

A corpus-based description of metaphorical marking patterns in scientific and popular business discourse¹

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Abstract

This article describes the variations in the use of metaphorical markers, as defined and classified by Goatly (1997), in two corpora: one consisting of business research articles and another of business periodical articles. Marker categories, the occurrences of individual markers, as well as cases of multiple marking are analysed using concordancing techniques to determine the patterns of metaphorical marking in the two corpora. It is shown that a wider range of marker types, a larger number of individual markers and of multiple marker clusters can be found in the corpus of business periodical articles. The frequency of a relatively small number of overlapping markers is also higher in this corpus. The differences described could indicate the varying attitudes towards the use of metaphor in the mentioned corpora.

Der Beitrag beschreibt das Verwendungsspektrum von metaphorischen Markern anhand der von Goatly (1997) gelieferten Definition und Klassifikation. Korpusgrundlage sind zum einen wirtschaftswissenschaftliche Publikationen, zum anderen Artikel aus dem Wirtschaftsteil von Tageszeitungen. Die jeweiligen Kategorien und Okkurrenzen werden ebenso wie die Fälle multipler Markierungen mit identischen Analysetechniken untersucht, um die Tendenzen metaphorischer Markierungen in den zwei Teilkorpora sinnvoll herausarbeiten zu können. In den Zeitungsartikeln können sowohl vielfältigere Markertypen, als auch eine insgesamt größere Zahl markierter Metaphern und Markierungscluster ermittelt werden. Auch ist die Frequenz der recht kleinen Zahl von in beiden Teilkorpora anzutreffenden Markern in den Zeitungsartikeln höher. Die in dieser Studie beschriebenen Differenzen in der Markierung erwachsen möglicherweise unterschiedlichen, korpusabhängigen Einstellungen zum Gebrauch von Metaphern.

1. Introduction

Even though metaphor research has a long-standing tradition, the call for a change from the cognitive to the more linguistic focus has been relatively recent (Cameron 1999). The use of corpora, representing different types of oral and written discourse, as well as the methodological concerns of this type of research are probably the most significant features of the recent linguistic approach to metaphor description. In this sense, the investigation of

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metaphor in popular economic and business discourse, that is, articles written for a widespread dissemination, has been especially productive (Smith 1995; Boers/Demecheleer 1995, 1997; Herrera/White 2000; Charteris-Black/Ennis 2001; Charteris-Black/Musolff 2003; White 2003; Charteris-Black 2004). The role that metaphor plays in this type of discourse has been described from both a linguistic and a cognitive perspective, concentrating on the variety of conceptual metaphor underlying the discourse, on its specific communicative functions and ideological import, on its importance as a cohesive device and its variance across different languages and cultures. By contrast, the studies of metaphor in scientific economic and business discourse focused principally on its rhetorical and heuristic functions (McCloskey 1986, 1990; Lindstromberg 1991; Henderson 1986, 1994, 1998, 2000).

The use of metaphorical markers, understood as linguistic expressions signalling a particular metaphor, is a relatively unexplored area, especially in terms of a specific type of discourse. Goatly (1997: 172) defines metaphorical markers as the words and phrases occurring in the environment of a metaphor's vehicle term, or a unit of discourse that unconventionally refers to or colligates with the topic of a metaphor on the basis of similarity, matching or analogy (Goatly 1997: 8). Metaphor co-text, together with the social context in which metaphor is produced, may influence its interpretation to such an extent that the lack of co-textual and contextual clues could lead to metaphor misinterpretation (Goatly 1997: 168). Therefore, words and phrases used in the co-text of the vehicle term for the purpose of metaphor marking or signalling seem to be related to the reader's processing effort: the less explicit metaphor marking is, the greater the processing effort would be (Goatly 1997: 169). By contrast, those metaphors, which are "marked out of existence" in Goatly's words, may be marked to the degree that they become literal comparisons or similes.

Before Goatly (1997), Glucksberg and Keysar (1993) had argued that metaphorical markers – or 'hedges' in their terminology – could reduce perceived metaphoricity, since they diminish the degree of implicative elaboration required by anticipating the use of a metaphor on the text surface. Cameron and Deignan (2003), on the other hand, suggest a corpus-driven approach to metaphorical markers as those performing a range of pragmatic functions. When analysed for their role in the discourse of a particular genre, 'tuning devices' – in these authors' terminology – serve to 'tune' a metaphor to listeners' or readers' needs. Therefore, depending on the context, they may fulfil a number of functions, for instance, toning down the potential strength of a metaphor or preventing a metaphor from being understood literally.

The use of metaphorical markers in corpora has been studied to a limited extent and no attempt – to our knowledge – has been made to describe metaphorical marking in a comparative analysis of two corpora representing scientific and popular business discourse. The gap envisaged prompted us to formulate the hypothesis that metaphorical marking may vary in different types of discourse, as metaphors perform a variety of discourse functions. Metaphor signalling in the scientific and popular economic and business discourse could be related to its participation in the realisation of the communicative goals that are involved in conveying information in different pragmatic contexts. This type of variation might also be regarded as an expression of differing attitudes towards the use of metaphorical language in the corpora under study.

Goatly's (1997) inventory of 20 types of metaphorical markers was used in this study. It is possibly the most detailed one that is currently available (Figure 1). It, nonetheless, seems to be elaborated according to varying criteria, which are not always mutually consistent. For instance, explicit markers, intensifiers, hedges and downtoners, or symbolism terms were possibly distinguished on the functional basis, on the account of the effects exerted on the metaphor marked. Other categories, such as semantic metalanguage, mimetic terms, perceptual processes, misperception terms, or cognitive processes have more in common with a semantic rather than with a functional classification. Finally, modals, conditionals or copular similes are clearly grammatical categories.

Marker category	Metaphorical markers
1. Explicit markers	<i>metaphor/-ically, figurative/-ly, trope</i>
2. Intensifiers	<i>literally, really, actually, in fact, simply, fairly, just, absolutely, fully, completely, quite, thoroughly, utterly, veritable, regular</i>
3. Hedges and downtoners	<i>in a/one way, a bit of, half-..., practically, almost, not exactly, not so much ... as..., ... if not</i>
4. Semantic metalanguage	<i>in both/more than one sense/s, mean(-ing), import</i>
5. Mimetic terms	<i>image, likeness, picture, parody, caricature, model, plan, effigy, imitation, artificial, mock</i>
6. Symbolism terms	<i>symbol(-ic /-ically), sign, type, token, instance, example</i>
7. Superordinate terms	<i>(some) (curious, strange, odd, peculiar, special) sort of, kind of</i>
8. Copular similes	<i>like, as</i>
9. Precision similes and other comparisons	<i>material verb + like x, the y of a x, y's x; noun-adj., the x equivalent of</i>
10. Clausal similes	<i>as if, as though</i>
11. Perceptual processes	<i>seemed, sounded, looked, felt, tasted, + like/as though/as if</i>
12. Misperception terms	<i>delusion, illusion, hallucination, mirage, phantom, fantasy, unreal</i>
13. Cognitive processes	<i>believe, think, regard, unbelievable, incredible</i>
14. Verbal processes	<i>say, call, refer to, swear</i>
15. So to speak	
16. Orthography	<i>" " . ! white space</i>
17. Modals + Verbal Processes	<i>could say, might say</i>
18. Modals	<i>must, certainly, surely, would, probable/-ly, may, might, could, possible/-ly, perhaps, impossible/-bility</i>
19. Conditionals	<i>if ... could, would, might, imagine, suppose</i>
20. As it were	

Figure 1. Metaphorical markers (Goatly 1997: 174-5).

Even though Goatly's corpus on which this categorisation is based is not fully described in his study, we considered that it could be readily used as a starting point in a corpus-based analysis of metaphorical marking. Goatly's classification would allow for relatively immediate access to possible metaphorical material in electronically-stored linguistic data, and thereby enable one to highlight the phrases used as markers of metaphors in context.

2. Corpora description and methodology

Two corpora were compiled for this study. The first contains 403288 words and consists of business research articles (henceforth referred to as Corpus 1) taken from three scientific journals: *Journal of Economics & Management Strategy (JEMS)*, *Management Science Journal (MSJ)* and *Strategic Management (SM)*. Corpus 1, then, is a sample of scientific discourse dealing with general issues related to management and business. The authorship and readership of articles published in the mentioned journals share an important feature: they are written by and for scientists with research interests in management and business.

The second corpus contains 404251 words and is made up of articles from three business periodicals (henceforth referred to as Corpus 2): *Business Week (BW)*, *The Economist (E)*, and *Fortune (F)*. The periodicals mentioned are high-impact and widely known sources which analyse world business and current affairs, and are targeted at professionals involved in different areas of management, although the readership also includes the general public. Unlike Corpus 1, the texts from Corpus 2 are written by journalists and could be described as samples of popular business discourse. Both corpora include texts published between 1997 and 2003.

Regarding the method of study used, the phrases listed in Figure 1 were identified in the corpora mentioned using *WordSmith Tools*, version 4, a concordancing programme (Scott 1999). Once located in the corpus, their collocates were analysed from the point of view of their metaphorical or literal meaning. Finally, the metaphorical markers signalling metaphors were filed for later analysis.

All marker types, except group 16 (Orthography), were searched for in the two corpora, since the software used did not allow for their immediate identification. However, the use of certain orthographic markers, especially inverted commas, were considered when used in addition to other metaphorical markers.

3. Results and discussion

The results obtained from the application of Goatly's (1997) inventory of metaphorical markers showed that there are clear differences in the use of metaphorical markers in the two corpora, while certain similarities can also be noted.

3.1. Marker categories

As observed in Figure 2 below, Corpus 2 showed a wider range of marker categories used, that is, of the 19 marker types examined, items of 18 types were found in this corpus. By contrast, only nine marker types were identified in Corpus 1.

MARKER CATEGORIES IDENTIFIED	Corpus 1	Corpus 2
		Intensifiers Semantic metalanguage Mimetic terms Symbolism forms Superordinate terms Copular similes Cognitive processes Verbal processes Modals

Figure 2. Marker categories identified in Corpus 1 (business research articles) and Corpus 2 (business periodical articles).

As Figure 2 shows, Corpus 1 and Corpus 2 both use a number of marker categories, namely, intensifiers, semantic metalanguage, superordinate terms, copular similes, cognitive processes, verbal processes and modals. Furthermore, while in Corpus 1 no exclusive marker category was identified, in Corpus 2 nine marker categories of this type were found: explicit markers, hedges and downtoners, precision similes, clausal similes, perceptual processes, misperception terms, modals + verbal processes, conditionals, and the marker *as it were*.

The use of certain exclusive markers in Corpus 2 (explicit markers, misperception terms, and perceptual process terms) could be regarded as interrelated with the context in which business periodical articles are produced and received. Intended to inform and entertain a general public, this discourse type possibly allows for a more frequent use of metaphor as a rhetorical device, and for a more diverse linguistic expression in its signalling in comparison to the business research discourse. The distinct writing conventions in the two types of text, impinged on the contextual features of their production and reception, could entail different references to the metaphorical language used. For instance, in Corpus 1, the categories of markers expressing cognitive and verbal processes (*believe, think, regard, call, refer to, etc.*) seem to tune to other linguistic expressions reflecting cognitive operations involved in scientific research. Moreover, the markers from the category of modals (*may, might, could, probable, possible, etc.*) seem to reflect the tentative language typically used in the results or discussion section of a research article.

The absence or a scarce instantiation of explicit markers, verbs expressing perceptual processes and misperception terms in both corpora could be regarded as a distinctive feature of metaphor use in non-literary types of discourse. The categories mentioned, alluding explicitly to the use of metaphor or referring to particular physical sensations, are more likely to be found in literary texts, rather than in scientific or journalistic articles concerned with business matters.

3.2. Metaphorical marker frequencies

In addition to the differences in the marker categories used in the two corpora, the figures related to the use of individual markers are dissimilar: 18 in Corpus 1 as compared to 64 in Corpus 2 (see Table 1 below). The corpus of periodical articles, then, clearly employs not only a wider range of marker types, but also a greater number of individual markers than the corpus of research articles. Moreover, three markers from Corpus 1 –*model*, *image* and *type*– were not found in Corpus 2, and this finding could further indicate the context-driven use of certain markers.

The frequency of metaphorical markers in the two corpora is remarkably low (see Table 1 below), with the highest value being 0.15‰ and the lowest – 0.002‰. This may be indicative either of the poor marking of metaphors employed or the generally infrequent use of metaphors in the corpora studied, assuming that some of them are marked. The latter suggestion, however, challenges the claims of the authors commented previously about the two types of discourse being considerably metaphorical, both on the conceptual and on the text surface level. This claim, nonetheless, needs to be addressed in a contrastive study of marked and unmarked metaphors.

Metaphorical markers	Corpus 1	Corpus 2
<i>say</i>		0.153
<i>like</i>	0.002	0.120
<i>as</i>	0.042	0.100
<i>could</i>		0.085
<i>just</i>	0.005	0.060
<i>call</i>	0.007	0.057
<i>really</i>		0.052
<i>may</i>	0.017	0.052
<i>would</i>		0.050
<i>look like</i>		0.037
<i>must</i>		0.032
<i>kind of</i>		0.027
<i>material verb + like</i>		0.022
<i>sort of</i>	0.002	0.017
<i>if ... would</i>		0.017
<i>think</i>	0.007	0.017
<i>symbol</i>		0.015
<i>simply</i>		0.015
<i>perhaps</i>	0.005	0.015
<i>believe</i>		0.015
<i>sign</i>		0.012
<i>might</i>	0.007	0.012
<i>refer to</i>		0.010
<i>if ... could</i>		0.010

<i>example</i>		0.010
<i>artificial</i>		0.007
<i>literally</i>		0.007
<i>look as if</i>		0.007
<i>feel like</i>		0.007
<i>the x equivalent of</i>		0.007
<i>seem like</i>		0.007
<i>as if</i>		0.007
<i>surely</i>		0.007
<i>in fact</i>		0.007
<i>actually</i>		0.007
<i>probably</i>		0.007
<i>almost</i>		0.007
<i>mean</i>	0.005	0.007
<i>look as though</i>		0.005
<i>sound like</i>		0.005
<i>practically</i>		0.005
<i>absolutely</i>		0.005
<i>completely</i>	0.002	0.005
<i>if ... might</i>		0.005
<i>quite</i>		0.005
<i>as it were</i>		0.002
<i>figuratively</i>		0.002
<i>illusion</i>		0.002
<i>imitation</i>		0.002
<i>metaphor</i>		0.002
<i>seem as though</i>		0.002
<i>could say</i>		0.002
<i>feel as though</i>		0.002

<i>probable</i>		0.002
<i>not exactly</i>		0.002
<i>thoroughly</i>		0.002
<i>not so much ...as</i>		0.002
<i>as though</i>		0.002
<i>regard</i>	0.005	0.002
<i>fully</i>	0.002	0.002
<i>impossible</i>		0.002
<i>certainly</i>		0.002
<i>plan</i>		0.002
<i>possible</i>		0.002
<i>model</i>	0.015	
<i>image</i>	0.005	
<i>type</i>	0.002	

Table 1. Frequencies of metaphorical markers (per thousand) ordered by Corpus 2 markers.

Besides the low frequency of metaphorical markers as a shared feature of both corpora, certain significant differences in the individual use of metaphorical markers were observed. The marker with the highest frequency in Corpus 1 was *as* (0.042‰), followed by *may* (0.017‰) and *model* (0.015‰). This differed in some ways with the data from Corpus 2 where *say* (0.153‰) was the most frequent marker, followed by *like* (0.12‰) and *as* (0.1‰). *As*, then, when compared to other markers, had a high frequency in both corpora. Furthermore, *may*, *could*, *would* and *must* (modals) were frequently used in both corpora.

The similarities and differences described are noteworthy, as they reveal how the most frequent markers may tune into the discursive features of the corpora studied. The frequent use of copular similes *like* and *as*, which reduce a metaphor's effect and convert it into a simile (Goatly 1997: 193-4), is certainly appropriate for non-literary discourse, such as the research and periodical article, where metaphor may fulfil strictly genre-related functions, such as illustrating or filling terminological gaps.

Nevertheless, the difference in use of *as* and *like* in the two corpora studied is significant. The form *as* had a relatively high frequency in both corpora (0.042‰ in Corpus 1 and 0.1‰ in Corpus 2), whereas *like* was the second most frequent in Corpus 2 (0.12‰) and one of the least often used in Corpus 1 (0.002‰). The use of *as* and *like* in scientific discourse had been argued as closely connected with types of scientific metaphors (Gentner 1983; Aisenman 1999). Theory-constructive metaphors representing relations would preferably use *as*, while pre-theoretical metaphors expressing the interactional relationships of objects and their attributes would do so by employing *like*. This seems to explain why *like* had a notably low frequency in the corpus of business research articles, where *as* was favoured in the articulation of metaphorical relations between objects for the purpose of scientific theorising (example 1, 2 and 3).

- (1) We model the market interaction between the providers of cellular services and their customers **as* a two-period game²**, where the second period is repeated indefinitely **as*** in a **supergame**. (Corpus 1, JEMS)
- (2) The firm can then be seen **as* a “governance charter”** or a **“constitution”** that allocates different contracting rights to its members but is unable to make them coordinate or cooperate in their provision of incentives to the management. (Corpus 1, JEMS)

² In the quoted text, metaphorical markers are signalled with an asterisk.

- (3) We show how connectionist models can be used to simulate the adaptive nature of agents' learning exhibiting similar behaviour **as* practically experienced learning curves**. (Corpus 1, MSJ)

By contrast, *like* is preferred in the journalistic discourse represented by Corpus 2, as it is more suitable for a type of pre-theoretical metaphors with a clearly more pedagogical and illustrative character than the theory-constructive ones (examples 4, 5 and 6).

- (4) Every so often, with the flick of a finger, he'd enter a buy or sell order. Zanger would concentrate so hard that he didn't notice when spectators came and went. He wouldn't hear the questions they called to him. "I'm **like* a surgeon going in to do an operation**," says Zanger. "I'm totally focused." (Corpus 2, F)
- (5) When corporate parents bicker, joint ventures, **like* children**, can often get caught up in the battle. (Corpus 2, BW)
- (6) Entrepreneurial leaders, **like* dictators**, are often reluctant to groom successors. (Corpus 2, E)

In a similar way to metaphors, the interpretation of metaphorical markers may be subject to a number of factors. For instance, the perception of a metaphor as innovative or conventional may be modified by the reader's or hearer's background knowledge, his/her expertise in a particular field or command of the language used. The same is likely to happen with metaphorical markers: in (1) *as* is certainly not marking a metaphor for someone from the field of management, where the game theory once established as a valid analytical framework is no longer considered in metaphorical terms. *As* may, however, signal the metaphor of game to someone from outside the field. The variation in the perception of metaphorical markers could especially be relevant in ESP instructional settings where texts representing business discourse are used with non-native and pre-experienced students. Paying attention to the text surrounding a metaphor could improve metaphor identification strategies, as well as develop students' reading skills.

Obviously, the lack of objective criteria for marker identification further suggests that a finite inventory of words and phrases used to mark metaphors would be difficult if not impossible to accomplish. Nevertheless, the marker *model* could be an exception in the discourse of business science and economics, since modelling is one of the basic scientific research procedures used in this field (Dow 2002: 96), often involving metaphorical concepts (examples 7, 8, 9).

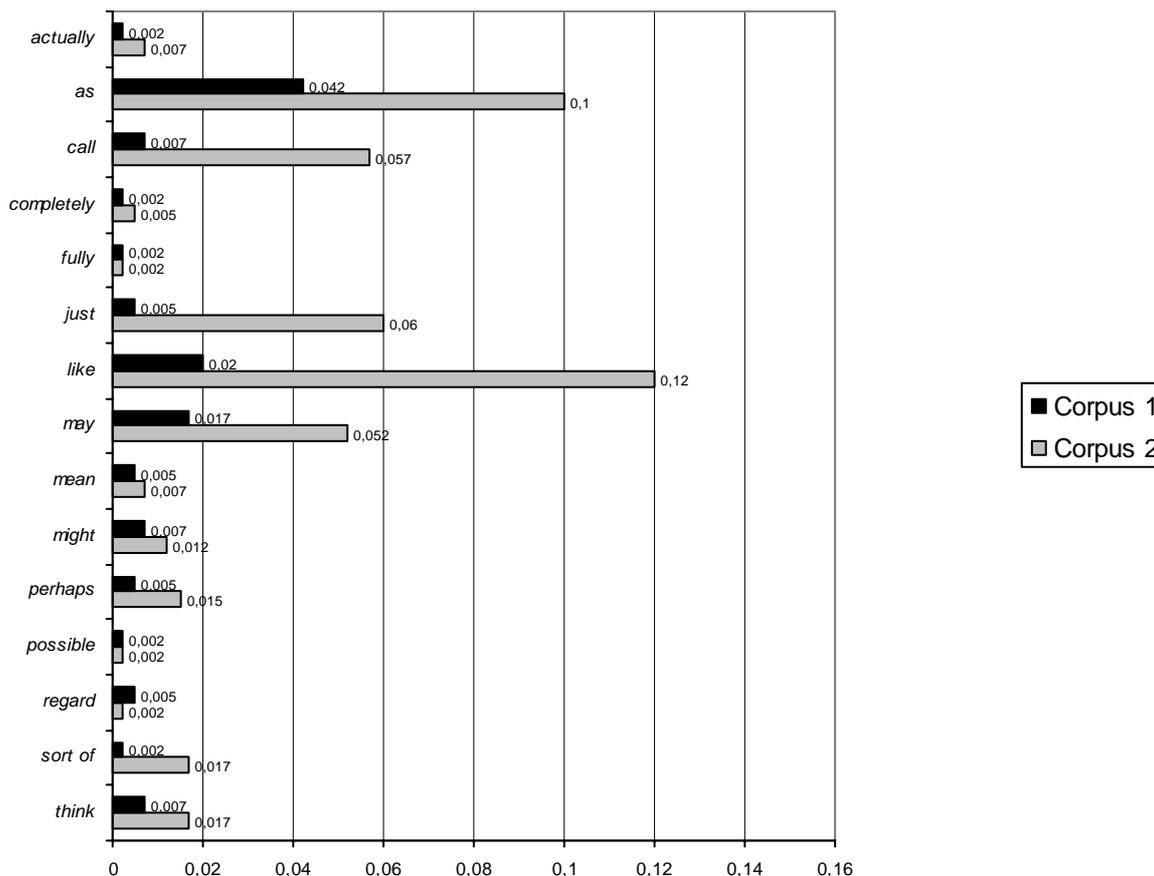
- (7) More specifically, we aim to contribute to this perspective by building on a grounded case study to develop a **model*** of strategy as **guided evolution**. In this **model***, we conceptualize an organization as an **ecological system** purposefully designed to guide the evolution of strategy. (Corpus 1, SM)

- (8) However, when we try to solve **an infinite-horizon model*** comparable to the model in this section, an equilibrium does not exist. (Corpus 1, JEMS)
- (9) Conversely, the long-run behavior of the simple consumers differs significantly from that of the **bandit model*** described in §4.1. (Corpus 1, MSJ)

Markers expressing verbal processes (*say, call, refer to*) often signal metaphors in the corpus of business periodical articles, for instance, when a metaphor is strongly marked as someone else's quotation (examples 10 and 11). Intensifiers, in turn, may allow journalists not only to place adequate emphasis, but also to reinforce metaphor's effect (Goatly 1997: 193-4) (examples 12 and 13), while symbolic terms could help condense information into meaningful metaphors (examples 14 and 15). The choice of metaphorical markers, then, appears to be constrained by the context of a particular communicative setting.

- (10) Still not tapped out, he created an employee benefit by shipping lobster-and-clam dinners to each of his 14 employees as a Christmas gift, and he sent about half a dozen more to clients. "**It's kind of a currency** unto itself," McKinley **says***. (Corpus 2, BW)
- (11) "These big companies **will topple over from their own weight**," Skilling said* last year, referring to old-economy behemoths like Exxon Mobil. (Corpus 2, F)
- (12) Caren J. Martineau, for one, feels the winnowing process of online finance took **the romance** out of her business – **literally***. Martineau approached Vcapital.com for a \$4 million investment in her firm, Romance Boutique, an online gift catalog and shopping service for lovers. (Corpus 2, BW)
- (13) "I think Amex **is really*** **picking up speed** to become arguably the most powerful financial services brand out there." (Corpus 2, F)
- (14) In perhaps the surest **sign*** in Silicon Valley that a market is **ripe**, Microsoft announced plans that indicate it's ready to take it over. (Corpus 2, F)
- (15) A defence industry, rather like a currency, can turn into a kind of **national virility symbol***. (Corpus 2, E)

The limited number of 15 overlapping markers, that is, those found in both corpora (Graph 1), also shows certain frequency variations.



Graph 1. Frequencies of overlapping markers in Corpus 1 and Corpus 2 (per thousand).

The majority of the overlapping markers were more often used in Corpus 2, except *fully* and *possible*, which had the same frequency values and *regard*, which was more frequent in Corpus 1 than in Corpus 2. This variation, however, may not be significant as it accounts for a low 0.002%.

3.3. Multiple marking patterns

The analysis of the metaphorical material from the corpora reveal the use of more than one marker to signal a metaphor (see also Cameron/Deignan 2003: 158-9). Both corpora showed similar patterns of multiple marking: double marking was significantly more frequent than the triple variety, and the cases of four-fold marking were rare in both corpora (Table 2).

Number of markers used	Number of marked metaphors	
	Corpus 1	Corpus 2
two	13	98
three	1	19
four	1	1

Table 2. Multiple marking in Corpus 1 (business research articles) and Corpus 2 (business periodical articles).

The pattern of two-fold marking is similar in both corpora, although this should further be confirmed regarding the discourse of business research articles given the low number of 13 metaphors signalled by two markers. The mentioned pattern consisted in using two lexical markers³ or one lexical marker together with inverted commas. A recurrent combination in the corpus of research articles was that of *as* (copular similes) with *model* (mimetic terms), on the one hand (example 16), and with a marker expressing cognitive processes (*think, regard*), on the other (example 17).

- (16) The proposed model of strategic management as guided evolution is, in certain ways, similar to Burgelman's (1991, 1994) **model*** of strategy making **as*** **intra-organizational ecology**. (Corpus 1, SM)
- (17) Think of a situation in which there is only one network broadcasting, and a new network enters the market. The new channel (hereafter channel 2) sees the actions of the old channel (hereafter channel 1) and determines its optimal strategy. After channel 2 chooses its strategy and implements it, channel 1 re-evaluates its situation and may change its actions. Once again, channel 2 reacts optimally, etc. The set-up of the problem, as described above, maybe **thought*** of **as*** **a game between the networks**. (Corpus 1, MSJ)

With reference to the corpus of periodical articles, it is difficult to determine a typical marker combination due to the variety of markers involved. We should point out, however, that *like* (copular similes) and *just* (intensifiers) frequently combined with *really* (intensifiers) (example 18), and *could* (modals) (example 19). Therefore, regarding the two-fold signalling, markers from the category of copular similes were often used. These, in turn, were employed in conjunction with the markers typical of each corpus: mimetic terms and cognitive processes in the corpus of research articles, and intensifiers and modals in the corpus of periodical articles.

³ By 'lexical markers' we refer to all markers listed by Goatly (1997: 174-5) except orthographic markers.

- (18) For dot-com stocks, the float was so small that their prices could gyrate just because of day traders. But that shouldn't be the case for Intels and Microsofts and Lucent and IBMs and Yahoos and AOLs. Yet we all more or less rise or fall together. This **really*** is **like*** a **panic**. It is not the first manic-depressive period I have ever seen, but it is the biggest. The mid-'80s was almost as bad, but back then high tech wasn't that central to the economy. (Corpus 2, F)
- (19) Thinking of a mid-career switch? Not afraid of a little risk? A leap into high tech **could*** be **just* the ticket**. (Corpus 2, BW)

The analysis of multiple marking also facilitated the identification of certain markers, which were not included in Goatly's (1997) typology. These were found in two-marker clusters including *as*, together with any of the following: *conceptualise*, *classify*, *model*, and *act* in the Corpus 1, and *see*, *view*, *imagine*, *describe* and *use* in Corpus 2.

4. Pedagogical implications

The inclusion of metaphor in ESP instruction curricula has been widely discussed⁴. It is, however, difficult to address metaphorical markers in the same terms, as they show a considerably low usage frequency in the corpora studied. We nonetheless believe that they may be a critical element in metaphor recognition, especially for learners of English as a foreign language, who are not experts in a particular field of specialisation.

Metaphor, as has often been mentioned, may introduce unfamiliar and unexpected vocabulary in specialist texts (Lindstromberg 1991) and, thus, result in comprehension problems. The recognition of metaphor may also be problematic as drawing a clear-cut line between literal and figurative meaning often turns out to be difficult; as a consequence, this has implications for foreign language learners (Charteris-Black 2000). Metaphor may also fulfil a wide range of communicative and cognitive functions, which could further make its identification more complex (Cameron/Low 1999). Metaphor, however, offers useful insights into the conceptual domain of a particular subject, which not only provides learners with a better understanding of the subject itself, but also enhances their vocabulary acquisition strategies and the assimilation of unfamiliar figurative expressions.

If raising learners' metaphoric awareness (Boers 2000) is needed in ESP instructional settings, certain attention should be paid to the discourse surrounding a metaphor. The signalling of metaphors on the text surface level by means of metaphorical markers may be especially useful for the recognition and interpretation of potentially problematic

⁴ For an overview of the literature on the subject, see Cameron & Low (1999).

metaphorical language. Low (1988: 133) had, some time ago, considered that the ability to interpret and control ‘hedges’ should be part of learners’ metaphoric competence, although he also pointed out that the use of certain adverbials signalling metaphors may be extremely difficult to assimilate. For instance, *indeed*, *literally* and *really*, could signal both literal and metaphorical expressions, and in the absence of clarifying context, their use could lead to considerable confusion in interpretation. Therefore, the discourse surrounding a metaphor should be approached with the necessary attention and caution within metaphoric competence building activities.

The use of metaphorical markers as a compensatory strategy for overcoming lexical gaps (Cameron/Deignan 1998), as well as for articulating the same conceptual metaphor, should also be recalled here. Of special interest seems to be the use of different linguistic expressions in different languages for this purpose (Deignan et al. 1997).

In addition, the correct use of certain phrases and grammatical structures that can be used as metaphorical markers may be the source of considerable difficulties in the production stage for learners of English as a foreign language. This could be the case of intensifiers, hedges and downtoners, not to mention modals and conditionals. If they were practised in the environment of figurative expressions – which may be retained more easily given the Vehicle’s incongruence – their correct use could perhaps be reinforced.

To sum up, discursive and pragmatic aspects of metaphors and their surrounding discourse are just as important as the semantic and lexical, and they may serve to train students to communicate more successfully and to better understand their chosen specialist fields.

5. Conclusions

The use of metaphorical markers, as classified by Goatly (1997), in the corpus of business research articles and of business periodical articles, consists in a broader range of marker categories used, a larger number of individual markers identified, and their higher frequencies in the business periodical corpus. It is then suggested that the corpus in question, representing popular business discourse, is likely to show a higher degree of marked metaphoricity on the text surface level when compared to the business research corpus. This could further signal a more overt attitude towards the handling of metaphorical language and possibly to a more frequent use of metaphor. The mentioned variation could also be interpreted in terms of the writing constraints of two genres – a periodical article and a research article – which arise

from the pragmatic context of its production and use. The corpora examined also share certain similarities in metaphorical marking, which may be attributed to the fact that both corpora have a common characteristic of being samples of non-literary discourse.

The application of Goatly's (1997) inventory of metaphorical markers allowed for a practically instant access to abundant metaphorical material in two electronic corpora. It also facilitated the identification of relevant variations of metaphorical marking. However, it should not be regarded as an ultimate and finite account of devices used to signal metaphors on the text surface level. The recognition of certain phrases as metaphorical markers may as well depend on a number of external factors related to the communicative setting in which the studied genres are produced and used, such as the readers' background knowledge and their command of the language used, two aspects which seem to be especially relevant in instructional settings.

Finally, with regard to the pedagogical implications of the research carried out, raising learners' metaphoric awareness and building their metaphoric competence should necessarily involve considering metaphor not only in its communicative context, but also as an element within its surrounding discourse, as it may provide indications for the metaphor's correct interpretation.

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