What the Start of L3 Tells us About the End of L2: N-drop in L2 and L3 Brazilian Portuguese[*]

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1. Introduction

Only recently has generative acquisition research begun to systematically study L3/Ln acquisition (see Leung 2007a for literature review and its importance to generative linguistics). Among other beneficial contributions, the study of L3, particularly at the initial state, provides a distinct investigative angle into debates concerning post-critical period ultimate attainment, until now almost exclusively investigated within L2 acquisition (Leung 2001, 2005, 2006, 2007b; Rothman and Cabrelli 2007). The current study continues this line of research, analyzing two opposing approaches to adult language acquisition: Full Access approaches (FAA) (Duffield & White 1999; Schwartz & Sprouse 1996; White 1989, 2003) and the Representational Deficit approaches (RDA)[1] (Beck 1998; Bley-Vroman 1990; Franceschina 2001; Hawkins 2005; Hawkins & Chan 1997; Meisel 1997; Tsimpli & Dimitrakopoulou 2007).

Insofar as each approach makes different predictions for L2 ultimate attainment, they make implicit falsifiable predictions of transfer for the L3 initial state. Since RDAs maintain that adults have no access to functional features absent from their L1 system (at least uninterpretable ones; see Hawkins 2005, Hawkins and Hattori 2006), evidence of new L2 features should be absent from the L3 initial state. In other words, RDAs predict that transfer between L2 and L3 at the level of functional categories and features is necessarily identical, reflecting transfer of the L1 functional grammar only. Conversely, FAAs maintain that adults have access to UG's full inventory, anticipating the possibility of adult parameter resetting. Under such a scenario, L3 learners would have access to two particular grammar systems with distinct feature compositions for transfer at the L3/Ln initial state. If the L3 initial state provides evidence of new L2 feature transfer then such evidence could only be supported by FAAs and would constitute counter evidence for RDAs.

We test these predictions by investigating the L3 initial state of learners whose L2 and L3 share morphological, syntactic and semantic reflexes of features not found in the L1, that is, English native adult L2 learners of Spanish at the L3 Brazilian Portuguese (BP) initial state. Since Spanish and BP are typologically similar, it is reasonable to presume that, if available, the L2 grammar would serve as the basis for (many) initial hypotheses. The predictions of the approaches will either be validated or falsified by comparing this L3 group to another experimental group of English learners of L2 BP also at the initial state. We test the experimental groups knowledge of noun drop (N-drop), a particular case of noun ellipsis that, with others, we take to be a syntactic reflex of the checking of interpretable and uninterpretable φ-features (a word marker, in the sense of Bernstein 1993, Harris 1991) within the Spanish and Portuguese DP (Liceras, Díaz & Mongeon 2000; Montrul, Foote & Perpiñán in press; Snyder & Senghas 1997; Snyder, Senghas & Inman 2001). Since the phenomenon falls out from the instantiation of uninterpretable and interpretable gender features that are absent in L1 English, RDAs predict that the initial state of both experimental groups would be devoid of such knowledge. On the contrary, FAAs allow for the possibility of initial state asymmetry between these two groups, whereby, via Spanish transfer, only the L3 initial state could evidence such knowledge. We provide data consistent with the FAAs' predictions only, highlighting the value of L3 initial state studies for the resolution of controversial debates concerning post-critical period UG accessibility.

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[1] We conflate here several theories under the term RDA, realizing that there are important differences between them in terms of predictions and theoretical concepts available at the time of their creation.

2. Syntax of Noun drop (N-drop)

As is well-known, the Romance and English functional category DP differ significantly in terms of which relevant features the particular languages instantiate. Unlike Romance languages, English does not have grammatical gender features and so nouns and (some) determiners morphologically inflect number only. In Romance languages, however, determiners, nouns and adjectives are inflected for grammatical gender as well. Although grammatical gender is typically referred to as *masculine* or *feminine*, it is independent of inherent gender. While the common generalization is that most masculine nouns end in *–o* and most feminine nouns end in *–a,* there are examples which are precisely the opposite and still other examples in which gender is not overtly realized. Romance determiners and most adjectives have overt grammatical gender (although these features are uninterpretable since they have no semantic import, but interpretable on the head noun (Bosque & Picallo 1996; Carstens 2000; Mallen 1997)); however, adjectives lacking overt grammatical gender do exist (e.g. *grande* 'big').

Examples (1) and (2) below show determiner/noun/adjective agreement for adjectives that overtly mark gender and for those that do not, respectively.

(1) a. *o*   *carro*   *pequeno*
   The.masc.sing.   car.masc.sing.   small.masc.sing.
   'The small car'
   b. *a*   *casa*   *pequena*
   the.fem.sing.   house.fem.sing.   small.fem.sing.
   'The small house'
   c. a   *mulher*   *alta*
   the.fem.sing.   woman.fem.sing.   tall.fem.sing.
   'The tall women'

(2) a. *o*   *carro*   *grande*
   the.masc.sing.   car.masc.sing.   large.sing.
   'The large car'
   b. *a*   *casa*   *grande*
   the.fem.sing.   house.fem.sing.   large.sing.
   'The large house'
   c. *a*   *mulher*   *grande*
   the.fem.sing.   woman.fem.sing. large.sing.
   'The large woman'

A notable similarity between BP and English is that both languages exhibit number agreement, at least between some determiners and nouns. In BP, number agreement is most commonly realized as the plural morpheme /-s/ (or an allomorph) on the noun. Similar to gender agreement, determiners and adjectives must also agree with the head noun in regards to number (constituting uninterpretable Φ-features on determiners and adjectives, which are valued and deleted against the interpretable feature on the head noun). This can be seen in example (3) below. While number agreement is only seen on a select few determiners (and not adjectives) in English, it is also most commonly realized as /-s/ on nouns. Example (4) shows this.

(3) a. *o*   *carro*   *pequeno*
   The.masc.sing.   car.masc .sing.   small.masc.sing.
   'The small car'
   b. *os*   *carros*   *pequenos*
   the.masc.plrl   cars.masc.plrl   small.masc.plrl
   'The small cars'

(4) a. The small car
   b. The small cars
   c. That small car

d. Those small cars

We adopt the structural analysis of White et al. (2004) which is shown in example (5) below. As can be seen in (5), the functional category NumP occupies a position between DP and NP. From (5), it is apparent that the noun (in this case *casa* 'house') originates in a lower position; however, it overtly raises to NumP due to the strong Num features of BP (resulting in the canonical postverbal adjectival position of Romance languages). Here, the uninterpretable gender features are checked and deleted (Carstens 2000). In English, where NUM features are weak, the noun overtly remains in-situ yielding the common word order determiner/adjective/noun.

(5)
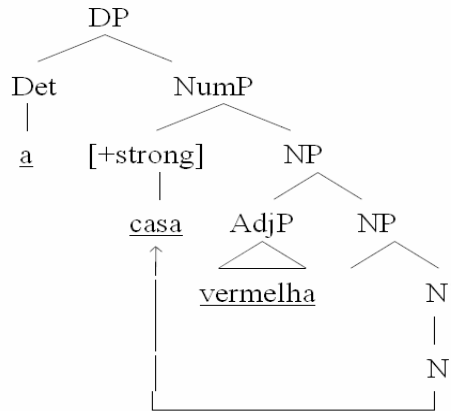
The presence of gender and number features in BP and other Romance languages licenses the phenomenon of N-drop. That is, due to the fact that the necessary information provided by the head noun is recoverable at LF from the gender and number features present on the determiner and adjective, the noun may be fully deleted as can be seen in (6) below. Since the noun and its features are recoverable in Romance languages, Portuguese allows for three types of N-drop (Liceras et al. 2000). The first, as seen in example (6), involves a prepositional phrase. The second type seen in (7) employs a relative clause. Finally, the third type, seen in (8) is what is traditionally considered to be N-drop. The current study focuses on this final type.

(6) Não quero   a   camisa de   Luciana, senão   a   de Anna.
    No want.pres.1sing. the.fem.sing.   shirt of   Luciana but-rather the.fem.sing. of Anna.
    'I don't want Luciana's shirt, but rather Anna's.'

(7) O   menino não quer   o   sorvete que   tem.
    The.masc.sing. boy   no want.pres.3sing. the.masc.sing. ice cream that   has.pres.3sing.
    Quer   o   que   seu   irmão   tem.
    Want.pres.3sing. the.masc.sing. that   his   brother   has.pres.3sing.
    'The boy doesn't want the ice cream he has. He wants his brother's.'

(8) Aline   gosta   das   praias   populares   mas eu   gosto   das
    Aline   like.pres.3sing.   of-the.fem.plrl. beaches   popular.plrl. but I   like.pres.1sing. of-the.fem.plrl.
    desconhecidas.
    unknown.fem.plrl.

English does not allow N-drop (in the sense of full nominal ellipsis), but instead requires use the proform *one* or *ones* in N-drop environments as in example (9) below.

(9) Aline likes the popular beaches but I like the unknown ones.

Recall that because recent versions of RDAs (Hawkins 2005; Hawkins & Hattori 2006; Tsimpli & Dimitrakopoulou 2007) crucially claim that new uninterpretable features cannot be acquired by adult learners, these

hypotheses predict that L2 and L3 learners of BP tested in this study will not show accurate knowledge of gender or number features and as a consequence, that they will not demonstrate accurate and invariable knowledge of N-drop since this phenomenon is borne out of the features. In the instance that the L3 participants do in fact demonstrate knowledge of gender features at the initial state, RDAs claim that this is due to external forces such as explicit instruction and is not due to having acquired the features that license it.

In regards to the initial state, FAAs, like RDAs, predict that L2 learners of BP will not demonstrate knowledge of gender and number features nor of N-drop. Assuming that L2 transfer is possible (Leung 2005, 2007b; Flynn et al. 2004; Falk & Bardel 2007; Rothman & Cabrelli 2007) FAAs predict, in contrast to RDAs, that the L3 learners can post-pubescently acquire L2 features and feature strengths and transfer them into multilingual initial states. If tenable, demonstrating knowledge of N-drop at the initial state confirming the predications of FAAs only.

3. Methodology

Reported data come from three participant groups: (1) an adult native BP control (n=10), (2) adult L1 English learners acquiring L2 BP (n=13) and (3) L1 English speakers who are successful adult learners of L2 Spanish acquiring L3 BP (n=22). At the time of testing, both the L2 and L3 learners were in Brazil to participate in an intensive summer immersion program and had had fewer than 20 hours of instruction/exposure to BP (with approximately one week of residence); that is, they were at the initial state of acquisition.

Each participant group completed two experiments: (1) a comprehension task in the form of scalar grammaticality judgment task (SGJT) and (2) an N-drop contextualized translation task. The SGJT tested for acquisition of the necessary gender features for production of N-drop while the contextualized translation task tested for the actual production of N-drop. The following subsections describe the two experiments and provide examples of the test items used.

3.1. Experiment 1: Scalar Grammaticality Judgment Task

In this experiment participants were presented with sentences such as those seen in examples (10) through (12). They were then instructed to rate the (un)grammaticality of sentences on a Likert scale of -2 to 2. A rating of -2 signified complete ungrammaticality of the sentence; a rating of 0 indicated complete uncertainty on the part of the participant; finally, a rating of 2 indicated complete certainty that the sentence was grammatical.

(10) Gender agreement with adjectivals (noun-adjective agreement)
  a. Ontem   no   shopping, minha   tia   comprou   três *camisas   feias*.
     Yesterday in-the.masc.sing. mall my.fem.sing. aunt bought.pret.3sing. three shirt ugly.fem.plrl.
     'Yesterday in the mall, my aunt bought three ugly shirts.'

     -2   -1   0   1   2

  b. *Ele me deu   um   *carro   nova*,   mas   era   muito   feio.
      He me gave a.masc.sing. car new.fem.sing., but was.imp.3sing. very.masc.sing. ugly.masc.sing.
     'He gave me a new car, but it was very ugly.'

     -2   -1   0   1   2

(11) Gender agreement with nominals (determiner-noun agreement)
  a. *Meu   namorado*   queria   ver   o   filme de terror   esse   fim   de
     My.masc.sing. boyfriend wanted.imp.3sing. see.inf the.masc.sing. film of horror this.masc.sing. end of
     semana.
     weekend.
     'My boyfriend wanted to see the horror film this weekend.'

     -2   -1   0   1   2

b. *Comemos   *o   salada* antes   do   prato   principal.
    Eat.pres.1plrl. the.masc.sing. salad   before of-the.masc.sing. plate principal.masc.sing.
    'We eat the salad before the main course.'

   -2   -1   0   1   2

(12) N-drop
  a. Quero   um   apartamento grande mas   meu   namorado   quer   *um*
    Want.pres.1sing. a.masc.sing. apartment   big.sing. but my.masc.sing. boyfriend want.pres.2sing. a.masc.sing.
    pequeno.
    small.masc.sing.
    'I want a large apartment but my boyfriend wants a small one.'

   -2   -1   0   1   2

  b. *O   Carlos   tem   vários   carros mas   vai   ter   que vender
    The.masc.sing. Carlos has.pres.3sing. various.masc.sing. cars   but going.pres.3sing. have.inf. that sell.inf.
    os   *velhos*   *uns* porque   precisa   de dinheiro.
    the.masc.plrl. old.masc.plrl. ones because need.pres.3sing. of money.
    'Carlos has several cars but he is going to have to sell the old ones because he needs money.'

   -2   -1   0   1   2

     For each of the three sentence types above there were 10 tokens each (five grammatical and five ungrammatical). In sentence types (10) and (11), grammatical and ungrammatical noun/adjective and determiner/noun gender agreement is shown morphologically between the noun and adjective and the determiner and noun, respectively. Sentence type (12) shows examples of grammatical and ungrammatical N-drop. Example (12b) is ungrammatical due to the insertion of the proform (*um, uns, uma, umas*) in place of the noun that should be elided, and is an incorrect and direct transfer of the L1 English structure. Finally, it is worth noting that there was also a 1:1 ratio of filler sentences and that vocabulary was controlled for; however, participants were permitted to ask the researcher about any unfamiliar vocabulary.

3.2. Experiment 2: N-drop Contextualized Translation Task

     In this experiment, whose purpose was to test the L2 and L3 participants' production of N-drop, participants were presented with a brief context in English that served to license the possibility of N-drop in BP. Next, participants were presented with a sentence in English with the equivalent N-drop English structure (that is, a structure that employs the proform *one* or *ones*). They were then instructed to translate the portion of the sentence presented in italics. As in the previous experiment, vocabulary was controlled for or provided to participants if needed. The native participants were given a similar test in BP: they were presented with a context in BP and instructed to complete sentences that required N-drop given the discourse context. A total of eight examples were included in this experiment: two sentences for each of the four possible combinations of gender and number. Examples can be seen below in (13).

(13) N-drop
  a. Many houses on the coast are yellow, but there are also some white houses. My friend likes the yellow ones, *but I like the white ones.*
    Muitas das casas na costa saõ amarelas, mas há umas casas brancas também. O meu amigo gosta das amarelas, mas eu…

b. My cousin has an expensive car and a cheap car. He usually drives the expensive one in town, *but today he is driving the cheap one.*
Meu primo tem um carro caro e um carro barato. Normalmente, ele dirige o caro, mas hoje está dirigindo...

If the translation provided by the participants contained proper noun ellipsis with corresponding adjectival agreement, it was scored as correct. Conversely, if the full DP was either repeated (a common avoidance strategy for adult learners) or if a corresponding indefinite article (*un, uns, uma, umas*) was inserted where the noun should be elided (a direct and importantly incorrect transfer from the L1), the translation was scored as incorrect.

   Both RDAs and FAAs predict that the L2 learners will perform poorly on this task. This is due to the fact that these learners were at the initial state at the time of testing, and therefore, they can only rely on their L1 linguistic system, which does not license N-drop. Importantly, the predictions made by RDAs and FAAs for L3 learners differ. According to FAAs, the L3 learners are expected to produce N-drop as the native control group does if L2 feature values are transferable. This is due to the fact that Spanish, like BP, licenses N-drop and the L3 learners could have acquired the necessary features for this licensing during L2 acquisition. It follows then that failure on the part of L3 learners to accurately produce N-drop at the initial state does not necessarily mean that RDAs are correct for the L2 steady state. Instead, it is possible that multilingual transfer is subject to an L1 effect. However, in accord with previous studies, our data demonstrate that no such L1 effect exists and that it is possible that the L3 initial state reflects L2 transfer.

4. Results

   In this section, the results of the two empirical experiments are presented. Statistical analyses comparing all three groups were performed using an ANOVA, followed by two-sample t-tests when appropriate (i.e. Fisher's least significant difference method). Any intragroup comparisons were performed using paired t-tests. In all statistical analyses, an alpha of .05 was used for 95% confidence.

4.1 Results Experiment 1

   This experiment, as detailed in section 3.1, was a scalar grammaticality judgment task in which participants rated sentences from -2 (ungrammatical) to 2 (grammatical). The group mean ratings for a given sentence type are shown in figure 1 below:
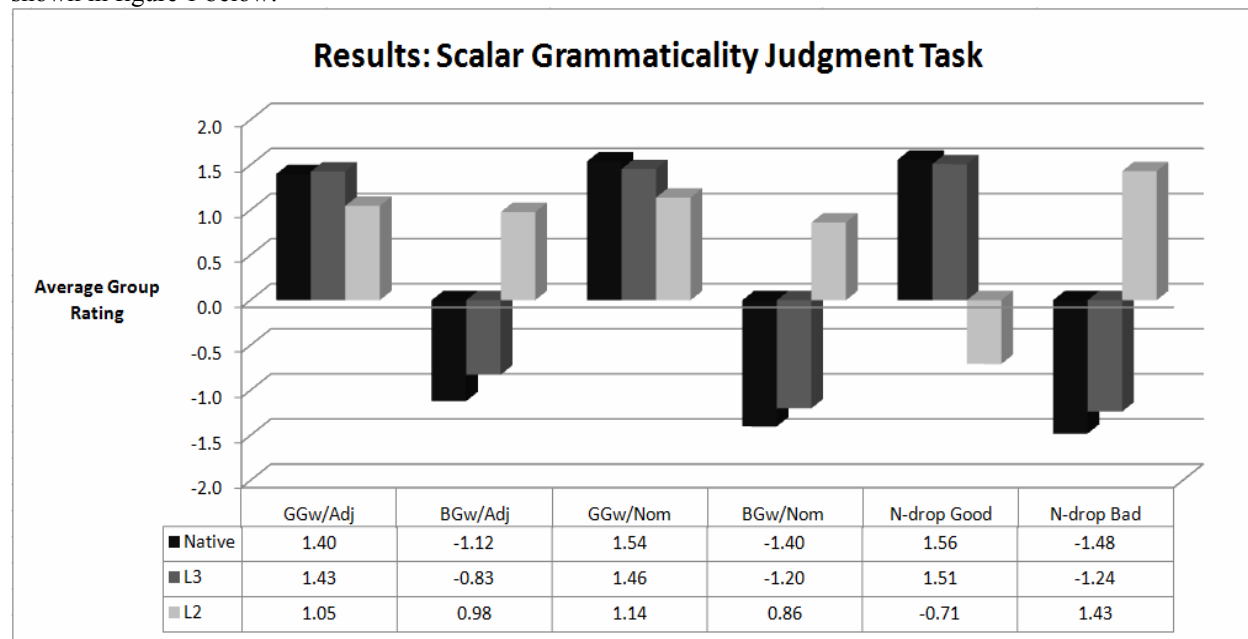

	GGw/Adj	BGw/Adj	GGw/Nom	BGw/Nom	N-drop Good	N-drop Bad
■ Native	1.40	-1.12	1.54	-1.40	1.56	-1.48
■ L3	1.43	-0.83	1.46	-1.20	1.51	-1.24
■ L2	1.05	0.98	1.14	0.86	-0.71	1.43

Figure 1. Results Experiment 1

GGw/Adj = Good gender with adjectivals; BGw/Adj = Bad gender with adjectivals; GGw/Nom = Good gender with nominals; BGw/Nom = Bad gender with nominals; N-drop Good = Good N-drop; N-drop Bad = Bad N-drop

As can be seen in figure 1, the L3 group behavior seems to be comparable to that of the natives, while the L2 group appears to be variable. In order to see where in fact significant differences lie between the groups in any given category, statistical analyses we conducted, seen in tables 1a and 1b below:

Table 1a: Experiment 1 (Intergroup Comparison)

	GGw/Adj			BGw/Adj			GGw /Nom		
	t	*p*	*df*	*t*	*p*	*df*	*t*	*p*	*df*
ANOVA	5.79	0.006	2	45.85	<0.001	2	4.62	.015	2
NS v. L3	0.21	0.837	20	1.59	0.122	29	0.68	0.507	18
NS v. L2	2.85	0.011	16	12.39	<0.001	20	2.70	0.014	20
L3 v. L2	3.61	0.001	32	8.74	<0.001	32	2.45	0.023	22

GGw/Adj = Grammatical gender with adjectivals; BGw/Adj = Ungrammatical gender with adjectivals; GGw/Nom = Grammatical gender with nominals

Table 1b: Experiment 1 (Intergroup Comparison)

	BGw/Nom			N-drop Good			N-drop Bad		
	t	*p*	*df*	*t*	*p*	*df*	*t*	*p*	*df*
ANOVA	44.37	<0.001	2	75.10	<0.001	2	107.62	<0.001	2
NS v. L3	0.35	0.727	17	0.35	0.727	17	1.32	0.197	29
NS v. L2	1.10	0.280	29	8.62	<0.001	17	18.95	<0.001	20
L3 v. L2	7.35	<0.001	21	8.92	<0.001	14	14.08	<0.001	32

BGw/Nom = Ungrammatical gender with nominals; N-drop Good = Grammatical N-drop; N-drop Bad = Ungrammatical N-drop

The statistical analyses show no statistically significant differences between the NS group and the L3 group in any category. Conversely, the L2 group differed from the other groups in all categories. Additionally, intragroup analyses were done to see if each group made distinctions between grammatical and ungrammatical sentences within a given category, shown in table 2 below:

Table 2: Experiment 1 (Intragroup Comparison)

	GGw/Adj v. BGw/Adj		GGw/Nom v. BGw/Nom		N-drop Good v. N-drop Bad		GGw/Adj v. GGw/Nom		BGw/Adj v. BGw/Nom	
	t	*p*	*t*	*p*	*t*	*p*	*t*	*p*	*t*	*p*
NS	13. m	<0.001	18.1	<0.001	15.6	<0.001	0.96	0.36	1.77	0.11
L3	15.1	<0.001	14.5	<0.001	14.8	<0.001	0.23	0.82	1.60	0.12
L2	0.98	0.35	7.80	<0.001	0.98	0.35	0.75	0.47	0.06	0.95

GGw/Adj = Good gender with adjectivals; BGw/Adj = Bad gender with adjectivals; GGw/Nom = Good gender with nominals; BGw/Nom = Bad gender with nominals; N-drop Good = Good N-drop; N-drop Bad = Bad N-drop

These results show that both the NS and L3 group make significant distinctions between grammatical and ungrammatical sentences while not differentiating between sets of grammatical sentences. The L2 group, however,

only distinguished between grammatical and ungrammatical instances of gender agreement between determiners and head nouns,[2] suggesting that this group has indeterminate knowledge of these properties.

One further statistical analysis was done to see if any of the distinctions found in the intragroup comparisons presented above were native like. To do this, the difference of group means compared in the intragroup comparisons were compared across groups (e.g. GGw/Adj – BGw/Adj of the NS group versus the same difference for the L3 group). These results are presented in table 3 below:

Table 3: Experiment 1 (Intergroup Comparison)

	GGw/Adj - BGw/Adj			GGw/Nom - BGw/Nom			N-drop Good - N-drop Bad		
	t	*p*	*df*	*t*	*p*	*df*	*t*	*p*	*df*
ANOVA	50	<.001	2	58	<.001	2	155	<.001	2
NS v. L3	1.0	0.287	20	1.4	0.165	26	1.1	0.256	27
NS v. L2	9.1	<.001	19	9.6	<.001	18	16	<.001	19
L3 v. L2	9.1	<.001	27	8.4	<.001	20	14	<.001	23

GGw/Adj = Good gender with adjectivals; BGw/Adj = Bad gender with adjectivals; GGw/Nom = Good gender with nominals; BGw/Nom = Bad gender with nominals; N-drop Good = Good N-drop; N-drop Bad = Bad N-drop

As can be seen in table 3, there were no statistically significant differences between the NS and L3 groups. That is to say, the intercategorical distinctions made by these two groups (those seen in table 2) were similar. The L2 group differed from both the other groups in all comparisons. The GGw/Adj – GGw/nom and BGw/Adj – BGw/Nom results were omitted from table 3 because the ANOVA showed that no further analysis was needed (f = .19, p = .83 and f = .58, p = .56, respectively).

The results of the comparisons in tables 1, 2 and 3 suggest that the L3 group does have knowledge of gender agreement with both nominals and adjectives, and can distinguish between grammatical and ungrammatical instances it in a native-like manner. The L2 group, however, is unable to do so.

4.2 Results Experiment 2

This experiment, as detailed in section 3.2, was a contextualized translation task in which participants were to translate part of an English sentence into BP. They were provided with sentences that required N-drop in BP. The group mean correct translations are shown in figure 2 below. Translations were deemed correct if they used N-drop; that is, if they did not resort to repeating the full DP (as this was not the English translation) or inserting a proform as is done in English ellipsis of this type.

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[2] We note that previous research in L2 acquisition has also demonstrated that gender accord between nouns and determiners emerges before noun/adjective agreement (Fernández 1999; Judy, Guijarro-Fuentes & Rothman in review), even when the L1 is a language that has grammatical gender (Bruhn de Garavito & White 2002).
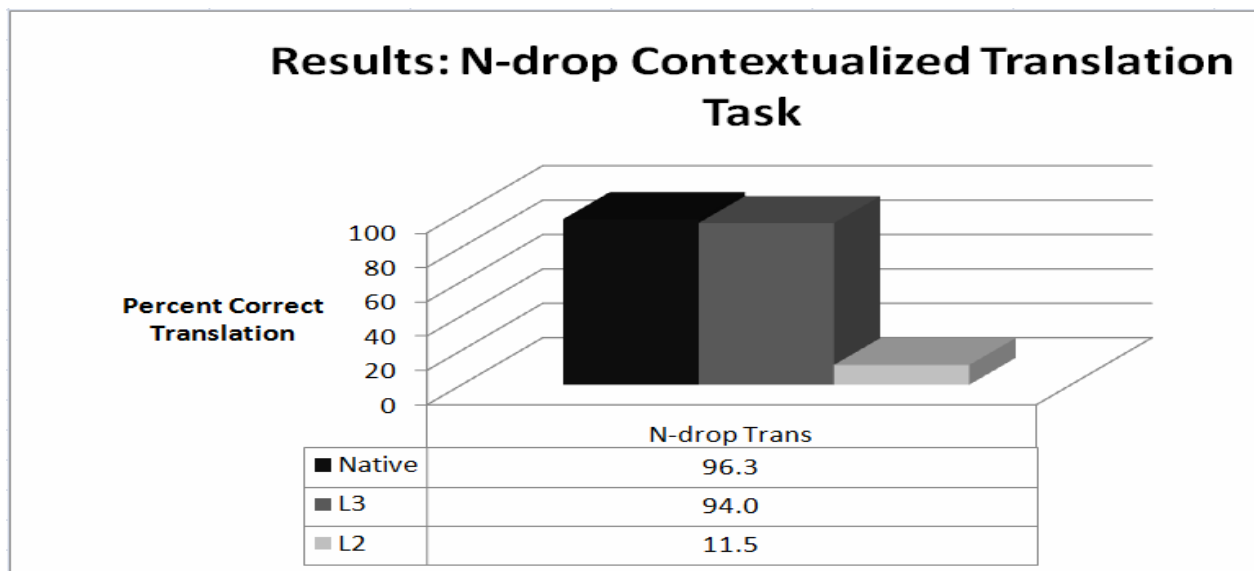
Results: N-drop Contextualized Translation Task

	N-drop Trans
■ Native	96.3
■ L3	94.0
■ L2	11.5

Figure 2: Results Experiment 2

As seen in figure 2, the average percent correct is comparable between the native and L3 groups; however, the L2 group again appeared to differ from the other two groups. A statistical analysis was performed to see if there indeed were differences between the groups, seen in table 4 below:

Table 4: Experiment 2 (Intergroup Comparisons)

	N-drop Contextualized Translation Task		
	t	p	df
ANOVA	253.96	<0.001	2
NS v. L3	0.55	0.587	21
NS v. L2	15.84	<0.001	15
L3 v. L2	15.91	<0.001	14

As seen in table 4, there was no significant difference between the NS group and the L3 group, suggesting that they produced instances of N-drop at similar rates. Conversely, the L2 group differed from both the NS group and the L3 group, suggesting that the L2 group does not use N-drop in a remotely similar manner.

5. Discussion

The results of experiments 1 and 2 correlate and suggest that (a) L2 and L3 learners are sensitive to gender morphology mismatches early on (although there were very significant differences between the groups, the L2 learners showed a clear sensitivity to determiner noun morphological mismatch), but that (b) only the L3 learners have at this stage the morphological, syntactic and semantic reflexes we tested for related to the Portuguese DP. Since we were testing at the initial state, the difference in L2 and L3 behavior was to be expected if and only if functional features that are unspecified in the L1 can be acquired after the critical period and these new L2 features are available for transfer at the multilingual initial state. Focusing on the L3 data compared to native control, we contend that the data provide evidence that interpretable and, crucially, uninterpretable gender features not available in the L1 can be acquired after the so-called critical period. Since the L1 is the same across the two experimental groups but their performances are notably different, it is reasonable to assume that the variable responsible for the observed differences between the two groups is the intervening L2, Spanish, which provides the L3 learners in this study (via L2 transfer) with the necessary features to demonstrate target knowledge of N-drop at the initial stages of L3 acquisition. And so, the data confirm two separate issues in regards to the value of L3 acquisition. First, the data confirm that investigating properties at the L3 initial stage can bring much to bear on theoretical issues in adult

acquisition. In the present case, these data disconfirm the predictions of RDAs and confirm the predictions of FAAs since the source of N-drop knowledge in the L3 group as compared to lack of knowledge in the L2 group must come from the L2, which licenses N-drop. Secondly, insofar as there is clear transfer from the L2, the present data disconfirm an inevitable L1 transfer effect for all additive adult acquisitions (L3, L4, Ln), although we cannot presently refute a last-language learned effect (but see Flynn et al. 2004; Rothman & Cabrelli 2007).

The fact that there is clear transfer brings to the surface a pressing question, that is, what type of transfer are we noting in the present study? It could be argued that what we are observing herein is transfer of explicit knowledge from L2 Spanish that was acquired by domain-general learning aided by pedagogical rules (a transfer of metalinguistic knowledge in the sense of Jessner 1999). This is a crucial point since the only way that we can use these data to support FAAs and rule out the predictions of RDAs is to be assured that N-drop here has the same underlying mental representation in the L2 Spanish of these L3 learners, namely, that it is the consequence of acquiring new L2 gender features. We suppose that supporters of RDAs would agree with this position, claiming that the data here is still consistent with the tenets of RDA proposals. We would like to suggest, however, that this is unlikely for two critical reasons. First, there was virtually no variability (at least anymore than that within the native controls) for L3 individual performances on these tasks. RDAs primary function is that of explaining adult acquisition variability that they claim is a consequence of deficits within the narrow syntax. The absence of variability here could be suggestive of a narrow syntax that is indeed target-like. Secondly, while it is possible that L3 learners could transfer L2 metalinguistic knowledge at the L3 initial state if they recognize that such would be to their benefit (i.e. realize that Spanish and Portuguese are similar in this respect) this would be impossible for a naturalistic learner to do insofar as he/she lacks such metalinguistic awareness for the L2. In other words, one would expect marked differences among learners who acquired their language(s) in different environments (classroom vs. naturalistic settings). In our data set, there was one naturalistic learner of L2 Spanish, but this participant's performance did not differ from that of the rest of the participants at the L3 initial state. It goes without saying that conclusions cannot be made based on the data of a single subject, but this finding still indicates that explicit instruction effects are not the key to explaining the observed L2/L3 differences. Future research comparing a group of naturalistic learners to tutored learners will be in a position to disentangle these possibilities. Additionally, future research would benefit from testing knowledge of different forms of N-drop, in particular, knowledge of N-drop in Portuguese PP genitive constructions such as *o ~~livro~~ de Maria/ the ~~book~~* of Mary (Mary's ~~book~~)[3]. However, it is important to note that in the greater context of the larger study from which the data presented here are a subset, the possibility of domain-general knowledge as the source of N-drop in the L3 initial state becomes even less likely since these same learners demonstrate poverty-of-the-stimulus semantic reflexes related to null-subject and grammatical aspect phenomena in other tests.

6. Conclusion

In this study, we tested adult L2 steady-state hypotheses by examining initial state L3 BP with respect to N-drop in two groups of adult learners with English as an L1: (a) those learning BP as an L2 and (b) those learning BP as an L3, having successfully acquired L2 Spanish in adulthood. N-drop is a phenomenon that does not occur in English, but does in Spanish; therefore, the L3 group would have the possibility of transferring the necessary L2 DP features, should they have acquired them during L2 acquisition, and subsequently demonstrate knowledge of N-drop at the L3 initial state. The L2 group at the initial state would have no recourse to show such knowledge. The data show that the L3 group does indeed have knowledge of N-drop at the L3 initial state. We take the position that this provides evidence of L2 feature-transfer from the Spanish. This entails that new features, both interpretable and uninterpretable, were acquired during L2 acquisition, supporting FAAs only.

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