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Gender Errors in French Interlanguage

The Effect of Initial Consonant Versus Initial Vowel of the Head Noun

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Abstract

Many studies on gender assignment in French have focused on the effect of the final morpheme of the noun on the identification of the gender of the noun and the subsequent agreement with any determiners. The present study considers the effect of a noun's initial vowel on gender accuracy in conversations with 36 Dutch-speaking French foreign language learners. The analysis of 1540 indefinite article + noun sequences revealed that gender accuracy was significantly lower when the noun started with a vowel. This effect was significant for French L3 learners but weaker among more advanced French L2 learners. It thus seems that an initial vowel, and the resulting gender syncretism, delays the correct identification of a noun's gender among French L2 learners.

French distinguishes two grammatical genders: masculine and feminine (Grevisse 1980, Surridge 1996). Gender is an inherent diacritic feature of French nouns, which has to be acquired individually for every noun. Gender in French is also "a derivative property of specifiers such as determiners and adjectives" (Carroll 1989: 545). The gender of the noun thus triggers gender agreement among determiners and adjectives. The indefinite and definite articles in French have different morphological forms for the masculine and feminine in the singular (*un/une* 'a$_{MASC.SG}$/a$_{FEM.SG}$', *le/la* 'the$_{MASC.SG}$/the$_{FEM.SG}$'), but not in the plural (*des/les* 'some$_{PL}$/the$_{PL}$'). The difference between *un professeur* 'a male teacher' and *une professeure* 'a female teacher' is clearly audible. The difference is even more salient with the definite article: *le professeur* 'the male teacher' and *la professeure* 'the female teacher'.

However, there is no phonological distinction in the gender of the definite article when the noun starts with a vowel: *le* + *avion* becomes *l'avion* 'the plane', *la* + *expression* becomes *l'expression* 'the expression'. The deletion of the vowel of the article is referred to as elision and results in gender syncretism with the definite article. The definite, indefinite, and demonstrative plural articles (*les*, *des*, *ces*) are already syncretic before both C- and V-initial words. Moreover, phonetic syncretism particular to vowel-initial

words also occurs when they are preceded by possessives or demonstratives: *ton amie* 'your friend$_{FEM}$', *cet ami* 'this friend$_{MASC}$'.

Gender assignment and gender agreement have fascinated teachers and researchers working on the acquisition of complex gender systems such as those of the Romance languages. The most obvious difference between native and non-native speech production, as far as grammatical gender processing is concerned, is the fact that native speakers make very few gender errors in their first language (L1). Schriefers and Jescheniak (1999: 583) describe such errors as rare events in native speech production. Psycholinguists have shown that native speakers react within milliseconds to gender errors (Sabourin 2001). A positive deflection in the brain wave reaches a maximum at approximately 600ms after the related event, the so-called P600 (Frenck-Mestre, Foucart, Carrasco and Herschensohn 2009: 82). However, gender errors are more abundant in second language (L2) production. These seem to "ring loudly" in the ears of native speakers/listeners and are a typical give-away of the non-nativeness of highly advanced L2 users (Ayoun 2007).

Native speakers of French may have little difficulty with gender assignment and agreement, but one intriguing study by Barbaud, Ducharme and Valois (1982) on 120 native speakers of Canadian French found that among the 1044 occurrences where grammatical gender could be unambiguously identified, there were 113 instances (11%) of non-standard uses of feminine gender with masculine nouns beginning with a vowel and 11 non-standard uses of masculine gender (p. 115). The most frequent tokens of words reassigned to feminine gender were *accent*, *accident*, *âge*, and *air* (p. 129). No such non-standard use was found for nouns starting with a consonant. The phenomenon of feminization of some masculine nouns starting with a vowel has not been reported outside of Canada, and the study of its causes lies outside the scope of the present study. One could wonder whether the systematic absence of a clear gender clue in oral speech for certain types of nouns might increase the probability of gender errors occurring with these nouns.

This does raise a number of interesting questions for SLA researchers: might L2 learners of French display more uncertainty about the gender of nouns which are phonologically neutralized following elision compared to nouns starting with a consonant? If such a phenomenon existed in L2 French, would the difference be more visible with beginners, who typically still struggle with both gender assignment and gender agreement (Dewaele and Véronique 2000, 2001), compared to more advanced learners who have acquired the morphological complexities of French gender? Finally, one could wonder whether L2 learners make fewer gender errors with masculine nouns of this type, the "default" case for the majority of French nouns (Prodeau 2005), compared to feminine nouns.

1. Gender in French

The idiosyncratic nature of gender in French has been hotly debated: "one of the controversies of the linguistic and developmental literature is precisely whether gender in French is arbitrarily assigned or assigned on a principled basis" (Carroll 1999: 46). Corbett (1991: 34) points out that the combination of semantic and formal principles makes the French gender attribution system opaque.

Lyster (2006) quotes the observation by Tucker, Lambert, Rigault and Segalowitz (1968: 136) that "French grammarians have been hasty in their conclusion that there are no regularities or only minimal ones to gender determination". This author shows that the idea that word endings are of little use in determining whether a word is masculine or feminine is still widespread among linguists. As a consequence:

> Learners of French as a second or foreign language (L2) are thus faced with the challenge of sorting out what is claimed to be an arbitrary subsystem in French grammar, left to their own devices to learn gender attribution of inanimate nouns on an item-by-item basis (Lyster 2006: 70).

Lyster (2006) analyzed a 20,000-word dictionary corpus (Le Robert Junior illustré for 8-12 year-old children), focusing on the endings of 9,961 singular inanimate nouns selected from a total of 10,112 nouns in order to "describe rule-governed patterns" (p. 72). He classified the nouns as feminine, masculine or both feminine and masculine (p. 73). Six final phonemes, accounting for less than a fifth of the corpus, were found to be reliable predictors of gender for at least 90 percent of all nouns in the corpus (p. 74). Another 11 final phonemes predicted gender in the 78-88 percent range (p. 74). His analysis revealed that, of all nouns with one gender, 80 percent "have endings that reliably predict their gender" (p. 84). Lyster argues that his findings have an important pedagogical implication: for French L2 learners, "knowledge of gender attribution needs to precede knowledge of gender agreement rules" (p. 86).

Ayoun (2010) set out "to test the so-far unsubstantiated claim that the input provides abundant and clear evidence of the grammatical gender of French nouns" (p. 119). She analyzed 5,016 contextualized determiner phrases from a corpus of newspaper and magazine articles (p. 119). Half of the noun tokens were not gender-marked; 9 percent of nouns had no gender-marked determiner but were modified by a gender-marked adjective; and the remaining 41 percent of nouns had a gender-marked determiner (p. 128). She thus concluded that "the authentic, contextualized input of newspapers is ambiguous at best when it comes to providing cues to grammatical gender"

(p. 137). This fact, combined with complex and numerous gender-assignment rules to be combined with "semantic and syntactic rules, exceptions, idiosyncracies and asymmetries" (p. 137) makes the acquisition of French grammatical gender "notoriously difficult to acquire for L2 learners" (p. 137).

While native speakers of French seem to have a very good intuition about the gender of words, research has shown that there is actually some sociolectal variation in native Canadian French. Barbaud, Ducharme and Valois (1982) used the Sankoff and Cedergren corpus (1972) of natural conversations with 120 native Canadian French speakers in order to analyze the phenomenon of feminisation of masculine nouns starting with a vowel. The authors focused on the linguistic causes of the feminisation rule and carried out a sociolinguistic enquiry into the social stratification of this phenomenon. Their research dealt with formal characteristics (morphophonology) of the head noun and its effect on variation in gender use. They identified 10,000 occurrences of nouns beginning with a vowel where some gender agreement targets are phonologically neutralised (e.g., *l'avion*, *l'horloge*, *l'hélice*, *l'organisation*, *l'année*). Grammatical gender could be unambiguously identified for 1,044 occurrences (p. 108), of which 113 showed non-standard use of feminine gender and 11 non-standard use of masculine gender (p. 115). As stated earlier, the most frequent tokens of words reassigned to feminine gender were *accent*, *accident*, *âge*, and *air* (p. 129). Accuracy rates for nouns starting with a consonant, however, came close to 100 percent. The authors argue that the feminisation rule of nouns starting with vowels is phonologically motivated and that this rule exists in the linguistic competence of French-Canadian speakers. A VARBRUL analysis[1] revealed that this phenomenon is not linked to age, sex nor syntactic context. It was, however, significantly related to socioeconomic status and education level: the higher the social class and education level, the lower the use of the feminisation rule (Barbaud, Ducharme and Valois 1982).

Karmiloff-Smith (1979) has shown that very young native speakers of French (aged 3) are able to distinguish the feminine and masculine forms of the singular. Children do not simply focus on determiners but also pay attention to the endings of nouns (1979: 219). When children were presented with nonce nouns lacking a clue to gender in the determiner but with the typical masculine or feminine ending (e.g., *Voici deux plichettes*[2]), they classified approximately 80% of the words correctly (p. 150). This suggests that they were categorizing the nouns according to morphophonological rules. However, recent research has shown that French native speakers'

[1] This is a statistical tool used to perform factor analysis in research on sociolinguistic variation.

[2] "–ette" is a feminine ending.

judgments of gender may not be as reliable as it has been generally assumed, especially with nouns exhibiting fluctuating gender (Ayoun 2014).

There does seem to be some variation in the speed and accuracy with which native speakers of French determine gender. Desrochers and Paivio (1990) found that both the morphological ending of the noun and the presence of an initial vowel had a significant negative impact on gender accuracy. The effect of morphological endings that did not provide a clear clue to the gender of the noun was stronger on gender accuracy for lower-frequency nouns. Participants were also significantly slower in determining the gender of nouns with an initial vowel compared to nouns with an initial consonant (930 versus 867 milliseconds respectively). Nouns with a morphological ending that provided a clear gender clue elicited significantly faster responses (870 versus 926 milliseconds). The researchers highlighted that the most interesting finding was that the effect of the initial vowel remained even with a morphological ending that did provide a clear gender clue (Desrochers and Paivio 1990).

2. Gender in L2 French

Researchers have focused on the question of why L2 learners and users seem to have greater difficulty in extracting gender information from the input. Do L2 learners rely on morphological, phonological or syntactic cues to establish the gender of nouns? If the input is insufficient, do French L2 learners engage in the learning of the gender of specific items as opposed to learning the overall system (Ayoun 2010)? Are gender errors of instructed French L2 learners mere performance errors (Ayoun 2007)? Can gender attribution in L2 French be explained through pre-existing patterns of connectivity (Sokolik and Smith 1992; Matthews 1999)? Granfeldt's (2005) study of bilingual first and second language learners of French has shown superior levels of accuracy in the acquisition of gender agreement in bilingual children. He argues that adult learners are initially unable to draw on the properties of the abstract category GENDER, which, in turn, "leads to a different pattern of acquisition occurring primarily on the level of individual types" (p. 185).

Carroll (1989: 573) argues that French gender agreement is so difficult for L1 English speakers because their L1 has no gender agreement. She argues that, from a Universal Grammar perspective, their universal feature of gender distinction has already atrophied and disappeared at the point where L2 learners are exposed to French at school. While Francophone children grow up with ample input involving determiners and their nouns and develop a simple look-up mechanism that allows them to retrieve the morpho-syntactic features of nouns (1989: 573), Anglophone learners have to "transfer their noun-category – crucially without an inherent gender feature –

to the task of acquiring new words" (1989: 581). Anglophones are thus reduced to learning determiners as independent phonological units and can only use relative general rules-of-thumb to guess the gender of new nouns in the input. These rules do not guarantee a high level of accuracy and learners "will have difficulty making a categorization" (1989: 580). Rivers (1983) had developed a similar theory, attributing the difficulties of L1 English learners of L2 French to a conceptual interlingual divide between the gender systems of both languages.

Carroll (1999) points out that, "If the learner is to learn, he must perceive the objective properties of the stimulus so that patterns can be detected and encoded, but his cognitive system serves as a filtering function" (1999: 44). Some researchers have focused on the importance of phonological and morphological cues in the acquisition of gender agreement in L2 French (Karmiloff-Smith 1979; Sisson 2006; Tucker, Lambert and Rigault 1977), while others have looked at the role of syntactic cues (Beeching and Lewis 2008; Carroll 1989; Hawkins and Franceschina 2004; Sisson 2006). Renaud (2010, 2011) has looked at the gender feature in groups of intermediate to advanced English-speaking learners of French and a control group of French native speakers. She used a judgment task presented on a computer involving sentences in which the referent introduced in the context had a synonym of a different gender. She found that the intermediate learners (who were second- and fourth-semester students) accepted all forms of the pronouns at fairly high rates (between 50 and 67%) regardless of the context in which they occurred (2011: 130). However, the advanced learners behaved like the native speaker control group, rejecting the mismatched pronouns and accepting the matched pronouns. All learners exhibited asymmetries in reading times. The author concluded that a dissociation seems to exist between processing and grammatical knowledge, with the latter lagging behind.

Dewaele and Véronique (2001) analyzed gender errors in the pre-advanced to advanced oral French interlanguage of 27 L1 Dutch speakers who were university students in Brussels. The authors focused on inter-individual and intra-individual variation in gender accuracy rates. One of the aims was to verify whether the syntactic distance of a determiner or adjective from the head noun affected accuracy rates for gender agreement. Accurate agreement in within-phrase constituents was not significantly different from agreement across constituents. Moreover, a comparison of accuracy rates of attributive adjectives in anteposition and postposition as well as of predicative adjectives showed no significant differences (p. 283). Accuracy levels for gender agreement in determiners were significantly higher than those in adjectives (p. 283). The same pattern emerged in the data of Bartning's (2000b) advanced Swedish-speaking learners of French but not in her group of pre-advanced learners. Bartning explains the difference between advanced and pre-advanced learners as follows: "the pre-advanced learner has not yet

started using the strategy of overgeneralisation of the masculine gender" (2000b: 231).

Dewaele and Véronique (2001) also found that gender errors most often involved the misuse of masculine for feminine gender: 73.5 percent of determiners and 63 percent of adjectives with incorrect gender were masculine forms (p. 285). This increased use of masculine gender for feminine nouns in French interlanguage has been noticed before (Carroll 1989; Bartning 1999). Unsurprisingly, a closer look at the 30 head nouns most frequently involved in gender errors revealed 21 feminine nouns (Dewaele and Véronique 2001). The masculine form is generally the unmarked form in French and can be used as a generic, both at the lexical and grammatical levels (Wise 1997). Inter-individual variation in the data was found to be linked to specific generalization and avoidance strategies such as the insertion of a 'ça/c'est + Adjective' structure involving a default masculine singular agreement, instead of a more complex verb phrase where both the verb and the adjective need to agree with the head noun. An example of this avoidance strategy is *La profession, c'est très intéressant* 'The profession$_{FEM}$, it is very interesting' (Dewaele and Véronique 2001: 285). These structures were used significantly more frequently by less advanced learners. Participants with higher levels of morpholexical accuracy and those with a longer and more intense instruction in French were found to have higher gender accuracy rates. Frequent use of French outside the classroom was also linked to higher gender accuracy rates with both determiners and adjectives. A closer look at intra-individual variation revealed a large number of possible psycholinguistic scenarios underlying the errors: overall, 19 percent of gender errors were identified as agreement errors, while 70 percent were deemed to be gender assignment errors (p. 284). The authors argued that gender errors can originate at various levels: lemma, lexeme or gender node (p. 293). Crosslinguistic influence was not excluded even though the language-specific nature of gender nodes makes direct transfer of gender information impossible (p. 288; see, however, Sabourin 2001 who found that participants who had grammatical gender in their L1 (German or Romance languages) outperformed participants whose L1 lacked this feature (namely native English speakers) in L2 Dutch gender experiments, p. 168).

Prodeau (2005) devised a psycholinguistic experiment with 27 L1 English learners of L2 French with the aim of investigating the constraints on accurate gender use in complex verbal tasks. Her analysis suggests that, even when participants know the gender of a noun, the information is not systematically available, especially in tasks with heavy cognitive loads. Indeed, working memory limitations can negatively affect agreement when the distance between the head and the item to be agreed is large. Problems can also occur at the level of phonological encoding, "when the closeness of an L1 form to a gender-marked L2 one influences the level of activation for the latter" (p. 148); and at semantic and pragmatic levels, "when an item

associated mentally with one sex influences the activation of the corresponding gender node" (p. 150). Prodeau argues that in French interlanguage "lemmas are not systematically stored with their gender, and accessing the form of the lemma differs depending on the strength of the link between the lemma and the corresponding gender node" (p. 159). She concludes that her participants sometimes neglected gender when they felt it was not fundamental for comprehension.

An unpublished study by Beeching and Lewis (2008) has shown that gender accuracy in L2 French varies significantly across tasks. The researchers found that gender accuracy scores of British final-year language students were significantly higher on written than on oral exams, and that the lowest gender scores were obtained in a picture description task. The researchers also found significantly higher gender accuracy scores for definite articles compared to indefinite articles, confirming previous findings in the field (Bartning 2000b; Sabourin, Stowe and de Haan 2006).

Lyster (2004) has investigated the acquisition of grammatical gender by immersion students and undergraduate students of L2 French, focusing specifically on the effects of form-focused instruction delivered in tandem with different types of corrective feedback (see also Lyster and Izquierdo 2009). Form-focused instruction was provided by the teachers, who drew attention "to selected noun endings that reliably predict grammatical gender and also provided two different feedback treatments (recasts or prompts)" (Lyster 2010: 73). This instruction led to a significant increase among students in "correctly assign[ing] gender in French L2" (p. 73).

Finally, the effect of the initial vowel of a noun on gender accuracy has, to our knowledge, only been considered in L1 Canadian French (Barbaud Ducharme and Valois 1982; Desrochers, Paivio and Desrochers 1989; Desrochers and Paivio 1990; Tucker, Lambert and Rigault 1977). In the study to be presented next, we will investigate whether that ambiguity poses a problem for learners of French with Dutch as an L1 and English as an L2/L3 in their quest to discover the gender of nouns.

3. Gender in Dutch and English

The study to be presented in section 6 involves patterns of gender agreement in the L2/L3 French of native Dutch speakers, who had also acquired English. Accordingly, we will briefly review the gender patterns in these two languages.

The French grammatical gender system is not congruent to the Dutch grammatical gender system (Sabourin, Stowe and de Haan 2006). Van Berkum (1997: 117) highlights that Dutch is a language with a "relatively moderate degree of gender-marking limited to singular nouns". A number of constituents agree in gender with the singular head noun in Dutch: the

singular definite article, most anteposed adjectives, several determiners, and relative pronouns (Theissen and Hiligsmann 1999). While the adjective is not inflected with indefinite neuter nouns, a morpheme "-e" is added to the adjective agreeing with indefinite common gender nouns. Dutch nouns have one of two possible genders: a neuter gender, requiring the definite article 'het' (e.g., *het dier* 'the animal'); or a common gender (either masculine or feminine) which only goes with the definite article 'de' (e.g., *de man* 'the$_{MASC.SG}$ man', *de vrouw* 'the$_{FEM.SG}$ woman'; Sabourin, Stowe and de Haan 2006: 5).

Theissen and Hiligsmann (1999) estimate that approximately 70% of Dutch nouns belong to the common gender. Furthermore, "the agreement patterns in the Romance languages are different from those in Dutch" (p. 6). All of this makes the surface transfer of the gender of a given Dutch word to French unlikely. Sabourin, Stowe and de Haan (2006) did find evidence of transfer of "the more abstract features of language" (p. 3), so-called "deep transfer of the gender category" (p. 23) in the acquisition of L2 Dutch by native speakers of other Germanic and Romance languages.

English lost its system of grammatical gender, whereby nouns could be masculine, feminine or neuter, in the 13th century (Curzan 2003). Modern English does retain some features reflecting natural gender in certain nouns and pronouns (such as *he* and *she*) but no longer has any morphological gender agreement.

4. French as an L2 versus French L3

Research on trilingualism suggests that the order in which foreign languages have been acquired can have a wide range of linguistic consequences on all languages involved (e.g., De Angelis and Dewaele 2011). For instance, Dewaele (1998) found that his French L3 participants, whose French interlanguage was typically less advanced than the French L2 peers, relied more on their L2 English than their L1 Dutch when creating French lexical inventions (22% could be traced to English), for example: "Les gendarmes sont involvés*" 'The national police is involved' (p. 479) compared to the French L2 students. The latter group not only produced fewer lexical inventions, but only 7% of them could be traced to English (p. 486). The L3 participants also used the 'ça/c'est + Adjective' structure significantly more frequently than the L2 participants, to avoid gender agreement (Dewaele and Véronique 2001: 285).

5. Research Hypotheses

Taking into account the research discussed to this point, we hypothesize that:

1. Gender accuracy rates for indefinite articles preceding noun lemmas starting with a vowel (V-nouns) will be significantly lower than those preceding noun lemmas starting with a consonant (C-nouns).
2. There will be fewer gender errors involving masculine nouns.
3. Participants with French L2 will perform better than those with French L3 on general gender accuracy rates and, more specifically, on indefinite articles preceding V-nouns.

6. Methodology

6.1. Participants

Thirty-six Flemish university students participated in the data collection (13 female, 23 male; age range: 18-21)[3] that took place in 1989 and 1990. Participants and the researcher were minimally trilingual (Dutch-French-English) and maximally quadrilingual with various levels of proficiency; some may have had knowledge of either German or Spanish as an L4[4]. The researcher is a native speaker of French and Dutch, and fluent in English and Spanish; none of the participants were native speakers of French. Twenty-nine participants had French as an L2 (meaning that they had started learning the language at age 10 rather than 14 and had had more French classes). Following the Common European Framework of Reference for Languages (CEFR) developed to describe the foreign language learning achievement of learners across Europe, these participants could be described as ranging from B2 to C2 for French. For 7 participants, French was their L3 (they had chosen English as their L2 in high school), which meant later and more limited classroom exposure to French compared to those for whom French was their L2. The proficiency of the L3 group could be described as ranging from A2 to B1. All participants were enrolled in intensive French courses

[3] The present sample includes the 27 participants whose data were used in Dewaele and Véronique (2001).

[4] Information concerning L3 learning was not collected. Although we cannot exclude a potential effect of L4 Spanish on French, we can only argue that is relatively unlikely, as those who had Spanish in high school would at best have reached a level of A2 in CEFR terms.

(150 hours) at the Language Institute of the Free University of Brussels with the researcher as their teacher. The researcher and the participants communicated usually in French. As part of the study, the participants filled out a sociobiographical questionnaire including questions about their French learning history and their current use of the language.

6.2. Linguistic Material

The researcher recorded conversations between himself and the participants in both an informal and a formal situation. As no differences were found in the number of gender errors produced in the informal and formal situations in Dewaele (1994), the material collected from both has been pooled. The informal situation consisted of conversations with the researcher ranging from five to fifteen minutes concerning studies, hobbies, politics, and economics. The formal situation involved an oral exam of approximately ten minutes with the same participants, a few weeks after the informal conversations. Participants had been asked to prepare a number of topics on politics, economics, and current affairs, and this formed the basis for the conversations. The researcher took note of errors made as the exam progressed. All recordings were transcribed by the researcher into orthographical French as part of a doctoral research project on synchronic variation in interlanguage. The corpora were coded grammatically and lexically and included codes for various morphological and lexical errors (Dewaele 1994, 1996, 1998).

6.3. Identification of Gender Errors

One of the points discussed in Dewaele and Véronique (2001) was the difficulty in deciding whether or not a learner had made a gender error. In order to avoid ambiguity as to the identification of the gender of a noun, the current analysis has been restricted to sequences of the indefinite article *un/une* + noun. The phonetic distinction between the masculine and feminine forms of the indefinite article allows for the identification of gender, although in some cases it was difficult to discriminate between nasalized *un* (with and without the 'n' of liaison) and *une*.

The present analysis focuses on 1540 sequences of the indefinite article (*un/une*) followed by a noun. These sequences contain 1173 noun tokens with an initial consonant (C-nouns) and 367 noun tokens beginning with a vowel (V-nouns). These noun tokens represent 496 different lemmas. The decision on correct/incorrect gender assignment was done purely by listening to the indefinite article and the author was the only judge. Gender accuracy rates were calculated for every participant. Gender errors were

attributed to erroneous gender assignment rather than a failure to carry out gender agreement, although there is no empirical way to verify this (Dewaele and Véronique 2001).

Contrary to Barbaud, Ducharme and Valois (1982), nouns whose gender is semantically determined or whose morphological ending might give a clue as to the noun's gender as in the previous example were not excluded. Indeed, native speakers would not use a masculine determiner in front of an unambiguous feminine noun. Yet, there are frequent occurrences in the corpus analyzed here of unambiguously feminine words like *mère* 'mother' and *femme* 'woman' that were accompanied by determiners of masculine gender. In the following example, Danny seems to notice his gender error and repeats the article with the correct gender:

Danny: *on on avait un euh professeur, aussi* ***un** une femme*.

'we we had an err teacher, also a_{*MASC} a_{FEM} woman.'

A similar example exists in our corpus where the learner Frank uses a feminine indefinite article in front of an unambiguously masculine word:

Frank: *Allez c'était* ***une** homme fantastique (Dewaele and Véronique 2001: 286).*

"Well it was a_{*FEM} fantastic man."

It appears that grammatical gender in French L2 functions differently than in French L1, hence the decision not to exclude any category of nouns from the analysis.

6.4. Gender Accuracy Scores

Overall gender accuracy scores were calculated for each participant. This was done by considering the proportion of indefinite articles with correct gender. The mean gender accuracy score was 87.9 percent (SD = 9.1).

7. Analysis

7.1. Gender Accuracy of V-nouns and C-nouns

The relative proportion of gender errors with the definite determiners *un* and *une* preceding initial consonants versus initial vowels in the head noun was

calculated. For the null hypothesis to be rejected, a paired t-test should reveal a significant difference between both sets of data. T-tests were run over percentages of correct gender for each participant.

A paired t-test did indeed confirm the first hypothesis, namely that gender accuracy rates for indefinite articles preceding noun lemmas starting with a vowel (V-nouns) would be significantly lower than those preceding noun lemmas starting with a consonant (C-nouns; $t(35) = -2.22$, $p < .033$). The mean accuracy rate for V-nouns was 84.6 percent (SD = 16.0) compared to 89.1 percent (SD = 8.4) for C-nouns. Moreover, the standard deviation around the mean for V-nouns was almost double that for C-nouns, suggesting a very wide range of variation (see figure 1). This could be interpreted as a clear indication that French interlanguage speakers are more likely to be unsure of the gender of V-nouns and use masculine and feminine determiners in free variation.

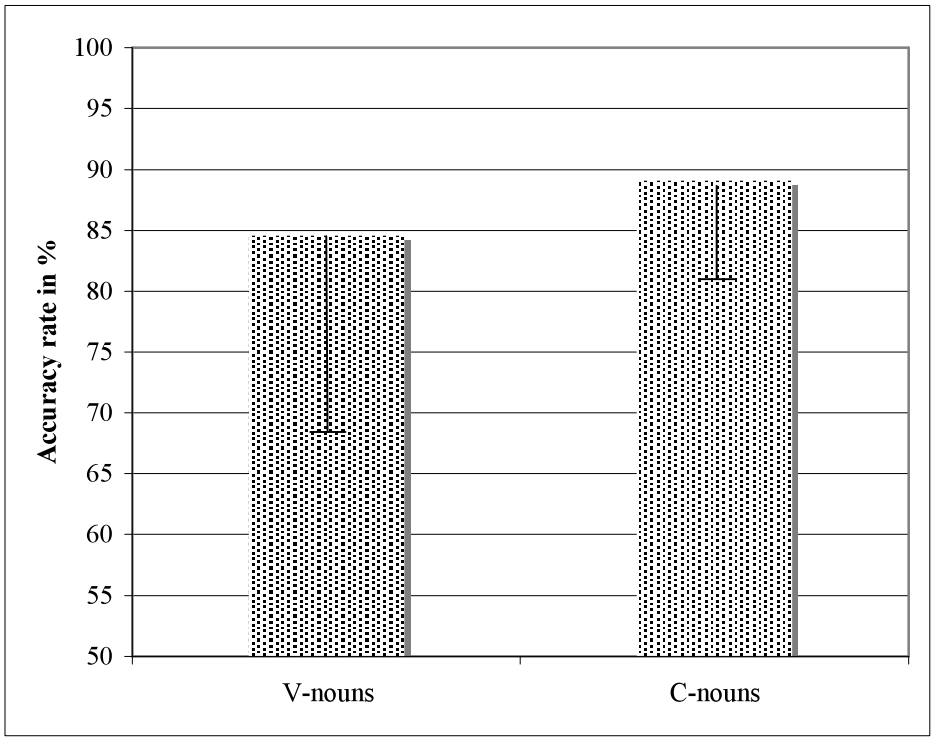

Figure 1: Gender accuracy for V-nouns and C-nouns

This finding confirms earlier research showing that the initial syllable of a noun may have an effect on the marking of grammatical gender (Desrochers, Paivio and Desrochers 1989; Desrochers and Paivo 1990; Tucker, Lambert and Rigault 1977). The occurrence of this phenomenon in high-intermediate to pre-advanced French interlanguage could be explained by the fact that the gender system is either relatively unstable or stable but non-target-like (see

Bartning 2000a, b; Dewaele and Véronique 2000, 2001) and could be more easily influenced by general phonological phenomena that limit the amount of audible gender marking on determiners preceding V-nouns.

The finding that gender accuracy with V-nouns does differ significantly from C-nouns, suggests that the initial phonological segment of the noun does affect the acquisition of grammatical gender. This is a nice complement to Slobin's principle 'pay attention to the end of words', namely 'pay attention to the determiner preceding the noun'. Earlier, we discussed research that focused on morphophonological cues present in noun endings in Romance languages (Ayoun 2010; Lyster 2006) and how such information helps speakers to determine the gender of the noun. The beginning of a noun contains no clue as to that noun's gender. The article preceding the noun is therefore of crucial importance. If that article is definite and singular or plural, there will be no audible clue (e.g., *l'avion*, *les avions*); this is also true when the noun is preceded by a possessive or a demonstrative determiner. With vowel-initial nouns, only when the article is indefinite singular will there be a clue (e.g., *un avion*, *une hirondelle*). Definite articles seem to be much more frequent in spoken continental French than indefinite articles. In their corpus of spoken hexagonal French, Gougenheim, Rivenc, Michéa and Sauvageot (1967) counted 5374 tokens of *la*, 4957 tokens of *le*, 4188 tokens of *un*, and 2780 tokens of *une* (pp. 69-70). This means that, in an average speech sample, a learner will hear nearly twice as many instances of *la* compared to occurrences of *une*. This finding could explain why gender agreement of the definite determiner is acquired before that with the indefinite determiner in French interlanguages (Bartning 2000b 235). A corollary of this is that our pre-advanced learners might still have been struggling with the acquisition of gender with V-nouns. Not only are V-nouns less frequent than C-nouns, they are also more often accompanied by a determiner that yields no clue as to their gender.

A closer look at the list of the thirty V-nouns with an occurrence of at least 3 tokens in the corpus shows that 13 of them were always used with the correct gender. There is no clear distinguishing feature among the remaining 17 V-nouns that had less than 100% gender accuracy. Indeed, two of the V-nouns that elicited gender errors were relatively high-frequency and morphologically simple words: *article* 'article' occurred 41 times, and *auto* 'car' occurred 16 times in the corpus. The list also demonstrates that an equal proportion of the 30 V-nouns belong to the masculine and feminine gender. No interaction seems to exist between the gender of the noun, the type of word-initial segment, and gender accuracy.

Noun (Gender)		Token frequency	Accuracy rate in corpus (%)
épidémie	(f)	3	0.0
heure	(f)	4	25.0
auto	(f)	16	31.3
opinion	(f)	5	40.0
étude	(f)	4	50.0
accord	(f)	10	60.0
âge	(m)	3	66.7
exposé	(m)	3	66.7
école	(f)	11	72.7
histoire	(f)	4	75.0
université	(f)	5	80.0
homme	(m)	12	83.3
an	(m)	6	83.3
organisation	(f)	9	88.9
ami	(f)	11	90.9
enterprise	(f)	11	90.9
article	(m)	41	92.7
examen	(m)	11	100.0
usine	(f)	7	100.0
auteur	(m)	6	100.0
hélicoptère	(m)	6	100.0
année	(f)	5	100.0
assistant	(m)	5	100.0
accident	(m)	4	100.0
avion	(m)	4	100.0
exemple	(m)	4	100.0
affaire	(f)	3	100.0
entrepreneur	(m)	3	100.0
homophile	(m/f)	3	100.0
hormone	(f)	3	100.0

Table 1: List of 30 V-noun lemmas with a token frequency greater than 3 in the current learner corpus, ordered by increasing gender accuracy rate

7.2. Gender Errors Involving Masculine and Feminine Nouns

The second hypothesis predicted higher gender accuracy of indefinite articles with masculine nouns. Gender accuracy rates for masculine and feminine nouns were calculated for each participant, then for the group. Mean accuracy rates for masculine nouns was 84.6 percent (SD = 15.5); mean accuracy rates for feminine nouns was 85.8 percent (SD = 15.5). A paired t-test revealed that this difference was non-significant (t(35) = -.356, p = ns): participants misassigned the gender of masculine and feminine nouns in equal proportions. Despite the fact that masculine nouns have been described as the

'default' case for the majority of French nouns (Prodeau 2005; Sisson 2006; Wise 1997), their gender does not seem to be inherently easier to assign for learners.

7.3. Gender Accuracy in the French L2 and French L3 Groups

The third and final hypothesis concerned potential differences between French L2 and L3 learners. More specifically, would the French L2 participants perform better than their French L3 peers on general gender accuracy rates and on indefinite articles preceding V-nouns? An independent t-test revealed that the difference in general gender accuracy between the French L2 (M = 91.5 percent; SD = 10.1) and the French L3 groups (M = 79.2 percent; SD = 16) was significant ($t(35) = -3.4$, $p < .002$).

The effect of the initial vowel in nouns was analyzed for each of the two groups of participants (see figure 2). A paired t-test for potential differences in gender accuracy rates for C-nouns and V-nouns revealed a significant effect for the L3 French group: ($t(6) = -3.7$, $p < .01$). No effect was observed, however, for the L2 French group ($t(28) = 1.3$, p = ns).

These results suggest that more classroom instruction in French (typically spread over 8 years with an average of 5 hours a week (higher proficiency L2 group) compared to 4 years with an average of 3 hours per week (lower proficiency L3 group)) is linked to higher gender accuracy scores. The effect of the initial vowel on gender accuracy scores in nouns does not seem to be a permanent feature of a learner's interlanguage. The effect of C-nouns versus V-nouns levels off as learners become more advanced in French. These 'snapshots' of the L3 French and L2 French groups could be seen as representing two different stages in the development of the interlanguage. Continued exposure to French could allow the L3 learners to narrow the input gap with the L2 peers. One possible explanation for this phenomenon is that the L3 French learners were less aware of the variety of morphophonological cues that can help them determine a noun's gender. In other words, it might take some time (and a certain amount of input) before a learner realizes that there are typical morphological endings that indicate a noun's gender. As a consequence, the L3 learners of the present study rely mainly on the preceding article. In cases where the article or other determiner yields no cue when followed by a V-noun, learners are more likely to commit gender errors. The French L2 learners, and more advanced learners in general, are able to rectify wrong gender information attached to particular lemmas in their own interlanguage grammar. They might realize that, when hearing a particular noun for the first time, there are other 'rules of thumb' (Carroll 1989) for determining that noun's gender.

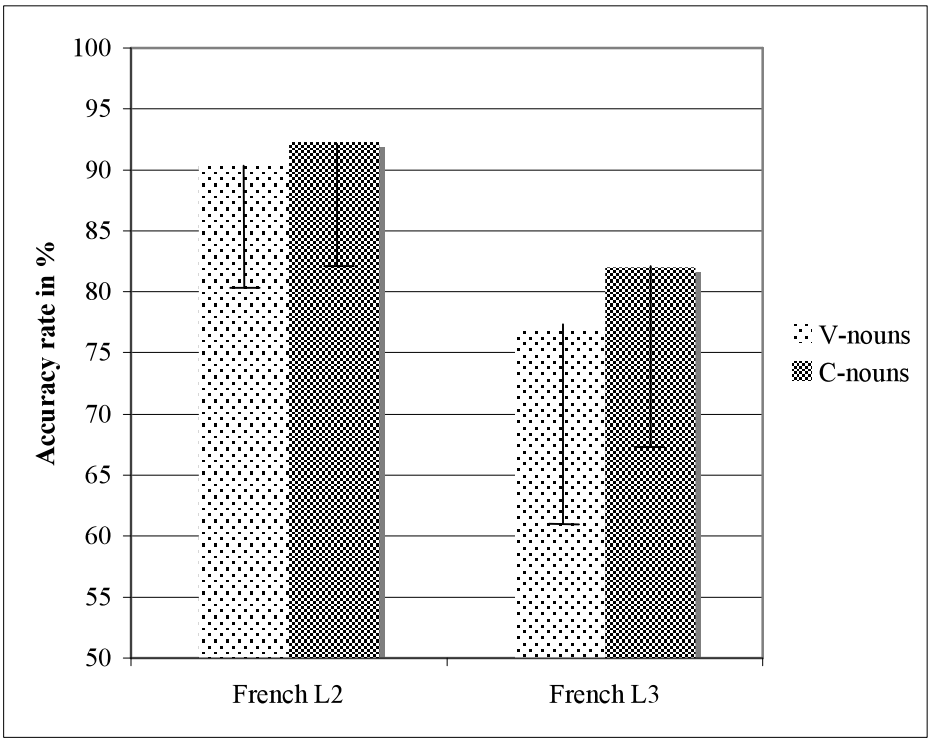

Figure 2: Gender accuracy for V-nouns and C-nouns in the French L2 and L3 groups

8. Conclusion

The present study has confirmed that the L2 acquisition of gender in French can be hindered by the vowel elision that occurs with definite articles preceding V-nouns just as it delays accuracy and latency of gender identification among native speakers (Desrochers, Paivio and Desrochers 1989; Desrochers and Paivo 1990). This elision, which results in gender syncretism, seems to have had longer-term effects in particular sociolects of native speakers of Canadian French from lower social classes and lower education levels (Barbaud, Ducharme and Valois 1982). The present study is the first to establish that elision resulting in gender syncretism of V-nouns does present an extra obstacle to learners of French.

The learner of French who hears *l'avion*, *son avion* or *cet avion* cannot infer from such sequences whether the noun *avion* 'plane' is a masculine or feminine word. The learner may in fact erroneously misanalyze the initial /la/ sequence of *l'avion* as the feminine definite article *la* and conclude that *avion* is a feminine noun. The only way for the learner to determine correctly the gender of *avion* will be to infer it from the less frequent indefinite articles preceding *avion*, or from adjectives or pronominal references. This means that the number of gender clues for V-nouns is more limited than those of C-

nouns in the learner's input. In the present study, less advanced L3 French learners were found to have significantly lower gender accuracy rates compared to more advanced L2 French learners. Gender accuracy for V-nouns was also significantly lower than that of C-nouns among the L3 French learners; no such difference existed among the L2 French learners.

Considering the small sample size, it is important not to over-interpret the findings. However, it is possible that the L2 French learners had been able to infer the correct gender of V-nouns after having received more input (including gender marking) in French and after having developed their understanding of morphophonological gender cues in the endings of the nouns. In other words, at some point in their interlanguage development, learners are able to overcome this particular gender syncretism. It thus seems that learners of French do not simply need to pay attention to the end of words, but also need to focus on the article preceding the noun in order to determine the gender of a noun. An initial vowel delays the correct identification of the gender of a noun among learners. Future research could focus on why initial V-nouns are more difficult for learners. Indeed, our study shows that gender itself is not so much the issue as the initial-V condition on the noun (no significant difference emerged between accuracy rates of masculine versus feminine nouns - only on the initial V condition were they significantly different).

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