

Noun Phrase Complexity in Advanced L2 Compared to L1 English Speech

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Abstract

Noun phrase complexity is investigated in the spoken production of two groups of advanced L2 English speakers (L1 Swedish), who are compared to a group of L1 English speakers. One L2 group was resident in London, the other L2 group studied the L2 English teacher's program at a Swedish university. There were ten participants in each group. Noun phrase complexity involved two types of postmodifiers, preposition phrases (the man *in the suit*), and non-finite relative clauses (the man *reading a paper*). The spoken material consisted of a simultaneous retelling of a 14½ minute film clip from Charlie Chaplin's silent movie *Modern Times*. Two questions were addressed. 1) What is the distribution on the group level of the number of 'single' (one postmodifier) and 'multiple' (two or more) postmodifiers? 2) What is the distribution on an individual level of the total number of the two postmodifiers? Results showed that only the group resident in London performed like the native speakers on both single and multiple preposition phrase postmodifiers. Both L2 groups were nativelike on single non-finite relative clause postmodification, while they used significantly fewer multiple non-finite relative clauses than the L1 group. Furthermore, individuals from both L2 groups were in the native range on the total number of both types of postmodification, although the London Swedes had more overlapping results with the L1 individuals. The main implication of the results is that residing in the target language country contributed to the London group performing more like the L1 group on both group and individual levels.

Keywords: noun phrase complexity; postmodification; L2 English; L1 English; advanced L2 acquisition; spoken production

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1. Introduction

This study is part of a project addressing high-level proficiency in spoken production by L1 Swedish speakers of L2 English, L2 French and L2 Spanish¹. The focus of the present study is spoken L2 English. The objective of the majority of the studies within the high-level proficiency project is to explore ultimate L2 attainment. Previous studies within the English part of this project involving the same task and participants as this study have focused on vocabulary (Erman and Lewis 2019) and multiword structures (Erman and Lewis 2024). In the present study the focus is on syntactic complexity, notably phrasal complexity in advanced spoken L2 English. A pilot study of all postmodifiers of every third text indicated that two types of postmodification in the noun phrase would be particularly interesting to study more closely, since one type, Preposition phrases (hence PPs) (*a man without a shirt*), is used in both English and Swedish, and the other one, non-finite relative clauses (hence NF *-ing*) (*a man talking to the President*) is only used in English. It has been shown that L1 influences L2 acquisition (Jarvis 2000; Nesselhauf 2003).

There were three groups of participants, a Swedish group residing in London (the LS group), a Swedish group studying L2 English at a Swedish university to become teachers (the SU group) and a group of English native speakers for control (the L1 group), see section 4. A review of the literature suggests that this study fills a gap on four accounts: 1) the majority of studies on syntactic complexity in L2 have focused on written production, presumably since it is more readily accessed for research (cf. Vasylets et al. 2019; Bulté and Roothoof 2020); 2) many studies have focused on sentence complexity in L1 English (e.g., Biber et al. 2008), while few have examined phrase internal complexity in speech in either L1 or L2; 3) two specific constructions on the phrase level in the speech of advanced L2 English speakers (see section 4) were compared to controlled L1 baseline data (cf. Norris and Ortega 2009); 4) few earlier studies have involved L2 speakers residing (i.e., living and working) in the L2 country. However, Bartning et al. (2015) studying modification in the noun phrase in the speech of a Swedish group with an average of 14 years' residence in the L2 country, France, found that the L2 speakers used significantly fewer 'multiple' modifiers, that is two or more modifiers,

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than the L1 French speakers, whereas they were like the L1 speakers on ‘single’ modifiers, i.e., only one modifier.

The present study addresses 1) the number of single and multiple PPs and NF *-ing* clauses used as postmodifiers on the group level and 2) the total number of PPs and NF *-ing* clauses used on an individual level.

Our material consisted of transcriptions of a simultaneous retelling of a film clip. Although it is a spoken text it shares some features with written texts, especially news and academic prose as described by Biber et al. (2008), since it is in a monologic form without any feedback. Unlike academic prose the retelling text is time controlled, which strongly reduces the possibility of repairs.

In sum, two postmodifiers, PPs and NF *-ing* clauses, in the speech of two groups of Swedes having partly different experiences of L2 English were compared with an L1 English group (see section 4).

In the following sections on results from previous studies, the focus is on the relation between complexity and proficiency (2.1) type of task (2.2), L1 influence (2.3) and L2 exposure (2.4), since these factors have been shown to have an impact on L2 acquisition.

2. Review of the literature

2.1 Complexity and proficiency

Biber et al. (2016) found that phrasal complexity could predict L1 written proficiency at university level since students at a higher university level used more nouns and noun phrase modifiers as compared to verb phrases and subordinate clauses. Phrasal features should thus be taken into consideration when measuring syntactic complexity (cf. Rimmer 2006; Biber et al. 2016).

The review of the literature on complexity and proficiency starts with studies of complexity in L1 English as a baseline. Ravid and Berman (2010) studying language development in L1 equate long noun phrases with complex noun phrases. In their study the number of noun phrases in spoken narratives showed an increase from childhood to adulthood (2010: 13). They showed a strong correlation between the age of the participant and the length of the noun phrase. Unsurprisingly, longer noun phrases were more frequent in the adult users’ speech and writing. L1 English syntactic complexity has also been examined in relation to text types. In Pallotti et al. (2011) the L1 speakers’ syntactic complexity was higher in a narrative task than in a phone call, and higher in an argumentative than

in a narrative text (cf. Michel et al. 2007). In a study of four-word lexical bundles in L1 English academic writing Biber (2010) found that a large number of the bundles were phrasal rather than clausal: ‘70% of the common bundles consist of a noun phrase with an embedded preposition phrase’ (Biber 2010: 172), for example *the nature of the, as a result of*.

Second Language Acquisition studies on syntactic complexity in speech show that a majority have used general measures, such as subordination ratios and length-based measures on the supra-clausal level. Larsen-Freeman (2014) and Palloti (2009) both point out that general measures need to be complemented by more specific ones, such as clausal and phrasal elaboration. In Ortega’s overview of different length-based studies (2003: 501) comparing students of L2 English and English as a foreign language, the former group always produced longer clauses.

Cooper (1976) and Wolfe-Quintero et al. (1998) suggest a non-linear development in complexity measured in subordination ratio, since advanced professional groups produce more complexity at the phrasal than the clausal level. One way of approaching complexity at phrase level is making a close analysis of specific syntactic constructions. Parkinson and Musgrave (2014) examined, among others, the two types relevant for our study and found no differences in writing between L2 English Master students and students of L2 English for academic purposes. Other studies have shown that there is a difference between L1 and L2 English writers (cf. Liu and Li 2016; Kyle 2016; Kyle and Crossley 2018; Jitpraneechai 2019). Results from Jitpraneechai’s study of L1 English writers compared to Thai students of written L2 English (2019: 45) showed that the L1 writers produced more noun modifiers than the Thai students. The most significant differences were found in preposition phrases and multiple preposition phrases as postmodifiers, which was considered a quality feature in writing.

Studying Complexity, Accuracy and Fluency in spoken L2 production Vercellotti (2017) found that these three dimensions developed simultaneously. De Clercq and Housen (2017) analyzed spoken L2 English and French produced by Dutch adolescents at different levels of proficiency comparing the results to L1 speaker benchmarks. Their results showed that syntactic elaboration increased with proficiency. These results are in line with those of Bartning et al. (2015).

Finally, research in L2 acquisition has shown that when individual performance is considered there is some overlap between the L1 and some

of the advanced L2 users' results in reading comprehension (Shaw and MacMillan 2008), suggesting that L2 individuals are capable of reaching the native range.

2.2 Task and complexity

Biber and Gray (2010) suggest that subordination is more often found in speech, while phrasal embedding is more typical of writing. Complexity measures in written texts comprised wide-ranging operationalizations in Kyle (2016), analyzing the results from 66 measurements using a computational tool. He found three measures of the nominal subject predicting higher proficiency levels, i.e., its adjectival modifiers, relative clause modifiers, and the nominal subject in the passive voice. As mentioned, Pallotti et al. (2011) found a relation between task and complexity. Their results for the L1 speakers suggest that complexity increases when this is required by the task and its goals.

The narrative task of the present study is demanding on two accounts. First of all, time is an important factor, since the task involves simultaneous retelling of a film clip. This means that there is little time for revision and correction. Secondly, there is a high demand on lexis, involving not only technical vocabulary, e.g., *fire hydrant*, but also non-technical low-frequency vocabulary, e.g., *morsels* of food. A study involving the same task and the same three groups as the present one examined vocabulary across frequency bands. It showed that the L1 speakers produced twice the number of word types above the 2000-word level compared to the two advanced L2 groups. However, they were similar to these two groups on words below that level (Erman and Lewis 2019). This result corroborates De Jong et al (2012), who claims that L1 speakers need a challenge to excel.

2.3 L1 influence on L2 acquisition

Similarity between L1 and L2 favours L2 acquisition. The extent of L1 influence on L2 has been confirmed in several studies (Lotto and de Groot 1998; Jarvis 2000). Ringbom (2007) has pointed out the advantage of cross-linguistic similarity in learning a foreign language through his emphasis on the role of positive transfer. An example of similarity between Swedish and English from our material includes Swedish: *människor i grönt*; English: *people in green*. An example where English

and Swedish differ would be where Swedish needs a finite relative clause: *människor som arbetar vid löpande band*; English: *people working on conveyor belts*. Nesselhauf, who studied verb-noun collocations in L2 English writing, found an L1 influence (German) not only on mistakes but also on the wording of correct collocations (2003: 237), transferable between L1 and L2, i.e., positive transfer (Ringbom 2007).

In psycho-linguistic research L1 has been shown to play a role. Wolter and Gyllstad (2011) compared reaction times between L1 English speakers and Swedish speakers of L2 English. They found that the Swedish speakers had significantly shorter reaction times for word combinations that had a match in their mother tongue. This finding is particularly relevant for related languages such as English and Swedish (cf. Jarvis 2000 regarding L2 English by native Finnish and Swedish speakers).

2.4 L2 Exposure

Another factor facilitating L2 acquisition is time spent in the target language country, and consequently exposure to L2. Groom (2009) investigated phrases with common prepositions for two groups of Swedish writers of L2 English at university level. One group had spent less than one month in the UK and the other more than 12 months. The results of his analysis showed that time spent in an L2 environment increased the number of different prepositions used, although these were not always part of postmodifiers. Similar results have been reached in studies of formulaic language in spoken production (cf. Boers et al. 2006; Forsberg 2008; Stengers et al. 2011; Erman and Lewis 2024). However, according to Cummins (1981) length of residency effects tend to diminish after five years in the target language community.

L1 influence on L2 acquisition and amount of L2 exposure accounted for above also apply to vocabulary (e.g., Lindqvist 2012; Erman and Lewis 2019) and multiword structures (Granger 1998; Nesselhauf 2003; Erman and Lewis 2024). In the same simultaneous retelling task as in the present study the results of multiword structures in L2 English revealed that the two most important factors for the L2 results were time spent in the L2 country and matching multiword structures in L1 and L2 (Erman and Lewis 2024).

3. Research questions and hypotheses

The following two research questions were posed:

1. What is the distribution of single and multiple postmodifiers (see section 5.1) across the three groups on the group level?
2. What is the distribution on an individual level of the total number of the two postmodifiers across the three groups?

Regarding our first research question, which concerned the number of single and multiple postmodifiers, we expected the L2 groups to produce similar numbers of single PP postmodifiers as the L1 group (cf. Bartning et al. 2015; section 1), but only the LS group would be nativelike also on multiple PPs, due to more exposure. Regarding NF *-ing* postmodifiers the LS group was expected to be nativelike on the single category due to more exposure. In some contexts the NF *-ing* postmodification is equivalent to the finite relative clause also used as a postmodifier: *the man writing the report is my colleague* and *the man who is writing the report is my colleague* (Quirk et al 1985: 1263). The hypothesis is that the SU group would not be nativelike on either single or multiple NF *-ing* postmodification due to less exposure, and the fact that this construction is absent in Swedish. However, the LS group would deviate from the L1 group only on multiple NF *-ing* clauses based on the results in Bartning et al. (2015).

Our second research question concerned the individual level and involved counting the total number of PP and NF *-ing* postmodifiers, including embedded ones in multiple postmodification. The expectation was that there would be some individuals from both L2 groups performing like the L1 individuals on both types of postmodification, but some individuals in the LS group would have more results resembling those of the L1 speakers than would the SU individuals (cf. Shaw and MacMillan 2008; Erman and Lewis 2024). This hypothesis was based on the finding that amount of time spent in the country and experience using the language contribute to proficiency (cf. Groom 2009; Forsberg 2008; Erman and Lewis 2019).

4. Methodology and participants

The participants were given a background form to fill in and sign (see the Appendix). They were divided into three groups: ten Swedes who had

lived and worked in London for an average of 7 years, ten Swedish university students of L2 English, and ten L1 speakers of English. The groups were matched for educational background and age, although the Swedish university students were somewhat younger (see Table 1). As mentioned, both L2 groups would be considered advanced users of L2 English. The level of English after completing upper secondary school would be B2 in the CEFR framework according to Skolverket (2021). Both L2 groups had additional experience of English: the LS group had lived and worked in London for an average of 7 years; the SU group recruited from a Swedish university had a year of full-time studies of English at the university (Table 1), aiming to become L2 English teachers. Both groups had been exposed to English from early childhood through input from computers, music, English films and TV programs. Nevertheless, English has the status of a foreign language in Sweden. All the Swedes and Brits had Swedish and English as their respective mother tongues.

Table 1: Participants

Informants	Time with English	Average age
10 Native speakers	Life University studies	32 (28–38)
10 London Swedes	9 years at school and an average of 7 years' residency in London	32 (28–38)
10 University students	9 years at school and one year at an English department in Sweden	26 (20–32)

The age of all three groups was between 20–38. The participants in the SU group were selected from the same educational level, all having completed one year of a teachers' program at an English Department in Sweden. The following criteria had to be met for both L2 groups: age between 20 and 40, L1 Swedish, nine years of L2 English learnt in the Swedish school system, besides the daily input through different media using English. Furthermore, the SU group should not have spent more than three months in an English-speaking country, and should not have an English-speaking parent or partner. Two L2 groups were thus involved, one learning English through instruction and exposure mainly in a Swedish setting. The other

group in addition to instruction and exposure in Sweden had lived and held professional positions for about seven years in the UK, which entailed daily exposure to and use of English.

All the informants did a simultaneous retelling (i.e., while the film was running on a screen in front of them) of the first 14½ minutes from Charlie Chaplin's silent film *Modern Times*, which was recorded and subsequently transcribed, totaling 50,441 words (Table 2). In contrast to written texts the spoken text of this material is special in that it gives no possibility of either planning or revision, other than quick repairs, since the film is running (cf. Biber et al. 2016). This task is considered demanding, because the story was unknown to most of the participants (cf. Skehan 2009: 519ff.). Table 2 shows the number of words recorded in the retelling task.

Table 2: Total number of words recorded in the retelling task over L1 speakers, London Swedes (LS), and university students (SU)

Task	L1	LS	SU	Total
Retelling task	17693	16236	16512	50441

5. Data analysis

This section is divided into two parts. First, we present and exemplify PP and NF *-ing* postmodification as to whether the nominal head is modified by one (single), or two or more (multiple) postmodifiers (5.1–5.2). In 5.3 we discuss and provide examples of the few phrases that were excluded from the analysis. They were excluded either because they were non-standard/unusual, or their function was grammatical rather than lexical, for example as a quantifier in *a lot of* in ‘a lot of things’, or they did not function as postmodifiers. We also show examples to illustrate that manual parsing was needed for separating PPs functioning as postmodifiers from PPs functioning as adverbials. Nominal heads are written in capitals, and the postmodifier has been underlined and is written in italics, i.e. the preposition phrase for PPs and the verb phrase for NF *-ing* clauses. All the examples have been taken from the corpus without corrections.

5.1 Single and multiple PPs as postmodifiers

As mentioned, the notion of a single PP as a postmodifier implies that *one* noun head is complemented by *one* preposition phrase as shown in (1):

- (1) MEN in suits

Multiple PP postmodifiers have either *one* noun head complemented by *two or more* PPs as in (2), or *one* PP having at least *one* embedded, subordinate NP with a PP postmodifier in brackets below, i.e., there are *two* different noun heads within one noun phrase (NP), as in (3).

- (2) PEOPLE in green with lots of machinery

- (3) [a LADY [with [BUTTONS [in slightly unfortunate locations]]]]]

5.2 Single and multiple NF -ing clauses as postmodifiers

Single NF -ing clauses as postmodifiers imply that *one* noun head is complemented by *one* NF -ing clause, shown in (4).

- (4) There's a MAN moving levers

Unlike multiple PPs there are no subordinate or embedded NF -ing clauses included in multiple NF -ing clauses in our material, as in this constructed example: *there were PEOPLE yelling at the DOG sleeping on the floor.* Instead, there is typically a succession of NF -ing postmodifiers as in (5) modifying the same head noun, 'the president'.

- (5) There's the PRESIDENT wearing a suit, not working quite as hard, doing a jigsaw and reading a paper.

Examples with two or more juxtaposed NPs, thus having different noun heads, as in (6) have been treated as separate single NF -ing postmodifications.

- (6) There are WHEELS moving around the conveyor belts lots of PEOPLE working on conveyor belts

These NPs are independent constructions, which would presumably have been separated by a comma or a conjunction in writing.

Some examples have a combination of both types of postmodifiers as in (7) and (8), discussed in Quirk et al. (1985: 1296). These have been categorized as PP and NF -ing postmodifiers and counted separately.

(7) BRIDGE with a FACTORY behind /with STEAM coming out of the chimneys

(8) an old MAN, in his 50' 60's, gray hair, wearing a suit and a bow

In what follows we will consider examples of postmodifiers that have been excluded and, when included, they will be clarified.

5.3 Excluded PPs

A PP used in a non-standard/unusual way such as in (9) has been excluded.

(9) *a man with a suit

Instances where a preposition has been left out have not been included. In other words, the example in (10) has only been counted as one instance of a single PP.

(10) one MAN in a suit and a briefcase

Examples where the PP functions as an adverbial rather than an adnominal, in our material usually after a form of *have* or *be* as in (11) and (12), but also in other contexts where the PP functions as an adverbial (13), have been excluded. This is most effectively tested by investigating whether the PP can be fronted (Quirk et al. 1985: 1287). For the PP to be classified as an adverbial it should allow fronting, which works in on his left hand *he has got a big ring*, as well as in (12) and (13). In these examples there is no ambiguity in the interpretation of the PP as an adverbial, but see Quirk et al. (1985: 1286ff.) for ambiguous cases.

(11) he has got a big ring on his left hand

(12) there is a fly on his head

(13) you can hear music in the background

The boundary between a noun that has been grammaticalized functioning as a quantifier or determiner and a lexical noun is sometimes fuzzy.

Examples include words like *lot*, *kind*, *sort*, *type*, followed by the preposition *of*. In the present study, the majority of these have been classified as quantifiers or determiners (e.g., *sort of*), and have thus been excluded from further analysis, such as in (14) and (15).

(14) a sort of robotic clockwork fashion

(15) a kind of automatic sponge comes

However, there are a few cases where the head has retained most of its lexical meaning and function, as in (16) through (19), which have been included.

(16) a very particular KIND of way

(17) the same SET of machinery

(18) specific PARTS of the machine

(19) small PIECES of bread

In all of these cases the lexical status of the noun has been strengthened by premodifiers and/or the noun being used in the plural, factors that make the nouns more concrete.

Other excluded examples were *a good level of* in (20) classified as a quantifier and *of sorts* in (21) with a pragmatic function.

(20) a good level of chaos

(21) a presentation of sorts

5.4 Excluded NF -ing clauses

As in the case of PPs there were some NF -ing clauses that were excluded such as (22) and (23).

(22) a man comes around yelling at him

(23) the corn spins around going from left to right

In (22) and (23) the NF *-ing* clause is not part of the NP and thus not a nominal postmodifier, but a complement of the verb (see Quirk et al. 1985: 506).

The next section shows the results of the two postmodifiers in the speech of the L1 and L2 speakers.

6. Results

This section is divided into two parts, the first one answers the first research question (RQ 1) regarding the distribution of single and multiple postmodifiers on the group level. The second part answers the second research question about individual distribution of each occurrence of the two postmodifiers (RQ 2). All statistical calculations are based on normalized figures per 1000 words. The fact that the study is based on a limited number of participants means that the results should be interpreted cautiously. A chi-square test showed that there were no significant differences in the number of words between any of the groups.²

6.1 RQ1: Distribution of single and multiple PP and NF *-ing* postmodification

Figure 1 shows that the LS group was nativelike on both single and multiple PP postmodification, which was in accordance with our expectation. This result deviates from the results in the study by Bartning et al. (2015) in that their long-residency group with an average of 14½ years in the L2 country, France, used significantly fewer multiple modifiers than the L1 group. Our hypothesis that the SU group would differ from the L1 group only on multiple PP postmodification was not confirmed, since the SU group differed significantly from the L1 group on both single and multiple PP postmodification.

Since multiple postmodification in our study includes two or more postmodifiers, which by definition implies longer NPs, the results indicate that the LS group was nativelike also in length of NPs (cf. Ravid and Berman 2010). Regarding cases with more than two PPs functioning as postmodifiers, the LS group was numerically comparable to the L1 group, two in each group, while the SU group had none.

² <http://www.quantpsy.org/chisq/chisq.htm> (see Preacher 2001).

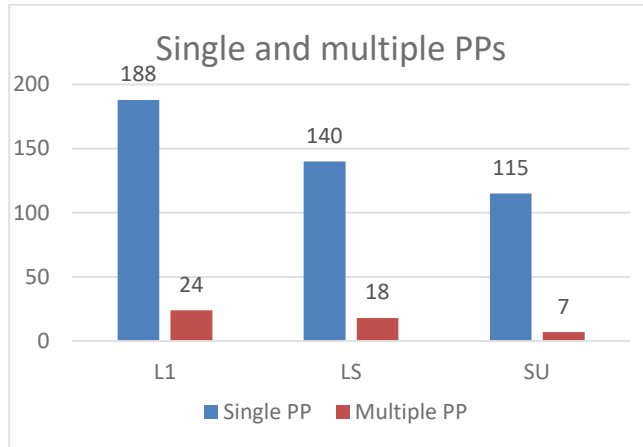


Figure 1: Number of occurrences of single and multiple PP postmodification across L1, LS and SU³

As apparent in Figure 1, both single and multiple PP postmodifiers show a descending scale in numbers from the L1 group over the LS to the SU group. PP postmodification is much more common than the NF *-ing* postmodification in our material. The postmodification with different heads is by far the most common one among the multiple PPs. Despite the PP used as a postmodifier being present in Swedish, the SU group differed significantly from the L1 group.

As with the results for single compared to multiple PPs, the single NF *-ing* clauses outnumber the multiple ones across the three groups (Figure 2). Both L2 groups behaved similarly, i.e., they are nativelike on single NF *-ing* clauses and differ significantly from the L1 group on multiple clauses. There is no significant difference between the L2 groups.

³ Single PP postmodifications: L1/LS non-significant; L1/SU $p < .003$; Multiple PP postmodifications: L1/LS non-significant; L1/SU $p < .004$.

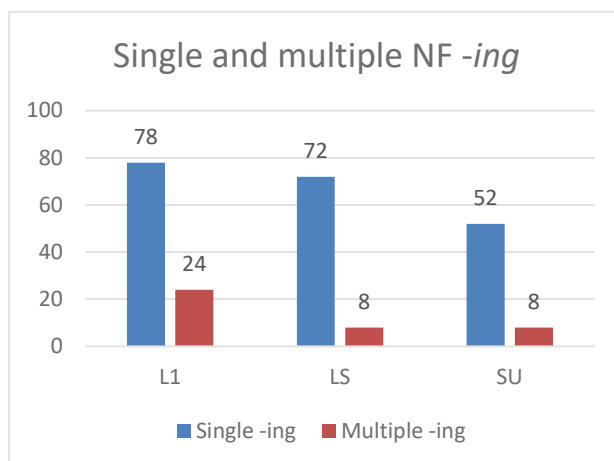


Figure 2: Number of occurrences of single and multiple NF -ing postmodification across L1, LS and SU⁴

Contrary to our hypothesis the SU group was nativelike on single NF -ing clauses, despite the NF -ing clause used as a postmodifier being absent in Swedish. In accordance with our hypothesis, both L2 groups used significantly fewer multiple NF -ing clauses than the L1 group. In the case of multiple NF -ing postmodification there were few involving more than two postmodifiers. In the L1 group there were six, four in the London group, e.g., (26), (27), and none in the SU group. If we compare this to PP postmodifiers involving more than two, the NF -ing clauses typically resemble add-ons, e.g., (24) and (25). Similar results were found by Bartning et al. (2015: 194). An indication that NF -ing clauses are add-ons is that the LS group inserts the conjunction *and*, illustrated in (26) and (27).

(24) there is a MAN talking to the President, taking instructions,
pulling some levers, turning some knobs, adjusting some dials

⁴ Single NF -ing postmodifications: L1/LS non-significant; L1/SU non-significant; Multiple NF -ing postmodifications: L1/LS $p < .01$; L1/SU $p < .008$.

(25) a long line of MEN turning into the factory, clocking in, walking to the factory floor

(26) we see lots of MEN working and polishing some sticks and hammering on something

(27) a lot of probably FACTORY WORKERS walking towards a big factory, getting into the factory and recording their entry time and running on to the factory floor

In a study of lexical bundles involving the same L1 and LS groups as in the present study, it was found that the Swedish speakers used about twice the number of bundles headed by the English conjunction *and*, see examples (26) and (27) (Erman et al 2013), suggesting an L1 influence.

6.2 RQ2: Results for individual variation in preposition phrases and NF-ing postmodification

Table 3a: Distribution of individual results based on the total number of PP postmodifiers per 1000 words. Each dash represents one individual

L1/LS/SU individuals	1–3 PPs	3.1–6 PPs	6.1–9 PPs	9.1–12 PPs	12.1–15 PPs	15.1–18 PPs	>18.1 PPs
L1		/	//	//	//	//	/
LS		/	//	/	////	/	
SU	/	//	////	/		/	/

The majority of the L1 and LS speakers, seven in each group, produced more than 9 PP postmodifiers per 1000 words (9.1→18), whereas there were three SU speakers in this range. The L1 and LS speakers thus had similar numbers of PP postmodifications per 1000 words, which indicates that the LS speakers' time in the target language country had had an impact on their results. These results tally with Groom's study (2009) of prepositions, showing that those who had spent more than 12 months in the UK used proportionally more common prepositions than the group that had spent less than three months.

Regarding NF *-ing* postmodification, Table 3b, L2 speakers from both groups reached the L1 range, i.e. 3.1–9, but the LS speakers had somewhat more results overlapping with the L1 speakers. The LS individuals had a

few more overlapping results with the L1 speakers above 6 NF *-ing* postmodifiers per 1000 words. No L2 speaker produced more than 9 NF *-ing* postmodifiers per 1000 words. The majority of the SU individuals were in the span below 6.1 NF *-ing* postmodifiers per 1000 words.

Table 3b. Distribution of individual results based on the total number of NF *-ing* postmodifiers per 1000 words. Each dash represents one individual

L1/LS/SU individuals	1–3 NF <i>-ing</i>	3.1–6 NF <i>-ing</i>	6.1–9 NF <i>-ing</i>	9.1–12 NF <i>-ing</i>	12.1–15 NF <i>-ing</i>
L1		////	///	/	//
LS	/	////	////		
SU	///	////	//		

As expected, the LS speakers had more results than the SU speakers overlapping with the L1 speakers on PP postmodification. Regarding NF *-ing* postmodification the L2 speakers from both groups are more similar, except that there are a few more LS speakers in the range above 6 per 1000 words. In sum, there are some speakers from both L2 groups within the native range, corroborating our hypothesis (cf. Shaw and McMillion 2008), that there would be some L2 results overlapping with the L1 results.

7. Summary of results and discussion

This study compares the use of two types of noun phrase postmodification, preposition phrases (PP) and non-finite (NF) *-ing* clauses in the speech of three groups, two L2 and one L1 English group. The L2 groups had different experiences of English; the London group (LS) had lived and worked for about seven years in the target language country, and the university group (SU) had studied English fulltime at a Swedish university for a year, corresponding to C1 in the CEFR framework. Since each group has 10 participants the results should be interpreted accordingly. Single PPs and NF *-ing* clauses were separated from multiple ones (cf. Bartning et al. 2015). The multiple category involved an NP with at least two postmodifiers, sometimes more. The task comprised a simultaneous retelling of a 14½ minute film clip from Charlie Chaplin's *Modern Times*, and the results include both group and individual performance. The character of this task with its time pressure lends itself to economizing by

increasing the density of information in the noun phrase. This study contributes to the field of L2 English acquisition in that it involves phrasal nominal complexity in the spoken production of two advanced English L2 groups with different L2 English exposure, comparing their results to those of L1 English speakers.

Our group results showed that the LS group was nativelike on both single and multiple PP postmodification, supporting our expectation that the LS group would perform more like the L1 group than would the SU group. The SU group used significantly fewer single and multiple PPs than the L1 group. Regarding NF *-ing* clauses, both L2 groups were nativelike on single, whereas they used significantly fewer multiple NF *-ing* clauses than the L1 group. The fact that the number of multiple NF *-ing* postmodification was significantly lower in both L2 groups compared to the L1 group can partly be due to this construction being absent in their L1 Swedish. The absence of a construction in L1 may hamper the acquisition of an L2 where such a construction is to be found (cf. Jarvis 2000). However, our results also show that the presence of a construction in the L2 speakers' L1 does not guarantee positive transfer (cf. Ringbom 2007).

In order to count each instance of postmodification for each individual, the multiple category was unpacked. The L1 and LS speakers had similar numbers of PP postmodification per 1000 words. This implies that the LS speakers' residency in the L2 country had had a positive impact on their performance, corroborating Groom's results on prepositions (2009). Regarding NF *-ing* clause postmodification the L1 and LS individuals had more overlapping results than the L1 and SU individuals.

A tentative conclusion from the present study would be that residency in the target language country helps to boost the acquisition of a construction that is present in both L1 and L2, such as the PP postmodification. Furthermore, according to Quirk et al. (1985: 1274) PP is the most frequent postmodification type in English, which reflects our results where PPs were about twice as frequent as the NF *-ing* postmodification in all three groups (Figures 1 and 2). The absence of a construction in L1 does not necessarily imply that this construction is underrepresented in an L2 as was shown for the results of the single NF *-ing* construction. Conversely, the absence of a construction in L1 may however have an impact on the use of this construction in an L2. This was seen in the use of multiple NF *-ing* clauses in both L2 groups.

The present study has attempted to complement earlier L2 studies on syntax by focusing on spoken language. Furthermore, in contrast to most earlier studies which have focused on the sentence level, the present study focused on the phrase level. To our knowledge few studies have investigated postmodification in the noun phrase in advanced spoken L2 English, few studies have involved L2 participants residing in the target language country, and few have compared L2 results to those of L1 English speakers.

On a pedagogical note the results of our study show that both L2 groups are familiar with the two structures. However, one of the L2 groups, the SU group, does not use the PP postmodification as frequently as the L1 group. Furthermore, neither L2 group uses the multiple NF *-ing* postmodification in a nativelike way. It is hard to find a way to teach this in the class room, since exposure is necessary.

For future studies in this area of L2 acquisition we welcome more comparisons between L1 and L2 phrase structure based on a larger dataset related to different proficiency levels, genres and topics in speech and writing. More comparisons of phrase level syntax between L1 and L2 English involving individuals with the same mother tongue are welcome. From the L2 speaker's perspective L2 exposure and the role of L1 need to be further explored. In sum, the use of noun phrases in general and noun phrase complexity in particular are essential when studying high-level proficiency.

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Appendix



Stockholm University
English Department
High-level proficiency in second language use:
Multi-task corpus London

Informant's data

Category: NATIVE / NON-NATIVE

Name:

Year of birth:

Place of birth:

Occupation:

Studies:

(For non-natives): UK resident since when?

Children? How many?

(For non-natives): in which language do you address your children?

Consort? Nationality of consort?

Any L2/s/? (for non-natives: any L2/s/ other than English?)

Date and signature