous production data for the Romance group show evidence that:

(a) enclisis in the relevant contexts appears to be well established from the early stages, decreasing slightly in the intermediate and advanced stages;

(b) in the early stages enclisis is also the preferred pattern in contexts which require obligatory proclisis, but it gradually loses ground to proclisis, which clearly becomes the preferred option by the advanced stages; this developmental path is clearly observed in subordinate contexts;
(c) there is a clear tendency towards proclisis in negative sentences from the initial stages.

As for the Germanic group, the production data indicate that:

(a) enclisis in declarative sentences also appears to be well established from the initial stages;
(b) there is a strong initial preference for proclisis in contexts which allow proclisis optionally (unlike the Romance group); this preference declines gradually as the proficiency level increases, with enclisis becoming the preferred pattern in the intermediate and advanced levels;
(c) there is evidence for a U-curve development in contexts which require obligatory proclisis, from an overall strong initial preference for proclisis, to a preference for enclisis in the intermediate level and back to proclisis in the advanced level; this is clearly illustrated by the development observed in subordinate contexts;
(d) however, in negative sentences there is a clear tendency towards proclisis from the early stages (like the Romance group), whereas in wh-clauses there appears to be a path from enclisis to proclisis.

The written corpus presents 14 morphologically deviant clitics (2.8% of the total number of clitics in the corpus). Only case mismatches were identified, there being no occurrences of gender or number errors. No significant differences were found between the two language groups or between learners at different proficiency levels.

7.3.2. Judgement task study

In the grammaticality judgement task, target answers were considered to be values of 3 or 4 for the grammatical member of each pair and values of 1 or 2 for the ungrammatical member. Figure 4 presents the median percentages of target answers for each of the learner groups, showing that the judgements of the Romance group are slightly (although not significantly) more accurate than those of the Germanic group (48% of target answers for the Germanic group against 53% for the Romance group).
Figure 4. Mean percentages of target answers for the learner groups

Figure 5 shows the median percentages (and respective 95% confidence interval) of target answers in each of the contexts tested (repeated below).

(i) declarative sentences and yes/no questions
(ii) negative sentences
(iii) wh-contexts
(iv) sentences with preverbal adverbs
(v) sentences with preverbal quantifiers
(vi) finite subordinate clauses
(vii) complement position of a preposition

Figure 5. Median percentages of target answers by context (the Romance group is represented by the triangle, the Germanic group by the cross and the control group by the circle)

None of the groups has difficulty in excluding clitics from the complement position of prepositions (vii), hence showing knowledge of
the specific distributional properties of clitic forms. When we consider the contexts where clitics occur either in preverbal or in postverbal position, we observe a wide variation in the median percentage of target answers, ranging between 33% (in finite subordinate clauses (vi), for the Germanic group) and 82% (in declarative sentences/yes-no questions (i), for the Romance group). Sentences with preverbal quantifiers (v) and finite subordinate clauses (vi) are the contexts where both the learner groups and the control group performed less accurately, whereas declarative sentences/yes-no questions (i) constitute the context where all groups displayed more accuracy. Wh-clauses (iii) and sentences with preverbal adverbs (iv) show the widest variation between the controls and the learner groups. In all contexts, with the exception of sentences with preverbal adverbs and quantifiers, there is a (non-significant) tendency for the Romance group to perform more accurately than the Germanic group.

Furthermore, as shown in figure 6 below, the percentage of target answers was linearly related between both learner groups (tested with a least squares regression: $y=8.99+0.92x$, $R^2=53\%$, $F_{[1,52]}=59.55$, $p<0.0001$). Thus, the sentences that the Romance group had greater difficulty in judging were also the ones that the Germanic group found the hardest. This relationship was not observed between any of the learner groups and the control group, clearly indicating that this difficulty was not related with the test per se.

![Figure 6. Linear relationship between the percentages of target answers for the Romance and the Germanic groups](image-url)
Overall, there is greater accuracy in the judgements for the grammatical sentences than for the ungrammatical sentences. Paired tests were performed to determine whether differences between target answers for the grammatical sentences and for the ungrammatical sentences is significant, as the subjects are the same, i.e. the samples are not independent of each other. This is an important question, given that evidence for acquisition of the relevant properties depends not only on the rates of acceptance of grammatical sentences, but also crucially on equivalent rates of rejection of ungrammatical sentences. Due to the lack of normality of the data (tested through the Shapiro test), a non-parametric analysis was performed: the paired Wilcoxon test, corrected for ties. It showed that there are significant differences between target responses for the grammatical and ungrammatical sentences for the control group (Wilcoxon test -paired: V = 0, p-value = 0.015), for the Romance group (Wilcoxon test -paired: V = 3, p-value = 0.001), but not for the Germanic group (Wilcoxon test -paired: V = 17, p-value = 0.086). This suggests greater indeterminacy on the part of the Germanic learners in their knowledge of clitic placement properties.

Figure 7. Box plots representation of the percentages of target answers for learner groups and controls

Statistical tests were performed to determine whether there are any significant differences between the results of the control group and those of the two learner groups, and between the results of the two learner groups. Given the lack of normality and homogeneity of the variances, a non-parametric analysis was done (normality was tested through the Shapiro-Wilk test and the variances through the Bartlett test). Thus, a Kruskal-Wallis test indicated the existence of significant differences between the percentages of target answers of the three groups ($\chi^2=25.656$, DF=2, p-value<0.001). In order to check whether the difference is significant for each pair of groups, a Wilcoxon test was
performed, with a Bonferroni correction for multiple comparisons, on the p-values. Thus, there are significant differences both between the median of the control group and that of the Romance group (W=200, corrected p-value=0.013), and between the control group and the Germanic group (W=238, corrected p-value<0.001), but not between the Germanic and the Romance groups (W=197, corrected p-value=0.804).

8. Discussion and conclusion

One of the major difficulties encountered in the realization of the studies reported here relates to the collection of data (see endnote 6). For this reason, the results obtained are not as conclusive as we had hoped they would be. However, they still allow us to draw some conclusions and suggest some significant lines of research that we hope to explore in future work. In our discussion in this section, we bring together the results of the two studies, in an attempt to evaluate what answers they may jointly provide to our research questions.

There are indications in the production data that learners may resort to strategies that allow them not to use clitics in contexts where they would be either required or contextually appropriate. Some of the avoidance strategies illustrated in the data were clitic omission, use of a strong pronoun and use of a full Determiner Phrase or a strong pronoun embedded in a Prepositional Phrase. These results are consistent with what has been observed in the L2 acquisition of other Romance languages (see, for example, Leonini and Belletti 2004). However, learners always appear to disallow clitics from positions where they are not licensed. Hence, whenever clitics occur, they are always attached to a verbal host; only one case of substitution of a strong pronoun for a clitic was observed in the production data and, in the grammaticality judgement task, the performance of L2 learners was target-like in their exclusion of clitics in the complement position of prepositions. These facts together appear to show that learners develop knowledge of the specific syntactic properties of clitics from the very early stages.

Despite the (slight) evidence for recourse to avoidance strategies, the production data also shows that clitics are productively used by both groups of learners, from the initial stages. Moreover, the results for the grammaticality judgement task indicate that learners have intuitions about sentences containing clitics from early on in the acquisition process, although these intuitions may differ significantly from those of native speakers. This would seem to constitute evidence for a strong continuity model as represented by the Full Transfer/Full Access Hypothesis of Schwartz and Sprouse (1994, 1996): if clitics, which are functional elements, are present in early interlanguage grammars, this
would indicate a full representation of clause structure from the initial stages, including functional categories. On the other hand, these results may also be compatible with a weak continuity model, as represented by the Minimal Trees Hypothesis of Vainikka and Young-Scholten (1994, 1996a, 1996b), if it is assumed that these learners, who have all been learning the L2 for at least one month in an immersion context, are no longer at the initial state. It would then be predicted that some functional properties should already have started developing.

The two approaches, however, make incompatible predictions regarding the transfer of L1 functional properties, which should be particularly visible in the developmental path followed in the acquisition of placement patterns. Whereas Full Transfer/Full Access predicts an initial preference for proclisis for Romance learners and an initial preference for enclisis for the Germanic learners (see section 6 above), Minimal Trees predicts a similar developmental path for all learners, independently of their L1.

Both the production data and the results obtained in the grammaticality judgement task suggest that both the Romance and the Germanic learners are aware of the existence of the two placement patterns from the early stages, although they have not yet acquired most of the conditions which determine each pattern. This differs from what has been observed in the L2 acquisition of other Romance languages (see section 2 above). The spontaneous production data clearly reveals an initial overall preference for enclisis – in the case of Romance learners, both in the appropriate contexts and in contexts which would typically require proclisis –, with a slightly higher production of enclitic patterns in the Romance group (80% enclisis to 20% proclisis) than in the Germanic group (71% enclisis to 29% proclisis). The results from the grammaticality judgement task, however, indicate that these differences in the performance of the two learner groups are not significant, confirming the absence of any relevant L1 effects. These results seem, therefore, to be consistent with the predictions made by Minimal Trees, with no transfer of L1 properties in the functional domain.

The predominance of enclisis observed in the early grammars of the learners could be explained, under a structure-building model as represented by Minimal Trees, by assuming that enclitics occupy a lower functional position in the syntactic structure than proclitics (as proposed by Duarte and Matos 2000, who argue that enclisis is derived by movement of the clitic into AgrO, whereas proclitics move higher up in the structure into AgrS – see section 4 above). Proclisis appears, and knowledge of the relevant proclisis triggers develops, as the relevant functional categories start emerging in the interlanguage grammars, through access to UG. Hence, an identical developmental
path is expected for all learners, independently of their L1. Minimal Trees also provides an explanation for the similarities observed between L1 and L2 acquisition (e.g. clitic omission, initial generalized enclisis, emergence of proclisis first in negative contexts), given that both processes are argued to be UG-driven.\textsuperscript{10}

Regarding the development of clitic morphology, it was observed that, even at the initial stages, when syntactic properties have not fully developed, only a proportionally small number of case mismatches were identified, again as in L1 acquisition. Although morphological variability appears to decrease very slightly throughout the acquisition process, it may still be observed after syntactic properties have been acquired (in accordance with the findings of Santoro 2007 for L2 Italian). This would suggest a separation between morphology and syntax in the L2 acquisition of clitic pronouns, in line with the Missing Surface Inflection Hypothesis. Alternatively, the fact that so few cases of morphologically inaccurate forms were observed, at the three stages of development, could also be explained under a Minimal Trees approach, assuming that, by the time that there is evidence of the presence of clitics in the interlanguage grammar, functional categories/features associated with the morphological properties of clitics (gender, number and case) are already represented in the grammar. Clearly, there is not sufficient data to allow us to reach firm conclusions on this issue and further research is needed.

\textbf{Endnotes}

\* This research was conducted with the support of research grant no. POCI/LIN/62214/2004 – “Morphology and Syntax in L2 Acquisition” from the Fundação para a Ciência e a Tecnologia (Portugal). We would mainly like to thank Maria de Lourdes Crispim and the following research assistants for their help: Nuno Rendeiro, Ana Fernandes and Sandro Dias. We are grateful to the PFL teachers at Universidade Nova de Lisboa for their collaboration in the data collection, and particularly to all the students who participated in this study. We also want to thank the editors and the reviewers for their helpful feedback and suggestions.

1. However, Leonini and Belletti (2004) suggest that the presence of syntactic clitics in the L1 has a facilitating effect on the L2 acquisition of clitic properties, and Belletti and Hamann (2000) claim to have found some evidence of L1 effects.

2. It is well known that clitics differ in their distribution from strong pronouns, as well as with respect to other syntactic properties (Kayne 1975). Analysing French L2 data, Selinker, Swain, and Dumas (1975) noticed a small number of occurrences of clitics in postverbal position and used as complements to prepositions, which suggests that learners may
initially fail to establish a distinction between clitics and strong pronouns (but see Liceras 1985; Liceras et al. 1997; White 1996; Leonini and Belletti 2004).

3. We believe that the view that clitic placement in EP is syntactically determined, i.e. that the alternation between enclisis and proclisis can be described in terms of syntactic conditions, is fully compatible with proposals found in the literature (e.g. Barbosa 1996; Frota and Vigário 1996), arguing that clitic placement in this language is driven by prosodic constraints.

4. As several authors have noted (Frota 1994; Frota and Vigário 1996; Duarte and Matos 2000; Mateus et al. 2003), the use of enclisis is becoming increasingly common, especially among younger speakers, in contexts where proclisis would normally be expected, particularly in finite subordinate clauses, but also in sentences with preverbal adverbs and quantifiers and in wh-contexts.

5. Both examples in this section are taken from Duarte, Matos, and Faria (1995).

6. Although our aim was to test L2 learners at the three proficiency levels in both studies, this proved to be impossible for the grammaticality judgement task.

7. The Romance group produced a total of 170 texts and the Germanic group a total of 94 texts. The corpus contained 148 narrative texts, 35 descriptive texts and 81 argumentative texts. The decision to include different types of texts was taken after a careful analysis of the different texts, which showed that there were no significant asymmetries between them regarding the properties that constitute the object of the research.

8. The distractor items illustrated different morphological, syntactic and lexical properties and did not include clitics. In some of the sets, a grammatical sentence alternated with an ungrammatical one, whereas in the other sets both alternatives were grammatical. We agree with the reviewers that the number of distractor items should have been higher, particularly in view of the uniformity of the properties being tested.

9. Although no clear evidence emerged in our present study and further research is needed, the results suggest that knowledge of the different proclisis triggers may be acquired gradually, in a sequence, with proclisis emerging first in negative contexts, as in L1 acquisition.

10. As one anonymous reviewer rightly points out, in order to argue for Full Access to UG, it would not be sufficient to show that learners have acquired the relevant target properties. It would also be necessary to exclude any other potential sources for that knowledge, namely the learners’ L1 and the linguistic input available to them either through explicit classroom teaching or through natural exposure to the language, hence demonstrating that learners face a Poverty of the Stimulus problem. In our study, although it seems clear that learners could not have derived the relevant knowledge from their L1, it is not obvious that the linguistic input may be equally dismissed as a potential source for this knowledge, as all the subjects were learning the L2 in the classroom and were, at the time of the study, living in Portugal, hence with plenty of access to the
relevant input. However, there is some evidence from a previous pilot study (Madeira, Crispim, and Xavier 2006), coming particularly from sentences with Quantifier Phrases, which would appear to suggest that learners develop knowledge of certain properties which are not obvious in the input.

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