Chapter 3. The L1 and L2 acquisition of inflections

As set out in the previous chapter, I defined the concept of syntactic complexity. More specifically, the size of the syntactic domain in terms of the total number of syntactic nodes by which it is built and the length of constituent movement in terms of the number of syntactic nodes intervening between the moved constituent and its original position can be taken as a very relevant measure of syntactic complexity. In the present chapter I will focus on the effect of syntactic complexity on language acquisition. I will also focus on the effect of the phonological expression of grammatical inflection on language acquisition.

Firstly, I will give an overview of recent studies on the L1 and L2 acquisition of gender inflection. In the first section I will focus on the L1 acquisition of gender inflection and on its written production. More precisely, I will describe the effect of the syntactic complexity of agreement constructions and the phonological expression of gender inflection on native written language production. In the second section I will focus on the L2 acquisition of gender inflection and on its written production. Similar to the first section, I will describe the effect of the syntactic complexity of agreement constructions and the phonological expression of gender inflection on the written language production by second language learners. At the end of both sections I will give a short summary.

3.1 The L1 acquisition of grammatical inflections

Within the approach of Universal Grammar, children possess an innate grammar system in which parameters have to be set to the parameter settings of the specific language (e.g. SOV or SVO word order). They have to acquire for example the language-specific constraints and how the innate X-bar configuration is set in their mother tongue. Some studies claim that all elements, such as functional projections, of this grammar system are already available from birth (i.e. Strong Continuity Hypothesis; Poeppel & Wexler 1993). Within this perspective, utterances which are deviant from adult language are explained by the incorrect use of features in the functional domain. Poeppel & Wexler (1993) for instance, observed the use of infinitives as matrix verbs in speech utterances from a young child (2; 6). They related this incorrect use of infinitives to the fact that the Tense feature seemed not yet to be acquired. More specifically, the correct position of the infinitive in the matrix clause seem to be related to the full mastery of func-
tional projections, but within these functional projections the Tense feature was not yet acquired.

Other studies, however, present evidence for the fact that not all elements of the grammar system seem to be available in the early stages of language acquisition (i.e. Weak Continuity Hypothesis; Radford 1990; Clahsen, Penke & Parodi 1993; Clahsen, Eisenbeiß & Vainikka 1994). Evidence for the Weak Continuity Hypothesis comes for example from utterances in child language, which sometimes differ from those in adult language in terms of parameter setting or syntactic elements generated in the functional domain. In this respect, it has been argued that the lack of functional categories in child grammar explains for instance speech utterances in ‘telegraphic speech’ (e.g. without verbal inflection or auxiliaries (Radford 1990)) or utterances with incorrect verb placement (Clahsen, Penke & Parodi 1993). Clahsen et al. (1993) for example analyzed longitudinal data from monolingual German speaking children and focused on verb placement, verb inflection, negation, wh-pronouns and complementizers. The data did not completely support the idea of a total absence of functional projections. The data suggested that in the first stage of language production, there is only one functional projection (i.e. IP), but no evidence was found for a second functional projection, such as CP. In the second stage the use of wh-pronouns, lexical complementizers and negations show up, which can be related to the presence of more than one functional projection. The authors concluded that the acquisition of grammatical elements is related to the gradual extension of the functional domain.

Children therefore have to acquire the functional projections which are appropriate to specific syntactic operations. This ‘structure-building’ approach to L1 acquisition can account for the lack of gender inflection on adjectives or number inflection on nouns in child speech, because of the absence of the appropriate functional projections. When the functional projections for gender agreement are acquired, it is noteworthy that adjectival agreement is not yet completely acquired in spoken language (Weerman, Bisschop & Punt 2006), since the production of inflections is also affected by non-syntactic aspects (e.g. the processing of agreement constructions (Moscati & Rizzi 2014)). More precisely, as stated in the introduction, the processing of relatively large syntactic domains engages extra computational effort with respect to smaller ones. Weerman, Bisschop & Punt (2006) for example showed that young children acquiring Dutch as their L1, are sensitive to the syntactic structure in which adjectival agreement takes place. However, they make agreement errors until the age of 7. Young L1 learners distinguish for instance between attributive and predicative contexts of adjectives: they overgeneralize the –e suffix in attributive contexts, but not in predicative contexts (see also the corpora by Elbers & Wijnen 1992 and Van Kampen 1997). This shows that grammatical inflection in attributive contexts occurs earlier than
in predicative contexts. The use of the Dutch default form, thus, is related to the syntactic construction in which agreement takes place. Around the age of 7 adjectival agreement with (attributive) adjectives in Dutch seems to be acquired in production. It is therefore clear that the presence of the functional domain and the target-like production of grammatical utterances do not fully correlate. Adjectival agreement constructions seem to be correctly produced only around the age of 7.

To the best of my knowledge, there are no studies dedicated to the acquisition pattern of adjectival inflections in L1 French by young children. In contrast, the acquisition of gender inflection on past participles has been studied in spoken L1 French (Belletti 2006; Pirvulescu & Belzil 2008). Belletti (2006) showed that past participle inflections are optional in informal speech as well as in certain dialects of French. While in written language production the past participle inflection is obligatory, in spoken language production, it is often omitted, even in contexts in which the inflection has to be phonologically expressed. Due to the optional expression of gender inflection in the spoken modality, the L1 acquisition of past participle agreement by young children is slow in French with respect to languages in which past participle agreement is obligatory in adult spoken language production (e.g. in Swahili). More specifically, Deen (2006) demonstrated that the consistent oral input of past participle agreement to young children, such as in Swahili, leads to a faster acquisition of past participle inflection with respect to languages in which this inflection is optional, such as in French. The effect of lacking the phonological expression of grammatical inflection, thus, seems to constrain language development.

3.1.1 The written production of grammatical inflections and the effect of phoneme-grapheme correspondence

In the initial stages of L1 acquisition, children are only exposed to spoken language in their mother tongue. As a consequence, preschool children’s exposure to agreement inflections is only found in spoken language. In written language production, gender inflections are sometimes very hard to acquire. When the child starts to learn to write at school, he/she has to learn the written variant of the gender inflection. The complexity in the acquisition of written inflections can be related to the claim that written language is affected by phonological knowledge, as can be observed in the ‘phonological spelling’ in child L1 French (Largy & Fayol 2001; Ågren 2013). Due to the divergence between spoken and written language, writing errors can be related to the transparency of the orthography (Ågren & Weijer 2013). In this case, the transparency of the orthography yields the correspondence between spoken and written language. More precisely, an orthography is claimed to be ‘transparent’ when one grapheme represents one single
phoneme. Non-transparent orthographies, however, do not exhibit an equal number of graphemes and phonemes. In the present section I focus on the correspondence between spoken and written inflectional morphology in French and the effect of the phonological expression of grammatical inflection on written language production.

Writing systems of languages can roughly be categorized into two different orthographies: the so-called ‘shallow’ (or transparent) and ‘deep’ (or non-transparent) orthographies (Jaffré 1997). In shallow systems, one phoneme is reflected by one grapheme and vice versa (e.g. in Finnish, Italian and Spanish). In languages with a ‘deep orthography’, one phoneme does not directly correspond to one grapheme. As such, the written language does not consistently represent the spoken language (e.g. in French and English). For inflectional morphology for instance, the use of phoneme-grapheme correspondence rules (henceforth: PGCR) is thus not sufficient to spell correctly in languages with a deep orthography. Instead, knowledge of morphosyntactic rules is required (Bryant & Nunes 2004). In French, a language which is assumed to have a deep orthography, one phoneme is not consistently represented by one grapheme and vice versa. For instance, the plural markings -s and -ent (-s for nouns (e.g. arbres ‘trees’) and -ent for verbs (e.g. dormant ‘(they) sleep’)) are not phonologically expressed, but they are morphologically relevant. This inconsistency leads to writing problems in L1 production, because of the required use of morphological rules. More specifically, both graphemes are for example used in the incorrect lexical category (e.g. *arbrent ‘tree-verbal suffix’ or *dormes ‘sleep-nominal suffix’) or are even omitted (Totereau et al. 1998) (cf. Nunes, Bryant & Bindman 1997 and Bryant, Nunes & Bindman 1999 for a similar phonological effect on verbal morphology in English). The lack of overt phonological expression leads to the complex character of this ‘silent’ morphology. Therefore, it is not sufficient to rely on the PGCR for native language users. Within such a context, Sénéchal (2000) demonstrated that ‘transparent’ words are spelled correctly more often than morphological words (i.e. non-transparent words). The reason for this observation can be found in the fact that the PGCR are not sufficient to correctly spell morphological words.

In a similar vein, it has been shown that the PGCR are the basis of written language production, even in advanced learners, and that ‘silent’ morphology correlates with writing errors. For instance, Anis (2007) and Dürscheid & Brommer (2009) showed that morphological rules are not applied in SMS language and that ‘phonetic spelling’ shows up in SMS message. A similar effect has been shown for French verbal morphology: the PGCR are not sufficient to correctly spell verbal forms in French. Therefore, native speakers have to call upon the morphosyntactic rules. Within such a context, more writing errors are found for verb forms that are in competition with their homophonic equivalents in the verbal paradigm, such as the past participle regardé /rəɡarde/ ‘looked’ and the infini-
For the adjectival paradigm, my hypothesis is that the homophonic nature of gender inflection can lead to similar writing errors in the production of adjectives in French. As set out in more detail in chapter 2 §5.1, the inflection morpheme is not phonologically expressed in most cases (e.g. *carrée [kare] ‘square-F.S.’). However, in some specific phonological contexts, the inflection morpheme is phonologically expressed (e.g. in *verte [vër] ‘green-F.S.’ or *grise [griz] ‘grey-F.S.’). In contrast to spoken French, the overt inflection is obligatory in written language production, whether it is phonologically expressed or not. Due to this partially ‘silent’ nature of gender morphology in French, learners cannot take advantage of the phonological cues in the adjectival paradigm. As such, learners cannot simply rely on the PGCR to distinguish masculine from feminine in French. This is in contrast with languages in which the masculine and feminine gender of adjectives are phonologically distinct, as in Spanish: *(un hombre) guapo *(a man) smart-M.S.’ vs. *(una mujer) guapa *(a woman) smart-F.S.’. An additional argument in favor of this hypothesis may be found in processing studies in which it has been shown that ‘silent’ morphemes are processed more slowly as compared to their phonologically expressed counterparts (Brysbaert et al. 2000 for Dutch; Schiller et al. 2003 for German and Frenck-Mestre et al. 2008 for French). This increased complexity of silent morphology has been studied mainly for the verbal (e.g. Brissaud & Sandon 1999; Brissaud & Chevrot 2011) and nominal (e.g. Sénéchal 2000; Pacton 2001) paradigm in French and in the verbal paradigm in Dutch (e.g. Sandra & Van Abbenyen 2009; Sandra 2010).

Brissaud & Chevrot (2011) for example carried out a study on the homophonic verbal ending /E/ in French (e.g. *parler ‘to speak’ and *parlé ‘spoken’ in which the verbal endings are all pronounced as /E/). They tested 621 children (age range: 8 – 14 years) in elementary school in France and Canada (Québec), who were asked to fill in the missing verbal form in 48 sentences. The missing forms were either the past participle or the infinitive of regular and highly frequent verbs and were homophonic in both the past participle and the infinitive ending. The results show an early competition between the infinitive –er ending and the homophonic past participle –é ending. Also incorrect agreement between the past participle and the subject (e.g. *nous avons achetés (we-pl. have bought-pl.) ‘we bought’) and an interaction between the selection of the morpheme –é and this incorrect agreement with the subject were found. The lack of phonologically distinct endings makes the French writing system quite complex to acquire, since the competition between homophonic forms is highly frequent in French (see also Fayol & Pacton 2006).
3.1.2 Syntactic complexity and inflections in L1 production

Besides the phonological effect on written L1 production of inflections, the size of the syntactic domain hosting the particular agreement construction, is also related to the accuracy of grammatical inflection in language development (Bock & Cutting 1992; Haskell & MacDonald 2005; Moscati & Rizzi 2014). In the literature, this size has been quantified in two fundamentally different ways: the first one is based on a more structural approach, while the second one builds on the principle of linearity. In the structural approach, the constituents of the sentence are considered to originate in an underlying syntactic structure in which the agreement process takes place. Within such an approach, the length of the syntactic distance between agreeing constituents is assumed to be proportionally related to the level of syntactic complexity (Roll et al. 2007).

The linear approach, however, does not describe the distance between agreeing elements in terms of a structural agreement relation. Here, the distance between words is determined by simply ‘counting the number of intervening words’. As there is no one-to-one relation between linearity and the number of syntactic levels in an utterance, both approaches can yield very different outcomes. The fact that linear and structural distance may substantially differ from each other, can be easily illustrated by examples such as the large and raging river vs. the river that stopped flooding. In both utterances the linear distance between the first and the last word, expressed in terms of the number of words, is the same, but the structural distance is different. More precisely, in the first sentence, the syntactic domain contains three projections: DP, the projection hosting the adjectival constituent and NP. In the second sentence, however, the syntactic domain is larger than in the first one. More specifically, the relative clause yields DP, CP, TP, VP and the projection hosting flooding. The second sentence, thus, may be taken as more complex than the first one.

The structural approach to syntactic complexity has also been supported by native language production. Bock & Cutting (1992) for example, examined the attractor effect in subject-verb agreement errors in spoken English (i.e. learners are likely to make agreement between a verb and an adjacent noun, rather than with the correct, more distant noun, such as the grammatical subject). They found that learners are more likely to produce incorrect agreement when the subject of the verb does not contain an embedded clause with the attractor than when the subject contains an embedded clause. The sentence the report of the controlled destructive fires + VP is more likely to elicit the incorrect are than in the sentence the report that they controlled the fires + VP. This observation supports the idea that the structural analysis, rather than the linear one, may account for differences in the accuracy of inflections.
With respect to native language development, the level of the syntactic complexity of agreement constructions has been shown to constrain the acquisition of grammatical inflection. Moscati & Tedeschi (2009) for instance, proposed, on the basis of spoken production data of young native speakers of Italian, that the delay of the acquisition of past participle agreement (vs. determiner-noun and subject-verb agreement) can be related to the fact that past participle agreement is more complex with respect to determiner-noun and subject-verb agreement: the functional domain in which the agreement configuration is established, is larger than in determiner-noun and subject-verb configurations. Differences in syntactic complexity might have led to the fact that past participle agreement exhibits more inflection errors in spoken language production than determiner-noun and subject-verb agreement.

A similar effect of syntactic complexity on the accuracy of agreement inflections has been demonstrated in more recent research. Moscati & Rizzi (2014) show that L1 Italian children made more errors in judging syntactic agreement configurations that exhibit a relatively large syntactic domain. They divided 55 monolingual Italian children (age range 2,11 – 5,10) in 3 groups and asked the correct form in four syntactic conditions: Det-Noun, Subj-Verb, Clitic-PastPart and PastPart-DP. Results showed main effects for Age and Agreement Type and an interaction effect between these two variables. Det-Noun constructions were mastered in all age groups, but in constructions with increased syntactic complexity, such as in Subj-Verb, Clitic-PastPart and PastPart-DP constructions, more agreement errors occurred. More precisely, the Clitic-PastPart constructions with an incorrect agreement inflection were chosen more often than the Subj-Verb constructions with an incorrect agreement inflection. Furthermore, the PastPart-DP constructions with an incorrect agreement inflection were chosen more often than the Clitic-PastPart constructions with an incorrect agreement inflection. With respect to the age group, the youngest children made more errors in the ‘syntactically complex’ (i.e. representing larger syntactic domains) conditions than the older children. The reason for these findings may be found in a decreased accuracy processing of complex sentences. More precisely, sentences exhibiting relatively large syntactic domains, are cognitively more demanding than smaller ones. Consequently, fewer processing resources remain for other linguistic processes, such as producing inflections. Therefore, more production errors are found in complex sentences (cf. Pichora-Fuller 2003).

To the best of my knowledge, however, no studies have been dedicated to similar effects of syntactic complexity on inflectional morphology in the written language of native language learners.
3.1.3 Summary

This section focused on the L1 acquisition of gender inflection in spoken and written language production. The deviant use of gender inflection can be related to the fact that target-like adjectival agreement is dependent upon the acquisition of the functional domain. Moreover, non-syntactic factors also influence the accuracy of inflectional morphology in language production. The effect of syntactic complexity and phonological expression leads to differences in accuracy in the production of grammatical inflection.

Regarding written language production, one important factor influencing the accuracy of written L1 production of gender inflection is the homophonic competition in the paradigm. More specifically, written language is claimed to be affected by spoken language in L1, since children are exposed to spoken language input in initial stages of language acquisition. In this respect, the fact that inflections which are not phonologically distinct, but morphologically relevant, leads to writing errors.

With respect to the effect of the syntactic complexity of agreement constructions, sentences representing relatively small syntactic domains are acquired earlier than those representing larger ones. Due to increased processing costs in complex sentences, more errors are found in the production of these particular sentences. Yet, no research has been done on the potential effect of syntactic complexity in written language production.

3.2 The L2 acquisition of grammatical inflections

Similar to L1 acquisition, the L2 acquisition of grammatical inflection has also been shown to correlate with the size of the syntactic domain in which agreement takes place. The relevant studies in the literature focus on how agreement is processed by the language learner. The Processability Theory (Pienemann 1989), for example, predicts ‘which structures can be processed by the learner at a given level of development’ (Pienemann 1998, p. 5). In this respect, the theory distinguishes between five stages of grammatical development: the lemma access (i.e. the lexical stage), the category procedure (e.g. adjectives with suffixes), the phrasal procedure (e.g. determiner-noun constructions), the S-procedure (e.g. the predicative position of an adjective) and the subordinate procedure (e.g. relative clauses). The order in which grammatical structures are processed according to this theory, is related to a gradual pattern of the size of syntactic structures. More precisely, relatively large syntactic structures are acquired more lately than smaller ones.
These differences in the processing of grammatical constructions seem to also have an effect on language production. Ågren (2008) for example, analyzed 400 texts of the CEFLE corpus (Corpus Ecrit de Français Langue Etrangère), written by Swedish L1- French L2 learners (n= 105; age range: 16 – 19 years) and a French control group (n= 30; age range: 16 – 19 years). Focusing on the use of number morphology in the L2 productions, the findings show that the accuracy of L2 inflections in initial stages of acquisition seems to be influenced by the syntactic distance between agreeing elements in the sentence. More specifically, a gradual order is observed in the acquisition pattern of plural inflections in written language production: the plural marking shows up first within the NP and after that outside the NP. The observed order seems to be relative to the size of the syntactic domain in which the agreement takes place. The plural inflection on the noun for instance is acquired first, as one single projection is involved (i.e. NP). Then, determiner-noun agreement is acquired, which takes place in the DP-NP domain. The subject-verb agreement involves a more complex structure, since this type of agreement originates in the IP-VP domain after syntactic movements. Subject-verb agreement, thus, is acquired after determiner-noun agreement. Finally, agreement in noun-adjective constructions is observed. The reason for this can be sought in the fact that noun-adjective agreement finds its origin in a larger syntactic domain than subject-verb agreement (i.e. in a ‘reduced’ relative clause (Kayne 1994)). The data, thus, show a gradual pattern of the acquisition of the number inflection, which can be explained by the effect of syntactic complexity on L2 language production.

3.2.1 The written L2 production of grammatical inflections and the phonological effect

With respect to the L1 acquisition of inflections in written language production, Totereau et al. (1998) and Brissaud & Chevrot (2011) among others, claimed that the persistence of writing errors is related to the homophonic nature (i.e. the fact that morphologically different morphemes exhibit the same phonological expression) of agreement inflections in the adjectival and participial paradigms. As such, learners cannot merely rely on phoneme-grapheme correspondence rules to correctly write the inflection morpheme. Instead, they have to invoke their knowledge of nominal morphology. Concerning L2 learners, a challenge they have to face, is the simultaneous acquisition of written and spoken language. L1 learners can rely on their full mastery of spoken language, while L2 learners cannot. Moreover, contrary to adult learners, younger L2 learners have less general writing experience (Koda 2005).

Interestingly, the phonological expression of inflections also plays a role in the L2 acquisition of inflectional morphology. Goldschneider & Dekeyser (2001) pro-
pose a multiple factors approach involving five factors, jointly influencing the L2 acquisition of inflections in oral production: perceptual salience, semantic complexity, morphophonological regularity, syntactic category and frequency. In particular, the factor of perceptual salience deals with the effect of phonology on the L2 acquisition of grammar. More specifically, it is claimed that an overtly expressed inflection is acquired earlier than a covert one, because of the phonological salience of the morpheme. It is noteworthy that the phonological salience of inflections cannot be defined by a simple twofold distinction between its overt or covert nature. Instead, the phonological salience can be defined as a gradual pattern which predicts how easy the inflection can be detected in a lexical item (Gillis 2003).

In this study I will not take the gradual scale of phonological salience into account, but rather the extremes of the scale: the covert inflection and the overt one. More specifically, I will focus on the (lack of) phonological expression of inflections, regardless of the ‘grade’ of phonological salience.

Focusing on the effect of the phonological expression of inflections on L2 written language production, very little attention has been paid to this topic in recent L2 literature. To the best of my knowledge, only two studies deal with the phonological effect on written L2 production in French (Ågren 2009, 2013).

In contrast to the effect of phonological expression on native written productions, a similar effect on written L2 production has not been observed in Ågren (2009)’s paper in which written texts of advanced learners of L1 and L2 French were analyzed. 30 texts by advanced Swedish L1 – French L2 learners and 30 texts of advanced L1 learners of French were taken from the CEFLE corpus and the number morphology was categorized in four groups: nouns, personal pronouns, verbs and adjectives. The analysis of the written productions revealed that plural marking on nouns was completely mastered and automated in both the advanced L1 and L2 learners. There was no significant difference between L1 and L2. With respect to the personal pronouns (e.g. *il* ‘he’ vs. *ils* ‘they’), L2 learners scored higher in accuracy than L1 learners. Omissions of the number morpheme in the L1’s production seem to be related to the lack of the phonological expression. The number morpheme on verbs also showed more correct instances in L2 texts with respect to L1 texts. Finally, number agreement with adjectives was performed better in L1 learners than in L2 learners. Moreover, in L2 learners, fewer correct morphemes were observed in adjectives than in verbs. This latter finding is consistent with the order of acquisition found in Ågren (2008). In addition, adjectival agreement in attributive position showed more correct inflections than in predicative position in L1 production. In L2 production, however, no difference was found between attributive and predicative adjectives. To conclude, the accuracy in number morphology did not differ significantly between advanced L1 and L2 learners of French. The effect of phonology on written production seems thus to
be a minor factor in both L1 and L2 learners with respect to other factors, such as the syntactic category.

In a more recent study, Ågren (2013) focused on the effect of phonological expression of verbal morphology on written subject-verb agreement in L2 French. Participants were L1 learners of French (n= 5; age range: 4;6 – 6;0 years) and child Swedish L1- French L2 learners (n= 5; age range: 4;6 – 6;0 years), who had to complete an elicitation production task in which they wrote a story on the basis of 23 pictures. The subject-verb agreement in third plural contexts was contrasted to third singular contexts. Subsequently, the contrasts were analyzed in three verb types: regular verbs in –er, irregular verbs (e.g. avoir ‘to have’) and verbs with a stem alternation (e.g. (il) finit ‘(he) stops’ vs. (ils) finissent ‘(they) stop’). Finally, the L1 verbal inflection was compared to the L2 verbal inflection. The results showed similarities between the L1 and L2 production of the verbal inflection in third person singular: the competition between the third person singular and its homophonic plural form revealed to be problematic in both the L1 and L2 learners. In written production, both L1 and L2 learners seem thus to struggle with the lack of phonological distinction in the third person singular and plural. More specifically, for the inflection in third person plural a similar effect was found: both L1 and L2 learners had the tendency to omit the plural verb inflection when it was not phonologically expressed. However, L2 learners did not master stem alternations in plural contexts (e.g. *ils dit, instead of the correct ils disent ‘they say’, Ågren 2013, p.14), while L1 learners did master this stem change. Instead of the plural form with stem alternation, L1 learners used the singular form. These results thus showed that in written production, both L1 and L2 learners are negatively influenced by the homophonic nature of verb forms in French. The author explained the contrast in results with her earlier work (Ågren 2009) as a result of oral input in the L2: participants in the 2009’s study received less oral input in the L2 with respect to the later study.

3.2.2 Syntactic complexity and inflections in L2 production

As shown by the Processability Theory (Pienemann 1989), the L2 acquisition of inflections is constrained by the syntactic complexity of agreement constructions. With respect to language production, very little is known about this effect on written inflections. To the best of my knowledge, only the studies by Ågren (2008, 2009) and Kupisch, Akpinar & Stöhr (2013) tackled this issue in L2 learners. Unfortunately, the data of these studies did not show consistent results. Whereas Ågren (2008, 2009) found evidence for the effect of syntactic complexity on written inflections, Kupisch, Akpinar & Stöhr (2013) did not find evidence of syntactic complexity in the results of a grammaticality judgment task focusing on adjectival inflection.
More specifically, Kupisch, Akpinar & Stöhr (2013)’s study focused on the acquisition of gender marking on French adjectives and tested four groups of participants: early German-French bilinguals who grew up in France (n = 10; age range: 18 – 46 years), early German-French bilinguals who grew up in Germany (n = 11; age range: 18 – 46 years), German learners of L2 French in France (n = 11; age range: 18 – 46 years) and Germany (n = 8; age range: 18 – 46 years). They were asked to judge the grammaticality of pairs of sentences, manipulated for the position of the adjective. The adjective occupied the predicative or attributive position. Besides the position of the adjective, they focused on the effect of the dominating language in bilinguals on the accuracy of the gender inflection. An additional experiment consisted in an elicited production task aiming to uncover the effect of the dominating language in bilinguals on gender agreement in adjectives. Participants were asked to describe a set of pictures. The pictures involved objects the participants had to describe as precisely as possible (e.g. by using adjectives). The grammaticality judgment task revealed a main effect for Group: posthoc testing showed a significant difference between bilinguals with French as their dominating language and L2 learners in Germany. Also, no effect was observed for the position of the adjective: attributive adjectives did not yield better scores than predicative adjectives. However, in the elicited production task, the results were not analyzed in relation to the position of the adjective.

3.2.3 The acquisition of gender inflection in Dutch learners of French

As pointed out in section 3.1, the principles guiding L1 acquisition build on the child’s access to a universal set of linguistic features (i.e. the Universal Grammar) among which the learner has to select the setting that are relevant features for his mother tongue. Thanks to the ambient language, the child is able to select only the particular subset of features of the language being acquired (Chomsky 2001, Rizzi 2005). Because of the language-specific organization of L1 features, features in an L2 can differ from those of the L1, which may complicate the L2 acquisition. Therefore, the typological contrast between the first and the second language presents some challenges for the second language learner (cf. the Feature Assembly Hypothesis (Lardiere 2009)).

The second language learners tested in this dissertation, have all Dutch as their mother tongue. To account for the challenges these learners have to face when learning French, I will briefly repeat how gender agreement is expressed in Dutch.
and French. In French, gender is in most cases\(^1\) expressed as overt morphology on regularly non-derived adjectives in a feminine context (i.e. -e on adjectives). This inflection morpheme is present in both attributive (1) and predicative constructions (2).

(1) La voiture verte
   'The-F.S. car-F.S. green-F.S.'
   'The green car'

(2) La voiture est verte
   'The-F.S. car-F.S. is green-F.S.'
   'The car is green'

Besides the inflection morpheme on adjectives, past participles also show overt inflection morphology (i.e. -e on the participle) when a feminine direct object precedes the participle (3).

(3) La voiture que j’ai vue
    'The-F.S. car-F.S. that I have seen-F.S.'
    'The car (that) I saw'

However, the masculine gender feature does not show an inflection morpheme in adjectives ((4) for attributive and (5) for predicative constructions) and participles (6).

(4) Le bâtiment vert\(\circ\)
    'The-M.S. building-M.S. green-M.S.'
    'The green building'

(5) Le bâtiment est vert\(\circ\)
    'The-M.S. building-M.S. is green-M.S.'
    'The building is green'

(6) Le bâtiment que j’ai vu\(\circ\)
    'The-M.S. building-M.S that I have seen-M.S.'

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1. When the adjective ends in -a (see (1)) or -e (see (2)), gender is not overtly expressed.

   e.g. (1) La fille sympa\(\circ\) (2) La maison moderne\(\circ\)
   'The nice girl'                 'The modern house'
The inflection of both adjectives and participles in these examples is thus related to the gender feature of the corresponding noun. The syntactic configuration (e.g. predicative or attributive) does not have any effect on the presence of the inflection morpheme –e. In addition, the definiteness of the article does not influence the realization of the inflection morpheme –e either (7).

\[ (7) \text{Une voiture verte vs. La voiture verte} \]
\[ 'A green car' 'The green car' \]

In opposition to French, the Dutch gender system distinguishes between [+neuter] and [-neuter] (Corver & van Koppen 2009). Furthermore, the overt inflection morpheme is always present in attributive contexts (see 8). However, only in a neuter, singular and indefinite context the inflection morpheme is absent, as in (9).

In contrast to attributive contexts, no overt inflection shows up in predicative contexts (10). Whereas in French the gender morpheme is thus only present in feminine contexts, the Dutch gender morpheme is subject to a specific feature set and the syntactic context.

\[ (8) \text{Het rode autootje} \]
\[ 'The-neuter red – Neuter, Singular, Definite car- Neuter, Singular' (diminutive) \]
\[ 'The red (little) car' \]

\[ (9) \text{Een grootø gebouw} \]
\[ 'A-indefinite big- Neuter, Singular, Indefinite building- Neuter, Singular' \]
\[ 'A big building' \]

\[ (10) \text{Het autootje is roodø} \]
\[ 'The- Neuter car- Neuter, Singular' (diminutive) is red' \]
\[ 'The (little) car is red' \]

For Dutch learners of French, the Dutch gender feature (i.e. [+/- neuter]) thus has to be re-assembled into the French counterparts [+masculine] or [+feminine]. Furthermore, L2 learners of French have to learn that agreement can also take place in predicative positions and that (in-)definiteness does not play a role. This typological contrast between the L1 and the L2 gender feature may complicate the acquisition of gender inflection in French by Dutch native speakers. Against this background, one can expect that native speakers of Dutch struggle with the written production of French gender marking.
3.2.4 Summary

The complexity in acquiring French gender inflection is related to the transfer effect from the L1. More specifically, the L1 features have to be re-assembled into the L2 specific features. For Dutch L1 – French L2 learners, the L1 feature for gender inflection (i.e. [+/- neuter]) has to be reconfigured to the L2 feature (i.e. [+ masculine] or [+ feminine]). Furthermore, these learners have to learn that the effect of (in-)definiteness and the position of the adjective is not related to gender agreement in French.

On top of this typological contrast, in L2 language production, writing errors in gender inflections can be related to the simultaneous acquisition of spoken and written language modes. Differently from native language learners, L2 learners cannot call upon their knowledge of spoken language. Interestingly, phonology seems to play an important role in the L2 acquisition of inflections. Yet, not much literature has been dedicated to investigate written L2 production in this respect. Only recently, a number of studies have tackled this issue and have found no phonological effect in the written L2 modality.

Also for the effect of syntactic complexity in L2 production, acquisition and processing research found evidence that the effect of the syntactic complexity plays a role in the accuracy of gender inflection. However, the few studies focusing on the effect of syntactic complexity in written L2 production, did not show consistent results in this respect.

As shown in this chapter, very little is known about the effect of syntactic complexity on the written production of inflections. In the next chapter, I will investigate whether this effect influences the accuracy of gender inflection in the written productions of both native speakers and second language learners of French.