

# **ABOVE, BELOW VS AROUND, UP AND DOWN: ADVERBIAL/PREPOSITIONAL HOMOMORPHS IN PROFESSIONAL AND ACADEMIC ENGLISH LANGUAGE VARIATIONS**

SANTIAGO POSTEGUILLO, *Universitat Jaume I, Castelló*  
JORDI PIQUÉ-ANGORDANS, *Universitat de València*

## **Abstract**

*Linguists have extensively studied both nominal and verbal groups in academic and professional English contexts to account for disciplinary variations, together with other discourse level features such as textual macrostructure. In this paper, we focus however on analyzing the distinct realizations of the adverbial and the prepositional groups in two corpora of different professional settings (journalism and academic health science papers). Results show that adverbial/prepositional homomorphic terms, such as above or below, increase their adverbial meaning in health science, thus becoming more significant semantic elements in this professional setting; on the contrary, up, down and around increase their adverbial value in newspaper columns, making thus clear their relevance in journalism. The use of since is also analyzed disclosing that adverbial/prepositional homomorphs also overlap with other word categories showing the complexity of this understudied linguistic phenomenon.*

**Key words:** professional and academic English, homomorphs, adverbs and prepositions

## **Resumen**

*Los lingüistas han estudiado ampliamente los grupos nominal y verbal en contextos tanto académicos como profesionales del inglés con lo cual dan cuenta de variaciones disciplinares, así como de otras características del discurso, como la macroestructura textual. Este trabajo se centra en el análisis de la función específica del grupo adverbial y preposicional en dos corpus de textos, uno profesional (periodismo) y otro académico (ciencias de la salud). A través de los resultados se demuestra que los términos homomorfos adverbiales y preposicionales, como above o below, aumentan en las ciencias de la salud en su significado adverbial, con lo cual se convierten en elementos semánticos más significativos en esos textos, mientras que, por el contrario, up, down y around aumentan su valor adverbial en columnas periodísticas, con lo que se hace evidente su relevancia en esos textos. Se analiza, asimismo, el uso de since y se demuestra que los homomorfos adverbiales/preposicionales se solapan con otras categorías de palabras, con lo que se pone de relieve la complejidad de este fenómeno lingüístico poco estudiado.*

**Palabras clave:** inglés profesional y académico, homomorfos, adverbios y preposiciones

## **1. INTRODUCTION: ADVERBS AND PREPOSITIONS**

This paper stems from previous research in seeking new disciplinary language variation indicators for English in specific settings.<sup>1</sup> Until recently, there has been a traditional set of linguistic features which have been analyzed to describe disciplinary variations in academic

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<sup>1</sup> This is part of a larger research project which is to describe the use of all adverbial and prepositional homomorphic terms in different professional English settings with the final aim of developing pedagogical applications of these findings to academic English teaching contexts. We would like to thank the anonymous referees' encouraging words and suggestions.

contexts, namely the use of tense and voice (Hanania & Akhtar 1985; Malcolm 1987; Espinoza 1997; Hinkel 1997; Piqué & Coperías 1999) in relation to the verbal group, the organization of clauses (Banks 1994), the use of nominalizations (Guillén Galve 1998) in relation to the nominal group, or the use of distinct macrostructures (Stanley 1984; Hall et al. 1986; Atkinson 1992; Nowgu 1997; Posteguillo 1999) at an upper level of language usage. In Piqué and Andreu-Besó (1999) and Piqué et al. (forthcoming), we explored a new indicator of disciplinary variation, in this case at discourse level: the distinct application of epistemic and deontic modality depending on the academic discipline or professional setting.

In this case, we are concerned with another dichotomy at the word-group level, but, instead of exploring the above mentioned verbal or nominal groups, we have focused on analyzing, as Nakamura (1997: 247) puts it, the understudied category of adverbs and its relationship with the prepositional group. In fact, one of the reasons why the adverbial group has not so frequently been studied is its conflict status and its *collision* or overlapping with other word classes, such as prepositions, adjectives or conjunctions.

The linguistic phenomenon of homomorphy illustrates these overlappings. Downing and Locke (1992: 563) describe this linguistic feature as follows:

some words function most typically like words of a given class (for example that of adverbs), but that occasionally they realise syntactic functions which are normally realised by words of a different class (for example, adjectives). Such an item can therefore be regarded as two different 'words' having the same form, both written and spoken. The two words are called homomorphs.

Homomorphy is a phenomenon common to many languages. For instance, focussing specifically in the adverbial-prepositional homomorphy, Bosque (1990) analyzes this linguistic device in Spanish, Homlander (1973) in German, Ermolenko (1963) in Russian, and Bejan (1976) in Rumanian, to mention a few representative studies. In English, the adverbial-prepositional instances of homomorphy have been the subject of a number of analyses, such as those by Allen (1964), Hill (1969) or Jacobsson (1977).

Our aims in this study are summarized in the following list:

- a) study six different adverbial and prepositional homomorphs in two distinct corpora (one corpus from British newspapers, and the other corpus from a set of research articles in health sciences academic journals) and see where they are used more frequently;
- b) explain the differences in frequency in the light of the results obtained regarding both the adverbial or the prepositional function of each homomorph;
- c) explain the significance of the adverbial/prepositional dichotomy of English homomorphs for the description of academic and professional English.

## 2. METHOD OF STUDY

Downing and Locke (1992: 564, 590) mention the following examples of adverbial and prepositional homomorphs:

*aboard, about, above, across, aboard, after, along, alongside, around, before, behind, below, beneath, besides, between, beyond, by, down, in, inside, near, off, on, opposite, outside, over, past, round, since, through(out), under, underneath, up.*

To these terms we should add *within* and *without*, taking into account Quirk et al (1985). Of this list, we have selected 6 homomorphs for an initial pilot-study of what is to become a comprehensive analysis of all the words in the list above which is now in progress. The

adverbial-prepositional homomorphs selected are: *above*, *around*, *below*, *down*, *since*, and *up*.

We have then selected two distinct corpora of 100,000 words each (99,999 words for health sciences [HS] and 100,001 words for journalism [J]). One corpus to illustrate language usage in journalism by means of a random selection of newspaper articles from *The Guardian* and *Electronic Telegraph* (electronic version of *The Telegraph*). The other corpus is made up of a set of articles also selected at random from various relevant academic journals in the specific area of health sciences, such as *Quality of Life Research*, *Journal of Clinical Epidemiology*, *Journal of Pain and Symptom Management*, *British Journal of Surgery* and *Hypertension*, among others.

Next, we have carried out a systematic search of each of the six selected under study in each of the two corpora by means of the *WordSmith Tools* software package (Scott, 1996). We have produced comprehensive lists of all the collocations of all instances where any of these six homomorphs appear in the texts in the corpora. Finally, we have analyzed whether the homomorph in each collocate functions as a preposition, as an adverb or as another word-category.

### 3. RESULTS

We have generated three graphs to summarize our results. Figure 1 shows frequency differences in usage of each homomorph depending on its academic or professional setting.

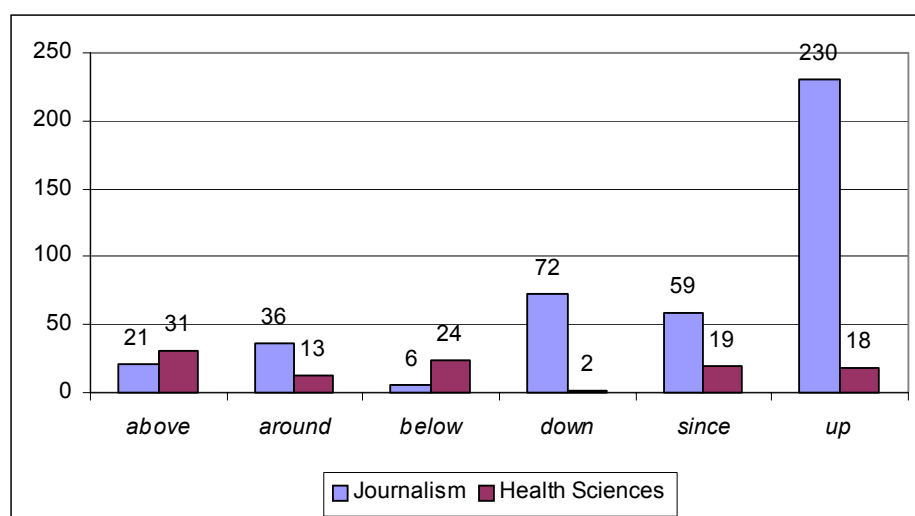


Figure 1. Distribution of homomorphs according to speciality (absolute numbers).

Four homomorphs (*around*, *down*, *since*, and *up*) are more frequently used in journalism (J), whereas the other two (*above* and *below*) are more frequent in health science (HS) research articles. The cases of *down* and *up* are particularly significant. At this stage, we hypothesized that probably the more frequent use of phrasal verbs in newspaper articles might explain these substantial differences.

However, to fully identify the reasons of these differences and, more important, to explain the differences in the use of the rest of the homomorphs, we carried out the individual analysis, one by one, of each term to see whether differences in adverbial-prepositional functioning could account for differences in frequency. In relation to this, figures 2 and 3

show the relative percentages of the either prepositional or adverbial meaning of each homomorph first in HS (figure 2) and then in J (figure 3).

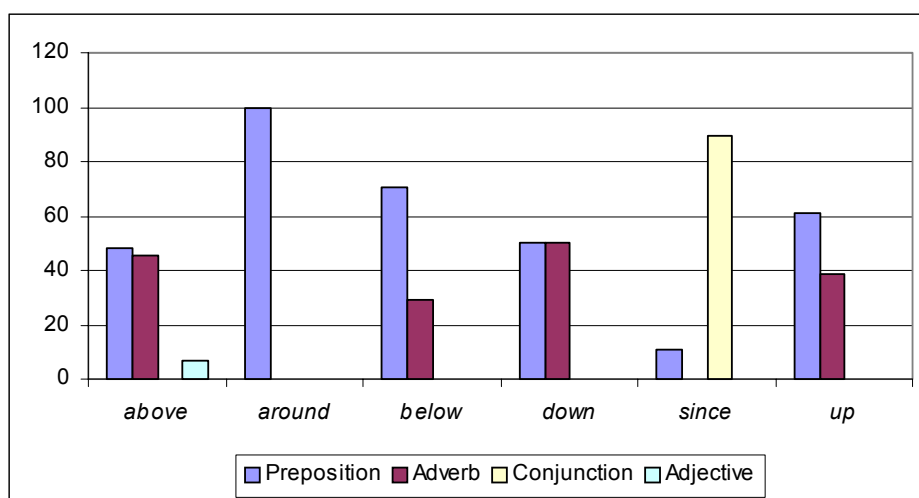


Figure 2. Word category percentage distribution (HS corpus).

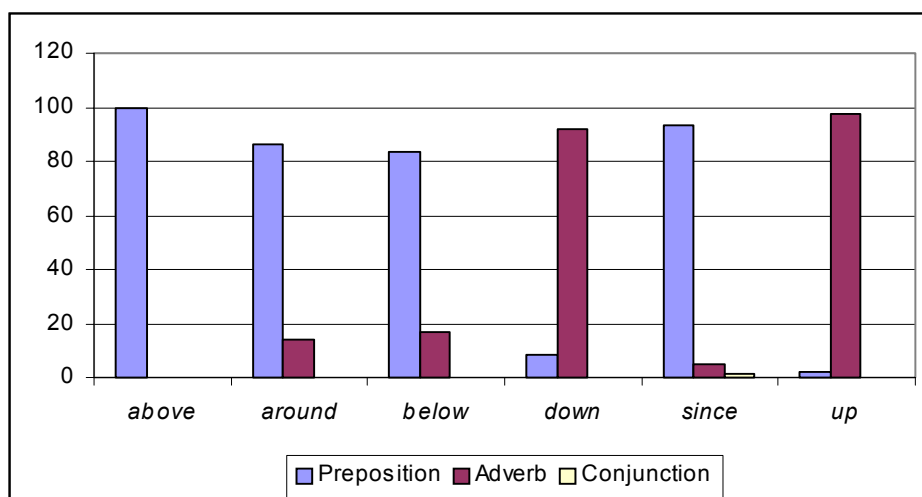


Figure 3. Word category percentage distribution (J corpus).

#### 4. DISCUSSION

It is useful to bear in mind the distinct structures of the prepositional and the adverbial groups when analyzing either the prepositional or the adverbial behavior of the homomorphs in this study: the adverbial group is endocentric, that is, its head element (an adverb) may operate on its own as an independent word-group. On the contrary, the prepositional group is exocentric, made up of a head element and a complete; in this case, the head (the preposition) cannot function on its own to generate an independent word group; in other words, all prepositional groups do require the head and the complete elements. This means that when a homomorph functions as preposition it is being *pushed down* in the linguistic ranks of the language system (Downing & Locke 1992: 189), whereas if it operates as an adverb it is *pushed up*; that is, it works at higher and more

relevant rank, thus becoming a more important semantic element. Sentences [a] and [b] below illustrate this push-down/push-up process:

[a]	<i>See</i> VG	<i>Figure 7</i> NG/Od	<i>below.</i> AdvG/Adjunct
[b]	<i>She</i> Head NG/S	<i>is</i> operator VG	<i>working below the bridge.</i> verb head completive PrepG/Adjunct

Figure 4. Adverbial and prepositional groups compared.

If we now focus on the specific data shown in figures 2 and 3, we may see that our hypothesis in relation to the more frequent use of *down* and *up* is confirmed: in both cases, it is clear that both homomorphs tend to function as adverbial particles (Adv) of phrasal verbs in newspaper articles, as examples [1-J] to [4-J] below illustrate, whereas both words increase their prepositional meaning (Prep) in health sciences research papers, as in [5-HS] to [8-HS]:

[1-J]	... when the judges look like turning it	down.	(adv)
[2-J]	... it's only the people that let it	down, not the procedure.	(adv)
[3-J]	Steve Pittman and Jon Purdie were put	up for sale, while Kim Wassall ...	(adv)
[4-J]	reluctance of some head teachers to give	up their teaching role, we believe ...	(adv)
[5-HS]	... follow-up time (reading vertically	down the table), the progression ...	(prep)
[6-HS]	...we observed that this ration varied	up to 45% under low salt...	(prep)
[7-HS]	... includes longitudinal data on individual	up to the time of death.	(prep)
[8-HS]	... a physical examination, and underwent	up to three flow studies...	(prep)

These examples and results concerning the use of *up* and *down* confirm first that phrasal verbs are less frequently used in research articles since they are not within the scope of the academic register expected in this genre. Secondly, they show how, when scientists do use these terms, they tend to do so as *heads* of prepositional groups with *completives* which give specific technical information (see examples [6-HS], [7-HS] and [8-HS]).

Consequently, and in the light of the comments above regarding the distinct structures of the PrepG and the AdvG and the theory of *push-down* elements, it may be concluded that semantically homomorphs such as *up* and *down* are more relevant for journalism (both close to 100% of use as adverbs; see figure 3) than for academic health science settings (around 40 and 50%, respectively; see figure 2).

Something similar, although not in the same degree, could be said of *around*. This homomorph has a literal meaning of approximation which is not appropriate for professional settings, such as a scientific paper, where precision is a key element. Accordingly, there are no instances of adverbial independent word-groups generated by *around* in HS corpus (see figure 2), whereas in J corpus the two values (both prepositional and adverbial) may be found (see figure 3). The difference is that journalists are allowed not to be precise in all instances, but that would be totally unacceptable in a scientific writer. Examples below illustrate this distinct usage of *around* as only prepositional in health science, examples [9-HS] and [10-HS], and both prepositional [11-J] and adverbial [12-J] and [13-J] in journalism:

[9-HS]	a 1-cm clearance margin was taken	around the tumour, the local recurrence ...	(prep)
[10-HS]	They center	around the principle that that results ...	(prep)
[11-J]	explaining how to hostel	around the world.	(prep)
[12-J]	... throwing it	around until it stopped bleating.	(adv)
[13-J]	there are all sorts of people scratching	around	(adv)

On the contrary, *above* and *below* function in the opposite way: they tend to increase their adverbial value in health sciences (thus increasing their semantic relevance), as in examples [14-HS] and [15-HS], and they tend to increase their prepositional meaning in newspaper columns (i.e., decreasing their semantic significance in that context), as in examples [16-J] and [17-J]:

[14-HS]	...as in the chronic treatment described	above.	(adv)
[15-HS]	... work of the Committee is presented	below.	(adv)
[16-J]	...passenger fares would rise	above the rate of inflation.	(prep)
[17-J]	...as its name suggests, is situated	below the lip of the local glacier.	(prep)

Finally, *since* represents a special case where homomorphy does not occur only across two word categories but across three: the adverbial, prepositional and conjunctive categories. This also happened in *above*, where instances of adjectival functioning were detected; however, what makes *since* significantly distinct is that in the case of health sciences both adverbial and prepositional meanings are totally secondary (in fact, no adverbial instances are found) in favor of the conjunctive meaning. The examples below illustrate instances of *since* as conjunction (conj) in scientific papers ([18-HS] and [19-HS]), or as a preposition in newspaper articles ([20-J] and [21-J]):

[18-HS]	... are effective against viral infections	since they can destroy cells that harbor...	(conj)
[19-HS]		Since diabetes and hypertension are risk..	(conj)
[20-J]	9,046 cases have been confirmed	since 1986.	(prep)
[21-J]	...as the first civilian flight	since the invasion on Dec. 20 took off.	(prep)

The cases of *above* and *since* show that homomorphy is a complex phenomenon that criss-crosses all word-categories and that cannot be explained on a simple set of word-category oppositions. However, we believe that a full description of some of these oppositions, such as the adverbial/prepositional dichotomy, may be very useful for the explanation of disciplinary and professional variations in language usage. A description which has to be completed in further studies in two directions: first, to provide a similar analysis of the rest of adverbial/prepositional homomorphs, and, second, to elaborate what we contend are relevant pedagogical functions for the teaching of grammar in specific academic and professional English settings.

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