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# The Emergence of Determiners in French L2 from the Point of View of L1/L2 Comparison 

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#### Abstract

The acquisition of determiners in French presents a significant challenge for both children in L1 and adults in L2. Research in L1 acquisition has found that French determiners, which are highly constrained, appear quite early relative to other languages. Using the conversational data of two beginning learners of French-a native speaker of Spanish and a native speaker of Arabicin a natural setting (comparable to the L1 data), the present study seeks to understand how these constraints affect the acquisition of the determiner system in L2 French. Analyses reveal the following: (1) Unlike French children who produce "fillers" without clear functional distinctions, adults produce idiosyncratic pre-nominal monosyllables that not only fulfil the obligatory position of "determiner" but are also characterized by identifiable functions in terms of definiteness or indefiniteness. (2) Adult learners' L1s (Spanish and Arabic) influence the acquisition of NP in French L2, as observed in the emergence of determination in the two learners' productions. (3) Adult learners' productions provide evidence of shared "language-neutral" processes attested in initial acquisition in a natural setting; these are independent of the L1 and L2 input properties.


Keywords: noun phrase; determiner system; French L2; beginning stages in L2; ESF corpus; Spanish L1; Moroccan Arabic L1; L2 learner productions; Basic Variety; learner varieties

## 1. Introduction

Requirements for the use of determiners in French are perhaps the strongest and most restrictive of the Romance languages (Bassano et al. 2011). In this respect, the preposed article marks gender, number and the definite/indefinite nature of reference to entities. The acquisition of nominal determiners in French poses a challenge for both children and adult learners because the determiner marks the grammatical category of the noun, and as such, the acquisition of determiners plays an important role in the grammaticalization process in first language (L1) and second language (L2) acquisition. The term "grammaticalization" is used here in the psycholinguistic sense (cf. Bassano 2010) and refers to the process by which children establish and integrate grammatical constraints of the L1 system. In second language acquisition research, it refers to the morphosyntactic development of a learner variety, which gradually evolves towards native speaker norms (cf. Giacalone Ramat 1992). Research conducted on productions of French-speaking children has found that determiners in French appear quite early (Bassano 2000, 2010; Veneziano and Sinclair 2000; Bassano et al. 2008), relative to Germanic languages (Bassano et al. 2011).

In case studies conducted within the functionalist framework, Bassano et al. (2011) studied the acquisition of determiners in the productions of French-speaking children between the ages of one and three years old. They found that, even though the numbers of occurrences were small, the French children produced determiners as of 20 months (if not
before), and they also produced pre-nominal "fillers", monosyllables with no functional distinction, that appear to be precursors to determiners. At 2;6 years old, determiners prevailed over fillers. Although nominal determiners were used by some of the children in an adult-like way, this was not the case with all of them; for some, the process of grammaticalization was not yet complete at 2;3 years old. Most had grammaticalized by 3;3, with a $95 \%$ rate of accuracy for determiners used in obligatory contexts. The children's developing ability to produce determiners was simultaneously explosive and progressive; it was explosive if we only consider the morphemes in their target-like form, and progressive if we take into consideration the precursors of determiners in the form of "fillers" (Bassano et al. 2008).

In their studies of language development, Bassano et al. (2011) demonstrate the following tendencies: the definite determiner is produced more frequently than the indefinite, masculine more than feminine, and singular more than plural. These tendencies are likely based on the marked vs. unmarked nature of these features. The dominance of the definite over the indefinite must be qualified, however. Results of these studies also indicate that before 2 years of age, the indefinite article is slightly more frequent than the definite, suggesting that the L1 determiner system emerges through the indefinite rather than the definite. This can be explained by the numerical origin of indefinites and by functional factors, such as labelling and naming, which are particularly acute in children's productions during their discovery of language and the world.

Concerning the acquisition of the noun phrase (NP) in L2 French, a substantial amount of research has been conducted. In addition to an overview of studies (Véronique et al. 2009) based on data collected within a functionalist framework (Perdue 1993; Hendriks 2005) and a generativist framework (Granfeldt 2003; Sleeman 2004), the acquisition of the French NP system by speakers of different source languages (SL) has been the focus of much research, e.g., Spanish, Arabic (Perdue 1993), Swedish (Granfeldt 2003), English (Prodeau 2005; Carroll 1999), Dutch, Japanese (Sleeman 2004), Korean (Kim et al. 2006), and Chinese (Hendriks 2000). Taken together, these studies report results from a variety of tasks, including free conversations, personal or fictional narratives, picture descriptions, and even instructions for assembling objects. Needless to say, results of these studies are not easily comparable given their focus on different types of learners with different SLs and target languages (TL), different levels of L2 (beginner, intermediate, and advanced) and different learning environments (migrants vs. students); however, gathering information from such diverse studies of L2 acquisition will certainly lead to a better understanding of learners' various acquisitional paths, from which certain comparisons can be gleaned.

The present study is centered on the acquisition of the NP in TL French by beginning adult learners in a natural learning environment. This study sets out to understand how the constraint of an obligatory determiner in L2 French will affect the emergence of this category in adult L2 acquisition and to observe whether a similar development process to that attested in the productions of French-speaking children will be found in adult L2 French productions. In order to respond to these questions, adult L2 data need to be collected in the same way as the L1 data, that is, through a longitudinal study of the learners' productions in free conversation. It follows that the data selected and analyzed for the present study come from the ESF corpus in which the L2 oral productions of beginning learners were recorded in a natural setting. These data are comparable with the L1 data in their longitudinal nature and in the type of discourse used to elicit these productions, namely daily conversations.

Most of the research conducted within the ESF project focused on utterance structure in the acquisition of the verb phrase (VP). Although studies on the acquisition of the NP were less common, several tendencies were identified. In the French L2 data of the ESF project, a series of nouns usually followed the word order of spoken French, which, to a large extent, corresponds to the order of learners' SL as well. Some examples are: carte séjour by an Arabic speaker, Abdelmalek (Véronique 1986) and alliance france by a Spanish speaker, Berta (Noyau 1986). This simple lexical formulation (with or without a
determiner) provides no explicit grammatical information about the relationship between the two nouns. Learners acquire relatively quickly a unique form of the definite article with no gender or number marking to express contextualized known information. This form exists in contrast to a noun with no determiner. Eventually, the determiner develops into one that marks for number, usually by means of numerical adjectives or expressions of quantity (e.g., beaucoup de 'many/much'). The singular/plural distinction is the first to be acquired. The masculine/feminine opposition is mastered later, when gender is semantically founded (Perdue 1993). In other words, learners acquire a form of determiner that marks the singular/plural distinction before they acquire a form of determiner that marks the masculine/feminine distinction.

The present study, conducted within the Learner Variety approach (Klein 1984;
Klein and Perdue 1997; Watorek and Perdue 2005), extends the work of the ESF project on language acquisition by adult migrants in a natural setting. The project, a threeyear longitudinal cross-linguistic study of the acquisition of five European TLs (English, German, French, Swedish, and Dutch), highlights similarities in the acquisition of a new TL by speakers of five SLs (Arabic, Spanish, Italian, Turkish, Punjabi, and Finnish) through the identification of three primary acquisitional stages relative to the Basic Variety (BV):
(1) Nominal utterance organization (pre-Basic Variety),
(2) Verbal utterance organization with no functional inflections (Basic Variety, Klein and Perdue 1997), and
(3) Finite utterance organization with functional inflections and target-like syntax (postBasic Variety).
The Learner Variety approach originates from the functionalist perspective of language acquisition, in which acquisition is believed to be the result of interactions between communicative factors that "push" acquisition and structural factors that "shape" acquisition. In order to meet communication needs in the TL, learners perform tasks in their TL that push them to develop new and more complex linguistic means and capacities. This performance requires them to integrate characteristics of the TL found in the input (Giacalone Ramat 1992) so that they can gradually build necessary linguistic knowledge to posit and test hypotheses in the TL.

The present article, inspired by research in L1 acquisition that investigates the emergence of the determiner, reports on two case studies, namely two beginning learners with different SLs (Arabic and Spanish) learning French in a natural setting. The study addresses three principal research questions:
(1) Are there similarities between L1 and L2 in the acquisition of French determiners? Are "fillers" found in L2 productions in a similar form to those produced by children in their L1? To what extent are adult learners of French sensitive to the fact that some pre-nominal element is necessary in the NP?
(2) To what extent does the L1 (Spanish or Arabic in this case) influence the emergence of determiners in L2 French productions? Research in L2 acquisition suggests that the learner's L1 can play an important role in the construction of a new L2 system (Giacobbe 1992; Hinz et al. 2013; Jarvis and Pavlenko 2010; Pavlenko 2011). Is this the case for determiners at the early stages of L2 acquisition, and if so, what differences might we observe in our two learners with different L1s?
(3) Are there similarities in the way speakers of different L1s acquire the determiner system of a new TL, French in this case? Results of the ESF project suggest that regardless of the SL and TL of the learners, certain phenomena in the L2 acquisition process are shared and are, in fact, "language neutral" (Klein and Perdue 1997).

## 2. Materials and Methods

### 2.1. Informants

As mentioned above, our study is based on longitudinal data collected for the ESF project. In order to compare the type of data analyzed by Bassano et al. (2008) for child L1
acquisition, we selected free conversations of two learners of French, Berta (native speaker of Spanish) and Zahra (native speaker of Arabic), over three recording cycles.

Prior research conducted on ESF data (Klein and Perdue 1997; Benazzo 2002; Giuliano 2004) reveals three stages of L2 acquisition, as described above, which do not necessarily coincide with the recording periods. Berta's productions show three stages-pre-BV, $B V$, and post-BV-whereas Zahra's productions begin to show characteristics of the BV already in cycle 1. Her progress towards post-BV is gradual and begins at the end of cycle 2 (Giuliano and Véronique 2005). According to socio-biographical data from the ESF project (Perdue 1993; Giuliano and Véronique 2005), Berta was 31 years of age when the data collection began. Married with two children, she worked as a cook. In her home country (Chile), she went to school for 8 years (until junior high school) and took 180 h of French instruction ( 6 months) upon arrival in France in January 1983. Her participation in the data collection began one month after her arrival. Zahra arrived in France in 1981. She was 34 when the data collection began, 13 months after her arrival in France. Married with three children, she worked as a house keeper. Zahra did not receive formal schooling in her home country (Morocco). Upon arrival in France, she took approximately 20 h of French instruction. In sum, the two learners, both women, one Spanish speaking, the other Arabic speaking, were immersed in the same TL, French. Neither had studied another language before the onset of the ESF project.

For cycle 1, conversations with Berta were recorded 10 months after her arrival in France, and those with Zahra, 20 months after her arrival. Approximately 7 months passed before the recordings of cycle 2 took place for each of the learners. Cycle 3 recordings started an additional 9 months later for Berta and 16 and a half months for Zahra. In spite of this different time frame for the two learners, their productions highlight the gradual evolution towards the post-BV already reported in prior research examining the production data of these two women (Noyau 1991; Véronique 1986).

Given that the recordings of our two learners did not take place at precisely the same time, we do not attempt to compare their productions at any given cycle. Rather, our comparisons focus on the manner in which the four categories of NP analyzed (see Section 2.3) evolve in Zahra's and Berta's productions over the three cycles.

### 2.2. Source and Target Languages

French attests a varied determiner system with prosodic and morphosyntactic features that are quite clear and consistent. The principal determiners are definite, indefinite and partitive articles, possessives and demonstratives, all of which are pre-posed. They carry markers of gender (in the singular), number, and the definite/indefinite character of the reference. They are monosyllabic and pro-clitic, forming a prosodic unity with the noun that follows. The definite articles consist of simple forms (le, la, les), along with contractions formed with the prepositions a 'to/at' or de 'of' (au, aux 'to the', $d u$, des 'of the'). The partitive articles (du, de la, de l', des 'some/any') are used with mass nouns. The requirement to use a determiner is particularly strong in French; the use of determiners is frequent and regular, but some bare nouns do exist, for instance, in expressions of quantity like those with the preposition de 'of' (beaucoup de 'a lot of') or after negation (pas de 'not any'). These trigger the omission of both the indefinite article des and partitive articles (Bikić-Caríc 2008). Furthermore, determiners are not used before proper nouns, nor within certain verbalnominal expressions (e.g., avoir faim, literally 'have hunger', i.e., 'to be hungry'), nor after certain prepositions (e.g., sans argent 'without money') (Bassano et al. 2008).

In Berta's SL, Spanish, the determiner system of the NP partially resembles that of French. Both languages have articles and in both, the article precedes the noun and marks gender and number as seen in Table 1.

Table 1. Determiners in French and Spanish.

|  |  | Masculine |  |  | Feminine |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Definite | Indefinite | Partitive | Definite | Indefinite | Partitive |
| Singular | French | le livre | un livre | du vin/de l'alcool | la maison | une maison | de la bière/de l'eau |
|  | Spanish | el libro <br> 'the book' | un libro <br> 'a book' | Ø vino/Ø alcohol 'wine/alcohol' | la casa <br> 'the house' | una casa <br> 'a house' | Ø cerveza/Ø agua 'beer'/'water' |
| Plural | French | les livres <br> los libros 'the books' | des livres <br> (unos) libros 'books' | des petits pois Ø chicharos 'peas' | les maisons | des maisons | des frites |
|  | Spanish |  |  |  | las casas | (unas) casas | Ø patatas fritas |
|  | Spanish |  |  |  | 'the houses' | 'houses' | 'French fries' |

There are differences between French and Spanish, however. The Spanish definite article does not elide in front of a vowel as it does in French. The absence of the article is much less constrained in Spanish; the zero article commonly expresses the indefinite plural (e.g., tienes libros? = tu as des livres? 'you have some books?'). The use of unos 'some' in this type of context refers to the notion of indefinite quantity (unos libros = quelques livres 'some books') (Teyssier 2004). The zero article can also carry a partitive meaning, which is why no determiner precedes mass nouns (e.g., Compré (0) vino/arroz $=j^{\prime}$ ai acheté $d u$ vin/du riz, 'I bought wine/rice'-(Green 1988, p. 106)).

Zahra's SL is Moroccan Arabic (MA). From a rural area where she received no formal instruction, Zahra came to France with no knowledge of Modern Standard Arabic, Classical Arabic or French. For this reason, we take into account the dialectical characteristics of MA (Darija) in our discussion of SL influence in L2 acquisition. Although the system of determination in MA includes definite and indefinite marking, usage is less strict and consistent than it is in French. Unlike in French, there is only one definite article in MA, regardless of gender and number. It is attested in the written language by placing $l$ before the noun as in l-weld 'the boy'. In the spoken language, the $l$ - is pronounced but no separation or pause is heard. For the purposes of this article, it is important to note an observation by Turner (2013, p. iv) that, "l- has lost its association with definiteness and has become lexicalized into an unmarked form of the noun that can appear in any number of semantic contexts". Hence, $l$ - expresses more than definiteness. Other forms also express definiteness in MA. Given the phonological constraint in MA that words cannot begin with three consecutive consonants unless the first or second consonant is repeated, $l$ - cannot precede nouns that start with a consonant cluster. In this case, the vowel $e$ is inserted between $l$ - and the first consonant of the noun, as in le-mdina 'the city'. When a noun begins with one of the following consonants- $d, d, \downarrow, n, r, \underline{r}, s, s, s, t, t, z, z, z ̌$, assimilation occurs and the form that the definite article takes is a repetition of the initial consonant, as in suq '(a) market' and s-suq 'the market'. As for the indefinite marking, the general consensus is that two indefinite determiners are prominent in MA. The first is equivalent to the quantifier 'one' wâhed, as in wâhed el-hmâr 'a donkey' (Brustad 2000). The other indefinite form is si/shi 'some', as in si weld 'some boy'.

### 2.3. Coding

For our L2 data analysis, we used an adapted version of the coding system designed for L1 data analysis by Bassano et al. (2008) in which they propose four major categories. These remain intact in our coding system as well: correct bare noun, incorrect determiner omission, determiner use and filler use.

A "correct bare noun" (0CORR) corresponds to a determiner which is not required in the TL as in je ne parle pas français 'I don't speak French'.

An "incorrect determiner omission" (OMISS) is an omission of the required determiner in TL. We include in this category TL nouns without a determiner when it is required, as well as idiosyncratic lexical nouns. We also included in this group nouns in French that begin with a vowel and are preceded by a definite article, creating elision (e.g., l'école 'the school'/lekol 'school'). This category is then analyzed in context, the goal being to
determine if the learner treats the components as one unit or not. This decision aligns with the theoretical position of the Learner Variety approach.

A "determiner use" $(\mathrm{DET}+\mathrm{N})$ corresponds to the production of a determiner clearly specified and identified in the TL as in la maison 'the house'. It is a correct NP production from a TL perspective.

A "filler use" (FILL) corresponds to a syllable item used in place of the required determiner as in the classification set out by Bassano et al. (2008). We merged this category of "filler" with another broader one, IL(DET + N), which includes different idiosyncratic phenomena in the learners' language productions. In these cases, the determiner and/or noun do not comply with the rules of the TL. Different subcategories are presented in Table 2 (see Section 3.2).

Our investigation focuses on 120 utterances selected from conversations in each cycle in such a way that the NPs could be analyzed with respect to their conversational context. A tool developed by Sarra El Ayari, called "Sarramanka" ${ }^{1}$, facilitated the coding process by allowing us to enter characteristics of the NP into the program following the four categories described above.

## 3. Results

As a first step, we analyzed the distribution of NPs produced by the two learners in the four categories. As a reminder, IL (DET +N ) and OMISS correspond to idiosyncratic NPs, whereas the categories DET +N and 0CORR are correct, in principle, from a TL perspective. The two latter types of forms may be an indication of the grammaticalization process in an emerging determiner system.

In the analyses of the NP productions of both learners, we focused on three points: (1) the presence or absence of "fillers" that appear to be similar to those attested in the productions of French-speaking children; (2) phenomena that could be a result of SL influence (Spanish or Arabic); (3) phenomena that are found in the productions of both learners, regardless of the SL. In what follows, we first consider the distribution of NPs in the four major categories, and then take a closer look at the categories IL(DET +N ) and $\mathrm{DET}+\mathrm{N}$ and their development in the productions of both learners.

### 3.1. Distribution of NP in Four Major Categories: An Overview

As seen in Figure 1, Berta's overall development with respect to determiners is quite coherent. As of cycle 2, occurrences in the category DET +N (correct forms) increase while $\mathrm{IL}(\mathrm{DET}+\mathrm{N})$ (incorrect forms) diminish. The most uncommon forms in Berta's data as of cycle 2 are omissions, both correct ones (OCORR) and incorrect ones (OMISS). The slight fluctuations in development are difficult to explain given the small number of occurrences.

[^0]

Figure 1. Berta-The distribution of nouns by category, shown as a $\%$ of the total number of occurrences of nouns analyzed in each cycle.

Zahra, on the other hand, produced a larger number of nouns in DET +N (correct forms) than Berta, but these decreased in number over the three cycles (see Figure 2). At the same time, we observe a smaller number of nouns in the category IL(DET +N ) (incorrect forms), which increased slightly between cycles 1 and 2 and became stable. This result is difficult to explain without a more detailed analysis of these categories.

With respect to incorrect omissions, Zahra produced slightly more than Berta, and they increased during cycle 3. Both learners produced correct omissions in similar numbers, however, especially in cycles 2 and 3 .


Figure 2. Zahra-The distribution of nouns by category, shown as a $\%$ of the total number of occurrences of nouns analyzed in each cycle.

The majority of items produced in the category of correct omissions (0CORR) by both learners were proper nouns, such as names of places, days of the week or months. Berta also used expressions like en espagnol 'in Spanish' or en voiture 'in car', which do not require an article in French. The number of productions with correct omissions was minimal for
both learners, but interestingly, Zahra produced 11 different items in this category, whereas Berta produced 27.

Productions in the category of incorrect omissions (OMISS) were not very frequent and were a bit higher in Zahra's data (a total of $16.4 \%$ in three cycles) than Berta's (a total of $12 \%$ in three cycles). This difference may be due to SL influence in that the pre-nominal position, reserved in French and Spanish for an article, is not systematically occupied by a detached article in Moroccan Arabic (see Section 2.2).

If we combine all the productions of bare nouns in OMISS and 0CORR produced over the three cycles by both learners, we observe that their use of these forms is fairly low (23\%). This result could be interpreted in terms of the influence of French, a language in which the use of articles is strictly constrained. With respect to the categories DET +N (correct forms) and IL(DET +N ) (incorrect forms), approximately $70 \%$ of nouns produced by each of the two learners fit these two categories. Given that these categories represent the majority of Zahra's and Berta's NP productions, we take a closer look at these in what follows.

### 3.2. Category $\operatorname{IL}(D E T+N)$

The category $\operatorname{IL}(\mathrm{DET}+\mathrm{N})$ (incorrect forms) comprises several subcategories, in which the type of NP produced can have several different internal structures (see Table 2). The determiner may appear in an idiosyncratic form (labelled as IL for "interlanguage") or may resemble a TL monosyllabic determiner that corresponds to some sort of "filler", coded here as "FILL". A detailed analysis of these forms in Section 3.2.1 allows us to compare fillers in our data with fillers produced by children in French L1. In addition to monosyllabic forms, we also observe forms that are TL-like. These forms, coded [IE], appear to correspond to the singular masculine definite article $l e$ or the plural masculine or feminine definite article $l e s$. In the absence of native pronunciation and a clear context that reveals the distinction between the masculine singular and the plural form, this form in our learner productions remains ambiguous. We also observe complex constructions used to express quantification, such as beaucoup [lE/dE] 'many/much', or the indefinite as in [tu lE] classes (toutes les classes 'all classes') in which the element produced shows no agreement for gender.

The determiner can also be expressed in the form of the TL or the SL of the learner, as is the case with Berta. These different types of determiners appear with nouns that can also be expressed by means of TL, SL or idiosyncratic (IL) forms. The determiner-noun pair may both represent TL forms; when such forms appear in this category, this indicates that some sort of agreement problem has occurred between the determiner and the noun (e.g., le sour-the correct form is la sæur 'the sister'). Table 2 summarizes these different subcategories.

Table 2. Subcategories of IL(DET + N).

| DET | Noun | Example + (Corresponding TL Form) |
| :---: | :---: | :---: |
| FILL (filler) | IL | [an avans] (une promotion) |
| IL | TL | [li] arabe/[u] mois (l'arabe/un mois) |
|  | IL | [lE lelev] (les élèves) |
|  | TL | [lE] femme(s) (la/les femmes)) |
|  | SL | beaucoup [dE] oportunidad (beaucoup |
| SL | IL | d'opportunités) |
|  | TL | el [primje] (le premier) |
| TL | IL | el problème (le problème) |
|  | SL | à la [nieS] (à la neige) |
|  | TL | le problema (le problème) |
|  |  | la vacance(s) (les vacances) |

### 3.2.1. Does "Filler" Exist in L2?

According to our initial hypothesis, there are no fillers in L2 of the same nature as the L1 fillers described in first language acquisition research (see introduction). Fillers in French L1 are monosyllables in the pre-nominal position that gradually disappear with
the development of the determiner system. In our L2 data, we observe few occurrences of monosyllabic pre-nominals (FILL), even if Berta produces more of these than Zahra (see Tables 3 and 4).

Table 3. Berta: Number of occurrences of monosyllabic pre-nominals (FILL) in IL(DET + N).

|  | Cycle 1 | Cycle 2 | Cycle 3 | Tot |
| :---: | :---: | :---: | :---: | :---: |
| IL(Det + N) | 32 | 37 | 48 | 117 |
| FILL + IL/TL | $10 / 32$ | $5 / 37$ | $10 / 48$ | $25 / 117$ |
|  | $(31.2 \%)$ | $(13.5 \%)$ | $(20.8 \%)$ | $(21.4 \%)$ |

Berta produces monosyllables that appear to be influenced by Spanish phonology. Certain forms are likely precursors to the indefinite article ([u], [a]/[an], [de]), whereas others may be precursors to the definite article ([lo], [delo], [del]). These forms precede nouns in TL or idiosyncratic forms (IL).

| a. Berta, FILL + IL (cycle 3) |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Susana | [se |  | [fil] | tres | tres | sérieuse |
| Susana.N | it's.V IL | [an].Det FILL | girl.N | very.Adv | very.Adv | serious.Adj |
| 'Susan is a very very serious girl' |  |  |  |  |  |  |
| b. Berta, FILL+TL (cycle 1) |  |  |  |  |  |  |
| pour | Noël | [Zatănde] | [lo] | papa | Noël |  |
| For.Prep | Christmas.N | wait.V IL | [lo].Det_FILL | daddy.N | Christmas.N |  |

Zahra, on the other hand, produces few monosyllabic pre-nominals, only four occurrences in the three cycles.

Table 4. Zahra: Number of occurrences of monosyllabic pre-nominals (FILL) in IL(DET + N).

|  | Cycle 1 | Cycle 2 | Cycle 3 | Tot |
| :---: | :---: | :---: | :---: | :---: |
| IL(Det + N) | 14 | 32 | 31 | 77 |
| FILL + SL/TL | $1 / 14$ | $3 / 32$ | $0 / 31$ | $4 / 77$ |
|  | $(7 \%)$ | $(9.3 \%)$ | $(0 \%)$ | $(5.2 \%)$ |

Looking at these four occurrences from a qualitative perspective, we observe an occurrence of $l i$ in the first cycle in a sequence where Zahra is talking about the Arabic language ([li] arabe). In the second cycle, she produces two forms: [lo] in lo gâteau 'the cake' and [du] when speaking of an Arabic festival, at which point we observe a hesitation ([lE]/[du] mouloud). This sequence represents an immediate uptake of the French interlocutor's comment (la fête du mouloud 'festival of Mouloud') and suggests a problem in pronouncing the contracted article $d u$. Such idiosyncratic forms, whether produced by Zahra or Berta, differ from TL forms but appear in contexts where the link to definiteness is predictable.

[^1]2. Zahra, FILL + TL (cycle 1)

I à partir de huit ans Since.Prep eight.Num years.N
'Since 8 years old they learn French'
Z oui
Yes-Adv
'Yes'
I d'accord
All right-Adv
'all right'
Z $\quad\left[\begin{array}{ll}\text { lekrije] } & {[\text { lira }]}\end{array}\right.$
Write.V_IL read.V_IL 'write, read, speak Arabic'
apprennent le
the.Det-Sg-Masc
français?
French-N

Productions like $[\mathrm{li}]$ are not simple phonological fillers like those found in child L1 data, but rather, idiosyncratic forms that reveal trouble pronouncing a given TL form.

The quantitative difference in the monosyllabic productions of Berta and Zahra can be explained by SL influence. In Berta's productions, these resemble forms in Spanish. They are based on " $l$ " in an attempt to produce the French definite article in which " $l$ " is a component (le/la/les). Forms like [an] are the result of trying to reproduce the nasal sound in the indefinite article $u n$. The fact that Berta produces more of these forms than Zahra could be due to the similarities between SL Spanish and TL French given that the category of article in Spanish and French function in similar ways. The determiner system in Moroccan Arabic, however, is quite different from French. The indefinite article is optional and the definite article merges with the noun; " $l$ " is added to the beginning of certain nouns. To this end, Moroccan Arabic does not have a detached systematic monosyllabic unit that precedes the noun. When Zahra does produce determiners in French, they clearly resemble French determiners.

### 3.2.2. Development in the Category IL(DET + N)

Aside from fillers, the analysis of other types of determiners within the category $\operatorname{IL}(\mathrm{DET}+\mathrm{N})$ allows us to observe SL and TL influence, as well as to identify common stages of development. In this section we present a qualitative analysis of the development of Zahra's and Berta's productions.

## Zahra

Figure 3 shows the evolution of the subcategories of IL(DET $+N)$. The less frequent subcategories (FILL + N, IL + SL, IL + IL) have been merged into "other" as they only represent a total of 13 occurrences.


Figure 3. IL(DET + N) -Zahra.

TL determiner use with an idiosyncratic noun (TL + IL) gradually decreases as the subcategory TL + TL appears; this occurs when the two elements are TL forms but there is no agreement between the determiner and noun. This tendency shows a progression in that idiosyncratic nouns are replaced by TL nouns. At the same time, occurrences in the subcategory IL + TL increase. Given that, in this case, the determiner IL contains complex forms like beaucoup [lE] or [tu $l E] /[t u l a]$ which accompany a TL noun, this appears to be a progression in the acquisition of the L2 determiner system as well.

If we analyze the subcategory IL + TL in more detail-these represent the majority of productions in the category $\operatorname{IL}(\operatorname{Det}+\mathrm{N})$ —we find three major types of idiosyncratic forms surrounding the determiner:
(1) analytical forms of the type à le instead of the French contracted article au;

```
3. Zahra, IL + TL (cycle 3)
```

| I | ton | mari | il | était | malade? |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | Your.Det- | husband.N | he.Pron | be.V-3p-Sg-Past | sick-Adj |
|  | Poss | Pas |  |  |  |
|  | 'your husband was he sick?' |  |  |  |  |
| Z | ouais | mal | à | le | rein |
|  | Yes-Adv | pain.N | to.Prep | the.Det-Def-Sg-Masc | kidney.N | 'yes, kidney pain'

(2) composed forms with beaucoup 'many' and tout 'all' followed by an article that is usually definite, first in the singular, then in the plural (cycle 3);

(3) an ambiguous form, [lE], which is phonetically close to the definite plural but for which gender and number are difficult to ascertain (see example 11).

The form [lE] is used for referents that we attribute to having a singular value that is either specific (tissu 'material', fil 'thread') or generic (femme 'woman').

Regarding TL + IL, the other dominant subcategory, almost all determiners in this group correspond to the singular feminine definite article $l a$, and all the idiosyncratic nouns can be recognized as TL nouns. The NPs of quantity that use partitive articles followed by adjective phrases pose gender agreement problems (e.g., de l'eau froid/frais 'cold water'—the appropriate target form is de l'eau froide/fraîche), as do numerals and tout 'all' with nouns preceded by " $l$ " when the initial sound is a vowel.

Finally, we find a certain number of complex NPs such as la fête le carême, la fête la mouton or la fête maroc 'celebration of Lent, celebration of the lamb, Moroccan holiday celebration'. This nominal composition process using juxtaposition is also used with possessive determiners (e.g., la famille mon mari 'the family my husband') during cycle 3.
5. Zahra, TL + IL (cycle 3)

| oui | moi | [pense] | samedi | [parti] | à | Nice |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Yes.Adv | me.Pron | think.V_IL | Saturday.N | leave.V_IL | to.Prep | Nice.N |
| yes I think Saturday I go to Nice'    <br> [jãna] la famille mon | mari |  |  |  |  |  |
| there is.V_IL | the.Det-Def-Sg-Fem | family.N | my.Det-Poss | husband.N |  |  |

'my husband's family is there'
The subcategory TL + TL represents, in particular, the cases where the NPs produced show a problem of gender agreement, notably with inanimate nouns (e.g., le radio, la laboratoire). We identified one occurrence of an animate noun with gender motivated
semantically (le mère espagnole 'the mother Spanish'). We also observe overgeneralization in the use of articles in front of proper nouns (le Noël, la Paris, à la France).
Berta
In Berta's productions, we observe a growing diversification of the subcategories in $\mathrm{IL}(\mathrm{DET}+\mathrm{N})$, as shown in Figure 4.

Overall, we find a notable decrease in SL influence in determiner use and a progressive increase in TL determiner use (with IL or SL nouns) between cycles 2 and 3. The dominant fillers in cycle 1 decrease in cycle 2 but are still used in cycle 3 . This observation is in line with research on the learner's cognitive work (Klein and Perdue 1997), which in Berta's case, attests to the development of the L2 determiner forms and system.


Figure 4. IL $(\mathrm{DET}+\mathrm{N}) —$ Berta.
The most common subcategories in Berta's productions are SL + TL and TL + IL. In the NPs of the subcategory SL + TL, most determiners resemble the masculine definite article el in Berta's L1 Spanish, either in its base form (el) or contracted (del), followed by a masculine noun in TL French (e.g., el rendez-vous 'the meeting', del tableau 'of the painting'). The TL noun generally shows correct agreement for gender, but with a SL determiner. We observe the use of the feminine determiner in the definite (las personnes 'the people') and the indefinite (una personne 'a person'), but the occurrences are minimal. These forms, which are clearly influenced by the SL, are most present in cycle 2.
6. Berta, SL + TL (cycle 2)

| en | el | mois | de | mars |
| :--- | :--- | :--- | :--- | :--- |
| In.Prep | the.Det-Def_SL | month.N | of.Prep | March.N |
| moi | [ale] | avec | elle |  |
| me.Pron | go.V_IL | with.Prep | her.Pron |  |
| 'in March I go with her' |  |  |  |  |

Concerning the subcategory TL + IL, feminine singular definite articles of the TL are the most common, followed by feminine nouns that are identifiable in French despite deviant pronunciation (e.g., la [kusin] for cuisine 'kitchen'). Contracted articles are also present in the production data, with the feminine (à la, de la) being the most common, followed by the masculine (one occurrence of $a u$ ). The masculine is produced the least, with the definite form (le [direktor] 'the director') and, in cycle 3, the indefinite (un [tesorjer] 'a treasurer').


In the subcategory IL + TL, we observe the idiosyncratic use of quantifiers with beaucoup [dE] 'many/much of' or the indefinite determiner (tout 'all') followed by a noun. These forms (e.g., beaucoup de chiliens 'many (of) Chileans'; [tu] les classes 'all the classes') reveal a potential problem with agreement given that the phonetic realization, which is somewhere between $d e$ and des, is ambiguous. We also notice an analytical form of the contracted masculine article (e.g., à le cours 'in the course') and numerals with pronunciation that results in ambiguity (e.g., [du]/[dus] 'two/twelve').
8. Berta, IL + TL (cycle 2)

| y | maman | $[\mathrm{e}]$ | malade | y | [ze] |
| :--- | :--- | :--- | :--- | :--- | :--- |
| and.Conn-SL | mommy.N | be.V_IL | sick.Adj | and.Conn_SL | I.Pron |
| [nepa] | [sorti] | à | le | cours |  |
| no. Neg | exit.V_IL | in.Prep | the.Det-Def-Sg-Masc | class-N |  |
| 'and mommy is sick | and I don't go to school' |  |  |  |  |

As with Zahra, the subcategory TL + TL includes idiosyncratic nominal forms that show problems of gender agreement with inanimate nouns (e.g., un fête/un réunion 'a party/a meeting') even though, in Berta's case, these nouns mark the same gender as in the SL. We also note that the possessive is overgeneralized, as in mon mari de ma soeur de mon mari 'my husband of my sister of my husband'.

Finally, in IL + IL, the determiner is the most frequent when it carries the value of a quantifier (beaucoup [dE] 'many/much of', tout la/[lE] 'all the') and the NP shows a problem of agreement of gender ([tu] la [komun] 'all the town').
9. Berta, IL + IL (cycle 3)

| [ilja] | un | petite | fête | por |
| :--- | :--- | :--- | :--- | :--- |
| there is.V_IL | a.Det-Indef-Sg-Masc | little.Adj | party.N | for.Prep_SL |
| [tu] | [1E] | [lelev] |  |  |
| all-Adj | the-Det_IL | students-N |  |  |
| 'there is a little party for all students' |  |  |  |  |

### 3.3. The Category $D E T+N$

The NPs in the category DET +N are, in principle, correct from the point of view of the TL. In this section, we analyze the distribution of different classes of determiners as well as the effect of gender and number. In order to verify if the produced forms in this category properly reflect NP grammaticalization, we assume that the more learners use the same noun with different types of determiners, the more advanced their analysis of the determiner system is.

Given the small number of occurrences, the evolution of productions across cycles is not always clear. Hence, to analyze the type of determiner in category DET +N , the three cycles were calculated together.

As seen in Figure 5, even though Zahra uses the definite article more than other determiners, she also uses other types of determiners. We find, however, a larger diversification of determiners in Berta's data.


Figure 5. Types of determiners in the category DET + N. Abbreviations: DEF = definite; INDEF = indefinite; NUM = numeral; CONTR = contracted determiner (au/à la); TOUT ('all') = indefinite determiner; POSS = possessive; OTHER = other very rare forms.

Before discussing the definite article in more detail-the form used most frequently by both learners-we will first comment on the less frequent determiner types.

### 3.3.1. Less Frequent Determiners

The indefinite article is much less frequent than the definite article in the productions of our two learners. As seen in Table 5, occurrences are minimal in all three cycles.

Table 5. Distribution of the indefinite article (gender and number) in DET +N of Berta's and Zahra's productions.
\(\left.\begin{array}{cccccc}\hline Berta \& Indefinite \& Raw \& Zahra <br>
\mathbf{1 7 / \mathbf { 1 1 9 }} \& Article \& Number (\%) \& \begin{array}{c}\mathbf{1 7 / 2 1 4} <br>

\mathbf{( 1 4 . 3 \% )}\end{array} \& \& Indefinite\end{array}\right)\)| Raw |
| :---: |
|  |
|  |
|  |
|  |
| fem sg |
| fem plur |
| masc sg |

Another type of determiner used by Berta and Zahra is the numeral. Zahra uses numerals most often with four distinct nouns mois, jours, heures, ans 'months, days, hours, years', whereas Berta uses them with five different nouns mois, fois, enfants, personnes, réunions 'months, times, children, persons, meetings'. From a communicative perspective, numerals are used to express the precise quantity of specific entities, and hence, they do not apply to just any entity. This is perhaps why the use of this type of determiner is restrained to a limited number of items.

Contrary to Zahra, Berta uses different forms of the contracted article (au and à la), which suggests a higher level of NP complexity. Similarly, the use of tout requires agreement, which poses problems for learners, as shown in the analysis of productions in the category $\operatorname{IL}(\mathrm{DET}+\mathrm{N})$. Finally, we observe a similarity in their use of possessives. In Zahra's productions, the most commonly used possessive is mon ('my'-masculine), used only with the noun mari 'husband'. Given this unique usage of mon, the segment mon mari 'my husband' is most likely a non-analyzed chunk. The form ma, on the other hand, is used with voisine 'neighbour', fille 'girl', and copine 'girlfriend'. Berta uses mon like Zahra
does, only with the noun mari, but she also uses ma ('my'-feminine) with nouns like sæur 'sister' and maison, femme, famille ('house, wife/woman, family').

### 3.3.2. The Definite Article

Figure 6 shows the distribution of gender and number in the category of definite articles. This overview suggests a preference for the singular form in the data of both learners. There is also a clear preference for the feminine singular in Berta's productions, whereas in Zahra's productions, both the feminine and masculine singular are present.

As a reminder, our claim has been that the more learners use the same noun with a variety of determiners, the more advanced their acquisition of the determiner system is. To this end, examining the percentage of the number of occurrences in DET +N (correct forms) is not sufficient for measuring the progress of the determiner system in acquisition. This is why when analyzing the distribution of gender and number in determiners, we take into account the number of occurrences in the combined "determiner +N " configuration, calculating the number of different determiners used with a given noun.

Gender and Number in Definite


Figure 6. The distribution of gender and number in definite articles used by Berta and Zahra.
Gender
As seen in Figure 6, Berta uses the feminine singular article la more than the masculine singular $l e$. In Zahra's data, the feminine singular is slightly more frequent (except for cycle 2 ).

Feminine singular: $D E T+N(l a+N)$
In Zahra's productions, out of 62 occurrences of NP "la + N", 54 are NPs constructed with 20 different nouns. This corresponds to $87 \%$ (54/62). In other words, these 20 nouns were used only with $l a$ and never appeared with another determiner.

In Berta's productions, out of the 25 occurrences of NP "la $+\mathrm{N}^{\prime}$ ", 18 are NPs constructed with 12 different nouns, corresponding to $72 \%$ (18/25). In contrast to Zahra's 20, Berta only uses 12 nouns exclusively with la. The tables in Appendix A include the repertoire of the different nouns and noun-determiner combinations used by our two learners. For example, the noun maison 'house/home' is used by Zahra 12 times only with la in contrast to Berta, who uses it 5 times with three different determiners.

Masculine singular: $D E T+N(l e+N)$

Turning now to the masculine definite article $l e$, Berta only produces this article four times and with four different nouns that are never used with other articles.

In Zahra's productions, out of 59 occurrences of NP "le +N ", 52 are NPs constructed with 25 different nouns, corresponding to $88.1 \%(52 / 59)$. In other words, Zahra produces more NP "le +N " than Berta, but $88.1 \%$ of the NPs contain nouns that appear with no other article than the definite article $l e$.

The most frequent nouns used only with le are docteur 'doctor' (9), maroc 'Morocco' (5), patron 'boss/supervisor' (7). The table in Appendix B presents the complete repertoire of nouns.

## Number

As can be seen in Table 6, the use of plural definite articles (i.e., the TL form les and idiosyncratic forms) is sporadic and represents a small number of occurrences.

Table 6. Number of occurrences of plural definite articles.

|  | Zahra |  |  |  | Berta |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | Total | Cycle 1 | Cycle 2 | Cycle 3 | Total | Cycle 1 | Cycle 2 | Cycle 3 |
| Definite + N | $\mathbf{1 4 4}$ | 47 | 55 | 42 | $\mathbf{4 2}$ | 8 | 4 | 30 |
| Masc plur | $\mathbf{1 8}$ | $6 / 47$ | $7 / 55$ | $5 / 42$ | $\mathbf{1 1}$ | $2 / 8$ | $1 / 4$ | $8 / 30$ |
|  | $\mathbf{( 1 2 . 5 \% )}$ | $(12.8 \%)$ | $(12.7 \%)$ | $(11.9 \%)$ | $\mathbf{( 2 6 \% )}$ | $(25 \%)$ | $(25 \%)$ | $(26.6 \%)$ |
| Fem plur | $\mathbf{5}$ | $4 / 47$ | $0 / 55$ | $1 / 42$ | $\mathbf{2}$ | $1 / 8$ | $0 / 4$ | $1 / 30$ |
|  | $\mathbf{( 3 . 5 \% )}$ | $(8.5 \%)$ | $(0 \%)$ | $(2.4 \%)$ | $\mathbf{( 4 . 8 \% )}$ | $(12.5 \%)$ | $(0 \%)$ | $(3.4 \%)$ |

As mentioned above, we can only consider the forms of the definite masculine and feminine plural article (les) in the learners' productions when they can be interpreted as such from the context in which they were produced. The article les creates problems of ambiguity not only for the learners, but also for researchers given that the pronunciation is not reliable. To this end, these forms were classified in DET +N as masculine and feminine plural when the context allowed us to induce the meaning and form of les. When the context and pronunciation are ambiguous, we are not able to determine, for example, whether [ lE ] corresponds to $l e$ or les. It is also possible that [ 1 E ] produced with a feminine noun reveals a problem of gender agreement (e.g., le sœur). In this case, [lE] is categorized in IL(DET + N) (see Section 3.2).
10. Clear context (Berta) (cycle 3)

| parce que | [ilja] | les | parents |  |
| :--- | :--- | :--- | :--- | :--- |
| because.Conj | there is.V_IL | the.Det-Def-Masc-Plur | parents-N |  |
| que | le | profesor | [konep] | jamais |
| that.Conj | the.Det-Def-Masc-Sg | professor.N | know.V_IL | never.Adv |
| 'because there are parents that the professor never |  |  |  |  |

In this example, les is interpreted as having the value of the plural definite article.

| 11. Ambiguous context (Zahra) (cycle 3) |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| oui | [1E] | femme(s) | ne | [travaj] | pas |
| yes.Adv | Det-IL | women.N | not.Neg | work.V_IL | not.Neg |
| [se] | facile |  |  |  |  |
| it's.V_IL | easy.Adj |  |  |  |  |

This utterance follows the interviewer's question: "for a woman who doesn't work, it is easier to manage the house?"

In this example, [lE] may correspond to les and carry the value of the feminine plural definite article. Its use can also suggest a problem of agreement between the article le and the feminine noun. Because of this ambiguity, occurrences of the plural definite article les pronounced as $[\mathrm{lE}]$ are rare in $\mathrm{DET}+\mathrm{N}$. Only animate nouns with natural gender used in a
plural context can be placed into this category with absolute confidence. When it comes to the production of animate nouns by our two learners, we observe a preference for the definite masculine plural in both learners, with words such as enfants 'children', parents 'parents', clients 'clients', copains 'friends'.

When the article les appears in front of inanimate masculine nouns in the plural, it may be ambiguous except for cases where the same noun is used with another article or a singular form. This is the case with the word gâteaux 'cookies' in Zahra's productions; she uses $\operatorname{gateau}(x)$ in the singular with the definite or indefinite article and in the plural with a numeral.

Amongst the feminine nouns in the plural preceded by the definite article les, we observe only inanimate nouns, with two occurrences in Berta's data and five in Zahra's.

## Definite Article in DET + N and in IL(DET + N)

The two learners' preferences for the singular definite determiner confirms tendencies found in other L2 research, as well as in first language acquisition studies conducted by Bassano and colleagues.

With respect to gender, the singular masculine definite seems to be treated by children as a base article. Bassano et al. (2011) reminds us of theories, such as Lyons (1999), where this form is introduced as unmarked and implies identifiability and unicity. This characteristic of $l e$ is only found in Zahra's productions, not in Berta's.

The feminine article la, which is regularly produced by both learners is more easily perceived in the input. Bassano et al. (2011) offer an explanation in terms of the phonological saliency of the vowel " $a$ " of the feminine form in contrast to the schwa of the masculine article le. Moreover, the feminine definite article is clearly distinct from other forms (la vs. le/les), whereas the masculine form is ambiguous (le/les) and can be more difficult for beginning learners to identify and produce.

The general tendency to use the feminine singular definite article is in line with the preferred use of the feminine singular definite article in the category IL(DET +N ) where the determiner is TL-like regardless of the nature of the noun (TL, IL, SL). Despite a small number of occurrences, the masculine singular definite article is found in Zahra's data but not in Berta's, in a similar fashion to the category DET +N . This can be seen in Table 7.

Table 7. The use of the TL definite article in the category $\operatorname{IL}(\mathrm{DET}+\mathrm{N})$.

|  |  | Berta |  |  | Zahra |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $N=30$ |  |  | $N=36$ |  |  |
| DET | Gender/ <br> Nb | $\begin{aligned} & \text { Cycle } 1 \\ & (n=8) \end{aligned}$ | $\begin{aligned} & \text { Cycle } 2 \\ & (n=13) \end{aligned}$ | Cycle 3 $(n=10)$ $(n=10)$ | $\begin{aligned} & \text { Cycle } 1 \\ & (n=9) \end{aligned}$ | $\begin{aligned} & \text { Cycle } 2 \\ & (n=14) \end{aligned}$ | Cycle 3 $(n=15)$ |
| Definite | fem sg | $\begin{aligned} & 62 \% \\ & (5 / 8) \end{aligned}$ | $\begin{aligned} & 46 \% \\ & (6 / 13) \end{aligned}$ | $\begin{aligned} & \hline 0 \\ & (0 \%) \end{aligned}$ | $\begin{aligned} & 11.1 \% \\ & (1 / 9) \end{aligned}$ | $\begin{aligned} & 71.4 \% \\ & (10 / 14) \end{aligned}$ | $\begin{aligned} & 53.3 \% \\ & (8 / 15) \end{aligned}$ |
|  | fem plur | $\begin{aligned} & \hline 0 \\ & (0 \%) \end{aligned}$ | $\begin{aligned} & \hline 0 \\ & (0 \%) \end{aligned}$ | $\begin{aligned} & \hline 0 \\ & (0 \%) \end{aligned}$ | $\begin{aligned} & \hline 0 \\ & (0 \%) \end{aligned}$ | $\begin{aligned} & 7.1 \% \\ & (1 / 14) \end{aligned}$ | $\begin{aligned} & \hline 0 \\ & (0 \%) \end{aligned}$ |
|  | masc sg | $\begin{aligned} & 12.5 \% \\ & (1 / 8) \end{aligned}$ | $\begin{aligned} & \hline 0 \\ & (0 \%) \end{aligned}$ | $\begin{aligned} & 44.4 \% \\ & (8 / 18) \end{aligned}$ | $\begin{aligned} & 33.3 \% \\ & (3 / 9) \end{aligned}$ | $\begin{aligned} & 14.2 \% \\ & (2 / 14) \end{aligned}$ | $\begin{aligned} & 20 \% \\ & (3 / 15) \end{aligned}$ |
|  | masc <br> plur | $\begin{aligned} & \hline 0 \\ & (0 \%) \end{aligned}$ | $\begin{aligned} & \hline 0 \\ & (0 \%) \end{aligned}$ | $\begin{aligned} & \hline 0 \\ & (0 \%) \end{aligned}$ | $\begin{aligned} & \hline 0 \\ & (0 \%) \end{aligned}$ | $\begin{aligned} & \hline 0 \\ & (0 \%) \end{aligned}$ | $\begin{aligned} & \hline 0 \\ & (0 \%) \end{aligned}$ |
| Other ${ }^{3}$ |  | $\begin{aligned} & 25.5 \% \\ & (2 / 8) \end{aligned}$ | $\begin{aligned} & 54 \% \\ & (7 / 13) \end{aligned}$ | $\begin{aligned} & 55.6 \% \\ & (10 / 18) \end{aligned}$ | $\begin{aligned} & 55.6 \% \\ & (5 / 9) \end{aligned}$ | $\begin{aligned} & 7.1 \% \\ & (1 / 14) \end{aligned}$ | $\begin{aligned} & 73.3 \% \\ & (4 / 15) \end{aligned}$ |

[^2]
### 3.3.3. Lexical Repertoire and Article Usage in DET + N

To complete our analysis of the category DET +N , we examined the repertoire of nouns produced in this category and identified the nouns that were used with more than one type of determiner. If a noun is used with only one type of article, it is not possible to eliminate the possibility that the learner memorized an "article + noun" unit, even if the number of occurrences of this noun is high.

In Zahra's recordings, six nouns in the category DET + N were used with different types of determiners (see Table 8). Note that these nouns are not the most frequent words in Zahra's productions. Those that are most frequent are always accompanied by the same article (le docteur 'the doctor'-9, la maison 'the house'-12, mon mari 'my husband'-13, numeral + heures 'hours'-10).

Table 8. Zahra-The different types of determiners used with the same nouns.

| Noun | Cycle 1 | Cycle 2 | Cycle 3 | ArtDef |
| :---: | :---: | :---: | :---: | :---: |
| Couture (3) | (1) ArtDef |  | (1) ArtDef <br> (1) ArtIndef | $\mathbf{2}$ |
| Fille (2) | (1) Poss | (1) ArtIndef |  |  |
| Gâteau (6) |  | (5) ArtDef <br> (1) ArtIndef |  | 5 |
| Gâteaux (2) | (1) ArtDef <br> (1) Num |  | 1 |  |
| Soupe (7) | (1) Dem | (1) ArtDef | (6) ArtDef <br> (1) Interrog | $\mathbf{6}$ |
| Travail (4) | 3 | 10 | 11 | $\mathbf{3}$ |
| Tot: 27 |  |  |  | $17 / 27$ (70.8\%) |

Even if the noun is used with different types of articles, the definite article remains dominant. This preference for the definite article coincides with our result in Section 3.3.2 where we observed a high number of occurrences of the same nouns always preceded by a definite article.

Berta produced seven nouns that are accompanied by different types of determiners as seen in Table 9. In contrast to the nouns produced by Zahra, these nouns are also the most frequent, used between four and eight times across the three cycles, with the exception of argent 'money'. In addition, determiners are more diversified and the definite article is no longer dominant.

Table 9. Berta—The different types of determiners used with the same nouns.
\(\left.$$
\begin{array}{ccccc}\hline \text { Noun } & \text { Cycle 1 } & \text { Cycle 2 } & \text { Cycle 3 } & \text { ArtDef } \\
\hline \text { Argent (2) } & & & \begin{array}{c}\text { (1) Part } \\
\text { (1) DetInd }\end{array} & 0 \\
\hline \text { Enfants (6) } & \begin{array}{c}\text { (1) Artdef } \\
\text { (1) Num }\end{array} & \text { (1) Num } & \text { (3) ArtDef } & \text { 4 } \\
\hline \text { Ecole (4) } & & \begin{array}{c}\text { (1) ArtIndef } \\
\text { (1) Num }\end{array}
$$ \& \begin{array}{c}(2) ArtDef <br>

(1) Contracted\end{array} \& (1) Num\end{array}\right]\)| Fois (5) |
| :---: |
| Maison (5) |

Table 9. Cont.

| Noun | Cycle 1 | Cycle 2 | Cycle 3 | ArtDef |
| :---: | :---: | :---: | :---: | :---: |
| Mois (7) | (2) Num | (4) Num | (1) DetInd |  |
| Parents (8) |  |  | (3) ArtDef <br> (5) DetInd | 3 |
| Tot. 37 | 4 | 8 | 25 | $11 / 37(29.7 \%)$ |

If we return to Figures 1 and 2, we observe that the higher percentage of DET +N use in Zahra's productions compared to Berta's does not necessarily indicate that Zahra is at a more advanced level than Berta. The capacity to use the same noun with different types of articles is more visible in Berta's data than in Zahra's even if we consider the nouns attested with different determiners (see Tables 8 and 9). In fact, in Zahra's productions, $70 \%$ of the 24 NPs that she uses with 6 different nouns have a definite article (17/24). In Berta's productions, on the other hand, only $29.7 \%$ of the 37 NPs that she uses with 7 different nouns have a definite article ( $11 / 38$ ).

## 4. Discussion

Our results contribute to an understanding of the emergence of the determiner as a grammatical category in L2 French. Results also relate to L1 development as observed in research cited above and to the differences between the SLs of the learners studied. In what follows, we discuss our three research objectives in relation to these results.

### 4.1. Do Fillers Exist in L2?

Whereas children produce phonological fillers without clear functional distinctions, the adult learners of this study produced, early on (cycle 1), monosyllabic pre-nominals that are not assimilable to TL articles in terms of their form. These productions are idiosyncratic forms whose function is not solely to fill the position of "determiner"; they are characterized by identifiable functions in terms of definiteness and indefiniteness. However, protodeterminer use, usually influenced by SL phonology, is more marked in Berta's productions than in Zahra's ( 25 vs. 4 total occurrences), suggesting that the typological proximity between the SL and TL can influence the productivity of these idiosyncratic forms.

### 4.2. Divergences-What Is the Influence of the SL?

Contrary to monolingual children learning French, adult learners have knowledge of their SL, which can influence the acquisition of the NP in L2 French. Our Arabic and Spanish speakers constructed the TL determiner system differently, at least partially. The major difference lies in the means used to express determination. Berta's learner variety reveals rich idiosyncratic forms borrowed from both the SL and TL. Zahra's learner variety appears to be less influenced by her SL and conforms better to the TL with a larger number of DET +N forms and less variation in terms of types of determiners and lexical items. A large number of these non-idiosyncratic forms appear to be non-analyzed forms produced in chunks. Our analyses suggest that Zahra attempted to reproduce the frequent forms taken from the input, to which she had been exposed for a longer period of time than Berta, and she applied what appear to be stable hypotheses to the French determiner system. Berta, on the other hand, was destabilized by the linguistic proximity between her SL and the TL, was less influenced by the input and worked more on analysis, regularly testing hypotheses on the functioning of the TL. Hence, the learner's own rules became more critical (in the sense of Klein 1984) without necessarily leading to a stability of forms, which continued to be primarily idiosyncratic through cycle 3. We observe, nevertheless, that Berta produced a larger variety of determiners when speaking the TL (including contracted articles) and that agreement was more frequent (namely with tout 'all'). Zahra, on the other hand, had a tendency to overgeneralize the use of the definite article (especially $l a)$ with the same lexical items. Additionally, unlike Berta, she used processes of nominal
composition by means of juxtaposition, leaving the relationship between two nominal elements implicit. This type of nominal structure seems to reflect the pre-basic acquisitional stage during which utterances are organized around nouns and according to a pragmatic principle based on the word order of spoken French (e.g., la famille mon mari 'the family my husband').

The differences between our two learners in their path towards acquiring NP structures in L2 French can also be explained by the influence of schooling in the SL and instruction in the TL. As a reminder, Zahra did not attend school in Morocco and only took a few French classes upon arrival in France. In contrast, Berta attended school in Chile through junior high and she learned French in an instructed setting at the beginning of her stay in France. We can assume that this linguistic experience develops the learner's metacognitive capacity and allows for more advanced metalinguistic activity when it comes to the functioning of languages in general (Starosciak 2021).

### 4.3. Common Points-What Is the Influence of the TL?

In spite of the differences linked to these external factors, the determiner systems built by Berta and Zahra in L2 French share certain characteristics. The L2 input and the "language-neutral" processes that are assumed to be universal in initial acquisition in a natural setting lead to common acquisitional phenomena. The fact that the data show few determiner omissions seems to suggest that the same type of sensitivity to the input is present in both learners, regardless of their SL. The definite article was dominant and used as a default compared to the indefinite, which emerged later with fewer occurrences and with a more problematic appropriation. This phenomenon could be due to difficulties in the realm of phonetics, where the pronunciation and perceptive saliency of the singular masculine form is problematic. The fact that feminine singular forms (with or without idiosyncratic nouns) are more numerous in the production data of both learners can also be explained by the fact that the feminine singular definite determiner (la) is more perceptually salient than other definite determiners (le/les). The plural determiner appears later, and both learners had trouble producing les and des in a non-ambiguous manner; forms that are not pronounced in a target-like way appeared in their recordings, accompanied by lexical items that are clearly identifiable with respect to gender.

We also observed common problems in the expression of quantity with beaucoup de, which agrees in number ([dE] in Berta's data, and [lE] in Zahra's). Expressions of quantity can also take the form of a quantifier (e.g., a numeral, tout [lE] 'all', beaucoup ([dE] 'many/much') followed by " $l$ " and a TL noun with an initial vowel (e.g., trois l'enfants 'three children'). Finally, the two learners rarely marked internal NP gender agreement with inanimate nouns, which suggests that when gender is not motivated semantically, it is difficult to use.

In sum, the following phenomena appear to be shared by Berta and Zahra in the emergence of different categories of determiners:

- The definite article appears more often across the three cycles than the indefinite article;
- The singular appears earlier and in larger numbers than the plural.

This result is in line with prior L2 research results on the acquisition of French NPs conducted within the ESF project (Perdue 1993, 1995; Véronique 1986), which show that definite marking appears before indefinite marking and that singular forms appear before plural forms. The dominance of the definite over the indefinite and the singular over the plural also aligns with findings in child acquisition data as reported by Bassano et al. (2011). Furthermore, L2 studies reveal that early L2 productions of the indefinite NP show a larger number of variations than in the child L1 data, and that, to a certain extent, L2 productions are influenced by the SL.

The productions of Zahra and Berta clearly diverge when it comes to the use of the masculine and feminine singular articles. Zahra used both of the definite articles (le and la) with a slight preference for the feminine form, whereas Berta clearly favoured the feminine
article la. However, prior research on more advanced learners acquiring the TL in an instructional setting has shown that the masculine is considered to be the default and therefore the most produced form in L2 data (cf. Bartning 2000; Dewaele and Véronique 2000; Prodeau and Carlo 2002). Likewise, this higher frequency of the masculine form over the feminine is found in child productions even if less so than the frequency of singular over plural or definite over indefinite. The definite masculine singular tends to be the base article, which coincides with classic linguistic theories (Lyons 1999).

To explain a more systematic and frequent use of $l a$ in Zahra's and Berta's productions, we raised the question of the saliency of $l a$ in the input in "Gender" part of Section 3.3.2, like in Bassano's work. This characteristic of the input does not explain why Berta, unlike Zahra, produced the definite masculine article le so infrequently. It seems that the SL could be at the root of this difference. Indeed, the feminine singular definite is the same form in Berta's two languages, Spanish and French (e.g., la casa/la maison 'the house'), and Berta more easily establishes a relationship between these two forms, which is not the case for the Spanish definite masculine singular article $e l$. These explanations need to be verified on the basis of other data collected from these same learners, who were recorded during other semi-guided production tasks, such as film narrations, descriptions and instructions.

## 5. Conclusions

The present study brings a new perspective to the grammaticalization of early learner varieties in L2 acquisition, in particular with respect to the French determiner system, by examining the productions of two beginning learners of L2 French and comparing them to the production data of French-speaking children. This approach clearly has its limits in that this type of comparison requires that the L1 and L2 acquisition data be in the same form, free conversations in this case. To move beyond these limits, analysis of the productions of these same learners, Berta and Zahra, in different discourse types is possible. Available as part of the ESF corpus, these data could confirm certain phenomena described in this article. Additionally, it is important to note that controlling the lexical repertoire and the category of nouns produced in free production tasks is difficult and adds to the challenges of describing a developing nominal determination system. Semi-guided tasks, however, allow the researcher to control, to a larger extent, the discourse content. Analyses of Zahra's and Berta's data collected from a film-retelling task, for instance, would be useful given that the task was designed to elicit specific lexical items, forms, structures and discourse content, allowing for a more in-depth examination of the development of these linguistic elements. In addition, this type of analysis lends itself to useful comparisons between learners and, as such, would complement the results presented here.

More generally, analyses of the data used in this study of two L2 learners suggest that similarities between the acquisitional paths of children in first language acquisition and adults in second language acquisition depend on the grammatical category analyzed by the learner. Research on the emergence of the verb phrase (Dimroth et al. 2003; Perdue 2008) demonstrates how children and adults move through similar acquisitional stages. It turns out, however, that these similarities may be less common in the acquisition of articles in French L1 vs. French L2. According to research reported by Klein and Perdue (1997), the acquisition of sentence patterns in the beginning stages of L2 acquisition is relatively impervious to the specificities of the SL or TL, as demonstrated in analyses of the acquisition of finite verb structure with a focus on utterance structure. Learners rely on principles that are shared across languages, whereby an utterance can contain three semantic units organized in the following order: Agent-Action-Patient. This could explain, to some extent at least, why the acquisitional stages in L1 and L2 are comparable when examining utterance structure. The study of the emergence of the French determiner system in our two learners suggests, however, that prior SL knowledge is potentially what differentiates adults from children.

Turning now to a comparison between our two adult learners, results of the present study show certain similarities in the development of nominal determination in French

L2 with respect to not only the integration of French determiner usage constraints (few omissions are allowed), but also the pre-eminence of certain forms over others, such as definite over indefinite, singular over plural, and feminine over masculine (even if to a lesser extent in Zahra's productions).

Our analyses also show distinct differences, however, in the acquisitional paths of these learners, linked to, amongst other factors, cross-linguistic influence. This SL effect is most prominent in Berta's productions, which reveal a clear influence of Spanish, a language that is typologically close to TL French. Furthermore, in Berta's data, an increasingly complex NP micro-system can be observed in both the diversification of NP forms and the large number of idiosyncratic forms produced. This evolution is seen across the three cycles, with an increase in correct TL forms (Det +N ) and a decrease in idiosyncratic forms (IL(Det + N)).

The morphological and lexical richness of Berta's interlanguage system contrasts with the regularity of Zahra's developing system. We find less diversity and, superficially, more correct forms in Zahra's data. However, in contrast to Berta's development, correct forms in Zahra's productions decrease over the three cycles, while idiosyncratic forms increase. Our qualitative analysis shows that Zahra relied heavily on prefabricated sequences of regular combinations of determiners and lexical items, resulting in NP forms that were much less varied than those found in Berta's data. Zahra did not enter into an analysis of NP forms; rather, she reproduced them as they were, in chunks.

The two different systems of L2 language development that emerge reflect the complexity and opacity of the TL forms. Whereas Zahra's entry into the new system was more implicit and appears to correspond to the memorization of models that are appropriate for the contexts in which they are used ("exemplar-based systems"), Berta took a more explicit approach by applying rules ("rule-based systems"), whether idiosyncratic or not (Narcy-Combes 2005). Indeed, we observe Berta in the process of testing her hypotheses about how the French determiner system works.

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## Appendix A. Repertoire of Feminine Singular Nouns in DET $+\mathbf{N}$

Table A1. Zahra: Repertoire of Nouns and Determiners (the nouns accompanied by la exclusively are in bold).

|  |  | Def | Indef | Poss | Contr | Dem | Num | tout ' $\mathrm{all}^{\prime}$ | Interrog quel 'what' |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | porte | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | semaine | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | maison | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | cuisine | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | couture | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | France | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 | voisine | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 8 | dame | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | fille | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 10 | charge | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | lettre | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | seule | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 13 | tête | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | famille | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15 | cousine | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | viande | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 | limonade | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18 | heure | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 19 | fête | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 | grippe | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21 | soupe | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 22 | farine | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23 | année | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 24 | semoule | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | première fois | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | fin du mois | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 27 | justice | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 28 | loi | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 29 | copine | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
|  | 29 items (20 items used exclusively with $l a)$ | 54* |  |  |  |  |  |  |  |

* This number refers to the number of occurrences of all the items used only with the definite article (these items are in bold).

Table A2. Berta: Repertoire of Nouns and Determiners (the nouns accompanied by la exclusively are in bold).

|  |  | Def | Indef | Poss | Contract | Part | Dem | Num | tout | Inter quel |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | année | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| 2 | chose | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | cité | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | clinique | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 5 | école | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 6 | famille | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 | femme | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 | fin | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | jambe | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | langue | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | lettre | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | maison | 1 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 |
| 13 | note | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | personne | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15 | physique | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | primaire | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 | réunion | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| 18 | route | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19 | sécurité | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 | sœur | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
|  | 20 items (12 items used exclusively with $l a$ ) | 18* |  |  |  |  |  |  |  |  |

* This number refers to the number of occurrences of all the items used only with the definite article (these items are in bold).


## Appendix B. Repertoire of Masculine Singular Nouns in Det + N

Table A3. Zahra: Repertoire of Masculine Singular Nouns in Det +N (the nouns accompanied by la exclusively are in bold).

|  |  | Def | Indef | Poss | Contr | Dem | Num | tout | Inter quel |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | docteur | $\mathbf{9}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{2}$ | bouton | $\mathbf{1}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | mois | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 |
| $\mathbf{4}$ | matin | $\mathbf{2}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{5}$ | mari | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{6}$ | mécanicien | $\mathbf{1}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{7}$ | pied | $\mathbf{2}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{8}$ | loyer | $\mathbf{1}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{9}$ | reçu | $\mathbf{1}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{1 0}$ | an | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 |

Table A3. Cont.

|  |  | Def | Indef | Poss | Contr | Dem | Num | tout | Inter quel |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 11 | maroc | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | travail | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 13 | français | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | couscous | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15 | patron | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | contrat | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 | certificat | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18 | sapin | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19 | thé | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 | poulet | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21 | dessert | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22 | gâteau | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23 | café | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | cadeau | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | carème | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | mois de juillet | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 27 | vent | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 28 | rein | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 29 | papier | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30 | sel | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 31 | sang | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 32 | lait | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33 | tissu | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 34 | monde | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 35 | jour | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 36 | nom | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 37 | père | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  | 37 items ( 25 items used exclusively with le) | 52 * |  |  |  |  |  |  |  |

* This number refers to the number of occurrences of all the items used only with the definite article (these items are in bold).

Table A4. Berta: Repertoire of Masculine Singular Nouns in Det + N (the nouns accompanied by la exclusively are in bold).

|  | Def | Indef | Poss | Contract | Partit | Dem | Num | toutInter <br> quel |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | appartement | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | argent | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 3 | batiment | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | cadeau | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{5}$ | chemin | $\mathbf{1}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Table A4. Cont.

|  |  | Def | Indef | Poss | Contract | Partit | Dem | Num | toutInter <br> quel |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6 | chili | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 |
| 7 | copain | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 | côté | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{9}$ | français | $\mathbf{1}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{1 0}$ | lycée | $\mathbf{1}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | mois | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 1 | 0 |
| 12 | monde | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 13 | président | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{1 4}$ | Stage | $\mathbf{1}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15 | Travail | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 16 | Vélo | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  | 16 items <br> (4 items used <br> exclusively with $l e)$ | $\mathbf{4}$ |  |  |  |  |  |  |  | 0 |

* This number refers to the number of occurrences of all the items used only with the definite article (these items are in bold).


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[^0]:    1 Sarra El Ayari, research engineer for CNRS research lab Structures Formelles du Langage, designed an annotation tool for linguistic corpora based on the CHAT format. We used the tool to verify and process earlier transcriptions and to annotate the data for this study. The web application for this tool will be available at no cost on the TGIR Huma-Num infrastructure in the foreseeable future.

[^1]:    2 The ambiguous verbal forms are transcribed phonetically in the ESF corpus to avoid overinterpretations in the data analysis. In our examples, we gloss them as V-IL (the idiosyncratic form of the verb).

[^2]:    3 The category "other" refers to the less frequently used target language determiners in IL(DET +N ), such as indefinite articles, numerals, contracted articles, possessives and demonstratives.

