The use of phrasal verbs by French-speaking EFL learners. A constructional and collostructional corpus-based approach

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Abstract

This paper investigates the use of phrasal verbs by French-speaking foreign learners of English, using spoken and written learner corpus data and comparing them against similar data representing native English. It adopts a constructional approach, which distinguishes between three levels of analysis: the higher level of the phrasal verb 'superconstruction', the intermediate level of the structural patterns [V Prt], [V Prt OBJ] and [V OBJ Prt], and the lower level of lexically specified phrasal verbs. The approach is also collostructional in that it seeks to bring to light lexical associations at the constructional level. The results show that the difficulties that learners are known to have with phrasal verbs are mainly situated at the level of the superconstruction; at the lower levels of analysis (especially the intermediate one), on the other hand, learners seem to have largely internalised the main features of the constructions. More generally, the paper highlights the benefits of combining Construction.

Keywords: Construction Grammar, collostructional analysis, learner corpus research, second language acquisition, phrasal verbs, construction network, L2 construction

1. Introduction

Since Pütz et al.'s (2001a, 2001b) two volumes entitled Applied Cognitive Linguistics, several attempts have been made to integrate Cognitive Linguistics into the field of second language acquisition (SLA) (cf. Pütz 2007 for an overview; see also Robinson and Ellis 2008). As a framework associated with Cognitive Linguistics, Construction Grammar (CxG) has also ventured into the realms of applied research (see Ellis 2013), although this movement is more recent and still quite limited in scope. Several of the publications in what can be called 'applied construction grammar' are programmatic in nature (e.g. Wee 2007; Holme 2010), showing how CxG could be used for applied purposes. Some studies, following the usage-based trend of cognitive theories, have included empirical data to support their view or test a hypothesis. In Gries and Wulff (2005, 2009), experimental evidence is combined with corpus evidence from native corpora to demonstrate the existence of L2 (second language) constructions. Authentic, naturalistic data produced by learners themselves have rarely been used, but exceptions include Valenzuela Manzanares and Rojo López (2008), who use a corpus of EFL (English as a Foreign Language) writing (combined with experimental data), and Ellis and Ferreira-Junior (2009), whose study relies on corpus data representing seven ESL (English as a Second Language) learners' spoken production.

In an attempt to expand this area of research and show its potential for second language acquisition, the present study adopts a constructional approach (drawing on the tenets of CxG), combined with a collostructional approach (also drawing on the tenets of CxG, but considering the interaction between words and constructions, see Section 3.4), to analyse data extracted from learner corpora representing Frenchspeaking learners' spoken and written production, which are compared to native corpora of a similar nature. It thus integrates the framework of CxG with that of learner corpus research. The topic of investigation is that of phrasal verbs, which have mainly been discussed in Cognitive Linguistics as an illustration of the concept of semantic motivation and the function of "semantic networks as learning instruments" (Dirven 2001: 19; see also Kurtyka 2001), but have also attracted attention for the alternation between two constructions that they enter when used transitively, cf. *lift up* one's hat vs. lift one's hat up (e.g. Gries 2003). Phrasal verbs have frequently been studied from an SLA perspective too, with a special focus on learners' avoidance of phrasal verbs and the role of L1 (mother language) in this avoidance (e.g. Dagut and Laufer 1985; Hulstijn and Marchena 1989), though the use of learner corpora has made it possible to go beyond this specific focus (cf. Waibel 2007). Here, phrasal verbs will be considered as a network of constructions whose use in non-native language (NNL) will be compared to that in native language (NL), with a view to identifying the similarities and differences between the two varieties, not only in terms of frequency, but also in terms of lexical preferences. The use of corpora will ensure a higher reliability of the results.

After presenting the different levels of generality at which the phrasal verb construction(s) can be examined, the data and methodology of the study will be described in Section 3, which provides information about the learner population under investigation, the corpora which were exploited, the phrasal verbs that were selected and the methods that were applied. Section 4 represents the core of the paper and is divided into three main parts, corresponding to the three levels at which the analysis was carried out: the higher level of the phrasal verb 'superconstruction' (i.e. any combination of a verb and a particle, regardless of the way these two slots are lexically filled); the intermediate level of the structural patterns [V OBJ Prt], [V Prt OBJ] and [V Prt] (where V = verb, OBJ = object and Prt = particle); and finally the lower level of the individual, lexically specified phrasal verbs (with an analysis of the verbs, the particles and the combinations of verbs and particles). Section 5 discusses the results and concludes the paper.

2. Phrasal verbs: one or several constructions?

The term 'construction' has a long history in the description of languages, going back to the Roman times (cf. Goldberg and Casenhiser 2006: 343). In traditional grammar, it is used as an "informal term" (Hudson 2002), "not always (...) strictly defined" (Schönefeld 2006: 2), but loosely referring to "larger units" (Huddleston and Pullum 2002: 23) made up of two or more words functioning together. As such, the "traditional construction" (Shibatani and Thompson 1996: vii) covers phenomena such as relative clauses, conditionals or passives.

With the advent of Cognitive Linguistics, and more particularly Construction Grammar, constructions have recently come to be understood in a more specific (but at the same time broader) sense, being defined as "conventionalized pairings of form and function" (Goldberg 2006: 3). As detailed by Croft (2001: 18–19), such pairings

involve a symbolic link between a form made up of syntactic, morphological and phonological properties, and a conventional meaning which covers semantic, pragmatic and discourse-functional properties. As opposed to traditional constructions which are made up of at least two words and are restricted to certain syntactic structures, constructions in the CxG sense are to be found at all levels of grammatical description, from morphemes and words to idioms and phrasal patterns. They can also display varying degrees of complexity (compare, e.g., the 'simple word' construction with the possessive construction) and of abstraction (compare, e.g., a lexically filled idiom like *have a change of heart* with a fully general pattern like the double object ditransitive construction [Subj V Obj1 Obj2]). Although initially Goldberg associated constructions with non-compositionality, stating that linguistic patterns qualify as constructions if and only if "something about their form or meaning is not strictly predictable from the properties of their component parts or from other constructions" (Goldberg 1995: 4), she later relaxed this constraint and acknowledged that "patterns are stored as constructions even if they are fully predictable as long as they occur with sufficient frequency" (Goldberg 2006: 5). However, in the absence of experimental work having established the minimum threshold of 'sufficient frequency' for a linguistic pattern to be stored as a construction, many elements in language can arguably be claimed to have the status of constructions. It is no wonder, therefore, that constructions have been described as "the fundamental building blocks of language" (Boas 2013: 234). In fact, as pointed out by Goldberg (2006: 18), the idea is that "the network of constructions captures our grammatical knowledge of language in toto, i.e. it's constructions all the way down" [emphasis original], or "constructions all over", as the title of a special issue of Constructions edited by Doris Schönefeld in 2006 goes.

Like so many of these linguistic patterns, can phrasal verbs be considered as constructions in the CxG sense? Intuitively, it would seem rather obvious that a combination of verb and particle which behaves as a semantic unit, often (roughly) equivalent to a single lexical verb (e.g. give up = abandon), can qualify as a 'conventionalised pairing of form and function'. For reasons explained earlier, this is the case not only of idiomatic phrasal verbs like *find out* 'discover', but also of more transparent, compositional phrasal verbs like *get in* 'enter'. The really tricky question, however, is to know how many constructions there are and at what level(s) the construction(s) may be said to exist. Several positions are defended in the literature. The one that is most in line with the tenets of CxG is that defended by Gries (2003), who makes a distinction between (transitive) phrasal verbs where the particle immediately follows the verb, which he calls 'construction₀' ([V Prt OBJ] in Gries and Stefanowitsch 2004), cf. (1a), and on the other hand (transitive) phrasal verbs where the particle comes after the direct object, referred to as 'construction₁' ([V OBJ Prt] in Gries and Stefanowitsch 2004), cf. (1b).

a. She picked up the keys.b. She picked the keys up.

While Gries uses the term 'verb-particle construction' as a cover term for both constructions, he emphasises that "each construction constitutes a category in its own right", which he justifies by "the variety of differences the two constructions display and the communicative purpose to which they are put to use" (Gries 2003: 141). His position may be said to follow from the 'Principle of No Synonymy' (Goldberg 1995: 67), according to which "[i]f two constructions are syntactically distinct, they must be

semantically or pragmatically distinct". In other words, since the formal differences between (1a) and (1b) arguably correspond to semantic and/or pragmatic differences (and Gries [2003] provides ample evidence that the two word orders have different properties), they must represent distinct constructions (i.e. pairings of form and meaning/function). Gries (2003) is interested in the particle placement alternation and does not deal with intransitive phrasal verbs, that is, phrasal verbs with no direct object like (2). However, following his line of argumentation, we would have to recognise this pattern as yet another distinct construction. This leaves us with three different constructions, [V Prt OBJ] (1a), [V OBJ Prt] (1b) and the intransitive construction [V Prt] (2).

(2) She **picked up** where she had left off.

Cappelle (2006), by contrast, adopts a "more tolerant" position (p. 1), by introducing the concept of 'allostruction'. As against the "extreme constructionalism" (p. 11), which considers each distinct surface pattern as an independent construction, he suggests that the link between the members of alternating pairs of constructions (like the [V Prt OBJ]/[V OBJ Prt] pair) should somehow be recognised, since they share the same truth-conditional meaning. His proposal is to posit a 'supercategory', with the status of a construction, which is left partially underspecified so as to cover the different members of the pair. The alternating constructions are viewed as "variant structural realizations" of this supercategory (p. 18) and are called 'allostructions', by analogy with the terms 'allophones' and 'allomorphs'. In the case of transitive phrasal verbs, the [V Prt OBJ] and [V OBJ Prt] constructions are claimed to be allostructions of the particle — before or after the direct object — as appears from the following representation, taken from Cappelle (2006: 18), where the curly brackets indicate that the particle can precede or follow the object:

 $(3) \quad [VP, trans V \{Prt\} NP_{Direct O} \{Prt\}]$

Hampe (2012) acknowledges the psychological plausibility of establishing a link between related patterns like [V Prt OBJ] and [V OBJ Prt]. However, she argues that the level of generalisation proposed by Cappelle (2006), viz. (3), is "unmotivated, as it remains unclear what the semantic pole of this construction should consist of" (p. 9). Instead, she pleads for allostructions at a lower level of generality, namely that of specific phrasal verbs, as illustrated by the following examples, with a lexically schematic (NP) or lexically substantial (*feelers*) object:

(4) $[_{VP} put \{out\} NP \{out\}], [_{VP} put \{out\} feelers \{out\}]$

That this lower level of specificity (that of individual, lexically specified phrasal verbs) also deserves to be considered in CxG seems to be corroborated by Cappelle et al. (2010), who demonstrate on the basis of magnetoencephalographic evidence that specific phrasal verbs are stored as lexical units and, more generally, that "potentially separable multi-word items can (...) be word-like themselves" (p. 198). This, they argue, is true of both transparent and partly opaque phrasal verbs (fully opaque, idiomatic phrasal verbs were not tested but are assumed to be lexically stored as well because of their unpredictable link between form and meaning), and it is also true of high-frequency and medium-frequency phrasal verbs (infrequent phrasal verbs in the

study corresponded to deviant stimuli like *rise down* or *cool up*, which one would not expect to be stored in the lexicon of the average native speaker). If they are stored units, specific phrasal verbs must therefore be constructions in the CxG sense.

While I agree with Hampe (2012) on the (relative) lack of motivation of (3) and on the need to consider different levels of specificity, I would like to argue that generalisation at a higher level than that considered by Cappelle (2006) and Hampe (2012) is possible, namely that of the phrasal verb (a structure which, incidentally, corresponds to a construction in the traditional sense of the word).¹ Formally, this 'superconstruction' is characterised by the presence of a verb followed (directly or not) by a particle, as well as some other common features including a higher degree of stress on the particle than on the verb and the impossibility for an adverb functioning as adjunct to be inserted between the verb and the particle (to be contrasted with the behaviour of prepositional verbs, cf. Quirk et al. 1985: 1167). Semantically, the verb and the particle form a single unit of sense in which the particle modifies or completes the meaning of the verb. The conventionalised pairing of these form and meaning poles is what lies at the heart of the phrasal verb construction.² This construction, which I will here simply represent as [PV] (for phrasal verb), subsumes three different patterns, namely [V Prt] (intransitive phrasal verb), [V Prt OBJ] (transitive phrasal verb with an object following the particle) and [V OBJ Prt] (transitive phrasal verb with an object preceding the particle). To these two levels, we can add the lower level of specificity recognised by Hampe (2012), that of the individual, lexically specified phrasal verbs. Taken together, these different levels constitute a network of constructions which are all related to one another and in which each construction is an instantiation of the schema above it (see, e.g., Croft and Cruse 2004: 262-265 on taxonomic networks of constructions). This hierarchical model is illustrated by Figure 1. The superordinate structure, at the highest schematic level, is that of the phrasal verb, [PV]. "[F]ully compatible with the specifications of [this] schema, but (...) characterized in finer detail" (Langacker 1987: 68), the constructions at the intermediate level are instantiations of the [PV] construction: [V Prt], [V Prt OBJ] and [V OBJ Prt]. The third level comprises constructions which are (partially) lexically filled (only the object is not specified, but it could be at an even more specific level, cf. Hampe 2012) and which are linked to one or several of the intermediate-level constructions. A phrasal verb like *come about* is always used intransitively and is thus only linked to the [V Prt] construction. A phrasal verb like bring about is transitive and its particle can either precede or follow the object, hence its link with both [V Prt OBJ] and [V OBJ Prt] (the curly brackets, as in Cappelle's [2006] representation, indicate the two possible word orders). Finally, a phrasal verb like *pick up* can be used both transitively (with the two word orders) and intransitively (compare (1a), (1b) and (2)), so that it can function as an instantiation of any of the three intermediate-level constructions (the round brackets indicate that the object is optional).



Figure 1. The construction network of phrasal verbs

The question that remains is whether any specific phrasal verb can be listed as a construction at the lower level of the construction network. As we saw earlier, Goldberg's (2006) definition of a construction entails that a pattern must be sufficiently frequent in language to be stored as a construction. While this is certainly the case of phrasal verbs in general, and also of each of the three patterns at the intermediate level, not all lexically specified phrasal verbs are equally frequent and thus equally plausible candidates for the status of construction. However, distinguishing 'plausible' from 'implausible' candidates is an almost impossible task for, as already pointed out, no minimum frequency for storage has so far been established and, according to Cappelle et al. (2010), even medium-frequency phrasal verbs can be lexically stored. Furthermore, not all cognitivists insist that constructions should necessarily be stored. Schönefeld (2006: 27), in a comparison of Goldberg's and Langacker's understanding of the concept, notes the following:

Langacker uses the term for any composite symbolic structure, no matter whether it is a (stored) unit (in the sense of a 'mastered routine'), or whether it is a novel, not (yet) entrenched expression categorized by its attribution to an established composite structure, that is an expression not (yet) stored as a linguistic unit of a speaker's grammar.

In the case of learner language, there is the additional problem that learners are unlikely to have stored all the constructions that native speakers have in their 'construction', and that, on the other hand, they may have stored (or 'fossilised') patterns that one would not expect to behave as constructions. Thus, even non-existing, deviant phrasal verbs (like those used in Cappelle et al.'s [2010] study) cannot be totally excluded from consideration as they might be *bona fide* constructions in the learner's language system. Faced with what is still very much an open question, it was therefore decided in what follows not to distinguish between the phrasal verbs that should and those that should not be considered as proper constructions in the strict sense. All phrasal verbs that occurred at least once in the (native and/or learner) corpus data were treated as constructions.

3. Data and methodology

3.1. *The learner population*

The population of learners that is investigated in this study consists of native speakers of French who are higher-intermediate to advanced EFL learners. What makes this population particularly interesting to examine in a study on phrasal verbs is that French does not have any phrasal verbs nor any structure that resembles phrasal verbs. The French-speaking learners may therefore be assumed not to have any phrasal verb construction (or network of constructions) stored prior to their acquisition of the English language and not to be influenced by their mother tongue when producing phrasal verbs in English.³ This is important, given the acknowledged influence that the L1 may have on the use of phrasal verbs (see, most notably, Waibel 2007). On the other hand, since phrasal verbs are a 'can't-miss topic' in learners' curriculum, the learners under study are almost certain to have been exposed to several instances of phrasal verbs through reading and listening (also probably outside the classroom), although the exact amount of exposure will vary between the individuals.⁴ We can therefore expect the learners to have incorporated (certain) phrasal verb constructions in their L2 construction.

3.2. The corpora

Two learner corpora were exploited for this study on the use of phrasal verbs by French-speaking learners, namely the International Corpus of Learner English (ICLE, Granger et al. 2009) and the Louvain International Database of Spoken English Interlanguage (LINDSEI, Gilquin et al. 2010). ICLE is a written learner corpus made up of argumentative (and some literary) essays and LINDSEI is a spoken learner corpus made up of informal interviews. Both corpora contain data produced by university students from several mother tongue backgrounds, but for the present purposes, only data produced by Belgian native speakers of French were selected (ICLE-FR and LINDSEI-FR). In addition, two corpora of British English were used as a native reference: the Louvain Corpus of Native English Essays (LOCNESS), more precisely the essays written by British (A-level and university) students, and the Louvain Corpus of Native English Conversation (LOCNEC), which is an exact replica of LINDSEI with British interviewees. As a way of approximating learners' (and native speakers') complete language, the spoken and written corpora were grouped together to form the basis of the analysis (although the influence of medium will be briefly considered). This grouping was also made necessary by the fact that the majority of phrasal verbs are found in different media in native and non-native English (see Section 4.1). Table 1 shows the exact size of each of the corpora.

Native English (British English)	Non-native English (L1 French)		
273,565		281,984		
Native writing Native speech		Non-native writing	Non-native speech	
(LOCNESS)	(LOCNEC)	(ICLE-FR)	(LINDSEI-FR)	
155,167	118,398	190,544	91,440	

Table 1. Word counts of the native and non-native corpora

3.3. The phrasal verbs

The phrasal verbs were extracted from the four corpora by means of a lexical search (carried out with the concordancer *WordSmith Tools version 5*, Scott 2008) on twenty-four different particles. These particles were taken from Huddleston and Pullum (2002: 281). Only the word *home*, present in Huddleston and Pullum's list, was not included in this analysis, as it did not seem grammaticalised enough to qualify as a particle on a par with, e.g., *about* or *up*. Indeed, it is not cited as a particle functioning in phrasal verbs in any of the other grammars that were consulted, and it does not appear to be listed at all in the dictionaries of phrasal verbs that were relied on for this study. Having excluded *home* left me with the following particles:

aboard, about, across, ahead, along, apart, around, aside, away, back, by, down, forth, forward, in, off, on, out, over, round, through, together, under, up

The above words can serve as particles in phrasal verbs, but they can also have other functions (including, for some of them, prepositional uses). It was therefore necessary to go through each and every concordance line in order to identify the phrasal verb uses of the particles. These were kept for analysis, representing a proportion of the total number of occurrences of the word that varied widely, from an average of 0% with *under* and 0.79% with *by* to 81.49% with *back*.⁵

3.4. Methodology

The methodology applied in this study is both constructional and collostructional. It is constructional in that it seeks to analyse phrasal verbs at each of the three levels of generality identified in Section 2: phrasal verbs in general, structural patterns and specific phrasal verbs. With this aim in view, after selecting the relevant concordance lines (i.e. where the search word corresponded to a particle used in a phrasal verb), I manually determined the verb functioning with the particle, the structure ([V OBJ Prt], [V Prt OBJ] or [V Prt]) and the nature of the object, if any (noun or pronoun). This information was encoded in an Excel spreadsheet, which made it easy to calculate the frequency of constructions at the three levels of analysis. The analysis was performed separately for the native and learner corpora, and the results were then compared by means of the log-likelihood (LL) values were considered statistically significant at the probability level of p < 0.05.

The approach adopted here is also collostructional in that it investigates the interaction between words and constructions (see Stefanowitsch and Gries 2003). Collostructional analysis includes several related methods, but the one that will be of use here is distinctive collexeme analysis, a method whose original aim is to study one slot in two similar (i.e. truth-conditionally equivalent) constructions, e.g. the verb in the ditransitive and *to*-dative constructions (Gries and Stefanowitsch 2004). Relying on the Fisher-Yates exact test (log-transformed *p*-value), distinctive collexeme analysis establishes the words ('collexemes') that are distinctive for one construction as opposed to the other and quantifies the strength of the association between the collexeme and the construction (the 'distinctive collostructional strength'). This method was employed to distinguish the [V OBJ Prt] and [V Prt OBJ]

constructions from each other in Section 4.2.2. It was also used in a way that departs from its original function somewhat by being applied to the comparison of two varieties (NL and NNL) rather than the comparison of two structural patterns ([V OBJ Prt] and [V Prt OBJ]); this application made it possible to determine the phrasal verbs that are significantly distinctive for native or non-native English (Section 4.3). All distinctive collexeme analyses were computed with Coll.analysis 3.2a (Gries 2007). The threshold value of statistical significance was set at p < 0.05, which corresponds to a collostructional strength greater than 1.30103.

4. A three-level analysis of phrasal verbs

Following the construction network of phrasal verbs presented in Section 2, the corpus analysis will be carried out at the three possible levels of the network. At the higher level of the 'superconstruction', we will determine the frequency of phrasal verbs in general (with no distinction between structural patterns or specific verbs and/or particles), comparing the native and learner corpora in this regard, and also considering the possible influence of medium (speech/writing). For the intermediate-level analysis, we will examine the proportion of the [V OBJ Prt], [V Prt OBJ] and [V Prt] constructions in the different corpora, before zooming in on the [V OBJ Prt]-[V Prt OBJ] alternation and performing a distinctive collexeme analysis to determine the phrasal verbs most distinctively associated with each of the two constructions. Finally, the lower-level analysis will establish the most frequent particles and the most frequent verbs used in phrasal verbs, but also identify the phrasal verbs most typical of NL and NNL by applying the technique of distinctive collexeme analysis to the comparison of the two varieties.

4.1. *Higher-level analysis: the phrasal verb superconstruction*

As a superconstruction, the phrasal verb groups together any combination of verb and particle, whatever the verb and the particle, and whatever the structure of the combination. The overall frequency counts at this level of analysis reveal a higher relative frequency of phrasal verbs in native English than in non-native English produced by French-speaking learners. Phrasal verbs are twice as frequent in the former as in the latter: 70.55 vs. 35.50 per 10,000 words, a difference which is statistically highly significant (LL=328.42, p<0.0001). The French-speaking learners thus appear to underuse phrasal verbs, a tendency that has been observed among other learner populations too (e.g. Hebrew-speaking learners in Dagut and Laufer 1985 and Chinese learners in Liao and Fukuya 2004) and that seems to be heavily influenced by the presence or not of phrasal verbs in the learners' L1 (cf. Waibel 2007; Gilquin 2011).

Interestingly, the global results hide some important variation between speech and writing. While the native speakers use considerably more phrasal verbs in speech than in writing (twice as much, LL=222.74, p<0.0001), as expected on the basis of the literature (cf. Siyanova and Schmitt 2007),⁷ the French-speaking learners use fewer phrasal verbs in speech than in writing (about half as much, LL=47.27, p<0.0001), as illustrated in Figure 2. The result is an underuse of phrasal verbs in both the spoken and written production of the French-speaking learners, but the log-likelihood value is

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lower in the case of writing (LL=472.00, p<0.0001 in speech vs. LL=14.84, p<0.001 in writing).



Figure 2. Absolute (N) and relative frequency (per 10,000 words) of phrasal verbs in (non-)native speech and writing

4.2. Intermediate-level analysis: the [V OBJ Prt], [V Prt OBJ] and [V Prt] constructions

In-between the higher level of the phrasal verb superconstruction and the lower level of the specific phrasal verb constructions, we find an intermediate level that is made up of three structural patterns: the [V OBJ Prt], [V Prt OBJ] and [V Prt] constructions. We will first examine the respective proportions that each of these three constructions represents in the native and learner corpora, and then zoom in on the [V OBJ Prt]-[V Prt OBJ] alternation and its distinctive collexemes.

4.2.1. *Three structural patterns*. Table 2 shows the distribution of [V OBJ Prt], [V Prt OBJ] and [V Prt] in native and non-native language (with a further distinction between speech and writing). What this table reveals is that the most frequent pattern by far is the intransitive use of phrasal verbs ([V Prt]). This is true of both native and non-native English (although the proportion is higher in the former than in the latter: 71.24% in NL and 66.53% in NNL) and of both speech and writing (but with a higher percentage in speech than in writing: about 80% in speech and 60% in writing). After [V Prt] comes [V Prt OBJ], and then [V OBJ Prt], which is the least frequent construction overall. We observe the same tendency among the native speakers and the French-speaking learners, but the percentage of [V Prt OBJ] constructions is higher in the learners' production than in the native speakers' (21.68% vs. 16.11%), which seems to point to a slightly stronger preference for the construction among the learners. That the [V Prt OBJ] construction is proportionally more common than the [V OBJ Prt] construction may be explained by several reasons, as suggested by Gries (2003: 141–142; see also Gries 2011): the [V Prt OBJ] construction corresponds to

the basic transitive scenario of an agent acting upon a patient, it requires less processing effort because the particle is presented immediately after the verb, it is less marked (subject to fewer restrictions) and more salient (this is the most frequently elicited word order in experimental settings). In the case of non-native language, we may add the argument that learners often have to learn phrasal verbs in decontextualized lists of vocabulary, which is likely to create a strong link between the verb and its particle. This link may be reinforced even further for French-speaking learners, since phrasal verbs tend to have a one-word equivalent of Romance origin (e.g. give up - abandon, make up - invent, turn down - refuse/reject). The sense of unity that is thus created in the mind of the (French-speaking) learners between the verb and the particle may lead to a certain reluctance to separate the two elements by an object, which would account for the slightly stronger preference for the [V Prt OBJ] construction among the learners as compared to the native speakers.

		[V OBJ Prt]	[V Prt OBJ]	[V Prt]
NL		12 64% (N=244)	16 11% (N=311)	71 24% (N=1375)
	Speech Writing	14.46% (N=168) 9.90% (N=76)	6.88% (N=80) 30.08% (N=231)	78.66% (N=914) 60.03% (N=461)
NNL	Speech	11.79% (N=118) 11.95% (N=27)	21.68% (N=217) 8 41% (N=19)	66.53% (N=666) 79.65% (N=180)
	Writing	11.74% (N=91)	25.55% (N=198)	62.71% (N=486)

Table 2. Distribution of the [V OBJ Prt], [V Prt OBJ] and [V Prt] constructions in NL vs. NNL

Admittedly, the difference in proportions between [V OBJ Prt] and [V Prt OBJ] in NL and NNL may also be related to the medium in which the phrasal verbs predominantly occur. Because spoken language relies on shared context, it is more likely than written language to include pronouns (see Biber et al. 1999: 235). The general rule being for (personal) pronouns to be placed between the verb and the particle,⁸ the [V OBJ Prt] construction is expected to be particularly associated with speech. This is partly confirmed by the figures in Table 2, which show that [V OBJ Prt] is more common than [V Prt OBJ] in speech, while in writing it is the opposite. This trend is found in both NL and NNL. Yet, NL and NNL differ in that NNL exhibits almost exactly the same proportion of [V OBJ Prt] in speech and writing (11.95% vs. 11.74%), whereas in NL the proportion is higher in speech than in writing (14.46% vs. 9.90%). Furthermore, if we disregard pronominal objects to concentrate exclusively on nominal objects (with which the placement of the particle is supposedly more flexible), we notice that, as opposed to the native speakers who use a majority of [V OBJ Prt] constructions in speech and a majority of [V Prt OBJ] in writing, the learners use a majority of [V Prt OBJ] in both media. Despite the possible influence of medium, the learners' preference for the [V Prt OBJ] construction thus seems to be more marked than that of the native speakers, probably for the reasons outlined above.

The results for speech given in Table 2 also allow us to compare L2 learners' preferences with those observed in native children's (i.e. L1 learners') speech. The

studies on particle placement in child language reveal that the [V OBJ Prt] construction appears earlier and more often than the [V Prt OBJ] construction. While this finding coincides with the result that [V OBJ Prt] is more frequent than [V Prt OBJ] in LINDSEI-FR (when both pronominal and nominal objects are taken into account), the proportions are very different in L1 and L2 spoken production. For L1 acquisition, Diessel and Tomasello (2005) obtained a percentage of 93.5% for [V OBJ Prt] and 6.5% for [V Prt OBJ], and Gries (2011) obtained very similar percentages of 94.9% and 5.1% respectively. This is to be compared with 58.7% for [V OBJ Prt] and 41.3% for [V Prt OBJ] in LINDSEI-FR (once the [V Prt] constructions have been removed). This difference in proportion may be due to the level of the L2 learners who are investigated here (higher-intermediate to advanced learners) — we could imagine that beginner L2 learners display different preferences, closer to those of L1 learners — but it could also be linked to the distinct processes underlying the acquisition of an L1 as opposed to an L2 (see, e.g., Wible 2008: 166–167).

4.2.2. *The [V OBJ Prt]-[V Prt OBJ] alternation*. Among the three structural patterns associated with phrasal verbs, only one option is available when the phrasal verb is used intransitively, namely [V Prt]. By contrast, two structures are possible for transitive scenarios: [V OBJ Prt] and [V Prt OBJ]. These two constructions have often been dealt with together in the literature because they constitute an alternation: two formally distinct constructions that share the same (general) meaning. Thus, if we disregard pragmatic effects linked to sentence organisation, sentences (5a) and (5b) may be said to be truth-conditionally equivalent.

(5) a. Mix up all the ingredients.b. Mix all the ingredients up.

Several factors have been invoked to account for these different word orders ([V OBJ Prt] vs. [V Prt OBJ]), among which the form of the object NP (noun or pronoun), its length and/or syntactic complexity and its information status (given or new information) — see Gries (2003) for a comprehensive overview of the different variables put forward in the literature. More recently, it has also been demonstrated that the verb itself may have an influence on particle placement. In other words, certain verbs display a preference for the [V OBJ Prt] order while others preferably occur with the [V Prt OBJ] order (cf. Gries and Stefanowitsch 2004). Following this line of research, we will now zoom in on the [V OBJ Prt] and [V Prt OBJ] constructions and look into the verb-specific preferences displayed by native speakers and French-speaking learners, using the technique of distinctive collexeme analysis. It should be emphasised that, because the transitive use of phrasal verbs is less frequent than the intransitive use (see above), the amount of data on which this analysis relies is necessarily limited, and so is the number of statistically significant results. The findings should therefore be seen as preliminary, pending further investigation with larger corpora.

Table 3 lists the distinctive collexemes that are statistically significant for [V OBJ Prt] and [V Prt OBJ] in native English, that is, those phrasal verbs that are strongly associated with one pattern as opposed to the other. While the list of significant results is short, it seems to confirm Gries and Stefanowitsch's (2004: 112) claim that [V OBJ Prt] "occurs predominantly with non-idiomatic verb-particle combinations where the particle denotes a spatial goal or a result". In fact, the two

most distinctive collexemes for [V OBJ Prt] in Table 3, get back and get out, correspond to the top two phrasal verbs with [V OBJ Prt] in Gries and Stefanowitsch's study, based on ICE-GB (the British component of the International Corpus of English). These two phrasal verbs describe the movement of the object in the direction referred to by the particle, as illustrated by (6) and (7), and so does get *in*, the third collexeme in Table 3, cf. (8), where get *in* is synonymous with 'ingest'. This is less clearly the case for the next two collexemes, put *in* and put off, but take *in* is another good example of a non-idiomatic phrasal verb describing concrete movement, e.g. (9).

- (6) I lent it [= the book] to someone when I was in school and I never **got** it **back** (LOCNEC)
- (7) I had a girl who **got** a knife **out** and she started cutting her arm in front of me (LOCNEC)
- (8) people just think they've got to **get** all their drinks **in** quickly (LOCNEC)
- (9) I've never been to a cinema where you've been allowed to **take** the drinks in (LOCNEC)

Table 3. Significantly distinctive collexemes for [V OBJ Prt] vs. [V Prt OBJ] in NL (phrasal verbs)

[V OBJ Prt] (N=244)		[V Prt OBJ] (N=311)	
Collexeme	Coll. strength	Collexeme	Coll. strength
get back (6:0)	2.1565	take on $(0:25)$	6.4804
get in (4:0)	1.4336	carry out (4:26)	3.5817
put in $(4:0)$ put off $(4:0)$	1.4336 1.4336	give up $(2:18)$ work out $(0:10)$	2.9769 2.5434
take in (4:0)	1.4336	point out (1:13) take up (0:8)	2.4830 2.0297
		bring about $(1:10)$ set up (0.6)	1.8049 1.5185
		$r_{\rm r}$ (3.0)	

The distinctive collexemes of [V Prt OBJ], by contrast, appear to favour nonspatial, idiomatic readings, e.g. give up = 'abandon', bring about = 'cause'. The list presents striking similarities with Gries and Stefanowitsch's (2004) results: all the statistically significant collexemes in Table 3 can be found among the top eleven collexemes from ICE-GB. As is the case in Gries and Stefanowitsch's study, even phrasal verbs that could be used with a literal spatial meaning tend to be used idiomatically in this construction (cf. *carry out* in (10)), and phrasal verbs that evoke some motion do so metaphorically, e.g. (11). Like Gries and Stefanowitsch, finally, we can note the common use of *find out* and *point out* with *that*-clausal objects, which impose a [V Prt OBJ] order, as illustrated by (12). The presence of WH-clausal objects with *work out*, cf. (13), could also be added as a reason for the exclusive use of this phrasal verb with [V Prt OBJ] in our data.

- (10) Sisyphe however, **carries** this task **out** with dignity, and in so doing defies the power the Gods have over him (LOCNESS)
- (11) he believes that by facing death, he can **take on** the sins of the world (LOCNESS)
- (12) they **find out** that their mother had this affair that they didn't know anything about (LOCNEC)
- (13) at the end of it (erm) my sister and I couldn't **work out** how long the period of time was (LOCNEC)

Given the low frequency of phrasal verbs among the French-speaking learners, the number of statistically significant distinctive collexemes in NNL is quite limited (see Table 4). The list of collexemes for the [V OBJ Prt] construction does not show any overlap with that of native speakers. However, like the latter, it contains a majority of phrasal verbs with a concrete meaning whose particle expresses a spatial goal or a result. This is the case of the two phrasal verbs with *together* (see further Section 4.3 below), e.g. (14), but also of *keep away*. By contrast, the fourth collexeme, viz. *lock up*, does not present this characteristic.

(14) she is happy because she has **brought** Paul Rayley and Minta Doyle **together**, they will get married and Mrs Ramsay thinks that it is because of her. (ICLE-FR)

[V OBJ Prt] (N=118)		[V Prt OBJ] (N=217)		
Collexeme	Coll. strength	Collexeme	Coll. strength	
bring together (16:2)	5.6815	build up (0:12)	2.3109	
put together (5:1)	1.6578	take up (0:10)	1.9184	
keep away (3:0)	1.3667	bring about (0:8)	1.5288	
lock up $(3:0)$	1.3667	find out (0:7)	1.3351	

Table 4. Significantly distinctive collexemes for [V OBJ Prt] vs. [V Prt OBJ] in NNL (phrasal verbs)

If we compare the list of [V Prt OBJ] collexemes in NL and NNL, we notice that as many as three phrasal verbs (out of the four that are statistically significant in NNL) are common to native and non-native speakers, namely *take up*, *bring about* and *find out*. These phrasal verbs all have this peculiarity that they are semantically opaque, expressing meanings that are not directly deducible from their components. This is also the case of the first collexeme in NNL, *build up*, although here the particle may be said to express some metaphorical movement, cf. (15).

(15) Then Europe tried, little by little, to **build up** a huge economic market (ICLE-FR)

Before I turn to the distinctive collexeme analysis of particles and verbs separately, let me address one possible objection to the above results, namely that placement particle is influenced by the nature of the direct object (with a general obligation for the particle to follow, rather than precede, a pronoun; see above), and that direct objects may differ in NL and NNL and/or in speech and writing (remember that native speakers' phrasal verbs mainly occur in speech, whereas learners' are predominantly found in writing). While this is a valid objection, this does not necessarily invalidate the above results, as appears from Table 5, which lists the distinctive collexemes for [V OBJ Prt] vs. [V Prt OBJ] in NNL after all phrasal verbs with a pronominal object have been discarded, leaving only phrasal verbs with a nominal object, which are arguably more flexible as regards the placement of the particle. The table reveals a slightly shorter list of significant collexemes, and one that only partially overlaps with the list in Table 4, but the trend brought to light above is still very much reflected in these results. Besides bring together and put together (also found in Table 4), give back and take back clearly describe a concrete movement of the object, as is typical of [V OBJ Prt]. On the other hand, give up, like build up (see also Table 4), expresses a more idiomatic meaning, as is typical of [V Prt OBJ]; it is also, incidentally, one of the distinctive collexemes for NL in this study and in Gries and Stefanowitsch's (2004) study. More importantly, the one collexeme in Table 4 that did not follow the trend, namely lock up (distinctive for [V OBJ Prt], although not expressing a literal spatial meaning), has now disappeared from the list of collexemes distinctive for [V OBJ Prt]. This is because all the transitive uses of *lock up* in the learner corpora occur with a pronominal object, e.g. (16), which leaves little choice as to the placement of the particle.

(16) But if after having been tested a prisoner still shows a high potentiality of aggressiveness, we clearly have to **lock** him **up**. (ICLE-FR)

[V OBJ Prt] (N=63)		[V Prt OBJ] (N=194)		
Collexeme	Coll. strength	Collexeme	Coll. strength	
bring together (12:2)	5.9259	give up (0:12)	1.5031	
put together (4:1)	1.8650	build up (0:11)	1.3746	
give back (3:1)	1.3303			
take back (3:1)	1.3303			

Table 5. Significantly distinctive collexemes for [V OBJ Prt] vs. [V Prt OBJ] in NNL (phrasal verbs with nominal objects)

It therefore seems as if, regardless of any potential differences in the type of object between NL and NNL, the French-speaking learners exhibit lexical preferences that are very similar in nature to those of the native speakers, which suggests that they have largely assimilated the way in which the conceptual space of phrasal verbs is carved up (at least at this level of analysis).

The type of analysis that has been performed on the combinations of verbs and particles can also be applied to the particle alone, as suggested by Gries and Stefanowitsch (2004: 113). The results, as displayed in Table 6, present clear similarities between NL and NNL. Of the eleven particles that are more distinctive for [V OBJ Prt] in NNL, seven are also distinctive for this construction in NL (*together*, *back, off, across, around, through, apart*) and the remaining ones are either distinctive

for [V Prt OBJ] but in a non-significant way (away, over, aside) or not distinctive for any of the constructions (along). Of the seven particles that are more distinctive for [V Prt OBJ] in NNL, five are also distinctive for this construction in NL (out, up, about, forward, on); the last two collexemes, down and in, are more distinctive for [V OBJ Prt] in NL, but only in the case of *in* is the value statistically significant. If we merely focus on the most distinctive collexemes, we see that *back* is highly distinctive for [V OBJ Prt] in both NL and NNL, and that the two varieties also share the characteristic that out is the most distinctive collexeme for [V Prt OBJ]. In addition, Table 6 shows that the top collexeme for [V OBJ Prt] in NNL is together, a particle which is also distinctive for [V OBJ Prt] in NL, but to a smaller extent (see Section 4.3 on learners' attraction to the particle *together*). As for the second most distinctive collexeme for [V Prt OBJ] in NNL, up, while its collostructional strength is not statistically significant in NL, it is interesting to note that it is cited in Gries and Stefanowitsch (2004: 113) as one of the two distinctive collexemes of the construction (together with out) in ICE-GB. More generally, the distinctive collexeme analysis on the particles confirms the tendency for more concrete meanings to be associated with [V OBJ Prt] (cf. together, back, around, through), while [V Prt OBJ] favours particles with more abstract readings (cf. out, up and about). In this respect, it is striking that *away*, which clearly expresses a spatial meaning in the corpus data, is associated with [V OBJ Prt] in the learners' production (as one would expect), but is not a significant collexeme of the construction in native English (where it is, instead, a non-significant collexeme of [V Prt OBJ]).

NL [V OBJ Prt] (N=244)		[V Prt OBJ] (N=311)		
Collexeme	Coll. strength	Collexeme	Coll. strength	
back (29:7)	5.3923	out (39:102)	5.4430	
round (8:0)	2.8836	on (7:31)	3.2198	
in (24:11)	2.6643	about (2:10)	1.3265	
through (7:1)	1.8230	up (52:86)	1.2796	
around (5:0)	1.7946	forward (0:3)	0.7564	
off (25:16)	1.7591	aside (0:2)	0.5037	
together (6:1)	1.5132	away (12:18)	0.3980	
down (18:14)	0.9813	over (6:8)	0.2379	
apart (2:0)	0.7148			
across (2:1) 0.3875				
NNL [V OBJ Prt	t] (N=118)	[V Prt OB	J] (N=217)	
Collexeme	Coll. strength	Collexeme	Coll. strength	
together (23:6)	6.3124	out (6:52)	5.5144	
back (25:8)	6.1719	up (17:80)	5.1628	
away (10:6)	1.6731	about (0:8)	1.5288	
off (11:9)	1.2999	forward (0:3)	0.5679	
over (3:2)	0.6248	on (9:22)	0.5349	
across (1:0)	0.4532	down (5:13)	0.4653	
around (1:0)	0.4532	in (1:3)	0.2527	

Table 6. Distinctive collexemes for [V OBJ Prt] vs. [V Prt OBJ] in NL and NNL (particles)

0 4500
0.4532
0.3554
0.3554
0.2358

For the sake of completeness, a distinctive collexeme analysis was also carried out on the verb alone. However, since it is mainly the particle, rather than the verb, which predicts the meaning of the phrasal verb (compare *come in* and *get in* vs. *bring away* and *bring about*), the results, listed below (statistically significant results only), are not particularly telling.

- Distinctive collexemes for [V OBJ Prt] in NL: get, turn, send, put, follow

- Distinctive collexemes for [V Prt OBJ] in NL: take, find, carry, work, point, give

- Distinctive collexemes for [V OBJ Prt] in NNL: bring, lock

- Distinctive collexeme for [V Prt OBJ] in NNL: build

4.3. Lower-level analysis: the lexically specified phrasal verb constructions

We now turn to the last level of analysis, that of the individual phrasal verb constructions, as concrete combinations of a specific verb and a specific particle. In this section, we will examine learners' preferences around these constructions, and how they compare with native speakers' preferences. This will lead us, first, to look at the frequency of particles and that of verbs in NL and NNL, and second, to perform a distinctive collexeme analysis of the phrasal verbs across the two varieties.

	NL	NNL
aboard	0.00 (N=0)	0.00 (N=0)
under	0.00 (N=0)	0.00 (N=0)
forth	0.04 (N=1)	0.04 (N=1)
aside	0.11 (N=3)	0.21 (N=6)
by	0.15 (N=4)	0.21 (N=6)
ahead	0.33 (N=9)	0.04 (N=1)
across	0.40 (N=11)	0.04 (N=1)
apart	0.18 (N=5)	0.39 (N=11)
along	0.40 (N=11)	0.25 (N=7)
through	0.66 (N=18)	0.14 (N=4)
about	0.77 (N=21)	0.60 (N=17)
round	1.39 (N=38)	0.04 (N=1)
forward	0.95 (N=26)	0.78 (N=22)
around	1.43 (N=39)	0.32 (N=9)
over	1.79 (N=49)	0.32 (N=9)
together	1.10 (N=30)	2.77 (N=78)
in	4.53 (N=124)	0.46 (N=13)

Table 7. Absolute (N) and relative frequency (per 10,000 words) of particles in NL and NNL $\,$

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4.02 (N=110)	1.56 (N=44)
3.91 (N=107)	1.95 (N=55)
4.75 (N=130)	1.67 (N=47)
6.91 (N=189)	4.22 (N=119)
8.77 (N=240)	5.71 (N=161)
13.38 (N=366)	5.50 (N=155)
14.59 (N=399)	8.30 (N=234)
	4.02 (N=110) 3.91 (N=107) 4.75 (N=130) 6.91 (N=189) 8.77 (N=240) 13.38 (N=366) 14.59 (N=399)



Figure 3. Relative frequency (per 10,000 words) of particles in NL and NNL

A brief look at Table 7, also represented graphically in Figure 3, reveals huge differences in frequency between the individual particles. First, not all particles are equally frequent. Of the twenty-four particles under study, fifteen have a frequency of less than two occurrences per 10,000 words in both NL and NNL (*aboard, under, forth, aside, by, ahead, across, apart, along, through, about, round, forward, around and over*), and another five are under this threshold in either NL or NNL (*together, in, off, away* and *down*). The four most frequent particles (in both NL and NNL) are *on, back, out* and *up*.

Secondly, in line with the overall frequency counts of the phrasal verb superconstruction (see Section 4.1), most individual particles are more frequent in native than in learner production (with some results being non-significant, due essentially to low — or even zero — frequencies: *aboard, under, forth, along, about* and *forward*). The exceptions to this rule, i.e. cases where the particle is more frequent in NNL than in NL, include three non-significant results (for *aside, by* and *apart*) and the particle *together*, which has a relative frequency of 1.10 occurrences per 10,000 words among the native speakers and 2.77 occurrences per 10,000 words among the learners. While these figures are low, they still turn out to be statistically significant (LL=20.67, p<0.0001) and call for an explanation. My hypothesis is that *together*, unlike certain other particles, has kept much of its original meaning when used in phrasal verbs: *come together* means 'meet with each other', *stick together*

means 'stay joined', *keep together* means the opposite of 'keep apart', etc. In fact, during the analysis of the concordances, it was sometimes hard to distinguish between the phrasal uses of *together* (adverbial particle) and its plain adverbial uses (e.g. *eat together, go out together*). For example, I only hesitantly counted *live together* (which is quite common in ICLE-FR) as a phrasal verb because it is listed as such in the *Macmillan Phrasal Verbs Plus* (2005). Most of the other phrasal verbs dictionaries that I consulted hardly include any phrasal verbs with *together*, except for more idiomatic expressions like *pull oneself together*. What this suggests is that the learners may not even realise that they are using phrasal verbs with *together*, and the behaviour of these combinations may therefore be closer to that of verbs followed by simple adverbs than that of phrasal verbs.

The analysis of the superconstruction in Section 4.1 brought to light the influence of medium on frequency, with a predominance of phrasal verbs in speech (as opposed to writing) among the native speakers and a predominance of phrasal verbs in writing (as opposed to speech) among the French-speaking learners. Most individual particles follow this medium-related tendency. The only statistically significant results that depart from the tendency are for phrasal verbs with *about*, which are significantly more frequent in native writing than in native speech (LL=8.21, p < 0.005), and phrasal verbs with *back*, which are significantly more frequent in non-native speech than in non-native writing (LL=30.05, p < 0.0001). The common use of phrasal verbs with *back* in non-native speech might be accounted for by the ease with which the particle *back* can be added to a verb to express a meaning corresponding in French to a verb with the r(e)- prefix (cf. call back = 'rappeler', go *back* = '**re**tourner', *take back* = '**re**prendre'). The potential equivalence that exists in the learner's mind between the French prefix and the English particle could explain why, despite the spontaneous and non-rehearsed character of speech, which limits the amount of attention that can be directed to the form of language output, the Frenchspeaking learners do not seem to have any difficulty producing phrasal verbs with back, and produce them far more often than any other phrasal verbs in speech (relative frequency of 9.41 per 10,000 words in LINDSEI-FR, to be compared with 3.72 for phrasal verbs with up, the second most common particle in the corpus) — see below, however, on the possible misuse of some of these phrasal verbs with *back*.

In Table 8, moving the focus from the particle to the verb, we see a list of the twenty most frequent verbs occurring in phrasal verbs in native and non-native English. Rather unsurprisingly (cf. Biber et al. 1999: 412), high-frequency verbs are among the most common to be used in phrasal verbs (see verbs in bold, corresponding to the most frequent lexical verbs as listed in Biber et al. 1999: 373). When we compare the list of verbs for NL and that for NNL, we see that quite a few verbs are common to the two varieties, especially among the top verbs. *Go* and *come*, two verbs of movement, are the top two verbs in both NL and NNL, and *take* comes fourth. *Bring, put*, as well as *carry, turn* and *give* all figure quite prominently in both lists. Among the less frequent verbs, some are recurrent in one variety but not (or much less so) in the other variety: *move, end, work* in NL and *keep, live, build* in NNL.

NL		NNI	
go	292	go	160
come	178	come	90
get	131	bring	54
take	90	take	40

Table 8. Twenty most frequent verbs in NL and NNL

carry	75	put	39
bring	66	give	34
put	52	keep	34
move	36	carry	31
turn	33	turn	31
give	32	make	25
set	30	live	20
look	29	cut	19
make	25	get	19
end	24	build	17
work	24	set	17
pick	23	look	16
start	21	find	15
point	20	sum	15
sit	20	call	14
stand	20	point	14

Interesting findings emerge if we take medium into account. Table 9 lists the most frequent verbs in each of the four corpora (minimum threshold of ten occurrences, lowered to five occurrences in non-native speech). The recurrence of high-frequency verbs (in bold in the table) is still striking, especially in learner speech, where five of the seven most recurring verbs are high-frequency verbs. But more importantly, we notice that, while native speech and non-native speech resemble each other quite closely (compare the top three verbs in the two corpora — go, come and get — as well as put and take, which are highly ranked too), non-native writing seems to resemble native speech (and hence non-native speech) almost as much as it resembles native writing. Go and come, the two most frequent verbs in native speech, come first and third respectively in non-native writing, and *take* is ranked at the sixth position in both native speech and non-native writing (to be compared with its second position in native writing). On the other hand, the second verb in learner writing, bring, is more typical of native writing than of native speech, and *carry* and *point*, which are mostly found in native writing, are recurrent in non-native writing too. This mixture of spoken-like and written-like preferences in learners' written phrasal verbs and the close correspondence between their lexical choices in writing and speech (cf. go, come, take, put and give) might point to a lack of stylistic awareness, and more particularly a tendency among learners to use a conversational tone in their writing (see Gilguin and Paquot 2008, and references cited therein), as also evidenced on a macro-level by the comparatively high frequency of the phrasal verb superconstruction in learner writing (cf. Section 4.1).

Native s	peech	Native v	vriting	Non-nati	ive speech	Non-na	tive writing
go	246	carry	65	go	63	go	97
come	148	take	64	come	55	bring	52
get	118	bring	56	get	11	come	35
put	30	go	46	take	8	keep	34
move	26	come	30	put	7	put	32
take	26	give	24	look	6	take	32
work	20	put	22	give	5	carry	30

Table 9. Most frequent verbs in NL and NNL (speech and writing)

look	19	set	19	give	29
sit	18	point	17	turn	27
end	17	turn	16	make	21
pick	17	make	15	cut	19
turn	17	get	13	live	19
stand	16	break	12	set	17
walk	14	grow	11	build	15
show	13	pass	11	sum	15
start	13	cut	10	point	14
fit	12	hold	10	switch	13
set	11	look	10	find	12
bring	10	move	10	call	11
carry	10			grow	11
find	10			look	10
make	10				
stay	10				
travel	10				

In order to further pursue the investigation of the lower level of lexically specified phrasal verbs, verbs and particles were considered together and a collostructional analysis was performed with a view to identifying learners' distinctive preferences. The technique is the same as in Section 4.2, namely a distinctive collexeme analysis, but it is applied here to the comparison of two varieties (NL and NNL) rather than the comparison of two structural patterns ([V OBJ Prt] and [V Prt OBJ]) (see Gilquin 2012 for a similar application of the technique). The outcome is a list of phrasal verbs that are significantly distinctive for native English (upper part of Table 10) and phrasal verbs that are significantly distinctive for learner English (lower part of Table 10). While going through all the distinctive collexemes and commenting on each of them would take us too far afield, in what follows I will pinpoint a few interesting findings.

U	2			
Collexemes	Obs. freq. NL	Obs. freq. NNL	Coll. strength	Pref. variety
work out	22	0	4.0099	NL
get on	22	1	3.0770	NL
fit in	16	0	2.9126	NL
start off	15	0	2.7300	NL
come in	21	2	2.2762	NL
come out	21	2	2.2762	NL
get away	15	1	1.9412	NL
sit down	15	1	1.9412	NL
set out	10	0	1.8181	NL
end up	24	4	1.7781	NL
pick up	19	3	1.5372	NL
get back	22	4	1.5365	NL
go off	12	1	1.4737	NL
go over	12	1	1.4737	NL
move away	12	1	1.4737	NL
go in	8	0	1.4538	NL

Table 10. Significantly distinctive collexemes for NL and NNL

lose out	8	0	1.4538	NL
get up	24	5	1.4372	NL
get out	15	2	1.4229	NL
bring together	2	26	9.9866	NNL
live together	1	18	7.3311	NNL
come back	58	66	5.1911	NNL
keep on	3	16	5.0114	NNL
sum up	3	15	4.6130	NNL
switch on	0	8	3.7407	NNL
do away	0	7	3.2721	NNL
call out	1	8	2.9426	NNL
go on	64	58	2.9090	NNL
find back	0	6	2.8038	NNL
build up	11	17	2.4588	NNL
switch off	0	5	2.3358	NNL
turn out	13	18	2.2835	NNL
make up	21	24	2.2254	NNL
give back	2	7	2.0213	NNL
lock up	3	8	1.9886	NNL
call back	0	4	1.8680	NNL
level down	0	4	1.8680	NNL
pile up	0	4	1.8680	NNL
swallow up	0	4	1.8680	NNL
turn on	0	4	1.8680	NNL
go by	1	5	1.7025	NNL
keen away	1	5	1.7025	NNL
give up	22	22	1.6789	NNL
cut off	9	12	1.5959	NNL
put together	7	10	1.4955	NNL
drift apart	0	3	1.4006	NNL
get along	0	3	1.4006	NNL
rise up	0	3	1.4006	NNL
calm down	1	4	1.3072	NNL
walk around	1	4	1.3072	NNL
mix up	2	5	1.3014	NNL

First, it looks as if the French-speaking learners may show a preference for more transparent phrasal verbs. This appears from a comparison of the first few phrasal verbs that are distinctive for each variety. *Bring together, live together* and *come back*, which are the most distinctive collexemes in NNL (see above on learners' special attraction to the particles *together* and *back*), are much more transparent than *work out* or *get on*, the top collexemes in NL. Next, we notice that native speakers and learners may exhibit different preferences among functionally equivalent variants. Thus, *get on* and *get along* can both be used to refer to a friendly relationship. However, *get on* is distinctive for NL (second most distinctive collexeme, with twenty-two occurrences in NL and only one in NNL), whereas *get along* is distinctive for NNL, with no occurrences at all in the native corpora. This gives rise to pairs of sentences such as the following, which are almost identical, except for the choice of the phrasal verb:

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- (17) I've got one sister she's f= sixteen (...) we get on well I mean we have the usual arguments .. but nothing too bad (LOCNEC)
- (18) she's eighteen she's my younger sister but we: do get along very well (LINDSEI-FR)

Distinctive collexemes may also be indicative of different preferred variants in cases where one of the variants is not a phrasal verb. The collexeme *sum up* in NNL (fifth most distinctive collexeme) is a case in point. Its distinctive collostructional strength in NNL signals an overuse of the verb *sum up* in comparison with NL, and more precisely, as a close look at the corpus data reveals, an overuse of the phrase *to sum up*, as illustrated in example (19). This coincides with Gilquin et al.'s (2007: IW28) finding that "[1]earners often use *in sum, to sum up*, and *summing up* to introduce a summary" and also suggests that native speakers may use other alternatives to introduce summaries, in line with Gilquin et al.'s (2007: IW28) claim that "*in summary* is much more frequent than these expressions in academic writing and professional reports".

(19) To **sum up**, I believe that a university degree is not a garantee of success. (ICLE-FR)

Collexemes such as *keep on* and *rise up*, which are significantly distinctive for NNL, may also point to different preferences among the native and non-native speakers. What is common to examples (20) and (21) is that the particles *on* and *up* are optional. Thus, one might equally have said *Germans must keep eating their fabulous sauerkraut* or *The Americans were brave enough to rise against this man*. Although this would have to be checked against corpus data, one could imagine that the collostructional strength of these phrasal verbs in NNL is linked to native speakers' preference for the use of these verbs with no particle in similar contexts. This, incidentally, would confirm learners' tendency for redundancy, a phenomenon brought to light in Gilquin (2011: 640–641) for phrasal verbs with *up*.

- (20) Germans must **keep on** eating their fabulous sauerkraut. (ICLE-FR)
- (21) The Americans were brave enough to **rise up** against this man. (ICLE-FR)

In addition, the list of distinctive collexemes in NNL may point to non-standard usage in the learners' production. This is the case of *find back*, which does not occur at all in the native corpora and which is not listed in any of the phrasal verbs dictionaries that I consulted. The French-speaking learners use it instead of the (more appropriate) phrasal verb *trace back* in (22), or in the sense of 'finding something again (after it has been lost)' in (23). This latter use corresponds to the reiterative use of the French prefix *re*-, which often translates into English *back* (see above). To express the idea of (23), French would typically employ the verb *retrouver* ('*re*-find'), while English would go for the verb *find* followed by the adverb *again*, or simply *find*. The same improper use of *back* is found with the verb *see*, as illustrated in (24). Though not statistically significant, this distinctive collexeme in NNL shows that French-speaking learners may not perceive the reversal or reciprocity that is implied by *back* and tend to equate this particle with simple reiteration. In (24), the learner is talking about how Belgian university students usually go home at the weekend; what he really means by *see his mother back*, therefore, is *see his mother again*. This is to be compared with (25), taken from LOCNEC, where the idea of reversal expressed by *see back* is made clear by what follows the particle, *as she was*.

- (22) Its origin is to find back in their 'bad' education. (ICLE-FR)
- (23) they had lost our luggage (...) we . we found everything back (LINDSEI-FR)
- (24) sometimes it's really: (er) for the feeling to see his mother back (LINDSEI-FR)
- (25) he wanted to **see** Germany **back** as she was and so he supported the Nazi party .. (erm) throughout the war (LOCNEC)

Finally, it must be pointed out that some of the distinctive collexemes are topicdependent, in that they reflect preferences that are related to some of the topics dealt with in the corpora. Thus, the distinctiveness of *lock up* in NNL may be related to its occurrence in essays entitled "The prison system is outdated. No civilized society should punish its criminals: it should rehabilitate them" (half of all the instances of this phrasal verb), as shown in example (26).

(26) Provided that a doctor or a social worker is attentive to their behaviour there is no need to **lock** them **up**. (ICLE-FR)

5. Discussion and conclusion

Phrasal verbs are notoriously difficult for EFL learners, and the difficulty they represent is expected to be even more marked for French-speaking learners, who do not have any phrasal verbs in their mother language. In line with this expectation, the corpus analysis has revealed a number of problems in the learners' use of phrasal verbs. However, the type and extent of these problems vary depending on which level of analysis we consider.

It is at the higher level of analysis, that of the phrasal verb superconstruction, that the difficulties are the most striking. Not only do the learners severely underuse phrasal verbs, with a relative frequency that is half that of the native speakers, but they also make stylistic (i.e. medium-related) choices that are in stark contrast to those of the native speakers, using more phrasal verbs in writing than in speech — which could be due to the learners' failure to recognise the spoken-like (and often informal) nature of most phrasal verbs and/or to their lack of automaticity in the production of phrasal verbs under online planning conditions. Most corpus studies of phrasal verbs in EFL have focused on this higher level of analysis, underlining the same sort of issues and thus emphasising the magnitude of the problem.

Yet, the other levels of analysis show that the situation is far from desperate. At the intermediate level of analysis, which draws a distinction between three structural patterns, [V OBJ Prt], [V Prt OBJ] and [V Prt], we notice a slight preference for [V Prt OBJ] among the learners as compared to the native speakers. However, the three constructions display the same rank order in NL and NNL, both overall and across media (from [V Prt], which is largely predominant, to [V OBJ Prt], which is the least frequent overall and in writing, and [V Prt OBJ], which is the least frequent in speech). The proportions of intermediate-level constructions across media thus seem to be unaffected by the learners' stylistic confusion at the higher level. The tendencies shown by the [V OBJ Prt] and [V Prt OBJ] alternation are also surprisingly similar in NL and NNL. The verb- and particle-specific preferences as they transpire

from the distinctive collexeme analysis reveal a strong association between [V OBJ Prt] and concrete movement on the one hand, and between [V Prt OBJ] and idiomaticity on the other. A number of collexemes (verbs and/or particles) are also shared between NL and NNL. The three structural patterns thus appear to be quite well entrenched in the learners' construction, where they seem to be stored with indications as to the types of verbs that each of them favours.

The lower level of analysis, which examines specific (combinations of) verbs and particles, brings to light a number of idiosyncrasies in the learners' usage, among which the overuse of *together* (hardly a particle at all, some would say) and the high accessibility of *back* (often found in contexts with little chance for monitoring — i.e. spoken environment — but frequently misused), as well as a certain tendency to use the same common verbs in speech and writing. However, the analysis also reveals positive elements, such as the learners' awareness that some particles are much more common than others or that high-frequency verbs are often used to form phrasal verbs. And while the distinctive collexeme analysis comparing phrasal verbs in NL and NNL uncovers distinct lexical preferences in the two varieties (e.g. *work out* and *get on* in NL, *sum up* and *find back* in NNL), it should be pointed out that the aim of the technique is precisely to highlight what is different, rather than what is similar.

Construction Grammar, by guiding the analysis from a very abstract and schematic level, that of the phrasal verb superconstruction, to a very concrete and specific level, that of the individual phrasal verbs, makes it possible to approach phrasal verbs from different perspectives and to evaluate learners' knowledge of these constructions in a more comprehensive way than is the case with more traditional studies which often limit themselves to one level of analysis (usually the higher level, sometimes the lower one, but rarely the intermediate one, which is precisely the level with the strongest degree of resemblance between NL and NNL). In addition, the collostructional analysis allows one to investigate the interaction between words and constructions, and (with slight adaptation) between constructions and varieties, hence taking the analysis even further. From a more theoretical point of view, the study has also provided some evidence for the existence of L2 constructions (cf. Gries and Wulff 2005, 2009), in the form of lexical preferences and distinctive features that are, to a certain extent, similar to those of L1 constructions.

From the viewpoint of second language acquisition, one may wonder which level(s) of the construction network of phrasal verbs is (are) the most relevant. As already suggested, the focus has usually been on the higher level of the superconstruction and/or the lower level of specific phrasal verbs. Learners are expected to know what a phrasal verb is, and they are required to learn specific instances of phrasal verbs, ideally as many of them as possible. At first sight, this might seem like a sensible way of approaching phrasal verbs. Knowing the general characteristics of phrasal verbs (including their stylistic preferences) is a prerequisite to using them appropriately, and mastering and producing a wide variety of them arguably makes the learner sound more native-like (cf. Bywater 1969: 97). By contrast, the choice between the three intermediate constructions (structural patterns), especially [V OBJ Prt] and [V Prt OBJ], may appear to be unimportant and (probably) arbitrary to many. But paradoxically, the most visible levels, the higher and the lower ones, may not be the most relevant ones for second language acquisition. The higher level may be too general and too abstract, and may cover too much variation to be of any real use to learners, who cannot generalise from the diversity of structures and forms that phrasal verbs can take on. At the lower level, on the other hand, learners cannot possibly receive enough exposure to each of the numerous instantiations of phrasal verbs (especially in the context of classroom instruction, where exposure to authentic speech is limited) to be able to form and store schemas of lexically specified phrasal verbs. In a usage-based perspective, it is perhaps the intermediate level of the construction network, i.e. the level of the structural patterns [V OBJ Prt], [V Prt OBJ] and [V Prt], that is the easiest one to acquire. It is neither too general nor too specific, thus corresponding to the basic level of categorisation which has been shown to present a cognitive advantage over more general and more specific levels (compare 'dog' with 'animal' and 'collie'), including in child language acquisition (cf. Rosch et al. 1976). The three constructions are clearly distinguished by formal differences, which, in the case of [V {Prt} OBJ {Prt}] vs. [V Prt], echo two other schemas, the transitive and the intransitive constructions, which should already be assimilated by the learner. It may also be assumed that the structural patterns are frequent enough to allow for their schematisation and storage at a relatively early stage of the acquisition, despite a limited exposure to (authentic) speech. In fact, the results of this study of phrasal verbs confirm that French-speaking learners of English seem to have mastered the intermediate level of the construction network quite well, at least as far as frequency and lexical association are concerned. It might be judicious to capitalise on this advantage by further bringing this level of hierarchical organisation to the forefront of learners' attention, with the ultimate goal of improving the other levels as well.

Such insights into learners' acquisition of phrasal verbs and into second language acquisition in general may also lead to concrete applications in foreign language teaching. The analysis conducted in this paper could help improve the presentation of phrasal verbs to (French-speaking) EFL learners, for example by stressing the importance of register (speech vs. writing) for the use of phrasal verbs (as a superconstruction and as lexically specified constructions) or by listing some of the phrasal verbs that are most commonly underused or overused by learners. Among the verbs in Table 10, for example, work out and end up seem particularly useful to teach to advanced learners; it would also be worth drawing their attention to the existence of the phrasal verb get on, as a preferred variant of get along, or to the possibility of introducing a summary by means of alternative expressions besides learners' favourite to sum up. As suggested above, the intermediate level of the construction network would also benefit from some explicit teaching, which would consist not only in presenting the different types of structural patterns that are possible, but also in describing the principles that govern the preferential selection of a certain pattern. By improving the quality of the pedagogical materials, one would expect to enhance learners' knowledge of phrasal verbs, which eventually would lead to increased native-soundingness.

Thanks to its descriptive and theoretical contribution as well as its potential applications, it is to be hoped that the present constructional and collostructional account of phrasal verbs in NL vs. NNL has opened up new horizons and has highlighted the benefits of combining Construction Grammar with learner corpus research (and second language acquisition). It should however be borne in mind that the study relies on a relatively small set of data, which is restricted even more when only the [V OBJ Prt] and [V Prt OBJ] alternations are taken into account, hence very few significant and weakly distinctive results. One way of improving this account would therefore be to include more data. Another way would be to consider more varied data, such as data produced by learners from other mother tongue backgrounds, or data produced by learners from different proficiency levels (including longitudinal data tracking learners' progress over time). The study could also be expanded by

adding more levels of analysis, extending the hierarchical model of Figure 1 to the top and to the bottom, for example by relating the phrasal verb construction to the more general [Verb – Adverb] construction⁹ (see Osborne 2008 on the relevance of this construction in L2 English), by distinguishing between nominal and pronominal objects, as was done informally in Section 4.2.2, or by considering lexically substantial NP slots, as suggested by Hampe (2012: 10). Only then could we start to have a better idea of what learners' construction network of phrasal verbs really looks like.

Notes

¹ Admittedly, this level of analysis would not have been relevant to Cappelle (2006) and Hampe (2012), as both of them are interested in transitive phrasal verbs only. When Hampe (2012: 9) refers to allostructions at the "most generic level" as being "highly implausible", she can thus only be describing the level that unites [V Prt OBJ] and [V OBJ Prt]. The same can be said of Gries (2003), who denies the existence of an overarching construction, but exclusively deals with the particle placement alternation, and hence transitive phrasal verbs.

² It must be added that the idea of such a superconstruction seems all the more relevant in the context of second language acquisition and foreign language teaching, since textbooks and pedagogical grammars often include a section on 'the phrasal verb', introducing the different types of phrasal verbs together regardless of their structure or lexical components, and some textbooks are even entirely devoted to phrasal verbs (e.g. McCarthy and O'Dell's (2007) *English Phrasal Verbs in Use* or Hart's (2009) *Ultimate Phrasal Verb Book*). All of this arguably contributes to the creation of a 'phrasal verb' construct/construction in the EFL learner's mind.

³ Of course, we cannot exclude the possibility that the learners have acquired the construction(s) via another language than their mother tongue. In fact, the French-speaking learners represented in this study being Belgian, most of them will have some degree of familiarity with Dutch, another official language in Belgium, and also a Germanic language that has separable verbs, functioning more or less like the English phrasal verbs. However, Dutch being a foreign language for these students, it can be assumed to have a more limited influence than if it were a native language. The study of the role played by the knowledge of other foreign languages in Frenchspeaking learners' use of phrasal verbs will have to be left for another piece of research.

⁴ Whether the learners have spent time in an English-speaking country, in particular, is likely to have an influence on their knowledge of phrasal verbs, since phrasal verbs are especially characteristic of spoken, informal language (Siyanova and Schmitt 2007), which one encounters more often in a naturalistic environment than in a classroom setting. Like the knowledge of other foreign languages (see preceding note), however, the possible influence of stays abroad and other similar variables will have to be disregarded in the present study.

⁵ This methodology does not guarantee that all phrasal verbs were extracted from the corpora. For one thing, there may be other particles than the twenty-four particles that were selected for analysis (Huddleston and Pullum [2002: 281] themselves mention some particles from the nautical terminology, namely *aft, aloft, ashore* and *astern*, as well as particles that are restricted to one or two verbs like *behind*). For another,

learners may use phrasal verbs in a way that makes the lexical search inefficient. This possibility is illustrated by the following example, taken from the Japanese component of LINDSEI, where the particle has the non-standard form *ups*:

(i) it's encourage sometimes encourages me and sometimes **cheer ups** me (LINDSEI-JP)

However, such cases are assumed to represent only a small proportion of the total uses of phrasal verbs. Besides, since the corpora used were not part-of-speech tagged (with the exception of ICLE-FR), the lexical approach had to be favoured.

⁶ http://ucrel.lancs.ac.uk/llwizard.html (accessed 12 February 2013).

⁷ It should be noted that the (common) claim that phrasal verbs are more frequent in speech than in writing is something of a simplification, as demonstrated by Biber et al. (1999: 408–409), who found out that phrasal verbs are most frequently used in fiction and conversation, but rarely occur in academic prose, news occupying an intermediate position between these two extremes. However, even this more refined analysis would predict a higher frequency of phrasal verbs in our spoken data than in our written data, since the spoken and written corpora used in this study are most akin to the registers of conversation and academic prose respectively.

⁸ The only exception to this is when the pronoun bears contrastive stress, e.g. *I'm certainly not going to take off HER* (Huddleston and Pullum 2002: 281).

⁹ This avenue for research seems particularly promising in the case of (Frenchspeaking) EFL learners, as appears among others from their frequent confusion between the particle *back* and the adverb *again*, or their attraction to *together*, a borderline case between particle and adverb (see Section 4.3).

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