Cognitive Linguistic Approaches to Teaching Vocabulary and Phraseology

Frank Boers/Seth Lindstromberg

(Editors)

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to Teaching Vocabulary and Phraseology

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Opening chapter

How cognitive linguistics can foster effective vocabulary teaching

Frank Boers and Seth Lindstromberg

Abstract

This collective volume is about ways in which cognitive linguistics (CL) – more specifically, CL insights into the non-arbitrary nature of language – can facilitate the teaching and learning of words and phrases in a second or foreign language[1]. Thus, it is the common project of all our contributors to consider means whereby teachers and materials writers might exploit *motivation* of lexical units for the benefit of their students. As a prominent element of CL theory is the lexis-grammar continuum, the lexical units we will be focussing on include multiword units (phrasal verbs, idioms, collocations, etc.) as well as individual words. In this introductory chapter we will outline (1) the reasons why we have decided to focus on the teaching of words and phrases, that is, on adopting a lexical approach (Lewis 1993) including phrase-teaching (Boers and Lindstromberg 2005), (2) the rationale for a CL perspective on teaching lexis, (3) the accumulated evidence for the pedagogical effectiveness of CL-inspired presentation of lexis as non-arbitrary, and (4) the purpose and the structure of the volume.

Keywords: motivation; polysemes; idioms; metaphor; metonymy; etymology; elaboration; memory and mnemonics; dual coding; deep processing.

1. Why we have decided to focus on the teaching of words and phrases

1.1. The status of vocabulary in second and foreign language teaching

Young applied linguists and foreign language teachers may have no first hand recollection of how little attention used to be given to teaching single-word lexis, let alone multi-word expressions (idioms[2], collocations, and

semi-fixed phrases in general). It may therefore be useful briefly to review the status accorded to vocabulary in the dominant language teaching paradigms of the recent past.[3]

As clearly signalled by its name, the venerable *grammar-translation approach* concentrates on morphology and syntax (in written texts), with the nature of the target language no doubt determining the weighting of attention to these two components. In this approach, explicit attention to vocabulary is typically in the form of text-linked glossaries as aids to translation (typically from L2 to L1). In general, little support is given to help learners retain new lexis for active usage.

As *oral/aural* L2 proficiency became more widely valued, particularly from the mid-20th century on, the usefulness of the grammar-translation method was increasingly called into question and varieties of *situational-oral-structural*, or SOS, teaching (see Prabhu [1987] for a critical description) rose in popularity. The most highly codified of these varieties, *audiolingualism*, was earnestly promoted by influential FLT theorists, particularly in the USA. Perhaps not yet utterly defunct, this approach prioritises fluency *with* accuracy. A prominent means for achieving both these desiderata is memorisation of dialogues followed by, either in class or in a language lab, prolonged and intensive drilling – i.e., oral repetition-, transformation- and completion-exercises. As it happens, through memorizing dialogues students are quite likely to acquire a number of conventional multi-word expressions, and, through doing the transformation drills, they may well develop instincts about collocation. However, a developed rationale for the acquisition of multi-word expressions and collocations has never been an element of audiolingualism, whose focus – in the early weeks of a beginner's course – is the L2 sound system (mainly its phonemes and their patterning) and, thereafter, a graded agenda of morpho-syntactic teaching points. Because the developers of audiolingualism were committed to the behaviourist view of learning as habit formation, they took it for granted that learners would be able to produce any given target pattern automatically if (and generally only if) they repeated it often enough. This belief implies others: (1) mistakes will be ingrained if repeated and so (2) learners should at all costs be discouraged from making them in the first place. Because standard audiolingualism was based on very poorly nuanced beliefs about comprehension and about cognitive processing generally, it offered a severely limited repertoire of techniques and strategies for promoting the retention of FL vocabulary. Indeed, the widely recognised failure of this method has been attributed fundamentally to its reliance on types of oral drill (e.g. substitution drills) which impede consistent association of lexical

forms and particular meanings (e.g. Segalowitz 2000: 212). Stevick (1986) proposed amendments to audiolingual-type drilling which were based on empirical findings about the mnemonic benefits of prompting visualisation and meaningful deep processing; but for reasons we can only guess at, these proposals seem to have found modest acceptance at most. Perhaps the tide of fashion had simply gone out on anything which smacked too much of an increasingly doubted method.

By the 1980s *communicative language teaching* (CLT) had become the dominant paradigm for instructed second language acquisition (SLA) – at least in the cultural West. In this approach, mistakes are no longer believed to be virulently habit forming. For this reason, and also owing to the growing prioritisation of genuinely communicative use of the L2 in the classroom, the stress on accuracy is dramatically de-emphasised in comparison with SOS approaches. In early forms of CLT several score of phrases of evident high frequency in spoken English, so-called functional exponents (i.e. lexical phrases *avant la lettre* such as *How about…-ing…?* and *Would you like to…?*) were singled out for special attention. (Such phrases were generally subsumed under the heading of "patterns" in audiolingualism.) Most novel of all was the attempt to encourage learners to adopt such so-called communicative strategies as listening for gist (e.g. Abbs and Fairbairn 1977). In early versions of CLT the expressions targeted in a given lesson (a set of functional exponents, for example) were expected to be produced relatively accurately (especially in the early, "controlled" phases of a cycle of work) whereas inaccuracy in whatever else students might say would often be regarded rather tolerantly. By the mid-1980s, the importance of acquiring vocabulary was beginning to be acknowledged more substantively (viz. Gairns and Redmond [1986] and Morgan and Rinvolucri [1985], two how-to-teach-L2-vocabulary books), but the matter of helping students remember target vocabulary *long*-term has remained a sporadically addressed, minority concern. Instead, it has generally been assumed that FL learners pick up most of their new words and expressions incidentally, much like small children acquire the vocabulary of their L1 and that, therefore, the best way for teachers to promote vocabulary learning is to encourage learners to deploy their pre-existing ability to infer word meanings from context and from the meanings of constituent morphemes. In cases where such inferencing fails, students have often been expected simply to tolerate the vagueness and wait for un-guessed words to turn up again in richer context. An underlying assumption here is that the non-recurrence of an un-guessed word suggests it is too infrequent to be worth learning anyway (cf. Nation and Waring 1997: 11).

In sum, theorists of FL pedagogy, particularly in English-speaking countries, have long tended to favour approaches that in one way or another discount the importance of teaching vocabulary, with many stoutly persisting in their methodological allegiances in the face of mounting evidence that vocabulary is a crucial factor in ability to read and understand challenging texts (Chall 1958; Klare 1974). Thus, as late as 1985 a prominent FLT methodologist could still report that vocabulary acquisition was neglected in the field of SLA (Richards 1985: 176). It was some years more before a small flood of studies and surveys showed that this was at long last no longer true (Arnaud and Béjoint 1992; Bogaards 1994; Carter and McCarthy 1988; Coady and Huckin 1997; Hatch and Brown 1995; Nation 1990, 2001; Read 2000; Schmitt 2000; Schmitt and McCarthy 1997). Even so, it is worth bearing in mind that, at least among teachers and – perhaps especially – learners of EFL, old-style grammar study has undergone nothing like the relative decline in valuation that it has among FLT theorists, a fact which a perusal of EFL best-bestseller lists will amply confirm.

1.2. The need for vocabulary instruction

Currently, a significant proportion of FLT theoreticians see learning vocabulary, in the expanded sense of words *and* phrases, as being the key to attaining a high level of proficiency. And yet there is still no solid consensus about whether vocabulary should be deliberately targeted for teaching or not. Two who think it should be, Laufer (2005) and Nation (2001: 297), remind us that there are others who believe that it need not and that instead it is communicative, meaning-centred instruction which is most likely to facilitate the acquisition of L2 vocabulary both in and out of the classroom. In this latter broad vein of theorizing (e.g. Krashen 1985; Long 1988, 1991), little or no value is placed on methods which involve explicit vocabulary teaching.

Long (1991) has led the way in popularising two rather unhelpful terms, *focus on forms* and *focus on form*, which need to be examined before more useful discussion can begin. By the former he means the more or less traditional practice of scheduling relatively prolonged lesson-stages (with, e.g., test-teach-test sub-structure) in which particular elements of the target language are taught in a partly or wholly non-communicative manner (as in strands of audiolingualism). By focus on form (without the final 's') he means the incorporation within meaning-oriented, communicative tasks of more sporadic, often unplanned, *noticing* activities and the non-intensive

use by the teacher of as-the-need-arises techniques of recasting, elaboration of input and error signalling. Although the terms focus on form**s** and focus on form have mostly been used to discuss issues of grammar instruction, they have recently also been introduced to the debate around the issue of explicit versus incidental vocabulary instruction.

Here is Laufer's summary (2005: 226) of the assumptions underlying the rejection of any focus on form**s** in vocabulary instruction, that is, the rejection of explicit (or genuine or targeted) form-focused vocabulary teaching:

> [...] on encountering an unfamiliar word, the learner notices it as a word s/he does not know, decides to infer its meaning from context by using a variety of linguistic and non-linguistic clues, has a good chance of making a correct guess, and may consequently retain partial or precise meaning of the word. If the word is not remembered after the learner's first exposure to it, or if only partial information about the word has been acquired, additional encounters with the same word will increase the probability of retaining it and expanding its knowledge. Even if very few words are retained after one communicative activity or text, the cumulative gains over time may be quite remarkable if the learner reads regularly.

Laufer (2005) then surveys a series of empirical investigations which show that not one of these assumptions is safe. In so doing she makes a very strong case for the necessity of genuine form-focused teaching of vocabulary, adverting to findings that:

– Guessing word meanings from context is considerably more problematic than early proponents of wholly meaning-centred instruction assumed, a point argued also by Sőkmen (1997: 237–38) and, in greater detail, by Summers (1988) and Laufer (1997). Moreover, learners seem liable to greatly over-estimate their understanding of word meanings guessed from context.

– For good proficiency it is necessary to learn many low frequency words. However, such words are by definition unlikely to recur often enough in an entirely communicative, task-based setting for adequate incidental learning to take place. Therefore, when good proficiency is the objective, many low frequency words must be explicitly taught. We would add that this observation must apply also to multi-word expressions, the great majority of which occur with low frequency (Moon 1997:50–52; an example exception is *I mean* [McCarthy 1999]).

- Genuine form-focused teaching has the potential to speed up the elaboration of knowledge about, among other things, denotations, connotations, paradigmatic and syntagmatic relations, range, and register. This is important because the more elaborated one's knowledge of a lexical item becomes, the more likely it is that one will achieve command of it. In a wholly communicative, task-based classroom, on the other hand, occurrences of a given item may well be so widely separated that elaboration of knowledge is impeded by forgetting during the intervals.

- *Productive* tasks are particularly likely to result in *productive* word knowledge. But, in time-constrained classroom settings (i.e. in the majority of FLT settings), it is difficult to ensure that wholly communicative, task-based instruction will trigger use of any given item sufficiently often for productive knowledge of it to develop. Therefore, in time-constrained school settings, wholly communicative task-based instruction is not ideal for helping students to build large productive vocabularies.

- Lexis that is hard to learn is particularly likely to remain inadequately learned in the absence of explicitly form-focused instruction. For instance, there is empirical evidence that explicit form-focused instruction can facilitate the learning of L2 collocations, an outcome which seems especially likely in cases where the L1 sets up wrong expectations. For example, French EFL learners, who commonly mirror the French *dependre de* by saying *depend from* instead of *depend on*, are likely to persist in this mistake unless it is made the object of explicit form-focused instruction.

- It is true especially of low frequency lexemes that learners may be able to produce them in response to elicitation but not use them in free production either owing to lack of confidence in the accuracy of their knowledge of these items or because they cannot retrieve them from memory fast enough. Explicit instruction has been shown to help in such cases. Not surprisingly, exercises which promote speed of access promote fluency. Thus, strictly communicative instruction – a prominent broad aim of which is promotion of fluency – is, in at least this one respect, actually *not* ideal for fostering fluency.

1.3. From single words to phrases

Generative linguistics – along with most other modularised (or compositional [Croft 2001]) theories – has portrayed the mental lexicon as separate from, but slaved to, the mental grammar, and to syntax in particular. The mounting evidence that much language-in-use consists of "prefabricated" formulaic multi-word expressions (e.g. Bolinger 1976; Chafe 1968; Makkai 1972; Sinclair 1991; Wray 2002) has finally led some generativists to propose a more symmetrical relationship between syntax and the lexicon (Jackendoff 2003; Pinker 1999)[4]. However – or else we would not have undertaken to edit this volume – we see much greater plausibility in the radically different view of CL (e.g. Langacker 1987, 1991 and, with respect to L1 acquisition, Tomasello 2003) that language-in-use consists very largely of memorised symbolic items ranging continuum-fashion (a) in size, between bound morphemes (like *–ette*), words (like *cat*), phrasal expressions (like *once in a blue moon*) and complete sentences (like *It takes one to know one*) and (b) in "substantiveness" (see Croft 2001), between fully specified forms (like *–ette*, *cat*, *once in a blue moon* and *It takes one to know one*) and schematic ones like *the _____-er, the _____-er* and *would you mind ___-ing?*) with syntax being, developmentally, an emergent phenomenon (Tomasello 2003).

As we have seen, lexis was long de-prioritised by FLT methodologists, with multi-word lexis being particularly overlooked. What changed this most decisively were corpus linguistic investigations (e.g. Carter and McCarthy 1997; Sinclair 1991) which found overwhelming evidence that in L1 discourse particular words tend to co-occur with others (e.g. in collocations and other lexical phrases) in ways and to a very high degree inexplicable within a syntactocentric, generative theory. The conclusion that a growing number of FLT theorists have drawn from this is that successful L2 learning is to a very great extent a matter of understanding and remembering collocational tendencies and prefabricated multi-word expressions (i.e. memorised phrases) and that learners ought to be helped to acquire them in large numbers (e.g. Nattinger and DeCarrico 1992; Pawley and Syder 1983; Schmitt 2004). The principal rationale for this contention has been that a large mental store of idioms, collocations and other (semi-)fixed phrases increases L2 fluency, especially in unplanned, spontaneous interaction where deployment of rule-like knowledge of syntax and morphology proceeds too slowly (Pawley and Syder 1976 [2000]; Skehan 1998). That is, multi-word expressions, despite their generally (but not invariably) low individual frequency, can play an important role as

"enabling devices" (Moon 1997), particularly in the spoken language of adults where they are especially prominent in evaluative comment (McCarthy 1998: chapter 7). All this is not to deny the cogency of the rationale behind rule-based language instruction, for on the face of things it would seem more economical, cognitively, to learn a few score rules rather than memorise all possible instantiations of such rules. But again, rule-based language use is unduly slow and it seems that any surplus cognitive efficacy is largely confined to "planned" language production (see R. Ellis [2002] for a review). "Real-time" language processing is now believed instead to rely much more on exemplar-based knowledge (see N. Ellis [2002] for a review). An additional rationale for phrase teaching is that many current phrases (e.g. *Be that as it may,…; I kid you not; let alone*) cannot in fact be generated by the grammar rules that have been proposed (e.g. Fillmore, Kay, and O'Connor 1988; Kay and Fillmore 1999; Lewis 1993). In other words, if they are to be taught at all, the only evident way to do so is to target them as individual lexis-like chunks.

For these reasons, the matter of how to make phrase-learning work has moved to the top of the agenda in FLT. One indication of this is the boom in publication of corpus-based collocations dictionaries (e.g. Hill and Lewis 1997; Runcie 2002), academic books on formulaic language (e.g. Schmitt 2004; Wray 2002) and conferences on phraseology (e.g. University of Birmingham 2004; Université Catholique de Louvain-la-neuve 2005). Empirical evidence of the pedagogical effectiveness of phrase-learning with regard to oral proficiency is beginning to emerge (e.g. Boers et al. 2006). But even very basic questions remain unanswered, for example:

1) About how many phrases are likely to be lexicalised in the passive and active mental stores of such and such a type of native-speaker of any given language?
2) What fraction of this number should particular kinds of L2 learner be expected to learn?
3) How can one decide which phrases merit the attention of particular learners?

At present, all we can say by way of answer to the first question is that the number of phrases is likely to be very large; for example, Urdang and Abate's (1983) *Idioms and Phrases Index* [of English] has 140,000 entries, and yet from it were excluded any conventionalised expressions which the compilers regarded as semantically transparent. Pawley and Syder (1976 [2000]: 179) opine that "the number of conventional…multiword units known to the average mature speaker of English […] may well run into the hundreds of thousands". (See Wray 2002 for other estimates.)

We are unaware of anyone having dared to propose a remotely precise estimate to the second question. Swan (2006), however, has warned that "devot[ing] excessive time to a hopeless attempt to teach a comprehensive command of formulaic language [would be] like someone trying to empty the sea with a teaspoon". We will say little more about this caveat beyond acknowledging that it is one which must be taken seriously by all proponents of phrase teaching.

Somewhere, other researchers are bound to be puzzling over question three. If so, a relatively small set of tried and fairly well trusted selection criteria are likely to underlie any eventual proposals. Let us remind ourselves what they are.

1.4. Issues of vocabulary selection

Simply with respect to single words, the scale of a L2 learner's task is indicated by estimates of the percentages of running words that must be known for various goals to be achievable. For an acceptable rate of incidental L2 word learning, that is, for a level of comprehension likely to enable the meanings of most unfamiliar words to be guessed, a learner may need to know about 95% of word tokens according to Liu and Nation (1985) or even 98% according to (Hu and Nation 2000). Nation (2001:118) proposes a figure of 99% with respect to extensive L2 listening while Carver (1994), though with respect to L1, estimates that 99% of running words must be known to allow reading with complete ease. By any recent, authoritative estimate, a learner must have a rather sizeable vocabulary in order to be able to cope *well* with varied authentic discourse even just receptively. Fukkink, Hulstijn and Simis (2005: 72), citing other authorities, state that "a receptive vocabulary of approximately 5,000 words ensures that a reader knows approximately 95% of the words in a range of texts", a stock of words which, they say, furnishes a "basis" for comprehension but which, as we have just seen, may not be sufficient for comprehension which is fine-grained enough to permit the meanings of unknown words to be guessed at all readily, particularly in the case of texts (e.g. specialised texts) that are relatively rich in uncommon lexis. With such higher level comprehension in mind, Hazenburg and Hulstijn (1996) have reckoned that non-native-speakers would need to have learned at least 10,000 word family headwords in order to cope with first-year reading material at a Dutch university, an estimate which, it is important to note, entails learning several thousand lemmas that are outside of the highest frequency bands. Given the magnitudes of recent, well-founded estimates

requisite word stores (see, e.g. Nation 2001: chapter 1; Nation and Waring 1997 for further discussion), it is particularly sobering to reflect that none of them, so far as we know, has included significant numbers of multi-word expressions.

On the encouraging side, developments within corpus linguistics have vastly increased the feasibility of identifying vocabulary that is especially worth learning on account of *frequency* or because of importance in a register of interest to a given set of learners (viz. Coxhead's [2000] Academic Word List), and these developments have begun to embrace multi-word lexis as well (viz. the frequency banding of phrasal verbs in Rundell [2005] and of other idiomatic expressions s in Sinclair and Moon [2002]; see also Coxhead, Bunting, Byrd and Moran [forthcoming]). It would perhaps be worthwhile at this point briefly to review frequency, importance and other prioritising and selection criteria that have been discussed in the literature (e.g. O'Dell 1997; Sinclair 1991; West 1953).

Frequency is doubtless the most straightforward of all the criteria; however, it is well-known that frequency rankings conducted purely and crudely on the basis of form are bound to be uninformative, or even misleading, about the frequency of a given form with a particular meaning. To give a simple example, such a list might reveal the frequency of *sound* in the sense of noise and *sound* in the sense of bay, but not the particular frequency of either. Still, the obstacles in the way of producing good form + meaning frequency rankings, albeit formidable, are practical and can, in principle, be overcome. A difficulty that will endure, however, is that even the most thorough learning of lexical items in the highest frequency bands only will not get a learner to an advanced level of proficiency. Many infrequent items must be learned too. Nevertheless, frequency banding can help materials writers and teachers select targets for learning.

By the criterion of *coverage*, which has to do with generality of meaning, *move* would be taught before the more specific *go* and *go* before the yet more specific *walk* and *run*. But since *go* seldom seems to be taught after *move*, it appears that the criterion of coverage is applied mostly to what Lakoff (1987) terms basic level categories (e.g. go) and specific level categories (e.g. go in a specific manner) rather than at the general level (e.g. move).

An aspect of frequency which is sometimes mentioned as a supplementary selection criterion is *range*. Applying this criterion involves ranking expressions according to their width of range, that is, according to the number of distinct discourse (or text) types or sub-sections of a corpus in which each expression has occurred.

Alternate terms for the criterion of importance are *usefulness* and *utility* (e.g. Gairns and Redman 1986: 36–37). However frequency and usefulness are so mutually reinforcing that it can be so hard to see where one ends and the other begins. This is so much so that the terms useful/usefulness are sometimes used actually to mean frequent/frequency (e.g. Armbruster, Lehr, and Osborn 2001).

Although appreciated for some time (e.g. West 1953: ix), the criterion of difficulty (or *learnability*) has played a minor role in vocabulary selection. Probably no FLT theorist or practitioner doubts that some expressions are easier to learn than others, but different conclusions can be drawn from this. Some recommend selection of hard words for special attention on the grounds that they might not be adequately learned otherwise (an argument reprised in Laufer 2005). However, Boers and Lindstromberg (2005), in a take-the-bird-in-the-hand spirit, recommend giving special (albeit brief) attention to idioms and collocations which incorporate phonological repetition with mnemonic potential (e.g. alliteration). The idea being that small investments of teaching time can have a relatively high pay-off in terms of number of the rate at which expressions can be learned.

The criteria of immediate *relevance* and *learner interest* are extremely commonly applied, although doubtless mostly intuitively. A simple example of application of the former criterion would be the appearance of the word *exercise* in a beginner's EFL course book while recognition of learner interest would account for inclusion of expressions like *pop star* in material for teenagers. One reason we have grouped these two criteria together is that progress towards a broad high level of proficiency requires that they be increasingly disregarded.

1.5. The issue of remembering

If we accept the CL observation that language and linguistic behaviour is an integral part of cognition as a whole, and not a separate and unique faculty (Langacker 1987; Tomasello 2005), it follows that relatively general theories of cognitive processing will pertain to learning a foreign language, in particular, theories which concern memory. Three are particularly relevant: dual coding theory, trace theory, and levels-of-processing theory.

In *dual coding theory* (Clark and Paivio 1991; Paivio 1971, 1986) it is held that association (through figurative thought) of verbal information with a mental image facilitates recall. The key claim in *trace theory* is that

repeated encounters with an item such as a linguistic expression strongly tend to entrench its traces in memory (Baddeley 1990; Cohen, Eysenck, and LeVoi 1986), a process which is accompanied by detectible chemical and structural changes in the neurons presumed to be associated with the processing and storage of the information in question (Squire and Kandel 2000). In applied linguistics, explicit discussions of dual coding and trace theory do not abound but they are widely assumed. Stevick (1986) offers an early and still perhaps the most detailed account of applications of both theories in L2 pedagogy.

The third theory of central relevance to the issue of retention of linguistic expressions is *levels-of-processing theory*, according to which the deeper the level at which information is mentally processed (i.e. the more elaborate and effortful is the mental work that is done with the information), the more likely the information is to be committed to long-term memory (e.g. Cermak and Craik 1979; Cohen, Eysenck, and LeVoi 1986). With respect to lexis, deep processing is believed to take place when the learner actively performs a relatively complex mental operation with regard to the lexical information. Performing such a mental operation is called *elaboration* (e.g. Barcroft 2002). (Relatively shallow mental operations of rehearsal are defined as ones which merely maintain a memory rather than deepen or informationally elaborate it.) There are two broad types of elaboration, *semantic* and *structural*:

a. Semantic elaboration refers to any mental operation with regard to the meaning of a word or phrase. For example, semantic elaboration can be promoted by (mentally) connecting a new item with ones already known, embedding the item in a meaningful scenario, and/or associating the item with a mental image.

b. Structural elaboration refers to any mental operation with regard to formal properties of a word or phrase. For example, structural elaboration can be promoted by recognition or noticing features such as affixes, peculiarities of spelling, and salient sound patterns (e.g. repetitions as in rhyme).

Semantic and structural elaboration can be combined as, for example, in the much studied, and well validated *keyword method*, in which an L1 word that (a) sounds or is spelled like an L2 target word and (b) can be semantically associated with this target, is used as a key for retrieval of the target (Nation 2001: 311–314). For instance, for Dutch-speaking learners of English, the Dutch word *bleek* 'pale' can very straightforwardly serve as a keyword for English *bleach* on account of (a) the phonological-orthographic resemblance and (b) the evident associative link between the two words. Obviously, the use and effectiveness of the keyword method is

confined to segments of L2 vocabulary for which a suitable L1 associate is available. Also, its effectiveness declines as the semantic association between the keyword and the word to be remembered becomes weaker (Shapiro and Waters 2005). For example, we may imagine that using the Dutch word *puntje* 'small point' (e.g. the pointed end of a sharp object) as a key for the retrieval of the English word *puncture* may still work (e.g. the learner might picture a puncture being made with a pointed knife). Using the Dutch word *prei* 'leek' as a key for the retrieval of the English word *pry*, however, may well be a bit too far-fetched for the creation by the learner of any meaningful semantic association (e.g. an image of someone prying open the leaves of a leek?).

   As we shall see in several chapters of the book, a CL-inspired approach to vocabulary learning lends itself especially well to the formation of memory traces through depth of processing, very often including dual coding. What CL does not directly address is the issue of sensori-motor automatisation as a prerequisite for high levels of fluency in a foreign language. This was an early focus of research (e.g. Seibert 1927, cited in N. Ellis 1995) and by now a great deal has been learned about it. Nevertheless, the basic conclusions that can be drawn from these findings – especially, that the golden rule of sensori-motor learning is much repetition (Seibert 1927) – can readily be accommodated within a CL-inspired approach.

1.6. Mnemonic procedures

Even if only the words and phrases in the few highest frequency bands were targeted, there is little doubt that the burden on a learner's memory would still be heavy. It follows that there is a need for approaches to vocabulary learning which heighten the probability of words and phrases being committed to memory. Teachers can help by employing a variety of mnemonic techniques and procedures when students encounter new vocabulary in class. However, FL courses are usually too brief in hours per year for learners to acquire sufficient numbers of words and phrases during class-time alone. But in order for learners to acquire additional vocabulary outside of class, particularly if they live in an L1 setting, they need to employ effective vocabulary learning techniques and procedures on their own. As we shall see in some of the other chapters of this book, a CL-inspired approach to vocabulary learning promises to be a worthwhile complement to what is established practice in the matter of helping learners remember words. Crucially, CL-inspired methods will be shown to also embrace *phrases*, something not true of most methods discussed in the

literature – sometimes with respect only to L1 learning (for summaries, see, e.g. Nattinger 1988; Schmitt 1997; Sőkmen 1997; Thompson 1987). Below, we have informally grouped the best known of these methods under the headings *mnemonics* and *strategies*. It is noteworthy that none of them exploit linguistic motivation in an overtly principled fashion (see section 2 below) but instead treat vocabulary as arbitrary.

Mnemonics

  – A common technique is to incorporate target lexis into a rhyme or song (Sőkmen 1997) or narrative.

  – A versatile and varied technique which long pre-dates modern applied linguistics is the mnemonic technique of remembering paired associates. For instance, to remember the word *prickly*, an EFL learner might associate it with a visual image of a cactus or with an L1 translation of *prickly*. Another example would be trying to remember Russian мёд 'honey' by associating it with English *mead* (a cognate) which is made from honey (cf. Nattinger 1988: 66). A variation, developed by Charles Curran and described in Stevick (1976), is the "security word method" in which an L2 word is associated with an L1 word (a mediator in psychological parlance) which suggests the form and meaning of the L2 target. For instance, the security word for Spanish *blanco* could be English *blank*, because it is formally similar and because a blank sheet of paper may be white. A yet more elaborate paired associates mnemonic is the ancient technique known as *loci*, which involves storing – in one's mind's eye – the lexical items, or what these items represent, in various places along an actual, familiar route or along a metaphorical route (such as a plotline) or in a complex space that one knows well, one's house or hometown for example. Cohen and Aphek (1980) – summarised in Hatch and Brown (1995) – found that native-speakers of English learning Hebrew vocabulary reported using nine types of association, for instance, associating an L2 word with another L2 word that is similar in sound and also, we suppose, thematically linked, since the example in Hatch and Brown (p. 398) is *rehov* 'street' with *rehok* 'far'.

  – A cousin of paired-associates methods is the first letter method which involves arranging the first letters of a set of target words so as to form an acronym or word. It is this word or acronym which the learner then tries to entrench in memory so that when it is recalled, the target words can be remembered from the first letter prompts (summarised in Sharifian 2002).

– The peg method (Paivio and Desrochers 1979) for learning lists of words involves, first of all, creating a rhyme like this, "One is a bun, two is a shoe, three is a tree, four is a door…" and so on up to, say, "ten" if the list of target words is ten items long. Let us suppose the first word is *needle*. Then the next step (which is another version of paired associates) is to visualise a needle stuck in a bun, and so on for all ten words. As with other mnemonics, the learner must mentally review the sequence at appropriate intervals.

– The keyword method (see section 1.5. above), developed by Atkinson (1975) has been the object of a great deal of research the preponderance of which suggests that it can indeed be effective (see also Avila and Sadoski 1996; Levin and Pressley 1985).

It must be added that the literature includes caveats about the use of certain mnemonics and about mnemonics generally (see especially Levin and Pressley 1985; Thompson 1987: 48–49):

– Use of mnemonics can be time-consuming, particularly if learners have to think up their own mnemonic cues.

– Use of mnemonics may to some degree divert attention away from the context (if any) and from the meaning and/or the form of the target item.

– Not enough is known about *crowding*, that is, about the extent to which words learned previously by means of a mnemonic may interfere with learning additional words by that same mnemonic.

– Learners seem to differ in ways that affect their ability to profit from particular kinds of mnemonic. For instance, not all learners seem to be able to call up serviceable visual images equally well.

– There is reason to doubt the applicability of some visualising mnemonics to abstract words and/or to words other than nouns, especially if they are of low imageability. We can add that many phrasal items are likely to fall into this category.

– Some mnemonics, such as the keyword and security word methods, only approximate L1 spelling and pronunciation (e.g. Dutch *bleek* for English *bleach*) and therefore seem ill-suited to promote rapid accurate retrieval.

– With respect to use of the keyword method with groups of students who do not share a L1, Hatch and Brown (1995: 388) offer the reminder that keywords and mnemonic sentences will then need to be in the L2. This is true also, mutatis mutandis, of certain other mnemonics such as the security word method. Similarly, the technique of including target lexis in a rhyme can be applied in L1

or L2 although both options, especially the latter, must be too challenging for widespread use.

- Learners' cultural background may affect their willingness to use mnemonics.
- Not enough research has been done into use of mnemonics in situations of authentic use. One researcher however, Corbett (1977), found use of mnemonics to be associated with relatively slow (L1) retrieval speeds.
- There is some evidence that simply showing learners how a mnemonic works is not enough to bring them to use it. They may need to use a number of mnemonics themselves *and* be given feedback about their performance with each before they will commit to any one of them.

In addition to the procedures mentioned above, there are a number of more readily generalisable strategies, of which those which follow are especially prominent in the literature (e.g. Thompson 1997; see also Schmitt 1997 for a detailed survey and more nuanced classification than that attempted here).

Strategies

- Grouping target lexis, a process which encourages depth of processing, is well-known to promote retention.
- Self-testing is known to be effective.
- It is widely accepted that it is mnemonically helpful for learners to incorporate target lexis into meaningful sentences.
- The strategy of guessing meaning from context, once highly touted (e.g. Nation and Coady 1988; Sternberg 1987) has lost some its gloss in light of evidence that there are significant difficulties and pitfalls (Laufer 1997a; 1997b; Sőkmen 1997: 237–39). Still, there can be no doubt that valuable learning can occur through employment of this strategy.
- Guessing on the basis of what is known about word parts is often recommended (e.g. Nation 1990) and is apparently a strategy that learners spontaneously adopt (Sandra 1997).
- Many learners keep note books (although not always willingly), and this too is often recommended (Schmitt 1997).
- The strategy of making and using vocabulary cards typically involves learning paired associates. The commonest first step is to write an L2 expression on one side of the card and an L1 translation on the other, although there are many possible refinements even at this stage. The benefit of using vocabulary cards is well-evidenced (Nation 2001: 302–10, 315–16).

  – Krashen (2004) and others have argued that rather massive
    extensive reading (or free reading) can greatly promote L2
    acquisition, including the acquisition of vocabulary. However, as
    we have seen, rates of incidental learning during extensive reading
    are discouragingly low (Laufer 2005). Additionally, it is known
    that the uptake into production of vocabulary encountered only
    while reading for pleasure is very dependent on token frequency,
    with infrequent words being particularly hard to learn productively
    in this way. "Essentially, vocabulary learning from extensive
    reading is very fragile. If the small amount of learning of a word is
    not soon reinforced by another meeting, then that learning will be
    lost." (Nation 2001: 155).

Even this incomplete list of mnemonics and strategies may seem
numerically impressive, despite the possible drawbacks and limitations
already mentioned and the fact that some of them have been studied largely
or only with respect to L1. It is also noteworthy that few of the mnemonics
show any promise as aids to learning phrases; for instance, it would
probably take considerable poetic talent to incorporate a significant number
of phrases into rhymes. Even the (more generalisable) strategies appear to
have been little investigated with respect to applicability to phrase learning.
It is therefore safe to say that any further methods for promoting the
learning of L2 vocabulary, including phrases, can only be welcomed.

2. Why we are adopting a CL approach: the concept of *motivation*

Linguistic iconicity obtains when a linguistic form betrays an analogy to
extra-linguistic phenomena. In such cases, we can say that the forms are
motivated. The classic example is onomatopoeia – the modelling of
linguistic forms on real world sounds. Since linguists of all stripes appear
to accept the existence of *some* iconicity, it can be seen that CL has no
complete monopoly on the study of linguistic motivation. But, unlike other
paradigms which start from the assumption that language is basically
arbitrary – minor and peripheral exceptions being fleetingly acknowledged
– CL holds that motivation in language is both primary and pervasive. This
follows from the CL conception of language as an integral part of general
cognition such that linguistic phenomena necessarily reflect general
cognitive processes (such as figurative thought). In this view, it is
commonplace for the meanings of linguistic forms to be motivated by
language users' experience of their physical, social and cultural
surroundings. We shall use the term '*extra*-linguistic motivation' to refer to

these kinds of motivations. One example is the possibly universal tendency for terms for "upness" to do double duty as terms for notions such as increase (*prices rose*), authority (*top down management*), and so on (Marks 1996). A relatively culture-specific example is the metonymic use of *bow out* to mean 'resign, retire, withdraw', presumably because, among actors, conspicuous bowing is a conventional indication that they are about to quit the stage. However, meanings of words and phrases may also be motivated by properties of a language *per se*. An example of this is what Coulmas (1989: 170–171) terms etymological (as opposed to phonemic) spelling. For instance, the written form of *cupboard* motivates its meaning to a much greater degree than does its phonological form. Motivation of this and related sorts, we term *intra*-linguistic motivation. As we shall see, both extra-linguistic and intra-linguistic motivation offer pathways for semantic and/or structural elaboration and thus for deep processing (in the case of semantic elaboration, often in the form of dual coding); therefore, both types of motivation are exploitable for the purpose of enhancing vocabulary retention.

The ubiquity of linguistic motivation suggests two important possibilities for SLA in general and FLT in particular:

a. Learners who are aware that an L2 is much more than a system of arbitrary form-meaning connections may be relatively likely to adopt mnemonically fruitful practices of insightful learning rather than less effective ones associated with blind memorisation.

b. Students who appreciate that language has considerable rhyme and reason may enjoy affective benefits such as heightened self-confidence. (The word Cognitive was perhaps not the ideal choice of modifier for Linguistics, since to some it might suggest that cognitive linguists are obliged in principle to be unconcerned with psychological motivation, self-esteem, and other affective factors. The truth is that cognitive linguists are no less likely than ones of other schools to regard affective factors as crucial in learning. See Arnold [1999] for a collection of papers on affect in language learning).

2.1. Types of motivation proposed by CL and how they can help learners

Radden and Panther (2004), on whose analysis we have largely based the discussion in this section, propose a taxonomy of linguistic motivation which turns on whether a process of motivation involves:

a. meaning-meaning connections (i.e. connections at the semantic pole of the symbolic unit),
b. form-meaning / meaning-form connections (i.e. connections between both poles of the symbolic unit), and
c. form-form connections (i.e. connections at the phonological pole of the symbolic unit).

2.1.1. Meaning-meaning connections

Most CL and applied CL investigations of motivation have focused on meaning-meaning connections, chiefly with respect to polysemic words and figurative idioms. For example, Brugman (1981), Dewell (1994), Evans and Tyler (2004), Lindner (1981) and Tyler and Evans (2004), among others, have found that peripheral senses of polysemic prepositions are radially extended from central or prototypical senses via general cognitive processes, such as image-schema transformations, metonymy and metaphor (i.e. the motivation for the semantic extensions is extra-linguistic). As an example, it seems clear that the motivation of the sense of *beyond* in *Why she decided to tell him is beyond me* lies in its being a metaphorical extension of the meaning that *beyond* has in, for example, *The ball is beyond the neighbours' hedge*, where *beyond* means "on the other side and at some distance of …" and hence not at all near and graspable. Similarly, the figurative use of *behind* as in *The power behind the throne* is motivated provided that one knows, among other things, (a) that *throne* is a metonym for monarch, and (b) that being behind something strongly implies being partly hidden from view and may also imply being in a position to push or to alter the orientation of whatever it is that one is behind and so, literally or metaphorically, to be its director. Particularly the last example indicates that investigation of semantic motivation is not about trying to discover the obligatory and predictable route along which the parts of a given expression give rise only to one particular conventional meaning but that it is instead about trying to see how the meanings of parts make certain overall construals (not necessarily just one per expression) saliently possible. In other words, a semantically motivated expression is *not* one whose meaning has been inevitably and predictably determined by its parts but one whose semantic ontogeny can be conjectured about in a principled way. Consideration of image-schema transformations, metaphor, and metonymy may also give one grounds to conjecture about why some sense extensions *fail* to occur. For example, because *beyond* prototypically describes a relation of separation (or distance) between landmark and

trajector, it is unlikely to develop the extended sense that *behind* has in *The person behind this political movement* as this sense may involve a contact relation (and so, by metonymy, a transitive relation) between landmark (*this political movement*) and trajector (*the person*) such that the latter steers the former.

A number of pedagogically oriented cognitive linguists have argued that students can profit from guided consideration of motivated meaning networks of prepositions and other spatial lexis across languages (e.g. Rudzka-Ostyn 1983; Taylor 1988) on the grounds that this kind of study may help them develop a keener appreciation of both the advantages and the pitfalls of L1 transfer.

Items from other lexical classes than prepositions and idioms have recently been made the object of CL investigation (e.g. da Silva 2003; Tuggy 2003). In addition, the meanings of linguistic entities formerly held to fall on the grammatical side of a sharp grammar-lexis dichotomy – most notably, modal verbs and other grammaticalised words – have been motivated by tracing the grammaticalised form to its prototypical lexical meaning (e.g. Bybee, Pagliuca, and Perkins 1991; Fisher 1999; Lehti-Eklund 2003; Sweetser 1990; Traugott 1989, 2006). In short, there is now a large body of CL case studies showing that the (sometimes extremely) various senses of high frequency words tend to be highly interrelated. And yet recognition that this is the state of affairs has made surprisingly little headway in materials published directly for FL teachers and learners. Rather, it is still the norm for cases of polysemy to be portrayed as cases either of monosemy or, more commonly, homonymy.

A monosemic portrayal, by definition, is one of an overarching meaning capable of motivating all instances of use. However, such a portrayal is likely to be so abstract as to defy verbal characterisation. The pedagogical disadvantage of this is that abstract meanings are known to be hard to learn, all else being equal (e.g. Hatch and Brown 1995). Also, there is no possibility of making learners aware of motivated relations among senses because the monosemic approach consists precisely in making senses disappear. Happily, this approach is not much in evidence in FLT (Ruhl [1989] is its epitome in lexicology). At the other extreme, treating polysemes as homonyms – that is, in effect telling learners that such and such a word has distinct meanings (which happen to be homophonic and homographic) – shuns the pedagogical potential of creating meaningful, and therefore potentially memorable, associations between senses. Yet portrayals of homonymy "by omission" abound in course books and in learner's dictionaries (Lindstromberg 1999, 2001). We do not deny that there are cases of genuine homonymy (e.g. *sound* in *safe and sound* versus

How does that sound?), but we suspect, on the basis of accepted memory theory, that it is in general helpful to identify and clarify cases of highly plausible inter-sense kinship.

Thus, a CL approach to teaching a polysemous word consists in (1) trying to make learners aware of its central (or "core" or "prototypical") sense and (2) showing how additional senses of the word are extended from this central sense (sometimes via intermediate meaning extensions). Meaning extensions from the central sense can be literal, although figurative (especially metaphorical and metonymic) extensions are very common; that is to say, motivation of meaning extensions very often requires figurative thought. With students, a meaning extension, or a chain of them, can either simply be pointed out or it can be explained. One may, for purposes of exemplification, aim to comprehensively explicate a given polyseme in a single lesson although, given the well-known advantages of distributed learning, it seems preferable generally to do this over a number, possibly a large number, of lessons (see Lindstromberg 1996 for a detailed account of how this might be done). One option is to (1) encourage learners to hypothesise on their own about the semantic motivation of a target use – i.e. about the semantic relation of the use-at-hand to a known core sense or to a sense which is at least nearer the core in an extension chain, and (2) subsequently provide learners with the means to corroborate (or falsify) their hypotheses.

The other extensively explored type of CL case study seeks to adumbrate the semantic motivation of figurative idioms. It is useful, in considering such studies, not to interpret the terms literal and figurative in a black or white fashion. Whether a given expression is experienced as figurative or not appears to be subjective and variable. As a result, one may often need to ask "Figurative to whom?" and "Figurative when?". For example, native speakers as well as learners will most probably experience *by and large* as non-figurative because it seems completely opaque in modern English. However, pointing out to them that *by and large* once had a literal meaning in the domain of sailing might (perhaps only temporarily) reawaken its metaphorical potential (see below). We are of course not claiming that all opaque idioms (e.g. *all of a sudden*) still have this metaphorical potential. There definitely is a set of idioms that just seem plain non-figurative (Grant and Bauer 2004). Nevertheless, many idioms can be treated as figurative, i.e. they have a conventionalised meaning which – provided one gets appropriate hints or explication – can be seen as arising via a trope, with metaphor and metonymy (either singly or in combination [Goossens 1995]) being the most important ones. This sort of nudged-to understanding of a semi-opaque idiom is probably easiest when

the idiom instantiates a familiar syntagmatic pattern and perhaps less plausible in the case of extra-grammatical constructions such as *by and large* (Fillmore, Kay, and O'Connor 1988), which a learner cannot even know are formally possible in advance of meeting them.

Structural and generative linguists, whose theories consigned idioms to a sort of limbo, contributed very little to an understanding of the semantics of figurative idioms. A major contribution of cognitive semanticists is to have shown how idioms instantiate conceptual metaphors (CMs) or conceptual metonymies which are (a) grounded in physical or social experience and (b) greatly various in thematic breadth (Lakoff and Johnson 1980). For example, idiomatic expressions such as *boiling with anger* and *simmer down* are instantiations of the CM ANGER IS A HOT FLUID IN A CONTAINER (Kövecses 1986). Conceptual metaphor theory (CMT) has been applied in the analysis of conventional figurative expressions in a variety of text genres across a number of specialised target domains, including economics (e.g. Boers 1999; Jäkel 2003), architecture (Caballero 2003a), medicine (Salager-Meyer 1990) and language teaching (see Low 2003, for a survey of the latter). Research of fairly direct pedagogical relevance has also been undertaken on the issue of cross-linguistic or cross-cultural variation in the scope and currency of particular CMs and conceptual metonymies. Quantitative studies by, e.g. Deignan (2003) point to the existence of variations which it may be useful for learners to know about.

2.1.2. Meaning-form and form-meaning connections

In this category is any expression whose overall meaning is to some extent motivated by its form or, conversely, whose form is to some extent motivated by its meaning. Meaning-form and form-meaning (m-f/f-m) motivation, or imitative iconicity, is most obvious in onomatopoeia, but it also obtains, more abstractly, for example when word order reflects the chronology of events (as in frozen binomials such as *crash and burn*, *bow and scrape* and *swallow something hook, line and sinker*). (Worth mentioning, in this connection, is a study carried out by O'Grady, Yamashita and Lee [2005] with adult Korean- and Japanese-speaking EFL learners, the results of which indicate "that a direct relationship between a construction's word order and the structure of the corresponding event has a greater facilitative effect on comprehension than does frequency" [abstract].) In addition, a general principle of diagrammatic iconicity seems to be at play in language, which is reflected by the fact that simple

grammatical forms tend to denote basic concepts while complex forms typically denote complex concepts (Taylor 2002: 46; Westcott 1979).[5]

Also in the category of f-m/m-f motivation seem to be instances of lexemes whose meaning derives in part from their phonological features. This is the case in so-called phonesthemes. One example is *clap, tap, rap, slap* and certain other words ending in /æp/. Knowledge of enough words in which a particular sound sequence like /æp/ has a similar associated meaning may enable a learner to appreciate why a newly learned word of this type – perhaps *flap* – denotes a movement of very short duration which may cause a short, punctual sound; and this appreciation might in turn help the learner to remember both the form and the meaning of the new word. Another example is /sp/, which is the onset of a number of English words with negative connotations (e.g. *spasm, spew, spit, spite, splat, spleen, spoil, spurn* [Radden and Panther 2004: 18]).

Some f-m/m-f motivations (e.g. onomatopoeia), are obviously of the extra-linguistic kind (e.g. the sound an animal makes determines the form of the word that is used to imitate it). Certain others, however, include intra-linguistic motivation along a "sameness-of-form, sameness-of-meaning" principle: for example, if many words in English starting in /sp/ happen to have a negative connotation, then if a negatively connoted word is to be coined or used with a new meaning, the same onset may be chosen (e.g. *spam*) in analogy with the already existing vocabulary.[6]

2.1.3. Form-form connections

Radden and Panther (2004) provide no examples of form-form motivation, but this category (which is wholly *intra*-linguistic) would seem to include rhyme (e.g. b*rain* d*rain**; a tough r*ow* to h*oe*) as well as other kinds of phonological repetition, particularly alliteration (e.g. b*ird* b*rain; a b*olt* from the b*lue*), which Boers and Stengers (Forthcoming) and Lindstromberg and Boers (2005a) have found motivate the precise lexical selection in a large number of compounds and phrases.

Additionally, word order in English is known to be influenced by metrical preferences. An example of this is the avoidance of consecutive unstressed syllables (e.g. *salt and pepper* rather than *pepper and salt*). That is, the conventionalisation of *salt and pepper* is motivated by English being an outspokenly stress-timed language.

2.2. The diachronic angle

With a few notable exceptions (e.g. Brinton and Traugott 2005; Bybee 2003; Sweetser 1990), CL typically views linguistic motivation synchronically. However, a diachronic perspective may prove to be a useful addition for helping learners appreciate the motivated nature of words and phrases. At word level, a diachronic perspective is usually equated with "etymology". Etymological explanations of the meaning and/or form of words can serve as a type of intra-linguistic motivation and thus as a pathway for semantic and/or structural elaboration. Those who speak of tracing etymologies are likely to hold that this can involve:

1) Identification of

(a) loanwords and their provenance (e.g. with respect to Japanese, Daulton [1999] points out that while it has a very large and growing number of loanwords from English, these have frequently undergone so much phonological and semantic transformation that Japanese learners of English are likely to be unable to recognise the English originals without explicit instruction);

(b) cognates, e.g. pointing out to Dutch or English learners of the other language that Dutch *wig* and English *wedge* are cognates (Moss [1992] found that university level Spanish learners of English were very poor at unaided recognition of Spanish-English cognates). Here, the idea is to prompt learners toward relating the semantic and phonological poles of L2 constructions to the semantic and phonological poles of corresponding L1 constructions.

2) Noting changes in form or meaning undergone by words over time – e.g. that English *deer* used to mean 'animal', information which might help an English speaker remember the Dutch cognate *dier* 'animal';

3) Breaking words down into meaningful affixes and roots. In English, the targets of such analysis are usually transformed loan words (e.g. *precede* < Latin *precedere* 'go before' < *pre* 'before' + *cedere* 'go'). This of course is an example of Radden and Panther's (2004) meaning-meaning motivation.

If we compare (2) and (3), for instance, we see that the term etymology can refer to activities (e.g. analysis) and to products (e.g. the etymology information in a dictionary) whose diachronic character may be highly pronounced (e.g. 2 above) or not (e.g. 3).

Learning an etymology in any of the above senses involves seeing enhanced meaning in or behind a lexical form, whether the form is newly met or very familiar. Work aimed at elucidation of L1 etymology-by-internal-analysis is far from unknown in schools; in secondary school English classes, there is a long, but perhaps no longer robust, tradition of

introducing etymological decomposition of Greco-Latinate "hard words" although, obviously, this can most sweepingly be done (a) in schools where these Classical languages are taught (e.g. Corson 1997) and (b) in dictionaries. (Ilson [1983] approvingly points to the existence of etymological information in various American *children's* dictionaries.)

While the literature of applied linguistics includes surprisingly few empirical studies relevant to the issue of a sustained focus on etymology in FL learning, such results as there are seem encouraging (Corson 1997; Sandra 1997). In non-empirical articles written by or for FL teachers, the benefits of working with etymology are typically portrayed as being fairly restricted in scope (but see Christiansen [1995] for a more sanguine view). In an appraisal of the value of etymological information in learner's dictionaries, Ilson (1983: 81) says that it can:

– help disambiguate potentially tricky lexis;
– relate a derived form to its source, which may be helpful if the two words are alphabetically far apart;
– illuminate and promote recall by suggesting images;
– raise (affective) motivation and interest since people like to talk about etymology and best-selling books about language are often popularised accounts of selected etymologies.

Ilson's complaint that publishers of English learner's dictionaries had made little etymological information available to learners – he cites *The Longman Dictionary of English Idioms* (Urdang 1979) as an exception – is still valid today with respect to individual entries. There are, however, learner's dictionaries that separately list common affixes and their meanings (e.g. Rundell and Fox 2002). Pittman (2003), whose topic is vocabulary teaching in the EFL classroom, is mainly concerned to alert his readers to good sources of information about common prefixes, roots and suffixes. Keen (1985), however, is a fully developed, stand-alone set of exercises for teaching English affixes and roots to speakers of other languages.

Pierson (1989), also concerned with in-class methodology, claims that the understanding of target lexemes can be enriched through activities which raise awareness of relationships between target items and others either in the L2 or in some other language, a claim he bases on the robustly evidenced construct of *meaningful learning*, the gist of which is that both retention and ability to generalise from acquired knowledge are enhanced when targets of learning are meaningfully related to prior learning (e.g. Ausubel 1968). With respect to the Chinese learners he was most concerned with in his paper, Pierson states that they are particularly likely to profit from the study of English etymologies because of their awareness of the etymology of Chinese characters – this being a common teaching

point in Chinese schools. (See Vaccari and Vaccari [1978] for an example of this approach in material for foreign learners of Sino-Japanese characters).

Drawing learners' attention to cognates and loanwords is not sharply different from other kinds of etymological-awareness raising although it is of course less likely to involve breaking target lexis down into roots and affixes, and it therefore seems likely to require shallower mental processing. Even so, spotlighting cognates and loanwords would seem to have potential to:

  – help learners develop enriched connotations and associations for the L2 lexis in question, which is likely to promote retention;
  – reduce the learning burden (Nation 1990) of target lexis for which learners had not previously realised there were close formal and semantic L1 counterparts; and
  – create starting points for teaching about differences in meaning between L1 and L2 forms.

One of the least controversial beliefs about L2 acquisition is that loanwords and cognates are relatively easy learn (e.g. Holmes and Ramos 1993: 87; Meara 1993: 283; Nation 1982; Palmberg 1985) although some methodologists (e.g. Gairns and Redman 1986: 67–8) have dwelt rather more on potential sources of confusion (e.g. the difference in meaning between French *librairie* 'bookshop' and English *library*) than on the potential inherent in this kind of lexis for facilitation of vocabulary growth. In any case, a moderately wide variety of exercises and techniques are on offer (e.g. Christiansen 1995; Daulton 1999; Keen 1994) with additional promising exercises being fashionable from ones that have been developed for other ends. For example, the version of the "happy families" card game which Saxton and Saxton (1999) have used to teach and review derivational families (e.g. *stiff, stiffen, stiffener, stiffness*) is straightforwardly adaptable for work with Graeco-Latinate roots and prefixes as well. Further usable or adaptable exercise types are findable in works concerned with helping schoolchildren learn L1 morpho-semantics, especially in works partly or exclusively concerned with English Graeco-Latinate vocabulary (e.g. Carroll 1940). All in all, there seems little reason to doubt that good pedagogical potential resides in etymological motivation.

Turning now to idioms, a diachronic angle can be a useful addition to the largely synchronic perspective of CMT research because not all idioms seem to fit readily under any single CM. Boers, Demecheleer and Eyckmans (2004a,b) argue for the motivation of idiom meaning by informing learners about their historical-cultural-etymological origins. In work of this kind learners associate idioms with specific source domains

(e.g. *throw in the towel* with boxing) and this can lead on to comparative exploration. A teacher's decision about the level of generality on which to explore the motivation of idioms – that is, at the level of general CMs or at the level of more specific source domains such as horse riding (e.g. *keep a tight rein on someone*) – may prove to be an important factor in pedagogical effectiveness (Boers 2004).

3. Evidence of the pedagogical effectiveness of presenting vocabulary as motivated

A number of education-oriented cognitive linguists have called for the adoption of CL insights in FLT (Athanasiadou 2004; Baker 1998; Boers and Lindstromberg 2006; Deignan, Gabrys, and Solska 1997; Dirven 2001; Hannan 1998; Holme 2001; Lazar 1996; Lindstromberg 1991, 1996, 2001b,c,d, 2002; Lindstromberg and Boers 2005a; Littlemore 2001, 2004, 2005; Littlemore and Low 2006; MacLennan 1994; Ponterotto 1994; Rundell 2001,2002, 2005; Scott 1994; Stengers et al. 2004; Tyler and Evans 2004), including FLT for specific purposes (Boers 2000a; Caballero 2003b; Charteris-Black 2000; Charteris-Black and Ennis 2001; Charteris-Black and Musolff 2003; Lindstromberg 1991b; Littlemore 2002; White 2003).

    Meanwhile, CL-inspired exercise books are starting to appear as well. Examples are Rudzka-Ostyn (2003), a systematic treatment of English phrasal verbs, and Lazar (2003), a book on idioms with a strong explicit focus on raising the learner's awareness of metaphor.

    Arguments in support of CL-inspired teaching include claims that it will help learners attain a more profound understanding of the target language, better remember more words and phrases (owing to greater depth of processing in general and to dual coding in particular), appreciate the link between language and culture, and become more confident (once they realise that – because language is not entirely arbitrary – pathways for insightful learning are available as alternatives to blind memorisation).

    However, the question remains what empirical evidence of the pedagogical effectiveness of CL-inspired pedagogy was actually available when we embarked on this book project? That is the question we address in the following section.

3.1. Exploiting the motivated polysemy of high frequency words

3.1.1.   *Prepositions and particles*

The basic CL approach to teaching a polysemous word is to attempt to make learners aware both of the word's central (or core or prototypical) sense and of how particular additional senses extended from this central sense (sometimes via intermediate meaning extensions). While such meaning extensions can be literal, figurative – especially metaphorical and metonymic – extensions are very common, which is to say that appreciation of sense relations of an L2 lexeme very often requires figurative thought. As mentioned in section 2.1.1 above, a number of relevant, CL-inspired studies have focused on particles in English phrasal verbs and on prepositions generally. Insights from those case-studies have been put to the test of language pedagogy in a modest number of experiments.

In an experiment with the participation of 73 French-speaking students of English, Boers and Demecheleer (1998) showed that students were more likely to correctly interpret various figurative senses of *beyond* (e.g. *This theory is beyond me*) in the context of a reading comprehension task if they had previously been presented with a definition of the core spatial sense from which the metaphorical sense extends. The definition in this case is one that emphasises that *beyond* implies some distance between the trajector and the landmark, a feature which makes *beyond* a likely candidate to instantiate the metaphor ABSTRACT INACCESSIBILITY IS DISTANCE. Moreover, although these students had been given only this core spatial sense of *beyond*, they significantly outperformed their peers who had been given access to complete dictionary definitions including explanations of the figurative senses.

Kövecses and Szabó (1996, revisited in Kövecses 2001) focused on English phrasal verbs with *up* and *down*. In the experimental condition, 15 Hungarian students were asked to study ten phrasal verbs and accompanying CL explanations designed to raise the students' awareness of the CMs that underlie the phrasal verbs at issue (MORE IS UP, HAPPY IS UP, etc). Under the control condition, another 15 Hungarian students were asked to study the same phrasal verbs but were given the L1 translations as an aid. In an immediate post-test (a gap-filling exercise) the experimental students outperformed the control students by almost 9%.

One of the experiments reported by Boers (2000b) focused on phrasal verbs instantiating a wider range of CMs (e.g. VISIBLE IS OUT, as in *find out*, *turn out*; VISIBLE IS UP, as in *look it up*, *show up*). In the experimental condition, 39 French-speaking students were asked to study a list of 26

phrasal verbs (each glossed with a synonym) which were grouped under various CMs. In the control group, another 35 French-speaking students were asked to study the same phrasal verbs listed alphabetically and each accompanied by a more elaborate explanation (e.g. *several* synonyms) that had been copied from a well-known grammar book. In an immediate post-test (a text-based gap-filling exercise) that targeted ten of the phrasal verbs studied, the experimental students outperformed their control peers significantly ($p < .01$).

The finding by both Kövecses and Szabó (1996) and Boers (2000b) that a presentation of phrasal verbs in terms of CMs is measurably beneficial to – at least short-term – retention is certainly encouraging, although it does not pinpoint whether the benefits are due to figurative thought (i.e. mental imagery resulting in dual coding) or simply to the fact that organised vocabulary is easier to learn than that presented in lists. To put this differently, these studies do not permit us to decide between a strong claim that a particular CL approach worked because it encouraged greater depth of processing in the form of dual coding and a weak (but still interesting) claim that it worked because CMs constitute an additional set of semantic headings under which vocabulary can be organised. Note also that the encouraging results just summarised do not guarantee that the proposed strategy would work with all other prepositions and phrasal verbs. Neither do they imply that CL analyses of prepositional polysemy can be copied straight into course materials or lesson plans. CL-inspired pedagogues and materials writers would need to take at least the following points into consideration: From a learner's perspective, the benefits of presentation of meaning extensions as motivated may well depend on the perceived plausibility of the motivations. In some cases the motivation of meaning extensions is pretty straightforward (viz. *Saturn is beyond Mars* → *That theory is beyond me*), but in others it may be so abstract that to learners it seems far-fetched. In a small-scale experiment, Condon and Kelly (2002) drew on an early manuscript of a chapter in Rudzka-Ostyn (2003) in designing learning tasks for 19 university students (the experimental group), the target items all being phrasal verbs with *out* (e.g. *break out*, *pick out*, *rule out*, *check out*, *set out*, *stand out*). A control group of 14 students was taught the same phrasal verbs along the lines of the treatment in *Collins Cobuild Phrasal Verb Wordbook* (Goodale 1998). In a post-test to measure students' recollection of the meaning of the phrasal verbs taught, experimental students did better than the control students, but *only* on the phrasal verbs whose motivation had been straightforward and concrete enough to be illustrated with a drawing during the instruction

stage. A larger-scale follow-up to that study is reported by Nora Condon in this volume.

In other words, if they are to be embraced by the teaching community, applications of CL must be adapted for the target users; in particular, they must be learner-friendly. This means especially that CL-inspired materials writers may need to modify their jargon and refrain from using "technical" terms such as *trajector*. More importantly, they may need to keep in mind that relatively few L2 learners are inclined to engage in the kind of prolonged and intensive semantic analyses that linguists find so fascinating. For example, an informal study by Kurtyka (2001) found that Rudzka-Ostyn's (2003) materials for teaching and learning phrasal verbs were evaluated quite positively by a group of Polish EFL teachers, but these teachers also reported that students at relatively low levels of proficiency felt the materials were too demanding for them. The question of translatability of CL insights into pedagogical materials and the variable of learners' aptitudes will be recurring themes throughout the present book.

3.1.2. *Words of other classes*

The presentation of polysemous words in terms of meaning extensions from a central or prototypical sense has been applied to other classes of expressions than prepositions, typically by motivating the metaphorical/metonymic connections between the literal sense of a word and its figurative extensions. The effectiveness of CL-inspired instruction of various kinds of polysemous lexis was measured in the following studies.

One of the experiments reported in Boers (2000b), conducted with the participation of 73 French-speaking students taking a course in business English, aimed at helping learners expand their range of expression to describe upward and downward trends. The participants were given a rather elaborate vocabulary list containing words such as *soar, skyrocket, plunge, dive, slide* and *peak*. In the experimental condition students were encouraged to categorise the words by source domains involving aircraft, diving and mountaineering; that is, they were encouraged to engage in a certain amount of imagistic thinking while processing the vocabulary. In the control condition students were encouraged to categorise the words along a cline marked by descriptors of speed and direction of change. This set-up was intended to trigger the investment of a similar amount of cognitive effort under both conditions so that any observed difference in learning effect could be ascribed to the more explicit use of imagery in the

experimental condition. In an immediate post-test, the students were asked to write a short essay based on a two graphs about unemployment rates. Counts of the number of different "up-down" lemmas used in the collected essays revealed that the experimental students used a significantly wider range than their control peers ($p < .001$), which again suggests that making learners aware of the literal senses behind figuratively used polysemes facilitates vocabulary retention. We have to acknowledge, however, that when the same students were given a similar task one year later, the difference in performance had disappeared (Boers 2004).

In an experiment with the participation of 78 Dutch-speaking students of English, Verspoor and Lowie (2003) first confronted experimental group learners with the core senses of polysemes in order to test the learners' ability to interpret and remember peripheral senses in the radial networks. The researchers chose 18 polysemous words whose core sense had given rise not only to a meaning extension that is still relatively close to the core sense, but also to a meaning extension occupying a more peripheral position in the network. Experimental students were asked to guess the meaning of the core sense before attempting to figure out the relatively closely connected meaning extension. Control students were first asked to guess the meaning of the more peripheral sense of the word before tackling the less peripheral one. Experimental students were found to be significantly more likely to correctly interpret the relatively closely connected meaning extension and also to remember its exact meaning in a delayed post-test (after two weeks).

Csábi (2004; revisited in the present volume) reports an experiment set up to measure the pedagogic effect of explicit CL explanations of the semantic networks of the English verbs *hold* and *keep*. Participants were 52 Hungarian secondary school pupils. The experimental group was told that the core meaning of *hold* involves an agent's hand (as in *She held the purse in her right hand*). Meaning extensions were explained via conceptual metonymies and metaphors such as THE HAND FOR CONTROL and POSSESSING IS HOLDING (e.g. *The terrorists held them hostage* and *He did not hold the right certificate*). They were told that the core meaning of *keep* implies a durative state of possession (as in *You can keep the change*), but without implying the use of hands. The durative component was then used to explain other uses of *keep* as in *Earn enough to keep a family* and *Keep that dog out of my study*. In addition to verbal explanations, the experimental condition involved some pictorial support such as the teacher illustrating core senses by miming or by drawing on the blackboard. The control group was presented with the same examples of *hold* and *keep*, but these were explained by means of translations into Hungarian. An

immediate post-test and a delayed post-test (one day after instruction) in which students were asked to fill in gaps with either *hold* or *keep* showed that the experimental students were significantly more likely to make the right choice of lemma. These results suggest that even fairly abstract motivations of meaning extensions can be beneficial to learners. The better performance by the experimental students may partly be due to the extra cognitive effort they invested in comprehending the examples on the basis of the motivations rather than going by translations. It may also partly be due to the pictorial support of the explanations, which was absent in the control condition. The contribution to learning by elements of pictorial elucidation will be another recurring theme in the present book.

To evaluate the effects of visual, and possibly motoric, support, Lindstromberg and Boers (2005b) conducted an experiment focusing on 24 manner-of-movement verbs (e.g. *hobble, stagger, teeter, veer, saunter, slump, flit*). In the experimental condition, students took turns miming the verbs so that their peers could guess what verb was being acted out. In the control condition, students explained the meaning of the verbs verbally so that their peers could guess what verb was being explained. An immediate post-test (a gap-filling exercise) targeting the verbs used in their literal senses revealed that the experimental students were significantly more likely to recollect them. In a delayed post-test, the students were presented with the same verbs used in their figurative senses accompanied by an L1 translation, which was deliberately kept fairly vague (e.g. it did not hint at the level of hostility in *He hurled insults at his girlfriend*, or at the incidental nature of *He stumbled on a crucial piece of evidence*). Students were asked to evaluate the proposed translations. The results show that students who had watched each other mime the literal senses of the verbs were significantly more likely to spot the lack of precision in the translations of the metaphorical uses of the verbs. Students were especially likely to correctly question the translations of the verbs they had acted out themselves. The significantly better recall of the literal uses of the verbs under the miming condition suggests a strong mnemonic effect of dual coding. The significantly better scores in the test that was administered to measure in-depth comprehension of the figurative uses of the verbs suggests that students are often capable of transferring their enhanced comprehension of core senses onto their appreciation of metaphorical extensions.

3.2. Exploiting the motivation of idioms

3.2.1. Semantic motivation

Idioms are traditionally described as "dead" metaphors, the idea being that they have become so conventionalised that few people are normally aware of their figurative nature. Cognitive linguists, however, have shown that the imagery behind an idiom can easily be resuscitated either by enhancing people's awareness of the underlying CMs or by tracing the idiom back to its original, literal context (e.g. Gibbs 1994).

Boers (2000b) reports an experiment with 118 Dutch-speaking secondary school pupils who were presented with a list of 18 expressions (borrowed from Kövecses 1986) such as *She blew up at me*, *Her comments added fuel to the fire* and *Don't bite my head off*. In the experimental condition, these expressions were grouped under headings referring to CMs (i.e. ANGER IS A HOT FLUID IN A CONTAINER, ANGER IS FIRE and ANGRY PEOPLE ARE DANGEROUS ANIMALS). In the control condition, the same lexis was organised under functional headings referring to whether the expressions were used to describe sudden anger, a slow build-up of anger, or angry personalities. This was done to ensure the same degree of organisation of the input under both conditions, so that any superior learning effects under the experimental condition could not be dismissed as being merely the result of the lexis being grouped rather than listed. In an immediate post-test (a text-based gap-filling exercise targeting ten of the expressions), the experimental group outperformed the control group significantly. However, the data also hint at the possibility that an enhanced awareness of congruent CMs may lead to a greater inclination for L1-to-L2 transfer, and thus also to a greater risk of erroneous L1 transfer at the level of linguistic form (e.g. *add *oil to the fire* and *don't bite my *nose off*). The chapter by Bérendi, Csábi and Kövecses in the present book will return to this issue.

Skoufaki (2005), inspired by Cacciari (1993) evaluates the likelihood of L2 learners identifying CMs autonomously when they are asked to interpret unfamiliar idioms (see also Bortfeld 2002, 2003). She asked 40 Greek students to hypothesise about the meaning of ten English idioms and then to describe the line of reasoning that they had followed. Only a minute proportion of the responses revealed any spontaneous use of a CM in figuring out idiomatic meaning. This suggests that, unless learners are first given explicit instruction about CMs of hypothesised relevance, a CM treatment of idioms is unlikely to be very effective. An obvious inference is that a CM treatment is unlikely to be effective in contexts of complete

learner autonomy, a highly relevant finding in the light of the need to find vocabulary learning strategies which learners are likely to deploy outside of the classroom.[7] In the present book, Sophia Skoufaki reports a follow-up experiment in which she measures the mnemonic effects of providing students (in the experimental group) with guidance meant to improve the success rates of their guesswork.

A programme of explicit metaphor instruction is proposed by Li (2002), who describes a series of experiments involving a total of 394 Chinese learners of English. In the experimental conditions, students engaged in (1) teacher-led discussions about CM, (2) conscious application of the knowledge of CMs to the interpretation of figurative expressions, and (3) the deliberate use of pictorials for mnemonic support. The experimental students consistently scored significantly better in post-tests measuring recall of the target lexis than their control peers, who had not received explicit guidelines for learning the input language. It must be noted, however, that the experimental students in Li's study were probably engaged more intensely (and for longer) with the materials than their control peers, which is a variable that is likely to have advantaged the former group.

Interestingly, when the target items were VP idioms the experimental students' did *not* outperform the control students significantly. This may be due to the relative formal complexity of multiword units such as idioms. That is, since figurative thought is used as a channel for semantic elaboration (rather than structural elaboration), it may not facilitate retention of linguistic *form* as well as it does *meaning*, and this difference will show up especially when it comes to recollecting fairly complex (i.e. long) lexical units such as VP idioms. The data reported in several chapters of the present volume confirm this pattern, but crucially we shall propose pathways for structural elaboration (that are actually very much in line with CL, but which have surprisingly enough not received much attention so far) to help learners remember the form or lexical composition of idioms and other phrases, in addition to their meaning.

While the above studies focus on CMs as synchronic motivation and categorising rationale behind sets of idioms, Boers (2001) reports an experiment set up to measure the mnemonic effect of tracing idioms back to their original, literal contexts (i.e. the approach is diachronic) without resorting to overarching CMs. 54 Dutch-speaking students were asked to look up the meaning of ten English idioms they did not yet know (e.g. *pass the baton* and *a dummy run*). The experimental students were given the supplementary task of writing down a hypothesis about the origin of each idiom while the control students were asked to invent a communicative

situation in which each idiom could be used. It was assumed that both tasks would involve a comparable investment of cognitive effort (i.e. comparable levels of deep processing), but it was hoped as well that the hypothesising about the literal origin of an idiom would call up a picture of a concrete scene in the learner's mind resulting in dual coding (e.g. associating *pass the baton* with a mental image of a relay race). In an immediate post-test targeting the idioms in a gap-filling exercise, the experimental students significantly outperformed their control peers ($p < .001$), which may again be indicative of the mnemonic power of dual coding. In a delayed post-test (after a week) in which students were presented with the ten idioms and asked to explain their meaning, the experimental group again did much better ($p < .001$).

Encouraged by these results, Boers, Demecheleer and Eyckmans (2004a, b) and Boers, Eyckmans and Stengers (2006, 2007) conducted a series of larger-scale experiments with the aid of an on-line programme of exercises they developed to help Dutch-speaking students comprehend and remember a total of 400 English idioms. In this programme, each idiom is presented to the students in three types of exercises: a multiple-choice exercise (the "origin" exercise) where the student is asked to tick the right source domain of the idiom (e.g. "What domain of experience do you think the expression *to be on the ropes* comes from? Sports, food or sailing?"), a multiple-choice exercise (the "meaning" exercise) where the student is asked to tick the right dictionary-like definition of the idiom, and finally a gap-filling exercise where the student is invited to fill in (a keyword of) the idiom inserted in a suggestive context. After each exercise the student is given feedback with the correct answer. In the case of the origin exercise, the feedback gives a brief explanation of the literal, historical-cultural-etymological origin of the idiom, which is meant to help the student associate the expression with a concrete scene (for example an association of *to be on the ropes* with the scene of boxing where one fighter is in trouble).

Boers, Demecheleer and Eyckmans (2004a) found that students who had had access to the origin exercises but not the meaning exercises were significantly more likely to be able to reproduce the idioms in the gap-filling exercise than their colleagues who had had access to the meaning exercises but not the origin exercises. In a second experiment they found that, apart from a couple of idioms whose source domains were too culture-specific for the students to associate a clear image with (e.g. *bat on a sticky wicket* and *hit someone for six,* from cricket) (Boers, Demecheleer, and Eyckmans 2004b), the mnemonic effect of giving explanations about the literal origins of idioms was just as strong for opaque idioms (defined here

as idioms whose source domain the student was unable to guess, e.g. card games is the source domain for *to follow suit*) as for transparent idioms (e.g. *to break ranks*). These results too offer strong support for the dual coding hypothesis.

In a third experiment, Boers, Eyckmans and Stengers (2007) found that this mnemonic effect was optimised significantly by giving students the origin exercise before the meaning exercise, so that they could use the newly acquired knowledge of the literal sense of the idiom to figure out its figurative sense. We hypothesise that this optimal sequence of stages adds deeper processing to the learning process (in the form of insightful problem-solving rather than blind guessing in the meaning exercise). The finding that students are significantly more likely to identify the correct dictionary-like definition in the meaning exercise *after* they have been told about the literal origin of the idioms shows that these idioms became motivated for L2 learners. In addition, interviews with the students suggest that the high scores obtained under this approach contribute to positive affect and thus to willingness to continue learning.

However, looking into individual differences, Boers, Eyckmans and Stengers (2006) report significant correlations between students' cognitive-style profiles (as estimated on the basis of standardised questionnaires) and their susceptibility to the dual coding stimuli in the idiom exercises. So-called high imagers were found to benefit the most from the instructional method, while low imagers were not helped to the same degree by the historical / cultural / etymological information. A follow-up to the latter study will be reported in this volume by Boers *et al.*, who set out to measure cognitive-style variables in the effectiveness of pictorial elucidation as a stimulus for dual coding. One of the findings is that presenting learners with pictures elucidating the meaning of idioms to encourage dual coding can help low imagers reap the same mnemonic benefits as their high-imager peers. On the other hand, the findings also reveal that the use of pictures carries the risk of distracting some learners from the precise verbal form of the targeted expressions.

3.2.2. *Phonological motivation*

All the above-mentioned studies examine the pedagogical potential of motivating the relations between literal and figurative senses through imagery. This type of motivation may help learners comprehend and remember idioms. What it cannot do, however, is motivate the precise lexical make-up of idioms. This issue is taken up by Boers and

Lindstromberg (2005) and Boers and Stengers (forthcoming), who investigate the *phonological* motivation behind the lexical selection in idioms. It appears that during the process whereby a particular word combination becomes conventionalised, the phonological properties of one word may determine the choice of another. For example, hand counts in idiom dictionaries reveal that the lexical selection in up to 20% of English idioms may be influenced by the euphonic appeal of alliteration (e.g. *through thick and thin*) and/or rhyme (e.g. *go with the flow*).

A retrospective analysis of the performance of several generations of students in on-line exercises targeting English idioms (see above) shows that alliterative idioms are significantly more likely to be retained than idioms without apparent phonological appeal. Moreover, this effect is observed even though the instructional programme was set up to draw the students' attention to imagery rather than sounds, that is, to stimulate *semantic* elaboration in the students' minds rather than *structural* (or, more precisely, *phonological*) elaboration. By occasionally raising learners' awareness of catchy sound patterns, the mnemonic effect of alliteration can be enhanced significantly (Boers and Lindstromberg 2005b; Lindstromberg and Boers, forthcoming).

With a view to optimising the memorability of catchy sound patterns, Lindstromberg and Boers (2005a) propose classroom activities that go beyond mere noticing and which can target not just idioms but compounds and collocations as well. It is clear, though, that we are only just beginning to appreciate the potential scope of phonological motivation in natural language and in language pedagogy. One of the chapters by Boers and Lindstromberg in this volume will present additional quantitative evidence (beyond that relevant mainly to idioms) of the pervasiveness of alliteration; it will also explore additional pathways for structural elaboration, including considerations of articulatory phonetics as motivation for word-order preferences.

4. Purpose and structure of the present book

In the preceding sections we have
   a. sketched the need for vocabulary instruction which includes a strong focus on phraseology and on memory aids,
   b. outlined a rationale for adopting a CL-inspired pedagogy which exploits the notion of motivation, and
   c. summed up the previously published evidence for its effectiveness.

Naturally, a fair number of questions remain and we wish to address these in the present volume. Some of the questions pertain to the nature of the variables that may enhance or hamper CL-pedagogy. While the studies surveyed above all suggest that CL pedagogy can work, it is far from clear which of its characteristics are decisive. Several questions still need to be answered in order for CL-pedagogy to be implemented most profitably. These questions include the following:

– Given that grouped lexis is easier to learn than lexis randomly listed, when words and phrases are grouped by CM do learners benefit from a specifically CL-inspired presentation of lexis or from the mere broad fact that the lexis is grouped?
– Do learners benefit because of the pictorial elucidation that is typical of CL presentations (and which stimulates dual coding)?
– When learners are asked, for example, to categorise lexis by CMs or to guess the meaning of figuratively used words on the basis of their literal meanings, are the learning benefits simply the result of the cognitive effort that a CL approach requires learners to invest?

Finding answers to questions like these should enable us to fine-tune the approach for concrete pedagogical implementation.

Other questions pertain to the scope of applicability of CL pedagogy, and of the strategy of focusing on linguistic motivation, in particular:

– The experimental studies surveyed above were carried out with young adults. Can CL pedagogy successfully cater for learners outside that bracket – children for example?
– The experiments surveyed applied CL to the teaching of polysemous words (e.g. prepositions) and figurative phrases (e.g. idioms). Can CL pedagogy successfully embrace segments of vocabulary and phraseology beyond those?
– So far, CL has proved to be quite successful at revealing meaning-meaning connections (as in polysemy) which lend themselves well to semantic elaboration in teaching contexts. Can we expand the scope of pedagogical exploitation of motivation to include form-meaning and form-form connections so as to open up pathways for structural elaboration too?

Finally, a considerable amount of work still needs to be done to translate the insights and principles of CL pedagogy into realistic and appealing classroom activities and instructional practice in general.

These are the sets of questions that inform the structure of this book. The chapters in Part One aim to provide answers to the first set of questions, with a view to refining the evidence in favour of CL-inspired approaches to the teaching of polysemous words and to lexis used

figuratively. The chapters in Part Two explore possibilities of broadening the scope of CL-inspired teaching of vocabulary and phraseology. While the chapters in Part One and Part Two already make suggestions about pedagogical implementation, the most concrete exemplification of pedagogical practice is preserved for the closing chapter of the book.

4.1. Refining the evidence

The contributions in Part One of the book are mostly quantitative empirical investigations of the effectiveness of CL-inspired instructional methods targeting figuratively used lexis (including phrasal verbs and idioms). These chapters are by:

– Márta Beréndi, Szilvia Csábi and Zoltán Kövecses, who present additional evidence of the pedagogical effectiveness of grouping figuratively used lexis by CMs, but whose experimental data also cast doubt on the possibility of turning this CM-grouping approach into a strategy for learner-autonomous use;

– Sophia Skoufaki, who investigates the merits of combining the CM-grouping approach with the techniques of supplying learners with (1) guidance about how to (actively) guess the meanings of figurative phrases and (2) corroboratory or falsificatory feedback about these guesses;

– Nora Condon, who evaluates the effects of a CL approach to phrasal verbs when it has been incorporated in the context of a real EFL course spread over a full term rather than into a tightly framed laboratory-type experiment;

– Fiona MacArthur and Jeannette Littlemore, who describe a qualitative study conducted to estimate to what extent learners are actually capable of autonomously inferring the meanings of figuratively used words, on the basis of enriched (i.e. e-corpus driven) data; and

– Frank Boers *et al.*, who investigate the role of pictorial elucidation (a prominent characteristic of CL case studies) as a mnemonic aid.

The common aim in these chapters is to measure variables in the success rates of CL instruction, with a view to qualifying the evidence for the effectiveness of CL pedagogy. Variables that influence the success rate of CL-inspired instruction will be recognised in the following dimensions.

4.1.1. The characteristics of the particular variant of CL instruction

This dimension includes variables such as the degree of explicitness that is required to help learners appreciate the motivated nature of lexical units so this can serve as a pathway for elaboration and hence deep processing. Alternatively, one may wonder to what extent the recognition of kinds of linguistic motivation (e.g. the recognition of conceptual metaphors) might be turned into a strategy that learners could employ autonomously. If learners could be taught to independently recognise patterns of motivation as an aid for comprehending novel lexis (e.g. an unfamiliar idiom reflecting a familiar conceptual metaphor), then the next question would be – To what extent might this active quest for meaning be beneficial for vocabulary retention? Another variable that belongs to this dimension is the use of pictorial elucidation so common in CL approaches. Given the importance of dual coding in vocabulary acquisition, we may hypothesise that the success of CL pedagogy may to a fair degree be due to the presence of pictures or drawings in the instruction.

4.1.2. The characteristics of the lexical units that are targeted

Not all lexical units are equally easy to motivate. If the motivation comes across to students as far-fetched or implausible, then the approach risks being counter-productive. On the other hand, it may damage one's face validity (or that of the approach) should one spend time on pointing out the motivation behind a unit that learners already find adequately transparent.

It is also worth remembering that most types of motivation proposed under the CL umbrella are of the semantic kind, which thus lend themselves well to semantic elaboration as a pathway for remembering the meaning of the lexical unit but do not necessarily aid retention of form. This variable may become especially noticeable when it comes to the recollection of multiword units (e.g. idioms).

4.1.3. The kind of knowledge that is aimed at

As just mentioned, semantic elaboration is likely to be beneficial especially for in-depth comprehension and for retention of meaning. If the aim of instruction is to enable students to use given lexical units actively, then pathways for structural elaboration may need to be provided too.

4.1.4. The characteristics of the learners

Not all learners may be equally susceptible to the effectiveness of CL-inspired pedagogy. One variable may be aptitude and affective motivation. For example, we may hypothesise that language majors are more likely to be appreciative of explanations concerning linguistic motivation than non-language majors. They may also be more willing to engage in quests for meaning instead of relying on the teacher's (or handbook's) input. Another variable may be previous language learning experience, which may enable experienced learners to recognise patterns across different languages. A variable that will receive particular attention in this volume is cognitive style. Learners who have a predisposition for thinking in mental pictures may be especially susceptible to CL instruction that is rich in imagery.

4.2. Broadening the scope

4.2.1. Beyond (young) adults and the school context

So far, proposals for CL approaches to teaching words and phrases have been meant to cater mostly for the needs of (young) adults at secondary school, college or university. Part Two of the book starts with a contribution by Ana María Piquer Píriz, who reports experimental data that suggest young children already have sufficient metonymy and metaphor-interpreting skills at their disposal to benefit from a certain degree of awareness-raising as an aid for vocabulary expansion.

Rosario Caballero and Ernesto Suarez-Toste then illustrate the relevance of CL-inspired instruction for learning situations outside the usual educational contexts, by showing how it can even help sommeliers and connoisseurs appreciate and acquire the metaphorical discourse of wine.

4.2.2. Beyond high-frequency polysemes and figurative phrases

CL has been shown to be effective at teaching (high-frequency) polysemous words (mostly prepositions and particles) and figurative phrases (mostly idioms). It is now time to investigate if other segments of vocabulary and phraseology might be amenable to CL treatment, too. That is done in this volume first by Marjolijn Verspoor, who assesses means of

gaining insight into the conceptual networks around L1 and L2 content words with a view to anticipating and remedying L1-L2 interference.

Crayton Walker then reveals that collocations, which are so often referred to as evidence of the arbitrary nature of language (e.g. Lewis 1997: 17-19), are actually motivated too, even though this motivation is often of the intra-linguistic kind (e.g. from a diachronic perspective; see section 2 above).

Susanne Niemeier broadens the scope even further by exploring the lexis-grammar connection. She puts forward a proposal for how CL insights can play a role in teaching the distinction between count and mass nouns and how this approach may subsequently be used to help learners of English appreciate and master the distinction between the simple and the progressive tenses as well.

4.2.3. Beyond semantic elaboration

As mentioned in section 2, most CL studies have explored meaning-meaning motivations (e.g. how extended word senses derive from a more prototypical one, and how figurative idioms derive from literal expressions). These types of motivation have been shown to be effective aids for learning via semantic elaboration. However, we shall see that semantic elaboration may not be sufficient to help learners commit to memory either the precise form of words or the precise lexical composition of phrases. Furthermore, we shall see that not all segments of vocabulary or phraseology lend themselves equally well to semantic elaboration. It follows that we also need to explore potential pathways for *structural* elaboration. This will be done in the chapter by Frank Boers and Seth Lindstromberg, who present evidence of phonological motivations for lexical selection in phraseology and for frozen word order. The chapter also illustrates the need to find a delicate balance between (1) the inclination on the part of (applied) linguists to accurately explicate their understanding of language and (2) the desire of students to get explanations that will further their language learning.

4.2.4. Beyond English as a target language

As in the world of educational linguistics in general, the vast majority of pedagogy-oriented CL publications feature English as the target language. Given the CL premise that linguistic phenomena and general (i.e. universal)

cognitive processes are closely intertwined, there is little reason to doubt the applicability of CL-inspired pedagogical principles to the teaching of other target languages beside English – in particular the principle that widespread linguistic motivation can be fruitfully exploited. One example is the exploitation of figurative thought (most notably metaphor and metonymy) as a motivation behind figurative idioms. Unfortunately, no other language has attracted even nearly the interest of linguists, pedagogues and materials writers that English has, its idioms not least of all. The comparatively meagre interest in the idiom repertoires of other languages is regrettable for the reason (among others) that comparison of idiom repertoires may offer pathways for exploration of cross-cultural variation (yet another potential route for engaging learners in deep processing), and stimulation of learners' interest in the wide cultural matrix of L2. Accordingly, Frank Boers and Hélène Stengers report a quantitative, comparative investigation into the frequency of occurrence of segments of the idiom repertoires of two world languages, English and Spanish, in equivalent on-line corpora. Contrary to popular wisdom perhaps, but certainly in accordance with CL expectations, the results show that English is *not* exceptionally idiomatic: Spanish makes use of its idiom repertoire just as intensively as English does. However, cross-lingual differences in idiom numbers at the level of source domain (because same or similar domains in the two languages have not been equally productive of current idioms) may justify two additional, inter-related criteria (cf. section 1.4 above) for the selection of L2 phrases which merit targeting. The authors suggest, in other words, that certain clusters of idioms stand out for teaching, namely, (1) those which are derived from experiential domains that have been particularly salient in the target culture and (2) those idioms which, as a group (rather than simply individually), have been found to occur frequently in present-day L2 discourse.

4.3. From findings to pedagogical practice

The closing chapter, by Frank Boers and Seth Lindstromberg, is a straightforward translation of CL pedagogy into classroom activities. It describes a method for teaching idioms that puts to good use several of the research findings reported in Parts One and Two of the volume.

Notes

1. Whenever we refer hereafter just to *foreign language*, we do not intend to exclude second languages or any language additional to a learner's mother tongue(s). When we use the term L2, we do not exclude any L3, L4 and so on.
2. From the standpoint of a decoder, multi-word expressions can be more or less semantically transparent. One could argue that multi-word expressions which are completely transparent should not be called idioms for the reason that a key criterion of idiomaticity is a degree of semantic opacity. But from the standpoint of an *en*coder, transparency/opacity is less relevant (Fillmore, Kay & O'Connor 1988; Makkai 1972). Thus, the phrase *Come in* seems quite transparent and yet a learner of English could not thereby know for sure that it is the typical form of words for inviting a visitor into one's home. Consequently, when we use the term *idiom*, we do not mean automatically to exclude multi-word expressions which are transparent.
3. For the survey which follows we have drawn on Carter and McCarthy (1988: 39–61), Howatt (1984); Richards and Rodgers (2001); Schmitt (2000) as well as on our own experiences as learners, teachers and teacher-trainers.
4. Kavka and Zybert (2004) and Zybert and Kavka (2005) are informative surveys of the deep history of the appreciation of the scale of idiomaticity.
5. We are not concerned with putative *orthographic iconism* – e.g. the use of a circle (the letter *o*) to represent the very "round" vowel /o/ or the use bold type to signal salient importance (cf. Coulmas's remarks on Hangul [1989: 119]). For a good bibliography on iconicity in language, see: http://home.hum.uva.nl/iconicity/bibliolang.html.
6. It could be argued that the ultimate motivation of the meaning of a phonaestheme such as /æp/ comes from *outside* language, as in cases of onomatopoeia; for instance, that it is the sound of actual flapping which /æp/ imitates. This argument seems less plausible when applied to /sp/. As with so many other distinctions in language, the one at issue here seems cline-like. While it is not clear how much pedagogical attention phonaesthemes merit, brief episodes of awareness raising may occasionally be useful given the cross-linguistic variation that there must be in this area – e.g. a language such as Japanese lacks /sp/ and other consonant clusters altogether while in Russian the existence of words such as спасибо 'thank you' and спать 'sleep' suggests that /sp/ is rather unlikely to connote negatively.

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Part one: Refining the empirical evidence

Using conceptual metaphors and metonymies in vocabulary teaching

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Abstract

In this chapter we report three experiments the overall results of which support the hypothesis that an enhanced awareness of conceptual metaphors and metonymies on the part of language learners can help them comprehend and remember figurative lexis. In the first experiment we measure the effect of applying cognitive linguistic (CL) principles to teaching the polysemous words *hold* and *keep*. The second experiment targets idioms used to describe the emotion concept of anger, and we measure the effect of grouping these idioms by CM. These two experiments involve a fair degree of explicit metaphor instruction. In a third experiment we therefore investigate whether similar effects on the learning of idioms can be obtained under task designs that offer students less explicit guidance and which thus rely on a certain degree of learner autonomy. In this third experiment, under one condition students were given the task of identifying CMs themselves (as a channel for deep processing), while under another condition they were presented with pictures illustrating unstated CMs (to stimulate dual coding). The results of the three experiments are analysed with a view to (1) identifying variables in the efficacy of CL pedagogy and (2) providing steps towards concrete classroom applications.

Keywords: polysemes; idioms; metaphor; metonymy; dual coding; deep processing; pictorial elucidation; L1 transfer; learner autonomy.

1. Introduction

In this chapter we provide additional support for the idea that metaphor awareness aids vocabulary learning. More precisely, we hypothesise that learners who know how certain conceptual metaphors (CMs) and metonymies structure the meanings of polysemes and idioms will comprehend and remember these words and idioms better than learners

who do not have such knowledge. We report a series of experiments the results of which support this hypothesis.

However, as will be seen, variation in ways of presentation and differences among learners have the potential to heavily influence the effectiveness of our proposed pedagogical techniques. Particular variables we will touch upon include the characteristics of the figurative expressions to be taught, cross-linguistic considerations, task design, and the particular profiles of the learners.

2. Experiment one: teaching polysemous words

2.1. Rationale

CL research suggests that the meaning structure of polysemous words is motivated and can be accounted for in a systematic way. The claim proposed here is that awareness of the motivation of senses and the cognitive structure of word meanings can aid learning. To see whether this is indeed the case, we carried out an experiment in which we examined whether explicit knowledge of CMs and metonymies can facilitate learning L2 word meanings. Specifically, we examine whether explicit knowledge of the motivations behind (1) the multiple senses of the polysemous words *hold* and *keep*[1] and (2) idioms including these words help learners comprehend and remember these words better than other learners who learn the words via translations. We hypothesized that explicating the motivations for the senses of polysemous words and the idioms in which they occur leads to better learner performance. This is in line with Lakoff's (1987) view of motivation on the basis of which we can assume that language learners will learn both polysemous words and idioms in which they appear more easily when they have come to understand their semantic motivation.

If our hypothesis turns out to have empirical support, teachers would seem to be well adivised to try to foster their students' metaphorical competence (cf. Low 1988). This may be a challenging and intellectually demanding task both for the teacher and the learner – but, as MacLennan (1994: 105–106) claims, "[l]earners should not be protected from the difficulties inherent in metaphor and other nonliteral language" since "[s]everal advantages are to be gained from teaching learners about metaphor and several disadvantages are evident when it is not taught".

2.2. Method and results

The experiment consisted of two trials, both designed to investigate the effects of learners' (lack of) knowledge of sense motivations[2]. Both trials employed the same materials and similar, though not identical, procedures. Prior to the actual experiment, the materials were piloted in the secondary school where the actual experiment would also be carried out. The participants in the pilot were 11th graders (aged 17).

2.2.1. Participants in the first trial

Participants in the first trial were two parallel groups of 13 students enrolled in a Budapest secondary school. They were in their 8th grade (aged 13–14). The two groups were assessed by their teacher to be of equal proficiency (approximately level B1 according to the descriptors in the Common European Framework of Reference); all pupils had been studying English for two and a half years, with the same number of lessons a week. All the students involved in the study were native speakers of Hungarian and were learning English as a second language. The piloting of the materials had revealed that their much more advanced peers in the 11th grade were unfamiliar with the figuratively used lexis targeted in the experiment. Thus, the 8th graders who participated in the actual experiment were almost certainly unfamiliar with the targeted lexis too.

2.2.2. Procedure in the first trial

The instrument used in the experiment was a test containing 22 items related to *hold* and *keep* (see Appendix 1). It focused on (1) *hold* and *keep* as polysemous words, (2) phrasal verbs including *hold* and *keep,* and (3) idioms containing *hold* and *keep*. Students in both groups were familiar with the literal meanings of *hold* and *keep*, as illustrated in:
   – *He was holding a knife in one hand and a fork in the other* and *She held her daughter's hand as they crossed the road. I held the baby in my arms*[3]
   – *Here's a five-pound note – you can keep the change* and *I keep all her letters*[4].
Nevertheless, examples of these meanings were also included in the teaching and testing process since the figurative meanings and idiomatic

meanings that would be targeted in the experiment largely depend upon these meanings.

For each group, the instruction stage and the administration of the test were divided into three parts within the framework of a 45-minute lesson.

Procedure for the control group

1. Several senses of *hold* and *keep* were presented on the blackboard alongside their Hungarian equivalents. Students were asked to try to remember the English words and their meanings. Students were then instructed to complete the first ten sentences of the test (see Appendix 1, part one). This first stage in the procedure took 20 minutes altogether.

2. Phrasal verbs containing *hold* and *keep* (*hold back, hold down,* and *hold up; keep in* and *keep out* [*of*]) were presented on the blackboard. Hungarian translations were used to explain the meanings. Students were again asked to try to remember the English phrases and their meanings. Students were then given the second part of the test (Appendix 1, part two). This stage of the procedure took 10 minutes.

3. Idioms containing *hold* and *keep (hold one's tongue, hold one's temper,* and *hold one's head up; keep one's fingers crossed, keep somebody at arm's length,* and *keep something under one's hat)* were presented on the blackboard alongside their Hungarian equivalents and students were again asked to try to remember the English expressions and their meaning. Then, they had to fill in the third part of the test (Appendix 1, part three). This third stage in the procedure took 15 minutes.

Procedure for the experimental group

The only difference between the experimental and the control group was in the manner of presentation of the material to be taught. While the control group were taught the English words and phrases through Hungarian equivalents, the experimental students were taught in accordance with the CL approach to polysemy; that is, we explained the most important motivating factors to them.

1. We signalled the prototypical meanings of *hold* and *keep* by writing keywords on the blackboard (e.g. *hand* and *control*) which point to the motivation for the usage and meaning extensions of *hold* and *keep* (Csábi 2004). For example, the use of *hold* in *hold an office* was motivated to the students by telling them that, when people hold something in their *hands*, it usually belongs to them, it is in their possession.

2. The target phrasal verbs were taught with the help of example sentences on the blackboard. Students were invited to interpret these on the basis of what they had already learned in the previous stage of the procedure. In

addition, schematic drawings were used to illustrate the meanings (e.g. a circle with an X inside and outside indicated the phrasal verbs *keep in/out*). 3. The target idiomatic expressions were illustrated on the blackboard by means of schematic drawings. These drawings illustrated the literal meanings of the expressions; for instance, the meaning of the idiom *keep something under one's hat* was indicated by a hat and something under it.

We shall call the gap-filling exercises that followed each of the three stages of the instruction procedure the "immediate test". One day after the three-stage instruction and immediate testing procedure, a post-test was administered to each group; that is, students were required to complete the same exercises they had done on the first testing day.

2.2.3. Results of the first trial

The responses to the immediate-test and the post-test of both groups were analysed twice, once taking into account only the completely correct responses and a second time including expressions in the second and third parts of the tests which were not entirely correct (e.g. *keep this under hat* or *keep finger)* but in which the targeted words (*hold* and *keep*) were chosen correctly. The reason for not excluding these answers altogether was to see whether students were able to differentiate between the senses of *hold* and *keep* – which was the primary aim of the instruction, after all.

In both the immediate test and the post test, the experimental group outperformed the control group, although statistical significance (at $p < .05$) was not obtained across the board. If we take only the completely correct responses into account, Mann-Whitney U yields $p = .043$ for the immediate test and $p = .062$ for the post test. If we include the not entirely correct responses (but with the correct choice between *hold* and *keep*), Mann-Whitney U produces $p = .059$ and a highly significant $p = .009$, respectively. The divergence between the immediate test and the post test shows that the performance by the experimental students decreased on average by 9.44% whereas the performance by the control group decreased by almost double this value, 18%.

The experimental group did markedly better especially in the first two exercises (i.e. on single words and phrasal verbs). Accepting target word-type answers, they actually obtained scores in the immediate test of 99.2% and 100% on part one and part two of the test, respectively. Part three, where the multiword idioms had to be filled in, appeared to be the most difficult. Possibly, the strings of words in the idioms were too long for

students to remember precisely since they had only a very short time to see, understand, and memorize them. Moreover, the instruction had directed students' attention to the keywords *hold* and *keep* rather than the other components of the expressions.

2.2.4. Participants in the second trial

Participants in the second trial were two groups of 13 9th graders (aged 14–15) at the same secondary school in Budapest. Again, they were judged by their teacher to be of the same level of proficiency in English (intermediate level). All members of these two groups had been studying English for three and a half years, with the same number of lessons a week.

2.2.5. Procedure in the second trial

The procedure in the second trial was identical to that in the first, with two exceptions. Firstly, the material to be learned was divided into two sections; that is, the first stage dealing with the meanings of *hold* and *keep* was presented separately from the second and the third parts dealing with phrasal verbs and idioms (Appendix 1). The time lapse between the two sections taught was two days.

The reason for having two sections was to reduce the risk of feeding too much information to students in one go. Secondly, the post test was administered not one but two days after the treatment took place.

2.2.6. Results of the second trial

The scores in the second trial confirm the trend observed in the first trial: the experimental group outperformed the control group and most markedly so in the post test. Taking only completely correct responses into account, Mann-Whitney U yields a non-significant ($p = .1$) result for the immediate test, but a significant ($p = .019$) result for the post test. Including not entirely correct responses (but with the correct choice between *hold* and *keep*), significance levels are reached for both tests ($p = .026$ and $p = .007$, respectively). The average decrease in the experimental students' performance between the immediate test and the post test was on average 8% while the control group's performance decreased by almost double this value. The non-significant difference in the immediate test may to some

extent be due to a ceiling effect. Even the control students obtained an average score as high as 97.3% in the second exercise of the immediate test, for example.

The third exercise, which targeted idioms, again proved most difficult. The experimental students did not do any better than the control group on this section of the targeted lexis. However, as mentioned above, the instruction focused on the keywords *hold* and *keep*, and so students may have paid insufficient attention to the other components of the idiomatic expressions. The other experiments to be reported in this chapter (see below) look more closely into CL pedagogy targeting idioms.

Post-test scores were somewhat higher in the second trial (administered two days after instruction) than in the first trial (administered one day after instruction). This result may be attributable to the influence of a more distributed learning process. The separation of the material to be taught probably affected the recall of items in a positive way. Spreading a learning task over a longer time span is a way of avoiding the effect of crowding. That is, if the number of the items to be learned in one go is smaller, retention is likely to be more successful.

2.4. Discussion of experiment one

By and large, the experimental results support the hypothesis that enhancing learners' awareness of the motivations behind meaning extensions helps learners to remember polysemous words such as *hold* and *keep* better than is the case for other learners who only memorize the words via L1 translations. In other words, retention of the multiple senses and uses of a polyseme can be enhanced by employing insights from cognitive semantics. Only when it came to reproducing longer multiword units (i.e. idioms) did the experimental students fail to outperform their control peers, but this may be due to the fact that students' attention during instruction was drawn to the choice between the lexemes *hold* and *keep* rather than to the whole word strings.

More specifically, students in the experimental groups were explicitly taught about the motivation of word and idiom meanings with the help of keywords and visual images. The keywords and visual images may have served as associative mediators (cf. Stevick 1976) as they were intended to provide meaningful links between expressions and their meanings, and thus promote the storage and recollection of items that belonged together (i.e. a form and the corresponding meaning). The use of mediators appears to have produced better retention, and the creative mental work required by this

technique seems to have beneficially influenced the memorization process. The comparison between the scores on the immediate test and the post test shows that the differences between the performances of the groups became greater in the post-tests, which suggests that the CL-inspired method left stronger traces in medium-term memory than the control condition did.

3. Experiment two: teaching figurative idioms

3.1. Rationale

In the second experiment we decided to focus on idioms, as these had turned out to be problematic in the first experiment. We wanted to see whether a CM approach enhances the learning of L2 idioms. The hypothesis was that students' awareness of underlying CMs facilitates comprehension and retention of idioms. The broader aim of the study was to gain insight into the acquisition of *metaphorical competence* (Danesi 1992) in a foreign language.

Idioms were chosen for the experiment because they are often difficult for learners as they seem to be so random and arbitrary. Comprehension, retention, and usage may all cause problems. However, grasping the underlying CMs may bring order to the chaos. Hitherto seemingly random expressions can be shown to relate to each other, and the systematic use of the source domain, once it is recognized, may enable learners to make informed guesses at the meaning of any new, related expression encountered later on (Kövecses and Szabó 1996).

It seems that emotions are a field where major CMs are shared by English and Hungarian, and where cultural differences manifest themselves in details (e.g. in specific entailments) rather than in fundamentals (Kövecses 2005). The reason for this is that most CMs for emotions are directly rooted in physiological experience, shared by all humans, and so the resulting folk theories are also similar. So we decided to focus on the emotion of anger and to target idioms belonging to four CMs (also present in Hungarian). These are: ANGER IS FIRE, ANGER IS A HOT FLUID IN A CONTAINER, ANGER IS INSANITY, AN ANGRY PERSON IS A DANGEROUS ANIMAL. Appendix 2 lists the English expressions that were used in the experiments below[5] and how they resemble and/or differ from their Hungarian counterparts.

Linguistic expressions can be motivated by various cognitive mechanisms, including metaphor, metonymy, and knowledge of the world. We will argue that the systematic relationships that connect the literal and

figurative meanings of an idiom, on the one hand, and the figurative meanings of several idioms, on the other hand, have considerable didactic potential. Let us consider particular examples from the language sample we used in our experiments. Knowledge of the source domain often provides clues about the *general meaning* of the metaphors. In the case of ANGER IS FIRE, fire is the source domain whose terminology is applied to the target domain of an emotion, anger. Fire is quite a productive source domain, with a wide scope of target domains including mainly emotions such as love, desire, and ambition. The conceptual mappings (i.e. the systematic correspondences between the source and target domains) help to define the *specific meaning* of a given idiom (Kövecses 2002: 205).

Based on people's everyday experience and general knowledge, further information (i.e. entailments) is transferred from the source. The entailments mapped from the source of fire to the target of emotion thus include, for example, LOW INTENSITY OF EMOTION IS A SMALL AMOUNT OF FIRE. This is why, based on conventional knowledge, *smouldering* is interpreted as a less intense form of anger than *breathing fire*.

Similar entailments include:
– LATENT INTENSITY IS POTENTIAL OPEN FIRE: *I kept smouldering*.
– DECREASE IN INTENSITY IS A DECREASE IN THE DEGREE OF HEAT: *Cool down!*
– MAINTAINING INTENSITY IS MAINTAINING HEAT (OF FIRE): *to add fuel to the fire*.

Some metaphorical entailments of the HOT FLUID IN A CONTAINER metaphor enable us to carry over knowledge about the way hot fluid behaves in a closed container onto the domain of anger: the process of increasing pressure if the heat is maintained for a long time, without a vent, leading eventually to the explosion of the container, with its content and parts flying all over, causing potential damage.

One may argue in some cases – such as the idiom *I got hot under the collar* – that, due to the presence of body heat, it is more appropriate to talk about a motivating metonymy than a metaphor. We recognize the differences between metaphor and metonymy and the complexity involved here (Barcelona 2000; Goossens 1995; Kövecses and Radden 1998), but from an applied linguistics perspective what counts is that metonymically motivated idioms are pedagogically tractable too, and so we have included some in the experiment.

We also included three idioms which do not belong to the four groups, but rather to three other CMs (also existing in Hungarian). The expression *to go on the warpath* reflects the ARGUMENT IS WAR metaphor; *to stomach*

something, IDEAS ARE FOOD; and *to be sore at somebody*, MIND IS THE BODY.

The list of figurative language used in the experiment also includes phrasal verbs, *burst out* and *simmer down* (which are not counted as figurative expressions by some authors, e.g. Cameron and Low [1999]) as well as some further items which do not fit the definition of idiom because they do not consist of two or more words (being one-word verbs such as *explode, fume, snap, stomach*). These are included to illustrate that not all metaphorical expressions which are related to CMs are idioms. Our view is that the same cognitive mechanisms that help with the learning of metaphorical idioms can play a role in learning a wide range of vocabulary. However, for the sake of brevity and simplicity, all the 22 selected expressions will be referred to as idioms.

So far, we have been looking at the English CMs. It has been noted that English and Hungarian share the CMs which are at work behind the linguistic expressions in our experiment. In fact, several languages share these (for an analysis of HOT FLUID IN A CONTAINER in six languages, including Hungarian, Japanese and Zulu, see Kövecses 2002). To be sure, the general metaphor AN ANGRY PERSON IS A PRESSURIZED CONTAINER receives unique cultural content at a specific level (Kövecses 2004). For example, Japanese expressions concentrate anger around the concept of *hara* 'belly'. Hungarian often has the head as a container holding the fluid.

In the discussion of his experiments, Boers (2000) hypothesized that the perceived closeness of languages (i.e. English as target, and French and Dutch as first languages) had an effect on the learning process because of L1 transfer. He pointed out that awareness of shared metaphor themes may speed up learning but also raise the risk of erroneous direct translations. Kellerman (1987) observes that the use of transfer strategies is more likely if the languages are perceived as close. However, Hungarian is a language which is not usually perceived as similar to English by the learners, and they may be more reluctant to use transfer as a strategy, especially in the case of less prototypical meanings. So the comparison of Boers's and our results may prove interesting in that respect.

In the experiment we wanted to measure the pedagogical effect of grouping metaphoric expressions by common underlying CMs. Making the students conscious of them provides the opportunity to connect the seemingly unrelated expressions in a meaningfully structured network, thus aiding understanding and memory formation. We checked the effects on comprehension and retention (medium/long term as well as short-term).

3.2. Method and results

The materials to be used in the experiment were first piloted with second-year college students majoring in tourism, studying English at an intermediate level (approximately B1 according to the descriptors in the Common European Framework of Reference). After the pilot, the material was amended for the actual experiment.

As the materials seemed to require a fairly high level of linguistic knowledge on the part of the students, we also decided to carry out the actual experiment with participants of a more advanced level of proficiency.

3.2.1. Participants

Participants in this experiment were two parallel groups of first year English majors at a college in Hungary. They were 19–22 years old and their level of proficiency in English was upper-intermediate (approximately B2 according to the descriptors in the Common European Framework of Reference). The control group consisted of 19 students and the experimental group (which we shall call "the metaphor group") consisted of 24 students. As a pre-test to compare their proficiency we used the students' grades in their "Testing" class, which was part of their preparation for the end-of-year exam. The grades revealed no significant difference between the two groups (Mann-Whitney U yields $p = .28$). According to the EFL teacher of both groups, the students were very unlikely to already know the idioms to be targeted in the experiment.

3.2.2. Procedure

The experiment employed identical material and instruction in both groups, with one major exception: the organization of the idioms to be learned. The instrument used in these experiments consisted of two one-page handouts (see Appendix 3). The first sheet presented the input: a text containing 22 idioms followed by a list of the same idioms. The text itself, a short story written to provide a context for the idioms and exemplify their use, was the same in both groups, but the presentation of the list of idioms was different. The second sheet contained a gap-filling test.

Procedure for the control group

1. At the beginning of the class there was a short interactive introduction about idioms and about how difficult the students perceived them to be.

2. Next, the students read the text on the first handout and tried to figure out the meanings of the idioms. The students were then asked to translate the idioms listed below the text. The aim of this task was to see if the figurative meanings of the expressions were identifiable for the students. Most of the individual words in the text were believed to be familiar to them in their basic senses, and a glossary of vocabulary notes providing basic senses of possibly unknown words was provided.

3. After the translation task, the students were asked to try to remember as many of the expressions as possible. The students were given 25 minutes altogether to complete the above three tasks.

4. The original handouts with the text and list of idioms were removed, and students were required to use the idioms they could remember in a cloze-test which contained 13 gaps, and to list any more expressions that they could recollect from the instruction stage. This immediate (short-term retention) test took 12 minutes.

5. Two days later the gap-filling test was re-administered as a post-test (of medium-term retention). Students had not been told that they would have to work with the learned material again, and there was no revision of the expressions before the post-test.

6. In order to check any long-term effects, five months later the gap-filling exercise was again re-administered as a delayed post-test (of long-term retention) to students who could be traced from the original groups.

Procedure for the experimental group

The experimental condition differed from the control condition in only two respects:

1. The short introductory discussion on idioms was used to introduce (in non-specialist terms) the notion of CM as an organiser of figurative lexis.

2. The variable in the task design was the way the targeted idioms were presented in the translation exercise. Whereas in the control condition the idioms were listed in order of appearance in the text on the task sheet (without any additional information), the expressions in the experimental condition were grouped under the headings of various metaphor themes (as identified by Kövecses 1986, 1990) (see Appendix 3).

3.2.3. Results

As mentioned above, the first task in the instruction stage was for students to read the short text in which the idioms occurred and the second was to translate the idioms. The latter task was included to check comprehension of the 22 figurative meanings of the expressions. For the evaluation of the translations, three categories were created: understood, misunderstood, and no answer. The members of the control group were found to have comprehended 78% of the expressions on average. The members of the experimental group (i.e. the metaphor group) were found to have understood on average 87.5% of the idioms. This is a significantly better result than for the control group (p = .03, Mann-Whitney U test, one-tailed). The hypothesis that explicating the CMs behind idioms can help learners understand the idioms is thus corroborated by the experimental data.

To see if the CM grouping helped students remember the idioms, the gap-fill task was used as immediate test, as post-test and as delayed post-test. The test consisted of a text containing 13 out of the 22 stimulus idioms (see Appendix 3). The students were also invited to list any other expressions that they remembered from the learning task, so reproduction was not restricted to 13 idioms. Among correct responses we accepted a small number of answers containing a minor orthographic or grammatical mistake – e.g., *firy (instead of *fiery*), *anger is welled up*, *add fuel onto the fire*.

The mean score in the immediate gap-fill test under the control condition was 6. The experimental group, which had the idioms grouped by underlying CM, obtained a mean score of 9. The difference between the control group and the experimental group was found to be significant at p = .007 (Mann-Whitney U, two-tailed). The hypothesis that an enhanced metaphor awareness through the categorisation of idioms by CMs can enhance at least short term retention of the idioms is corroborated. It must be acknowledged, of course, that the experimental students' better comprehension of the idioms (as observed in the translation task) may well have given them an advantage over their control peers when it came to committing the idioms to memory.

Let us now look at the results of the post-test that was administered two days after the instruction stage. Again the metaphor group (mean score of 5.5) outperformed the control group (mean score of 4), although statistical significance (at p < .05) is reached only if we allow for a more lenient scoring system in which keyword-type responses are accepted too. These were (1) deviations from the targeted idioms beyond minor orthographic or

grammatical errors (e.g. add *hot oil* to the fire [*fuel*]; *flying off* with anger [*fly off the handle*]), but that still contain targeted keywords, (2) correct idioms but not the ones we were trying to elicit (e.g. *hot* temper [*fiery*]; *cool* down [*simmer*]). These responses seemed to reflect the interaction of lexical items with the conceptual structures behind them: specifically, substitution of elements belonging to the same mapping and to the same stage of emotion (Gibbs 1994), or the creation of new mappings, which may or may not be conventionalized in L2.

Finally, we tried to detect the long-term effects of the CM grouping by re-administering the gap-filling test five months later. On that occasion we also gave students a questionnaire on what they remembered from the original input about the metaphorical nature of idioms, and how they had utilized this input since then. Unfortunately, we only managed to trace a small number of original participants, and so we can only draw some tentative conclusions from the results. From the original 19 people in the control group, 8 were traced. One person correctly remembered two of the idioms, but the others provided no correct answers from the original list. Once again, members of the metaphor group tended to perform better. Of the 15 people traced (out of the original 24), two used three idioms; two others two idioms; and seven people used at least one expression correctly. These scores are significantly better than the control groups' (Mann-Whitney *U* yields $p < .05$, two-tailed). If we add keyword-type responses to the pool, the better performance of the metaphor group again becomes even more pronounced. The most memorable idioms were *to add fuel to the fire* (which in all but two cases was changed to *oil on the fire), *to go on the warpath, to explode* (which often came as *blow up*, which was not on the original list, so it was a keyword-type answer) *to fume* and *fiery*.

However, from their responses to the questionnaire it turned out that experimental students did not remember much of the instruction in which idioms were grouped under CMs; they only remembered that "the items were grouped". Neither did they indicate that they used the strategy of grouping vocabulary according to underlying metaphor themes when learning new vocabulary in the course of their studies. Instead, one participant noted that she remembered that many English phrases resembled Hungarian "proverbs", and that recognizing this was the major benefit of the instruction. This confirms the suspicion voiced by Boers (2004: 216) that a one-off eye-opener about CM as an organiser of figurative lexis is not sufficient to turn metaphor awareness into a (conscious) learning strategy that could contribute to learner autonomy.

3.3. Discussion of experiment two

The experimental results support the hypothesis that explicitly relating idioms to their underlying CMs helps learners comprehend and remember them. However, the finding that the experimental students did not seem to remember the fact that CMs, or metaphor themes, had been used in the instruction calls for caution. After all, it also points to the possibility that the better retention of the idioms under the experimental condition may simply have been due to the fact that the idioms in that task design were grouped while they were presented in one list under the control condition.

In general, it is difficult (if not impossible) to say precisely what mental activity is triggered by a given instructional method. We will now consider whether indirect evidence of the triggering of some kind of metaphor awareness by the grouping of idioms under metaphor themes might be found in the types of translations offered by our participants.

3.3.1. Strategies for the translation of idioms

Our participants provided several kinds of acceptable translations of the idioms, and we have classified them as follows:

1) One-to-one equivalents: Few of the English expressions included in the test have a one-to-one equivalent (two which do are *to have a fiery temper = tüzes természete van* and *to explode = felrobban*). (For the suggested "model" Hungarian translations of all the idioms see Appendix 2). However, some idioms have very close equivalents which are based on the same mappings between the same domains, or even the same entailments, but have a slightly different wording. One example is the Hungarian idiom *olaj a tűzre* 'oil onto the fire' for the English *to add fuel to the fire*. We counted these translations under the heading "same", as they are close translation equivalents of the given English expressions.

2) Same-CM translations: Some other translations are not so close formally, but are still rooted within the same CM. For example the English phrase *I was boiling with anger* was translated as *főttem a levemben* 'I was cooking in my juice'. While this is not a one-to-one equivalent, both expressions are instantiations of the HOT FLUID IN A CONTAINER metaphor. Another example is the translation of the expression *I have not been able to stomach it – nem tudtam már lenyelni* 'I was not able to swallow it.'. Here both idioms are motivated by the IDEAS ARE FOOD metaphor. Given the fact that experimental

students were presented with explicitly stated CMs, we would expect them to use this translation strategy more often than their control peers.

3) Different-CM translations: Control students would be expected to resort more often to this way of translation, which involves using expressions that belong to another CM. These are listed under the heading "different conceptual metaphor" (DIFF CM). For example, *I got hot under the collar* (ANGER IS FIRE) was translated as *felforrt az agyvizem* 'the liquid in my brain boiled' (ANGER IS HOT FLUID IN A CONTAINER) and *I was fuming* (ANGER IS FIRE) was translated as *fortyogtam* 'I was seething' (ANGER IS HOT FLUID IN A CONTAINER).[6]

4) No-CM translations: e.g. *to add fuel to the fire – ráadásul* 'in addition' or – *hogy még idegesebb legyek* 'to make me even more nervous'.

Table 1 shows the distribution of the types of translations in both groups' responses:

Table 1. Mean number of types of translations of the idioms

	One-to-one	**Same CM**	Diff CM	No CM	MISUND	NO TR
Control grp	7.63	**2.68**	3.58	3.37	0.95	4.37
Metaphor grp	7.25	**3.67**	3.38	4.96	0.25	3.42

As expected, the experimental students were more likely than their control peers to propose Hungarian translations that stayed faithful to the CM underlying the English originals.[7] This finding gives us reason to believe that the experimental task design did trigger a certain degree of metaphor awareness in experimental students at that time, even though they did not seem to remember this five months later.

3.3.2. The connectedness of idioms to CMs

The semantic transparency of a figurative expression depends on various factors such as its association with a CM and the closeness of that association (Flores d'Arcais 1993; Gibbs 1993). Expressions closely associated with an established CM are believed to be more transparent than ones that are more peripheral and ones that are not connected to any CM. The fact that the 22 idioms to be remembered were of different degrees of transparency may have influenced their retention. At the same time,

grouping them may have made the peripheral ones more clearly connected to the central themes, thus making them more transparent and memorable than without such systematic presentation.

We expected the retention and reproduction of the idioms that were grouped under their overarching CMs to be better than that of the three "independent" expressions (*to go on the warpath, to stomach something* and *to be sore at somebody*). Information which is presented in an organized way can be assumed to be more effectively built into the networks of the brain. So the three independent idioms would have fewer connections to anchor them in the memory of the students. And yet, these idioms (especially *go on the warpath*) were actually better remembered than the others. The fact that the experimental students markedly outperformed their control peers also with regard to these three idioms could be interpreted as a sign that they may have transferred their newly acquired awareness of metaphor to their processing of idioms whose CMs were not stated explicitly (but see experiment three below).

3.3.3. L1 transfer of linguistic form: The case of add fuel to the fire

The most "inviting" test item for L1 transfer was the idiom *to add fuel to the fire*, which has the Hungarian equivalent *olaj(at önt) a tűzre*, '(to pour) *oil onto* the fire'.

The results for this idiom across the groups show that the parallelism of meaning resulted in almost 100% comprehension of the phrase, and in most cases the one-to-one translation equivalent was given. However, eight participants (25%) in the metaphor group decided not to translate the phrase with the well-known Hungarian translation equivalent: six gave a no-CM translation (*ráadásul* 'moreover,' 'in addition'; *még idegesebb legyek* 'to make me even more nervous') and two used an idiom belonging to a different CM (*mindennek tetejébe*: 'above all this' [MORE IS UP]). A very close Hungarian idiom (*még egy lapáttal rátesz a tűzre* 'put one more shovelful on the fire') was offered in several forms as a translation by four experimental students. This evokes a slightly different image and frame: a boiler with coal being shovelled in it, corresponding to the human body as a container. Some variations provided by students contain the action and all participants of the frame: putting, shovel, and fire. Others omit the action, with the result that the shovelful of material and the fire are foregrounded. In another case, fire disappears from the expression altogether, and therefore the act of adding something to a heap (with the result that the heap becomes higher) is focused on (*rátett (még) egy lapáttal*).

In the recall phase of the experiment (the gap-filling exercise) the negative effect of transfer surfaced: in about half of the cases, *fuel* was changed to *oil* or the preposition *to* was modified to *on(to)*. Still, despite their lower tendency to provide the one-to-one translation equivalent in the comprehension task, the metaphor group gave about 50% more correct responses in both the immediate test and the post-test than the control group. This differs from the finding by Boers (2000), who — in a similar experiment but working with Dutch speakers learning English — found that more experimental students than control students reproduced the Dutch translation equivalent "to add oil to the fire" in his immediate post test. There was no delayed post test in his experiment.

In our study, in the immediate test only three responses contained "oil". However, two days later a stronger interference from L1 was registered. Six people in the metaphor group changed this single element of the phrase – this one word was responsible for practically all the decline in the results. The other half of the incorrect responses were connected with prepositions and articles.

4. Experiment three: exploring pathways for learner autonomy

4.1. Rationale

In the experimental condition described above the idioms were organised by explicitly stated CMs. For the method of metaphor awareness to be fruitful in the long run, however, learners would need to be capable of recognising CMs independently. The results of earlier small-scale experiments (Boers 2000; Tóth 1999) give us some reason for optimism in this respect. To explore potential pathways for learner autonomy; we therefore decided to assess two types of task design in which the CMs behind given idioms are left implicit. In the first condition, participants were invited to identify the CMs themselves. Apart from stimulating learner autonomy, this activity was believed likely to encourage deeper cognitive processing, which should in principle promote retention. In the second condition, participants were invited to associate given idioms with pictures that illustrate the underlying CMs. Apart from stimulating learner autonomy, this activity was believed to encourage dual coding, which should also, in principle, foster retention.

4.2. Method and results

4.2.1. Participants

Participants in the "metaphor-finder condition" were a group of 11 students majoring in English from the same freshman year as the students who participated in the second experiment. However, their general proficiency in English (as measured by the pre-test) happened to be slightly lower than that of their peers (i.e. intermediate rather than upper-intermediate, or approximately B1 rather than B2 in the Common European Framework of Reference).

Unfortunately, there was no opportunity to select a fourth group of English majors, so the participants in the "image condition" were drawn from a different population. They were a group of 14 economics students, aged 20–22, also with intermediate proficiency in English. The image condition was administered to the economics students since their choice of training suggested they were less likely than the language students to spontaneously engage in the kind of metalinguistic reflection that we thought likely to be stimulated in the metaphor-finder condition.

4.2.2 Procedure

The procedure used in experiment three was basically the same as in experiment two, with the following exceptions:
1. On the first handout used in the metaphor-finder condition (i.e. the text and the translation exercise), the presentation and task were meant to promote deep processing. The task description on the handout told the students that there were some metaphor themes connecting some of the phrases listed on the handout, and it was the students' task to identify these themes implicit in the idioms. Two themes (or CMs) were stipulated explicitly, but the learners were asked to try to find the other two themes, and group all the expressions accordingly, before translating and memorising the idioms. Students were allowed five minutes to complete the task.
2. On the first handout used in the image condition, the CMs were not made explicit, and students were not asked to group the idioms. Instead, dual coding was to be promoted by means of drawings in the margin of the text and task instruction, chosen to illustrate the source domains of each of the four CMs, and more particularly, the literal meaning of the idioms. For example, illustrative of the metaphor HOT FLUID IN A CONTAINER was a

person's swollen head, ready to explode, with steam coming out of his ears. The ANGER IS FIRE or, more generally, HEAT metaphor was illustrated by a drawing of a fire-spitting dragon and by a drawing of a figure sitting in a frying pan. The idiom *Fly off the handle* was accompanied by a drawing of a medieval warrior wielding a broken axe. And so on.

3. Both groups were given an immediate test, which was the gap-filling exercise that was also used in experiment two. Because of circumstances beyond our control, the same exercise could be administered as a post test only to the metaphor-finder group and there was no opportunity for a delayed post-test for either group.

4.2.3. Results

The identification of metaphor themes and the categorization of idioms by theme, which was the extra task for our metaphor-finder group, turned out to be quite difficult for our students to do. This was surprising, because we thought we had facilitated the task considerably. After all, we had provided two CMs, with examples (ANGER IS LIKE A HOT FLUID IN A CONTAINER, AN ANGRY PERSON IS LIKE A DANGEROUS ANIMAL), so there were only two CMs left to be identified. We had also deliberately used similes (ANGER IS LIKE A HOT FLUID IN A CONTAINER) in the characterisation of the metaphors, as these sound less abstract than the more commonly used A IS B format (e.g. ANGER IS A HOT FLUID).

Only a few participants were able to find any third or fourth category, and these were expressed in words like "an angry person's feelings," "anger is like food," "rage," "the process of calming down," and only one guessed "anger is like fire". The categorization was not very effective either. The participants tended to relate most of the expressions to the metaphor themes that had been provided on their handouts. There was little consistency in the way students categorised expressions under independently identified metaphor themes.

Let us now consider the subsequent translation exercise, which was meant to test students' comprehension of the 22 idioms. On average, participants in the metaphor-finder group produced only 12 (53%) correct translations, misunderstood 1.5 idioms, and left 9 idioms without a translation altogether. We noticed an especially high standard deviation (SD 6.9) in the scores of this group, which suggests that there may be considerable individual differences when it comes to successfully applying CL-inspired techniques autonomously. Participants in the image group did slightly better. They produced on average 13.5 (62%) correct translations.

They had 5.5 idiom translations missing, and 2.5 misunderstood on average. The difference between the results of the metaphor-finder group and the image group was not statistically significant, though ($p > .05$).

In the immediate gap-filling test, which was meant to measure paticipants' short-term retention of the idioms, the metaphor-finder group recollected on average almost 4 expressions correctly. When keyword-type responses are included (see section 3.2.3 above), the average climbs to almost 6. The fact that participants, in this group especially, often seemed to remember keywords but not the whole expressions might be due to the challenging nature of the task of identifying metaphors and categorising idioms, which may have prevented them from focusing on the precise form or lexical composition of the idioms. In the post-test (administered two days later to assess medium-term retention), the "metaphor-finders" recollected on average only 2 idioms (3.5 if we include key-word type responses). The image group, whose handouts had illustrations, but no explanation to go with the idioms, on average remembered 5 of the idioms correctly in the immediate test, and there were altogether only 6 keyword-type responses. The better retention under the image condition is not significant, however ($p > .05$).

4.3. Discussion of experiment three

Overall, students' scores under either condition in experiment three were below those obtained in experiment two. It may appear from this that only the explicit awareness-raising was effective since the implicit attempt at the activation of metaphorical competence via images and at encouraging self-reliant recognition of common sources without prior instruction did not significantly enhance comprehension. We need to remember, however, that both the metaphor-finder group and the image group had a lower level of proficiency in English than the students who participated in experiment two. This difference in general proficiency may partly explain the lower scores in experiment three, although we had tried to neutralise such a variable by providing all the basic vocabulary needed to comprehend the input text in a glossary.

Both ways of presentation in the third experiment assume that the same metaphorical competence that is at work in L1 is activated automatically when approaching a metaphorical expression in L2 too. For example, on hearing the sentence *Nem tudtam megemészteni, amit mondott* 'I could not digest what he said', probably no native Hungarian would have any problem in comprehending it. The underlying CM, IDEAS ARE FOOD, is

shared by Hungarian and English. Still, even though the subjects in our experiment knew the English word *stomach*, many failed (or hesitated?) to provide the correct translation for the English expression cited in the text (*I have not been able to stomach it.*).[8] As Kövecses (2001) notes, the passive existence of the CMs in the mind may not be enough, learners may need to be made aware of the metaphorical motivation of linguistic items. This is why the grouping by explicitly stated metaphor themes might well have been more effective.

There were also considerable differences between individual students within each group. For example, the number of correct responses in the immediate gap-filling exercise ranged occasionally from 0 to 19. Standard deviations were the highest in the metaphor group and the metaphor-finder group, which may suggest big individual differences in successfully applying CL insights. One of the factors influencing the success of identifying domains and mappings may be the cognitive style profile of the student (Boers and Littlemore 2000).

The metaphor-finder condition in particular yielded rather disappointing results. Identifying CMs appears to be a much more demanding task for language learners than cognitive linguists would expect. As Sternberg (1985) notes, vocabulary tests indirectly measure the ability to acquire new knowledge. The kind of knowledge that is likely to be acquired with ease, however, may well depend on the aptitude and interests of the learner. So, it is not inconceivable that repeat experiments with other student populations (e.g. language majors) might yield more encouraging outcomes from a metaphor-identification task.

Another factor behind the low success rate at identifying CMs could be time-management. For the metaphor-finder group, the task of identifying metaphor themes and grouping the idioms accordingly was also included with the translation and learning task, and these students had only five minutes more to do this than the other groups. The task may have been more difficult than we had expected, so perhaps providing some more time could have improved the success of learning.

The imager group did slightly better than the metaphor-finder group. In the case of the imager group we made use of pictures or drawings with a view to stimulating dual storage in memory (Clark and Paivio 1991; Stevick 1976; see also Kövecses, Tóth, and Babarci 1996–1998, a picture dictionary of English idioms, for an example of broad-scale application of this strategy with respect to metaphorical expressions). We selected pictures that were felt not just to illustrate a single idiom but that also carried reference to CMs and that might thus activate the (dormant) CMs in the minds of the learners. Gibbs (1990) provides convincing experimental

evidence for the psychological reality of mental images connected to CMs (e.g. THE MIND IS A CONTAINER and IDEAS ARE ENTITIES) which motivate the figurative meanings of idioms (e.g. *to spill the beans*). However, from our data it is impossible to tell whether any broader CM awareness was actually triggered in the participants' minds through the pictorial elucidation of the individual idioms.

5. Conclusion and call for further research

We have shown how explicit instruction of the metaphorical motivation behind the meaning extensions of polysemous words (experiment one) and the meaning of figurative idioms (experiment two) may aid comprehension and retention. However, for the method to be turned into a learning strategy, learners should be able to recognise the metaphoral motivation themselves, without explicit help from a teacher or course materials. This is why we decided to assess (in experiment three) the extent to which learners are able to do this with minimal instruction and awareness-raising. The overall results of the third experiment were rather disappointing although some individual students benefited more than others from elements of the task design that invited deep processing or dual coding.

Naturally, we need to acknowledge the limitations of this study (e.g. the small number of participants). The experiments could be replicated or modified in several ways. We are also aware that the various learning strategies we tried to stimulate in the task designs may interrelate and jointly cause effects, so it is hard to separate out the variables in CL-inspired pedagogy that best lead to learning. Many questions remain, and further research is needed to determine, for example:

1) How much explicit metaphor instruction is required to enhance learners' metaphor awareness sufficiently to help them apply it successfully and independently as a learning strategy in its own right?
2) To what extent do learners tend to appreciate the relevance of this kind of instruction, and what classroom activities would best contribute to such appreciation?
3) What other learning benefits could be obtained from this kind of instruction, apart from comprehension and retention?

The results of our experiments indicate that a one-off eye-opener is not sufficient to turn metaphor awareness into a learning strategy for the future processing of figurative lexis. A more extensive programme seems to be needed to achieve this; even so, individual differences would continue to play a part. Politzer and McGroarty (1985) found that several variables are

influential in strategy choice, for example, professional interests, sex, motivation, course level, teaching methods, and study goal. How well the strategies can be taught and used depends on several variables related to the context of learning as well as the profile of the learner (Chamot and Rubin 1994: 772; O'Malley and Chamot 1990).

We believe the methodology we advocate is beneficial for affective reasons too. The difficulties lying in the apparent arbitrariness of idiomatic expressions may be forbidding for students, who may turn towards this part of vocabulary with more frustration than interest. As Cooper (1999: 257) observes, during his experiment the participants "were poignantly aware of the pitfalls inherent in understanding L2 idioms and wanted more help in this area, especially a plan of attack for dealing with the frustration caused by L2 idioms". This is exactly what makes the recognition of metaphorical motivation, and metaphor-related strategies a special learning aid. The myth of arbitrariness is dissolved as soon as conceptual connections are recognized, and individual expressions are seen as parts of a meaningful network. It is not required that the students be able to provide a detailed mapping between source and target domains, list entailments, and formulate explicit correspondences that match exactly the linguists' descriptions in the case of every single idiom. But it may be possible to turn the learners' intuitions into a conscious approach to idioms and other lexical fields where metaphors and metaphorical extensions prevail. Heightened language awareness, enhanced by classroom exercises and explicit analysis and instruction in particular domains may be helpful later when encountering new instances.

The intuitive use of metaphorical competence in L1 could serve as a basis for approaching figurative language in L2. But, metaphorical competence in L1 develops without instruction, or conscious identification of either source and target domains, or mappings. Most linguistic expressions of CMs such as MORE IS UP (e.g. English: *prices are high*, Hungarian: *felmennek az árak*) are so evident that people do not think of them as metaphors at all. And because the network of meanings may be different across languages, the motivations for equivalents in different languages do not always match (e.g. the English expression <u>*Put aside* some</u> *time for ping pong* is based on the TIME IS MONEY metaphor while the Hungarian equivalent <u>*Szakíts* egy kis időt ping pongra</u> on TIME IS A SOLID MASS/OBJECT). Even having the same conceptual motivation does not ensure that certain figurative meanings will be expressed by forms which have the same literal meanings; for example, both English and Hungarian have the CMs THE SELF IS A CONTAINER, and SELF CONTROL IS BEING IN ONE'S NORMAL LOCATION, but the resulting *she was* beside *herself* and

magán kívül *volt* 'she was outside of herself' are different literal forms for the expression of the same figurative meaning. (The examples are taken from Kövecses 2005.) Therefore, cross-cultural differences in metaphoric themes and cross-linguistic variety in figurative expressions could be a useful pathway for raising L2-learners' metaphor awareness. Moreover, learners could be made to appreciate the relevance of the proposed metaphor instruction by being shown the pitfalls of careless transfer from L1. After all, even if two languages share the same metaphoric source domain for a given target, it is impossible to predict the exact form an idiom will take in either language (Kövecses 2005).

One of the most promising aspects of a cognitive semantic approach is that it offers intellectually challenging and motivating learning options. Several researchers have noted that the students were especially motivated and interested during the course of the experiments (Csábi 2004; Deignan, Gabrys, and Solska 1997) and we have found that the same goes for most of our students, too, even for the ones who had difficulty in dealing with the idioms. At the same time, it is true some were less positive about the tasks presented and did not put enough intellectual effort into solving them (e.g. did not provide translations). It has been noted (Deignan, Gabrys, and Solska 1997) that the effectiveness of the CM approach may be linked to the intellectual capacity of the learners, and this is a point to be considered in classroom use. Deignan, Gabrys and Solska (1997) also note that the approach might not be suitable for "students below mid-intermediate level who might not be equipped with the necessary metalanguage for discussion" (p. 358). However, other researchers avoid using linguistic terminology in the course of presentation and discussion as much as possible (Csábi 2004; Tóth 1999), and they have found that students are still able to grasp the major ideas.

The recognition of metaphorical motivation, besides aiding memory, may have some extra benefits for the language learner. For example, idiomatic expressions of different degrees of an emotion may be better understood if they are seen as a network of related items, and not handled simply as approximate synonyms. The potential entailments of the imagery of, for example, heating up fluid in a container provide some basis for in-depth comprehension. Our conceptual knowledge largely consists of cultural models. Such models can be thought of as prototype-based conceptual structures or schemas. An emotion concept such as anger is prototypically understood as a sequence of events beginning with a set of "antecedent conditions", a set of "behavioral responses", and a set of "self-control procedures" (Shaver et al. 1987). Thus, within one CM, various linguistic expressions may represent various stages of the process with

varying degrees of intensity. For example, different stages and degrees of emotion are reflected in *boiling with anger* and *to simmer down*; *fiery temper* and *smouldering*. Gibbs (1990: 439) found that "idioms referring to the same stage of a conceptual prototype (for example, *play with fire* and *go out on a limb*) were judged to be more similar in meaning" by native speakers than idioms referring to different stages.

In our experiments with the narrative text we tried to meaningfully contextualise target idioms in a developing storyline, with gradual escalation and resolution of the tension. This type of presentation should be more useful than independent one- or two-sentence contexts provided for the individual idioms because it reflects the position of the particular idioms relative to each other in the conceptual schemas. We have compared the recall rates of idioms expressing four different degrees of intensity of anger in the immediate gap-filling exercise. The four correct answers were: *burst out/explode*, *boiling with anger*, *keep smouldering/fuming* and *simmer down*. We found that the most varied range of expressions of anger which fit the given contexts best appeared in the tests of the metaphor group. This suggests that (in addition to the mnemonic benefits) an enhanced awareness of the source domains and CMs behind idioms can help learners build a deeper understanding of the meaning and use of the expressions.

Appendix 1: Gap-filling test used in experiment one

I. *Fill in the gaps with the inflected form of* hold *or* keep.

1. Kate is _____ a book in her right hand.
2. Ronald Reagan _____ the office of President for 8 years.
3. Jim hasn't got enough money to _____ his family.
4. The terrorists _____ them prisoner.
5. Jack _____ Joe's secret for 5 years.
6. You can _____ the book I lent you; I don't want it back.
7. Police are _____ two men because of the jewel robbery.
8. Jane _____ a diary for 15 years.
9. It is very expensive to _____ a large house.
10. Mr. Smith does not _____ the right degree for this job.

II. *Fill in the gaps with the learned phrasal verbs.*

1. Jim cannot stay at the same workplace for a long time. He cannot _____ _____ a job for more than a month.
2. The teachers _____ John _____ at school on Monday to finish his homework.
3. The heavy traffic _____ us _____ and we couldn't get to the airport in time.
4. Can't you read? The notice says "Danger – _____ _____ !"
5. The joke was very funny and James could not _____ _____ laughter.
6. Our king has not got enough soldiers to _____ _____ these people.

III. *Fill in the gaps with the learned idioms.*

1. John is usually friendly and polite with his colleagues, but he has not yet made friends with any of them. He _____ them _____ .
2. Jane: I want to tell you something, Dad. I'm getting married next month.
    Dad: What?! You're marrying Jim? I can't believe it! I don't want you to do it!
    Jane: Don't be so angry, Dad. Just _____ .
3. So, you'll participate in a competition on Saturday. I hope you will win. I'll _____ for you.
4. Bill: I don't know what to do now. Jane will tell my wife and my family everything about our love affair. I am so embarrassed and ashamed. I will never be able to _____ again.
5. Bob: Yesterday my daughter told me that she broke my favourite and very expensive vase. I was very angry with her and I wanted to scold her but I didn't. I _____ .
6. Kate: I have something to tell you, Sue. But don't tell it to anyone.
    Sue: All right. I will _____ this _____ .
    Kate: Fine. I am getting married to Peter next month.

Appendix 2: The English idioms in experiments two and three and how they relate to their Hungarian counterparts (s = same; d = different)

English	lit. sense	fig. sense	CM	Conceptual metaphor / Metonymy
She breathes fire	D	S	S	ANGER IS FIRE, INTENSITY IS HEAT
Add fuel to the fire	D	S	S	MAINTAINING INTENSITY IS MAINTAINING HEAT
I got hot under the collar	D	S	D	ANGER IS HEAT
A fiery temper	S	S	S	ANGER IS FIRE
I kept smouldering	D	S	S	ANGER IS FIRE
She explodes	S	S	S	ANGER IS HOT FLUID IN A CONTAINER
I blew my top	D	S	S	ANGER IS HOT FLUID IN A CONTAINER
Anger welled up inside me	D	S	S/D	ANGER IS HOT FLUID IN A CONTAINER
Fly off the handle	D	S	S	SELF CONTROL IS BEING IN ONE'S NORMAL LOCATION
To simmer down	D	S	D	ANGER IS HOT FLUID IN A CONTAINER
I was boiling with anger	S	S	S	ANGER IS HOT FLUID IN A CONTAINER
I was fuming	S	S	S/d	ANGER IS HOT FLUID IN A CONTAINER
She burst out	S	S	S	ANGER IS HOT FLUID IN A CONTAINER
It drives me mad	S	S	S	ANGER IS INSANITY, LACK OF CONTROL IS INSANITY
Send sby into a fury	D	S	S	ANGER IS INSANITY
She was beside herself	D	S	S	SELF CONTROL IS BEING IN ONE'S NORMAL LOCATION, THE SELF IS A CONTAINER
I unleashed my anger	D	S	S	AN ANGRY PERSON IS A DANGEROUS ANIMAL, ATTEMPTING EMOTIONAL CONTROL IS TRYING TO HOLD BACK A CAPTIVE ANIMAL
I bit his head off	S	S	S	AN ANGRY PERSON IS A DANGEROUS ANIMAL
She just snapped at me	D	S	no / s	AN ANGRY PERSON IS A DANGEROUS ANIMAL
Stomach sg.	D	S	S	IDEAS ARE FOOD
Go on the warpath	D	S	S	AN ARGUMENT IS WAR
I was sore at her	D	S	S	THE MIND IS THE BODY

Appendix 3: Materials used in experiment two[9]

The reading text

My friend Jenny is a really moody girl. Sometimes she is happy and does everything for you. The next day she *breathes fire*, and just *explodes* whatever you say. What really *drives me mad* is that you never know what to expect.

I know people sometimes have a bad day and the smallest thing can *send them into a fury*, but I really *blew my top* because of her attitude two weeks ago, and I still have not been able to *stomach it*. We agreed to go to a concert, and I promised to buy the tickets.

The date of the concert was approaching fast, and as I had been trying to reach the ticket office by phone without any success for two days, and could not book the tickets, anger *welled up* inside me and I was close to *flying off the handle*. To *add fuel to the fire*, my boss gave me some extra work to do.

Finally, I went to the office the day before the event. I asked the receptionist where I could buy the tickets. When he told me he did not know anything about the tickets, I *unleashed my anger* and almost *bit his head off*, so he got a bit scared, and called the office of the organizers. He told me that the restaurant was dealing with the reservations, so I went there.

I was trying to *simmer down*, but a minute later I *was boiling with anger* again, because it turned out that the people at the restaurant did not know about the concert, either. They advised me to go there an hour before the concert and buy the tickets *on the spot*. I thought I had done everything I could to get the tickets, without any success, so I *was fuming* all the way home.

I could not go there early before the concert, so I called Jenny and asked if she could go early and buy a ticket for me too. She just *snapped at* me! She sounded as if she *was beside herself*. She *burst out*, saying she could not go early, either, and did not know if she could get me a ticket, even if she got one herself, anyway.

First I got really *hot under the collar*, as I have quite a *fiery temper* too. Then I realized it was not worth *going on the warpath* with an old friend because of such a small thing. In the end she got some tickets just before the concert. Still, I was *sore at* her because of her selfish reaction, and kept *smouldering* for a week.

Glossary:

To well: (fel)bugyog, kiárad	Handle: nyél, kilincs, fogantyú
Fuel: üzemanyag	Leash: póráz
To simmer: lassú tűzön főz/párol	On the spot: a helyszínen
To fume: füstöl, gőzöl	To snap at sg: vmi után kap (kutya)
To burst: kirepeszt, szétrobban	Path: ösvény
Selfish: önző	To smoulder: parázslik

Translation and retention task

Intruction for control group:

Try to translate and remember the following expressions from the text:

she breathes fire	she explodes
it drives me mad	to send sby into a fury
I blew my top	I have not been able to stomach it
anger welled up inside me	to fly off the handle
to add fuel to the fire	I unleashed my anger
I bit his head off	to simmer down
I was boiling with anger	I was fuming
She just snapped at me	she was beside herself
she burst out	I got hot under the collar
I have a fiery temper	to go on the warpath
I was sore at her	I kept smouldering

Instruction for metaphor group:

English has a lot of expressions meaning someone is/gets angry. There are some metaphoric themes that connect these. Try to translate and remember the following expressions from the text:

ANGER AS FIRE

she breathes fire	to add fuel to the fire
I got hot under the collar	I have a fiery temper
I kept smouldering	

ANGER AS HOT FLUID IN A CONTAINER

she explodes	I blew my top
I was fuming	anger welled up inside me
to fly off the handle	she burst out
to simmer down	I was boiling with anger

ANGER AS INSANITY

it drives me mad	to send sby into a fury
she was beside herself	

ANGRY PERSON AS A DANGEROUS ANIMAL

I unleashed my anger   I bit his head off
she just snapped at me

OTHERS

to stomach something   to go on the warpath
I was sore at her

The gap-filling exercise

Have you ever thought about anger? A graffiti says: To be angry is to take revenge
on yourself because of somebody else's stupidity.

   Let us suppose you are standing in a long line in front of the ticket office at the
railway station. Most people hate queuing, so probably anger is …………….. up
inside you as you are waiting. To add ………………..……, a boy comes up to you
and asks if he could stand in front of you, because his train is leaving soon. You
deny his request. However, he does not give up, and tries with the lady in front of
you. She agrees. At this point you are probably …………………. with anger.

   You have three choices: if you are really aggressive, you …..…………….. off,
and make him leave. If you are polite, you keep …………………… without
saying a word, or try to ……………….. down. If you have a really
……………….. temper, probably the first thing happens. This may get you into
trouble, because in fact he may be stronger, and you would make a fool of yourself
arguing loudly in a ……………………. in front of a crowd, anyway.

Specialists say expressing your anger is actually one of the worst ways to cool
down, because your anger keeps growing until you ………………….., and it stays
longer. You may have the feeling that you have let go of the tension, but your body
has gone through intense physical stress.

   The next option is if you keep ………………….. . Again, your body and soul
suffers. But if you try to take a more positive and rational approach, and accept that
it may be a real emergency for him, or even try to put yourself into his place, you
may realize it is not worth going on the …………………………… , anyway.

   If you are unable to ……………………. some offence from a friend, it is even
worse. Being ……………………. at somebody damages your relationship with the
person, and your health, too.

List any other expressions that you remember:

...

Notes

1. The reasons for choosing *hold* and *keep* are that both are high-frequency words which have conventionalized figurative uses that tend to present a problem for learners of English.
2. More detailed descriptions of the experiments reported in this chapter can be found in Csábi (2004) and Beréndi (2005).
3. Cf. Proctor (1987).
4. Cf. Cowie (1989).
5. A more detailed report of these experiments can be found in Beréndi (2005).
6. Identifying CMs themes and categorizing expressions raises numerous methodological problems due to overlaps of source domains and different degrees of specificity of proposed CMs (e.g. the more general heat metaphor vs. the more specific fire and hot fluid metaphors). We need to acknowledge the possibility that our participants may not have felt much conceptual distance between the source domains of fire and hot fluid (e.g. *He was fuming*), and may have resorted to the more generic heat metaphor. Our choice was inspired by the consideration that a more specific level of CMs is likely to evoke more concrete imagery which, in turn, may promote dual coding.
7. This trend remains if we conflate the fire and hot fluid metaphors into one heat metaphor. For the control group, the mean number of same CMs would then be 3.26, while for the metaphor group it would be 4.41.
8. Kellerman's (1978, 1987) work on native-speaker intuitions about the transferability into L2 of L1 metaphorical expressions is very relevant here.
9. We acknowledge that natural discourse is highly unlikely to be as packed with idioms as the text we used in the experiments. Let it be clear that we contrived this text for the purpose of experimental research rather than classroom use.

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Conceptual metaphoric meaning clues in two idiom presentation methods

Sophia Skoufaki

Abstract
Cognitive linguists have been exploring how giving learners information about the motivation of L2 idioms can facilitate comprehension and retention. Results overall are encouraging, but the relative effectiveness of different proposals has not yet been examined. In this chapter I report a small-scale experiment that was set up to compare the relative effectiveness of two CL-inspired idiom presentation methods. In both conditions learners were presented with idioms that were grouped under conceptual metaphors (CMs). In one condition the meaning of each idiom was given, while in the other condition the learners were encouraged to use CM clues to guess the meaning before it was explained. Post-test results suggest that the addition of a guessing task is likely to enhance the effectiveness of presenting idioms in CM groups. The participants were relatively unsuccessful at guessing the meaning of the idioms correctly, though, and this indicates that a fair amount of guidance and feedback is required for this method to pay off in the classroom.

1. Introduction

Idioms have often been considered to be an unsystematic part of the lexicon and hence difficult to teach (e.g. Sornig 1988: 281). Cognitive Linguistics (CL), however, claims that many idioms are motivated by conceptual metaphors (CMs) and metonymies (e.g. Kövecses and Szabó 1996: 337–338; Lakoff 1987: 448–449).

In recent years, cognitive linguists have been exploring the effect that giving learners information about the motivation of L2 idioms can have on comprehension and retention (e.g. Kövecses and Szabó 1996; Boers 2000). Results are encouraging, but the relative effectiveness of the various

proposals has not yet been examined. This chapter reports the results of an experiment that was set up to compare the relative effectiveness of two idiom-instruction methods, both of which involve providing learners with CM clues.

2. Two CL-inspired methods of L2 idiom presentation

The first CL proposal for L2 idiom instruction was to present idioms in CM groups. Grouping idioms appears to be a beneficial method of presentation because it seems in general to be congruent with people's preferred vocabulary learning methods. Schmitt (1997: 211–217) refers to studies which (1) show that in unprompted free recall tasks people tend to retrieve words in category clusters and (2) indicate that when words are presented in categories they are better remembered. Schmitt also cites a study showing that relatively advanced L2 learners use grouping strategies in vocabulary learning more than beginners do. However, the problem with this method of idiom instruction is that idioms differ along more than one variable, so diverse categorisation criteria have been proposed. For example, Sornig (1988: 286–288) proposes three: according to (1) the surface structure of the target idioms, (2) their motivation, and (3) the communicative purpose they serve (e.g. to describe a situation, to serve as phatics). Moon (1997) proposes a number of possible categorisations, including categorisation by speech act and by the situations in which idioms could be used.

    A further teaching method is that of encouraging students to guess the meanings of idioms. Irujo (1984), for example, proposed that teachers instruct L2 learners how to guess idiom meanings from context because this instruction could lead to the development of an idiom-meaning guessing strategy and hence to the learning of more idioms than can be taught in class (Irujo 1984: 128–129). In a later publication, Irujo (1993: 217) argues that focusing students' attention on the features of idioms through urging them to guess at their meaning in context may lead to better learning since the idioms that seem to be learned best are the most transparent ones. Lennon (1998), although without presenting new empirical evidence, has also proposed that learners be encouraged to guess at the meaning of idioms. His rationale is that this will involve deeper processing and should therefore lead to better retention.

3. Cognitive Linguistic experimental data on the idiom-grouping method

Kövecses and Szabó (1996) were the first to investigate the impact of CM groupings on L2 idiom learning. Their main aim was to see whether presentation of L2 vocabulary in terms of CM groupings would lead to better vocabulary memorisation than the simple presentation of words accompanied by their L1 equivalents. Hungarian adult intermediate-level learners of English were taught phrasal verbs with *up* and *down*. Half of the participants were presented with the Hungarian equivalents of the phrasal verbs and the other half with the underlying CMs as well. In the test phase following the instruction phase, participants had to fill in gapped sentences with *up* or *down*. Half of the sentences contained the phrasal verbs from the learning phase and the rest contained phrasal verbs that had not been taught. The group that had received the CM instruction gave a higher percentage of correct responses than the other group as far as the taught phrasal verbs were concerned. The researchers did not ascertain whether this difference was statistically significant, though. Moreover, rather than being caused by this *specific* categorisation principle, the better performance under the CM condition might be the consequence of categorisation in general. Psycholinguistic experiments comparing the relative ease of vocabulary learning across different kinds of input categorisation have shown that almost any kind of grouping leads to better memorisation than no grouping at all (Higa 1963; Tinkham 1993, 1997; Waring 1997).

In his first experiment, Boers (2000) compared the effectiveness of grouping new vocabulary by CMs and by functional themes. In his experiment (Boers 2000: 554–557), Belgian native speakers of Dutch who were intermediate-level learners of English were asked to fill in a gapped text with figurative lexis used to describe anger, namely, idioms (e.g. *bite someone's head off, be hot under the collar*), metaphorical words and collocations (e.g. *explode, be fuming, inflammatory remark*), and phrasal verbs (e.g. *simmer down* and an expression stemming from a phrasal verb, *be steamed up*). The items had been presented to one group of students according to a CM grouping (e.g. according to whether they expressed ANGER IS A HOT FLUID IN A CONTAINER or ANGER IS MADNESS) and to another group according to functional dimensions such as *to describe acute and sudden anger, to describe anger as a process*. The group that was presented with these lexical items in CM groups outperformed the other group significantly.

Luciani de las Mercedes (2001: 47–49) conducted a similar study with advanced Spanish learners of English, half of whom were encouraged to think of newly-presented vocabulary (prepositions, metaphorical words, and verbal idioms) in terms of CMs and the other half in terms of functional groupings. For example, in the first condition the sentence *She needs some direction in life* appeared under the title LIFE IS A JOURNEY and *Get the most out of life* appeared under LIFE IS A CONTAINER. In the other condition these sentences appeared under the title TALKING ABOUT LIFE. The group that had received the CM instruction performed significantly better in cloze tests in the course of which they had to choose from a selection of the words which had been taught (Luciani de las Mercedes 2001: 54–55). Luciani de las Mercedes gave another group of participants exercises that alerted them to the CM basis of certain conventional metaphoric expressions. The majority of both the participants and the L2 teachers who administered the exercises considered the exercises useful, interesting and innovative (Luciani de las Mercedes 2001: 50–52).

Boers's and Luciani de las Mercedes's experimental results suggest that CM categorisation may be more effective than a functional one. However, because these researchers tested participants on more than one category of lexical items, no claims can be made about which kind(s) of vocabulary are indeed learned more effectively when CM categorisation is used. The results from Li (2002: 187–190) suggest that different categorisation principles may differentially affect the memorisation of metaphorically used words and short collocations but not that of verbal idioms. In his fourth experiment, Li compared the performance of three groups of EFL-learner, first-year Chinese university students in a cloze test where the target items, English V+NP (PP) idioms, were presented (1) without any additional context and (2) with one or two words missing from each idiom. For instance, the test for *spill the beans* was "to spill _____". These idioms had been taught to the three groups of participants in three ways:

1) To the first group in semantic sets[1]. For example, the idioms were presented under the titles Anger, Exerting Authority, Secretiveness, Insanity, and Revelation.

2) To the second group in CM sets embedded in a semantic categorisation. For example, the idioms *hit the ceiling*, *foam at the mouth*, and *lose your cool* were those presented under the title Anger in both conditions, but in the second condition, the title Anger was followed by the expressions denoting the underlying CMs, THE MIND IS A CONTAINER, ANGER IS HEAT.

3) To the third group according to CM sets embedded in a semantic categorisation, complemented by questions aimed to evoke mental images. For example, for the idiom *hit the ceiling* the questions were (Li 2002: 158): "What image do you have in your mind when you read *hit the ceiling*? Where does this force come from? What's the result after the ceiling was hit? Who hits the ceiling?"

The same cloze test was administered both immediately after the teaching phase and a week later. In both tests, neither of the CM conditions led to significantly more correct answers than the semantic condition. This result may be due to verbal idioms being too long to memorise correctly after just one presentation or to their being lower in transparency than other kinds of figurative expressions. These speculations seem plausible because in his first experiment, Li did find better performance in a cloze test for the CM than the semantic conditions when teaching the same kind of learners conventional metaphoric usages of words (Li 2002: 178–179).

One final point about this research is that Boers's and Luciani de las Mercedes's experiments tested for memorisation of both form and meaning at the same time through the use of cloze tests. This kind of test does not enable one to distinguish the effect of the instruction method on the memorisation of *form* from its effect on the memorisation of *meaning*. Idiom-instruction methods might have a differential effect on the memorisation of form but not on that of meaning or vice versa. Therefore, it could be useful to use tests that examine form and meaning retention separately.

4. Cognitive Linguistic experimental data on the idiom-meaning guessing method

Experimental testing of the viability of the idiom-meaning guessing method has been sparse, but it has recently been increasing. Irujo (1993), Kövecses and Szabó (1996), and Boers (2000) draw conclusions about the effectiveness of this method in experiments addressing other questions. Boers and Demecheleer (2001) devote an experiment to a question more directly related to this issue. Finally, recent studies by Csábi (2004), and Boers, Eyckmans and Stengers (2007) indicate that a combination of this method with the provision of unambiguous meaning clues may be an effective idiom-instruction option.

In Irujo (1993) the task was to translate paragraphs including idioms from L1 Spanish to L2 English. Irujo conducted correlation analyses between, on the one hand, the number of correct translations and, on the

other, (1) the frequency of the idiom's use by L2 native speakers, (2) the idiom's transparency, and (3) whether the L1 idiom was totally equivalent to, similar to, or different in form from the L2 idiom. The second strongest correlation was for the factor of transparency. This finding was taken as an indirect indication that learners tend to think about idiom transparency and this process helps them memorise idioms. Therefore, Irujo considered that focusing the students' attention on idiom features through urging them to guess at the meaning of idioms could lead to better learning (Irujo 1993: 217).

In addition to the issue of grouping idioms by CM, Kövecses and Szabó (1996) studied whether L2 learners, once they have been introduced to the notion of CMs, develop a strategy of guessing at the meanings of new idiomatic expressions of taught CMs. The higher performance of the CM condition (as compared to the no-categorisation condition) with respect to the untaught items led Kövecses and Szabó to conclude that it was the CM condition that enabled students to use CMs to guess at the meaning of novel phrasal verbs. This evidence is encouraging for the idiom-meaning guessing method because it seems to show that people are more likely to guess correctly the meaning of at least some idioms (i.e. phrasal verbs) once they have been encouraged to use their CM knowledge than when not.

The third experiment in Boers (2000: 559–562) replicated the design of Kövecses and Szabó (1996) but used more participants and different input. Boers used CMs to group phrasal and prepositional verbs with *up*, *down*, *in*, *out* and other prepositions. For example, *blow up* and *cut down* appeared under the title MORE IS UP; LESS IS DOWN and *come up with an idea/solution* and *find out something* appeared under VISIBLE IS OUT AND UP; INVISIBLE IS IN AND DOWN. The test phase was a cloze test where, among the words to choose from, were also words that had not been taught. Significantly better retention was found in the CM condition with regard to the taught items, but not with regard to the untaught ones. The latter finding may be explained by the fact that some of the untaught items instantiated CMs different from those used in the instruction phase (Boers (2000: 562).

In the aforementioned studies, meaning guessing was considered to occur during the solution of exercises containing unknown words. In contrast, in Boers and Demecheleer (2001) L2 learners were explicitly asked to guess at the meaning of imageable idioms[2] presented out of context. The finding that relates to our discussion is that at least 35% of the definitions learners gave pointed to the same general metaphorical meaning as the stimulus idiom. However, as Boers and Demecheleer admit, the number of idioms used was small. Moreover, only a small percentage of meaning guessing was absolutely successful. Nevertheless, Boers and

Demecheleer propose that students be encouraged to guess at the meanings of idioms and be given corrective feedback afterwards. They suggest that presenting idioms in contexts will facilitate correct guessing. Research on inferring the meaning of novel L2 words in context shows very low percentages of successful guesses, though (e.g. Herman et al. 1985; Nagy, Herman, and Anderson 1985a, 1985b).

In terms of retention of the form of idioms, an incorrect analysis of the link between the form and the meaning of an idiom in a guessing task may carry the risk of production errors. For example, in the first experiment reported in Skoufaki (2005)[3], where Greek advanced learners of English guessed at the meaning of L2 VP idioms, many of them interpreted *chew the fat* as 'become slim' or 'lose weight' when it appeared out of context. Such an interpretation might lead to mistakes in the production of the idiom in their speech, such as *fight the fat* or *lose the fat*.

The studies reported in Csábi (2004) are also indirectly linked to the issue of the efficacy of idiom-meaning guessing. In these experiments, teenage Hungarian native speakers learning English as a foreign language were first taught meanings of the verbs *hold* and *keep*. They were then taught phrasal verbs containing these verbs (e.g. *hold back something* and *keep in something*), and, finally, VP idioms containing these verbs (e.g. *hold one's head up* and *keep something under one's hat*). In the phrasal-verb and VP idiom-teaching conditions, subjects were either given clues of their semantic motivation or just given their meaning in Hungarian. In the instruction phase of the idioms, drawings meant to evoke mental images of the literal meanings of the idioms were made on the blackboard. Learners were not asked to guess at the meaning of the expressions they were presented with, but they usually voluntarily voiced their interpretations and in many cases they were correct, so then Csábi did not have to give the L1 equivalents (Csábi, personal communication).

After each instruction phase, there was a cloze test from which the *whole* expressions were missing. The same cloze tests were administered to participants one day after the treatment in the first experiment and two days after it in the second experiment. Data were analysed not only for the correct answers to the cloze tests but also after collapsing the correct answers and those that were not absolutely correct but included the correct verb, at least. The total scores of the "motivations" condition were superior to those of the "Hungarian meaning equivalents" condition.

The results for the VP idioms seem especially interesting. Idioms were "the most difficult to remember, since the number of correct results was the lowest there" (Csábi 2004: 248). Csábi attributes this result to idioms being too long to memorise precisely in such a short period of time. Another

noteworthy result was that in her second experiment the number of entirely correct answers was higher when just the Hungarian idiom meanings were given to the learners than when their motivations were explained as well. However, when she collapsed the data of the correct and the nearly correct answers, the latter condition had a significantly higher score. These results may be taken to suggest that, whenever idioms were guessed at with the help of their motivations, guessing led to superior results in form retention as compared to when there was mere presentation of idiom meanings. However, the results cannot be totally attributed to the learners' meaning-guessing attempts. Firstly, meaning guessing was done on the students' initiative. Secondly, as Boers and Lindstromberg (2006) point out, results may be partly due to the use of pictorial input only in the experimental condition. The higher score for the traditional instruction method when totally correct answers were counted indicates that the length of VP idioms and/or other factors, such as low transparency, may block the beneficial effect that a vocabulary-instruction method involving guessing can have on memorisation.

An idiom instruction method similar to that in Csábi (2004) is reported in Boers, Eyckmans and Stengers (2007). It is a variation of the experiments on "etymological elaboration" by Boers and his colleagues (Boers 2001; Boers, Demecheleer, and Eyckmans 2004a, b). Etymological elaboration refers to the practice of making learners aware of the historical-cultural-etymological origin of idioms. This practice is believed to call up in learners' minds mental images of concrete scenes that can be stored in memory alongside the verbal form (and any propositional meaning) of the idiom – in short, lexical information can be dually coded. In the control condition, participants were asked to identify the meaning of each idiom first and then the domain of experience from which the idiom stemmed (e.g. warfare, sailing, gardening, commerce, sports). In the experimental condition these tasks were reversed, so that these students received feedback about the origins of the idioms before they were asked to guess at the figurative meaning of the expressions. Results indicated a tendency towards more correct meaning guesses in the experimental (etymological-elaboration-first) condition than in the control (etymological-elaboration-second) condition.

A secondary aim of this experiment, but one that relates to our discussion, was to see whether the condition where the etymological information preceded the meaning guessing would lead to better form retention of the idioms taught, as measured in cloze tests in which the keyword of each idiom was missing. Students in the experimental condition indeed tended to outperform their control peers. This result was interpreted

with a depth-of-processing argument: the information about the origins of the idioms was probably actively used by the experimental students to figure out the figurative meaning of the idioms. The assumption is that depth of processing of newly presented vocabulary determines retention. This is also a conclusion that Hulstijn (2003: 364) reached in his review of the literature on vocabulary learning.

There are some reasons for scepticism about the effectiveness of idiom-meaning guessing, however. For one thing, some L2 learners may prefer to use mechanical word learning strategies rather than those requiring deep processing (Schmitt 1997). For another, students' guesses are quite often wrong, and this may carry the risk of negative affect setting in. Still, Csábi (2004) and Boers, Eyckmans, and Stengers (2007) do indicate that when the idiom-meaning guessing task is properly guided, relatively high success rates can be obtained. Given that the presentation of idioms in CM groups could be part of such guidance, the following question arises: is a combination of the guessing method with the grouping method more effective in promoting retention than the grouping method alone?

5. Conceptual Metaphoric grouping of idioms versus a Hybrid idiom instruction method

Table 1 sums up the tasks for each of the conditions in the experiment.

Table 1. Experimental design overview

Condition	Instruction phase	Practice phase	Test phase
1	Metaphor groups.	"Meaning-focused": Students see all the target items in italics in two texts. Then, they answer three questions, each including each item.	(a) Retention for re-production, i.e. of form: cloze test.
2	Metaphor groups + meaning guessing.		(b) Retention for comprehension, i.e. of meaning: answering questions containing a target expression
3	Metaphor groups.	"Form-focused": In the texts from conditions 1 and 2, the items included in the questions in those conditions are missing.	

In condition 1, participants were presented with figurative expressions which were in CM groups and accompanied by their definitions, in Greek, along with sentences illustrating their meaning. The participants were then asked to read through all this information. In condition 2, participants were presented with the expressions in the same CM groups but without the definitions and examples. These participants were asked to write what they guessed each expression meant on the basis of the cues they were given by the (CM) group titles.

In both conditions, a practice phase was inserted between the instruction and the test phases. Participants were asked to read texts which included, in italics, all the expressions they had been taught previously and then they were given three minutes to jot down their answers to questions each of which included one of the taught expressions. They were instructed to answer each question by expressing the meaning of the taught items in their own words.

Psychological research shows that there are learning-test congruency effects. For example, DeKeyser and Sokalski (2001), in their critique of experiments by VanPatten and Cadierno (1993a, 1993b) which suggest that comprehension practice shows the same effect in production tests as production practice, point to learning-test congruency effects. They conclude that "[…] to comprehend input, language learners need practice comprehending input; to produce, they need practice producing." (DeKeyser and Sokalski 2001: 86). In the area of L2 word learning, Barcroft (2002), for example, found higher retention scores for the L1 meaning equivalents of L2 words when the L2 words had been taught through a semantic rather than a structural elaboration task and the reverse result for the retention of L2 word forms. To control for possible congruency effects, I added one more condition (condition 3), where students were given production exercises (cloze tests) to do in the practice as well as in the test phase and compared this condition with condition 1, which had only comprehension tasks in the practice phase. Apart from the practice phase, condition 3 was identical to condition 1.

The experiment finished in all conditions with two unannounced post-tests. One was a cloze test, where parts of some of the target vocabulary were missing. After they had finished this task, participants were presented with a list of questions, each containing one of the idioms taught and requiring knowledge of the idiom's meaning to be answered.

5.1. Participants

The participants were Greek students at the University of Athens studying various disciplines and attending classes for the CPE (Cambridge Proficiency in English) examination. Participants were randomly assigned to conditions. There were 10 participants in each condition. The experiment took place in classrooms at the Language Centre of the University of Athens, Greece.

5.2. Materials

VP idioms were the primary focus in the experiment. To construct the materials, I selected twelve VP idioms that are used to talk about two target domains, morality and comprehension. The idioms to talk about morality were related to MORAL IS UP and MORAL IS CLEAN: *take the high road*, *take the high ground*, *fall from grace*, *do the dirty on someone*, *be squeaky clean* and *dish the dirt on someone*. The idioms used to talk about comprehension were related to SEEING IS KNOWING and HOLDING IS CONTROLLING: *light dawns on someone*, *blind someone with science*, *be clear as mud*, *come to grips with something*, *get a handle on something* and *get the wrong end of the stick*. I consulted various idiom dictionaries for the selection, but the definitions chosen for use in the materials are usually those of the *Collins COBUILD Dictionary of Idioms* (Sinclair and Moon 1995) because they have the features that McKeown (1993)[4] considers necessary for a definition to be understandable. The sentences used to illustrate the meanings of idioms were selected from the dictionaries – the criteria being lack of potentially unknown words, brevity, and use of context that helps to highlight the meaning of an idiom. If I could not find such examples, I created my own.

Although the primary aim was to compare the retention of VP idioms under different presentation methods, I also included other kinds of figurative expressions used in talk about morality and comprehension that instantiate the same CMs. The inclusion of those expressions was meant to assess whether the effectiveness of the two presentation methods under investigation would differ significantly for lexical units other than idioms. The additional expressions were six NP collocations (e.g. *dirty deed* and *high standards*), three phrasal verbs (e.g. *trace out something* and *catch on*) and two prepositional verbs (*see through someone/something, grope for something*)[5].

In light of the results of three norming studies[6] I conducted before this experiment with the participation of groups of students sharing the same profile as the participants in the actual experiment, I was confident that the lexical items I intended to use would be unknown to the participants and that the example sentences, the texts and the questions in the test phase would not contain unknown words that might hinder their comprehension. The first norming study (N 12) tested only for knowledge of VP idioms (it was initially conducted as a norming study for another experiment sharing the same idioms). The second norming study (N 12) was conducted to test whether the other figurative expressions I would use in the experiment were unknown to the participants as well; it also tested for the knowledge of the idioms used in the experiment, so that the power of the first norming study would be increased. The second norming study indicated that some of the other figurative expressions were known to participants, so I replaced these expressions with others and did a third norming study (N 10) to test for the knowledge of the substitute expressions, and to increase the power of the previous norming studies as far as their results for the idioms and the other figurative expressions were concerned.

The norming studies shared the same design and procedure. Each had three phases. In the first phase, participants had to state whether they knew the input items that I intended to use in the main study and to write the meanings of those which they knew. In the second phase, they were asked to go back to all of the target expressions and underline unknown words within them. In the third phase, they saw the example sentences I intended to use in the instruction phase along with the cloze texts and questions for the test phase, the idioms and other input items being in italics. They were asked to underline any unknown words, apart from the italicised expressions. They had to circle those words if they thought not knowing them rendered the sentences that included them difficult to comprehend.

The norming studies generated very few correct definitions from the students. They ranged between 3% (for the most difficult expression) and 9% (for the easiest expression). Therefore, I felt these target expressions were extremely unlikely to be known to the participants in the actual experiment, to which we turn in the following section.

5.3. Design and Procedure

Participants were given a booklet with the input materials. On the first page were the instructions, on the second the materials for the "morality" idioms, and on the last one the materials for the "comprehension" idioms. The

instructions were adapted from Boers (2000, Experiment 1). The instructions for conditions 1 and 3 were: "English has many figurative expressions to express actions, emotions, and situations. Below are some figurative expressions referring to specific meanings. Idioms expressing each meaning are grouped according to the metaphor they express." The instructions for condition 2 were: "English has many idiomatic expressions to express actions, emotions, and situations. Below are some idioms referring to specific meanings, namely morality and comprehension. Idioms expressing each meaning are grouped according to the metaphor they express. Please try to guess the meaning of each idiom and write your guess in Greek in the space provided. If you know what an idiom means already, please write *KNOWN* first and then write its meaning." Appendix 1 shows what the input sheets for the expressions about morality looked like in each of the three conditions.

Before the instruction phase started in each condition, I explained to the participants that in every language there is a tendency for words with a certain first literal meaning to acquire a certain metaphorical meaning and said that the figurative expressions they were going to see were grouped according to such metaphoric associations between concepts in the English language. I then explained to them what I meant by each title in the handouts. For example, for the title "Morality as being up", I said that the concept of height is linked to that of morality in a way that words that have a first literal meaning relevant to height tend to acquire one relevant to morality.

In conditions 1 and 3, learners were instructed to take turns in reading the idioms and the definitions in the classroom. (I acknowledge that such reading-aloud activities are controversial, but these still happen to be common practice in many Greek schools, and I did not want to deviate too much from familiar classroom practice.) I explained any unknown words. Then I asked participants to spend seven minutes reading the materials on their own and try to memorise both the form and the meaning of the expressions. In condition 2, I asked participants to underline words that were unknown to them inside the idioms (e.g. many of them asked me what *dawns* means in *The light dawns on someone*). I explained these words and told the participants they could note these meanings down.

After the guessing phase, which was timed for 20 minutes, participants in condition 2 were given the input of condition 1 as feedback. They had ten minutes to first compare their interpretations with the definitions and then read through the whole feedback booklet and ask me about any unknown words in the examples. As mentioned above, in the other

conditions participants read the input aloud in the classroom as if in a lesson and asked me for the meaning of any words unknown to them.

I conducted the experiment with two participants at a time. Given that people differed in the time they needed to finish each task, the time of the instruction phase was not the same for all participants, but the instruction phase in condition 1 never exceeded 30 minutes and, as mentioned already, I asked students in condition 2 to finish the guessing task in 20 minutes. Therefore, the time invested was more or less the same across conditions, with the exception of three participants in condition 2. They could not finish the guessing task in time and so I allowed them five more minutes, maximum. However, this extra time investment did not result in superior results in the post-tests (see below).

As mentioned in the overview of the experiment, all conditions included a practice phase. Participants had to read texts which included, in italics, all the expressions they had been taught previously and then they had three minutes to jot down their answers to questions each of which included one of the target expressions. Then we discussed their answers and, when necessary, I corrected them afterwards.

In condition 3, the practice exercise consisted in reproducing the input lexis rather than displaying comprehension only. In other words, condition 3 stimulated a stronger focus on form than the other conditions. The exercise was a cloze test constructed out of the texts used in the practice phase in the other conditions. Participants had to fill in the missing parts of the figurative expressions. The materials used in the practice phase in each condition are presented in Appendix 2.

After the end of the practice phase, I collected those papers and gave participants two cloze tests to do in ten minutes. One cloze test omitted parts of the expressions related to the concept of morality; the other target parts related to the concept of comprehension. Each cloze test tested for four of the target idioms expressing each concept. The first cloze test also tested for four NP collocations and the second for two prepositional verbs and two phrasal verbs. After this task, I took those papers away as well and asked participants to answer the questions that required retention of the idioms' meanings, giving them 20 minutes for this task. For both tasks, I advised them to ask me about the meaning of any unknown words, other than the target expressions, that they might have (see Appendix 3).

5.4. Results

5.4.1. Cloze test

Table 2 shows the mean cloze-test scores for the VP idioms under the three conditions.

Table 2. Mean cloze-test scores and standard deviations (max. = 8)

Condition	Mean	SD
1	1.60	0.70
2	4.30	1.83
3	1.90	1.79

Condition 2 (i.e. the presentation method including a meaning-guessing task) generated the highest mean cloze-test score. To test for significance I used a Kruskal-Wallis test. Mean ranks were 11.50 for condition 1; 22.70 for condition 2; and 12.30 for condition 3. The value of the test was 10.43, which yields $p < .05$. To see which conditions in particular differed, I used the multiple-comparison test described in Siegel and Castellan (1988: 213–214). The multiple-comparison test shows that the comparison between conditions 1 and 2 is significant. Since condition 2 is the one with the higher mean ranks, this means that it led to significantly higher scores than condition 1. The slightly better cloze-test score under condition 3 (i.e. the more form-focused condition) in comparison with condition 1 (i.e. the more meaning-focused condition) was not significant.

As pointed out earlier, three participants in condition 2 needed five more minutes to finish the guessing task, but they nevertheless obtained slightly lower scores than their peers. If we were to exclude their scores, the mean score under condition 2 would be even higher (4.57) (and the Kruskal-Wallis test would still yield $p < .05$). The difference between conditions 1 and 2 would again be significant and that between conditions 1 and 3 would again be non-significant.

It must be acknowledged that the higher cloze-test scores under condition 2 might be due not to the factor of guessing *per se* but to other, ancillary factors. For one thing, on finding out that their guesses were

correct, students may have felt positive affect, which may have contributed to learning. For another, the guessing task may have stimulated participants to pay greater attention to the form (e.g. the precise lexical composition) of the idioms, as this may have been felt to contain valuable clues for the problem-solving (i.e. guessing) task.

To check for indirect support for these speculations, I did the following statistical analysis. I located the VP idioms for which each subject in condition 2 guessed the meaning correctly and then calculated the percentage of those whose form was also written correctly in the cloze test. I compared these percentages of cases of correct form retention with those in condition 1, where there was no guessing task. The rationale was that if there is a facilitating effect of correct guesses on form retention, there should be a higher mean of correct cloze-test responses for those whose meaning was inferred correctly than for those deriving from cases where there was no guessing (condition 1). I made three comparisons:

a) between the number of correct cloze answers corresponding to correct guesses in condition 2 and the number of correct cloze answers in condition 1;

b) between the number of correct cloze answers corresponding to the compilation of the correct and nearly correct guesses[7] in condition 2 and the number of correct cloze answers in condition 1; and

c) between the compiled number of the correct and nearly correct cloze answers for idioms that had been correctly guessed at in condition 2 and the compiled number of the correct and nearly correct cloze answers in condition 1.

In all three subsets of the data, condition 2 produced the highest scores. I applied a Mann-Whitney test to compare the students' performance under either condition for these subsets of data. Despite the small size of these subsets of data, the results were significant at $p < .005$ for comparisons (b) and (c), and close to significance ($p = .06$) for comparison (a).

I did the same calculations after collapsing among all kinds of figurative expressions taught. Again, condition 2 generated the best results. Comparisons (b) and (c) yielded significance at $p < .005$ again, and $p = .054$ (i.e. very close to significance) for comparison (a).

In sum, in all of the comparisons, more vocabulary was remembered correctly after the expressions' meaning had been guessed correctly (or nearly correctly) than when no guessing task had occurred. The lack of a significant difference between conditions both in the idiom data and after collapsing them with data for the other expressions when the correct answers for the items corresponding to correct guesses were compared to those where no guessing had occurred, may be due to the low occurrence of

totally correct guesses. The mean number of correctly guessed VP idioms is only 3.1 out of 12 (25.83%) (or 3.43 out of 12 [28.58%] when the data of the three apparently weaker participants who needed extra time on the guessing task are excluded). This is not very encouraging for the application of this method in contexts of learner autonomy (i.e. without explicit guidance and/or immediate feedback). Still, if one compiles these scores with those of the partly correct guesses, the mean score becomes 5.20 out of 12 (43.33 %) (or 5.57 out of 12 [46.42%] if we exclude the three weaker students).

5.4.2. Comprehension test

Participants' replies in the meaning retention test were categorised as:
a) correct answers, that is, answers that were both to the point and unequivocally indicated that the participant remembered the meaning of the idiom;
b) wrong answers, that is, answers that showed without any doubt that the participant did not remember the meaning of the idiom;
c) partly correct answers, that is, answers which showed that the participant remembered only part of the idiom correctly;
d) no answer (when the area beneath a question was left blank); and
e) dubious answers, that is, answers which are difficult to categorise because the "Why/Why not?" part of the question was left unanswered.

Table 3 sums up the results.

Table 3. Answers falling under each category in the meaning retention task

Answer category	Condition		
	1	2	3
Correct	20 (50%)	25 (62.50%)	17 (42.50%)
Wrong	8 (20%)	8 (20%)	6 (15%)
Partly correct	2 (5%)	1 (2.50%)	0 (0%)
No answer	2 (5%)	0 (0%)	6 (15%)
Dubious	8 (20%)	5 (12.50%)	11 (27.50%)
Incomprehensible	0 (0%)	1 (2.50%)	0 (0%)

Because of the very few instantiations of the partly-correct and no-answer categories, some of the cells have expected counts under five. To be able to conduct a valid Chi-square test, I therefore compiled these categories with the wrong answers. Although condition 2 produced the highest mean score in the meaning-retention test, this better performance was not statistically significant (Pearson Chi-square = 3.65, $p > .05$).

6. Conclusions and pedagogical perspectives

This experiment led to significantly higher cloze-test scores for the instruction method combining the CM grouping with meaning guessing than for the presentation of VP idioms in CM groups only. This result indicates that the former method is a more promising method for L2 VP idiom instruction, at least as far as retention of form for purposes of (re)production is concerned. More generally, it adds support to the claim for higher effectiveness of assisting guessing by supplying information about the motivation of L2 figurative expressions relative to traditional instruction methods (see the summaries of Csábi [2004] and Boers, Eyckmans and Stengers [2007] above). Moreover, the relative success of the meaning-guessing condition in this experiment is an encouraging sign that VP idioms are not necessarily so long or so arbitrary as to obliterate evidence of the differing impact of whatever instructional methods are under investigation.

The superiority of the Hybrid method in condition 2 over the Metaphoric groups presentation method in condition 1 was enhanced by the observed connection between correct form retention responses in the cloze test and the correct idiom meaning guesses. This suggests that it is indeed the extra effort invested in the guessing task that led to superior retention.

Condition 3 was identical to condition 1 except that it contained a cloze test rather than a comprehension-questions test practice phase. Since no significant difference was found in form retention between conditions 1 and 3, this study does not show any convincing evidence of learning-test congruency effects.

As far as meaning retention is concerned, the meaning-guessing condition did not generate significantly higher scores than the other two conditions. This seems in accordance with experimental findings indicating that the retention of the meaning of new words is *not* higher when students are encouraged to guess at meaning (e.g. Mondria 2003; Mondria and Wit-de Boer 1991).

Although this experiment did not examine the effect of individual differences on the benefit of each instruction method, one finding indicates that for some people the guessing method (as in condition 2) may not be very effective. Three participants in that condition took more time to guess at the meaning of the input items, but still their scores were lower than the average score of the rest of the participants. On the other hand, we cannot tell how they would have performed under either of the other conditions. Still, given that participants had not been rated for individual differences before the experiment, we do not know what learner traits contribute (or inhibit) the effective use of the guessing method.

Given the connection between *correct* guessing and retention signalled by our data, another factor that may affect the success of the guessing method is how often participants correctly interpret an idiom. The likelihood of absolutely correct guesses seems fairly low, but if one considers also the results for *nearly* correct guesses, this method then seems to have some promise, although results are bound to depend on just how the method might actually be implemented in the classroom.

Although the results of this experiment point to the superior mnemonic effectiveness of adding a guided meaning-guessing activity to the CM-grouping method of idioms, this does not necessarily mean that these results will be replicated in all pedagogical contexts. Firstly, the participants in this study were not told they were going to be post-tested on their retention of the input lexis. In different conditions, anticipation of a test might stimulate students to apply their own mnemonics to the grouped input lexis, irrespective of any guessing stage. Secondly, in an adult-learner L2 classroom it can be assumed that learners attend classes on their own initiative and, hence, are sufficiently intrinsically motivated to try to remember as much L2 input as possible and at a relatively rapid pace. Such learners might benefit more from the instruction through the Grouping method than is indicated by the results of the above experiment simply because they are likely to invest more cognitive effort in processing the information than our participants in condition 1 may have done.

Another consideration for pedagogical practice is that complementing the CM-grouping presentation with a guessing stage seems rather time-consuming. Moreover, some learners may need a lot of guidance about the guessing task. Continual failure to guess the meaning of the idioms might even decrease the face-validity of the task and also increase negative affect among the students. Therefore, a more straightforward method such as the presentation of the target lexis in CM groups may prove more practical – especially if, for example, there is insufficient time for corrective feedback during or after the guessing stage.

If circumstances seem right for opting for the guessing method, then the question remains how it should be introduced to the learners. This experiment has shown that some learners find it difficult to understand and/or do the guessing task. We have seen that guessing the meaning of unknown words in context has been promoted as a vocabulary-learning strategy and that Irujo (1984) has proposed that guessing the meanings of idioms should be taught as a strategy so that learners will learn as many idioms as possible. However, encouraging learners to hypothesise about the CM basis of an idiom when they encounter it in context may be risky. The limited ability of at least some learners to discern the metaphorical basis of idioms poses threats to the success of meaning guessing if it is attempted in contexts of learner autonomy. Basically, guessing only on the basis of contextual clues leads to very few correct guesses and to limited meaning retention. Accordingly, the success rate of the guessing method seems to be very dependent on guidance (e.g. cues) and feedback .

Finally, it should be noted that this study examined only ways of *presenting* sets of idioms to L2 learners and thus only concerns ways of assisting *semantisation*, the initial word learning phase whereby the formal characteristics of a new word are matched with semantic content (Beheydt 1987). Therefore, any pedagogical applications of these findings should be seen as the *beginning* of a series of tasks with this vocabulary.

Appendix 1: Sample materials in the instruction phase

Input in conditions 1 and 3 for the expressions about Morality (first page)

<div align="center">

Morality

Being moral as being up

</div>

1. Take the high road   To follow the course of action which is the most moral or most correct and which is least likely to harm or upset others

e.g. The American President has become unpopular since the war. So, he has decided to *take the high road* about world peace.

2. A low-down trick   A very dishonest or unfair action (used informally to heavily criticize someone)

e.g. Mafia members don't behave on the basis of any kind of moral principles. They will do any *low-down trick* to become richer and more powerful.

3. Fall from grace   To have made a mistake or done something wrong or immoral, and as a result to have lost one's power or influence and spoiled one's good reputation

e.g. He *fell from grace* with his parents after his extra-marital affair.

4. High standards   Very moral principles

e.g. When I was a child, my parents used to punish me frequently. They had very high standards!

5. Low behaviour   Not honest or fair behaviour

e.g. Ruining her ex-husband's reputation by telling all those lies was low behaviour.

6. Take the high ground   To express your negative opinion of other people's, especially your rivals', actions as far as morality is concerned

e.g. The opposition-party leader *took the high ground* on the Prime Minister's sex scandals in order to gain popularity.

Input in conditions 1 and 3 for the expressions about Morality (second page)

Being moral as being clean

1. Be squeaky clean   To live a very moral life and not appear to have any vices (often used to suggest that this way of life is unnatural or uninteresting, or that someone is not as virtuous as they seem).
e.g. In the 1980s this young singer made a great success because she *was* pretty and *squeaky clean*. That's why people were shocked when she turned into a sex bomb in the 1990s.

2. Do the dirty on someone   To behave unfairly or very badly towards someone, often without them knowing
e.g. His boss hated Mark so much that he just waited for Mark to make a tiny mistake and then *did the dirty* on him and fired him.

3. Clean fun   Entertainment that is not sexually immoral or offensive
e.g. Today, most people think that flirting is just a harmless way of communication and that it's *clean fun*.

4. Dish the dirt on someone   To gossip about someone, especially by saying things that may embarrass or upset that person, or damage their reputation.
e.g. In his autobiography, the singer *dishes the dirt on his band*. Many people were surprised because they thought he was friends with the other band members.

5. Dirty deed   An action/lie that is unfair, dishonest, or unkind
e.g. Ladies and gentlemen of the jury, it is not difficult to decide whether this man is guilty or not! Robbing an old lady is certainly a *dirty deed*.

6. Clean fight   Honest or fair competition
e.g. He called for a *clean fight* in the election. He wanted an end to 'negative campaigning'.

Guessing task in condition 2 (expressions about Morality)

Morality

Being moral as being up

1. Take the high road: …………………………………………..

2. A low-down trick: ………………………………….…….

3. Fall from grace: ………………………………………….

4. High standards: …………………………………………..

5. Low behaviour: …………………………………………..

6. Take the high ground: …………………………………..

Being moral as being clean

1. Be squeaky clean: …………………………………………..

2. Do the dirty on someone: …………………………………..

3. Clean fun: …………………………………………………..

4. Dish the dirt on someone: …………………………………..

5. Dirty deed: …………………………………………………..

6. Clean fight: …………………………………………………..

Appendix 2: Materials in the practice phase[8]

Materials for the practice phase in conditions 1 and 2 (first page)

<div>

Morality

Quentin Tarantino's films have been criticized as advertising immoral behaviour by some film critics and members of the audience. These people think that in Tarantino's films violence is presented as *clean fun*, because the gangsters in them do not have any remorse after killing someone or after doing some other kind of *dirty deed,* such as *dishing the dirt on* a fellow gangster.

Fans of Tarantino's films, however, say that the violence in his films is like that in comic books: It does not affect people's opinions about the world or their behaviour, because the combat scenes are exaggerated and therefore unrealistic. For Tarantino's supporters, people who criticize Tarantino are exaggerating and just *taking the high ground* to show that they *are squeaky clean*. They find these films very entertaining, so, no matter how violent they are, he will never *fall from grace* for these people. They also think that Tarantino does a *clean fight* with other film directors, because his films have gained the public's love not because of their violence but because of their clever dialogue and great story-telling.

In a way, I agree with both opinions. Although Tarantino's heroes certainly don't have *high standards*, they are not just killing machines. They do *low-down tricks* and have other kinds of *low behaviour*, but they do not always *do the dirty on* people. For example, in 'Pulp Fiction', the character played by Samuel Jackson decides to stop being a gangster in the end of the story and *take the high road*.

Please answer the questions below in a way that shows that you know the meaning of the figurative expressions in the questions.
1. Why does the text call killing a "dirty deed"?
………………………………………………………………………………………
2. Why do Tarantino's supporters think that people who criticize Tarantino are taking the high ground to show that they are squeaky clean?
………………………………………………………………………………………
3. Could you mention examples of low behaviour in Tarantino's films?
………………………………………………………………………………………

</div>

Materials for the practice phase in conditions 1 and 2 (second page)

Comprehension

What can go wrong when you don't make a plan before you start writing an essay? First, writing might be much more tiring and time-consuming when you have not *come to grips with* what you want to write about. If you don't write a plan, every now and then you'll be *groping for* what to write next. Second, because you are paying attention mainly to the content of your essay, you may neglect its form. In other words, a reader may not be able to *take in* all the meaning of your essay because of long sentences and complex expressions you may have used. If a teacher just *looks over* your essay, he or she may be unable to *see through* the text to the main points of the essay. Often a poorly organized essay is *clear as mud* to the teacher. If, however, you have made a plan of the essay you will be able to *trace out* complicated ideas.

Special problems occur when you write an essay as part of an examination. If you have not made a plan, at some point during writing, you may not know which other argument to make in the essay. So you may just write nonsense and try to *blind people with science* using formal and complex expressions. Moreover, if you just keep on writing without having a plan in mind, maybe you will need to change the order of the paragraphs or rewrite whole parts of the essay. If *the light* only *dawns on* you later on in the writing process, it may be too late to make these changes. Finally, you may *get the wrong end of the stick* with the essay topic, because you didn't examine it properly before writing. It may be too late to start writing all over again, when you *have got a handle on* the topic.

Please answer the questions below in a way that shows that you know the meaning of the figurative expressions in the questions.
1. The text mentions many problems a student may face when he or she writes an essay without making a plan. Write the problem which is mentioned first in your own words, that is, without using the figurative expressions in the text.
…………………………………………………………………………………………
2. What does a teacher do if he looks over an essay?
…………………………………………………………………………………………
3. According to the text above, why do some students try to blind the teacher with science in an essay?
…………………………………………………………………………………………

Excerpts of the practice phase exercises in condition 3

Quentin Tarantino's films have been criticized as advertising immoral behaviour by some film critics and members of the audience. These people think that in Tarantino's films violence is presented as *clean fun*, because the gangsters in them do not have any remorse after killing someone or after doing some other kind of _____ *deed,* such as *dishing the dirt on* a fellow gangster.

[…] For Tarantino's supporters, people who criticize Tarantino are exaggerating and just *taking* _____ to show that they *are squeaky clean*. […]

In a way, I agree with both opinions. Although Tarantino's heroes certainly don't have *high standards*, they are not just killing machines. They do *low-down tricks* and have other kinds of *low behaviour*, but they do not always *do* _____ *on* people. For example, in 'Pulp Fiction', the character played by Samuel Jackson decides to stop being a gangster in the end of the story and *take the high road*.

*****

What can go wrong when you don't make a plan before you start writing an essay? First, writing might be much more tiring and time-consuming when you have not *come to grips with* what you want to write about. […] If a teacher just looks over your essay, he or she may be unable to _____ *through* the text to the main points of the essay. Often a poorly organized essay is *clear* _____ to the teacher. If, however, you have made a plan of the essay you will be able to *trace out* complicated ideas.

Special problems occur when you write an essay as part of an examination. […] If *the* _____ only____ *on* you later on in the writing process, it may be too late to make these changes. Finally, you may *get the wrong end of the stick* with the essay topic, because you didn't examine it properly before writing. It may be too late to start writing all over again, when you *have got a handle on* the topic.

Appendix 3: Materials in the test phase

Fill in the blanks to complete the figurative expressions in the text below. The answers can be anything between one and four words.

Andrew's family was one of the richest families in the village. Everyone admired and respected them. Andrew was also the mayor of the village. So, he thought he had to set a good example for the rest of the people. He and his wife often went to church and gave money to those in need. Everyone in the village thought they were squeaky _____ (clean). However, after many years of happily married life, Andrew cheated on his wife. He did it mainly because he was bored. He was still in love with her. So, he was feeling awful for having done this. In the end, he could not go on hiding this secret from his wife and told her. His wife was very angry with him and couldn't forgive him because of her _____ (high) standards. It had never occurred to her that he would do _____ (the dirty) on her! She didn't speak to him for a week to punish him for his _____ (dirty) deed and took _____ (the high ground). Andrew tried to be as nice to her as possible. He bought her flowers and asked her to forgive him for his _____ (low) behaviour. He promised that he would have only _____ (clean) fun in the future but there was nothing he could do to change her mind. He had _____ (fallen) from grace.

<div align="center">*****</div>

At school, Mary was one of the best students in the class but found mathematics very difficult. Even when the teacher _____ (traced) out the theory to the students, everything he said was clear _____ (as mud) to her. She was angry with herself, because her worst enemy, John, was incredibly good at maths. What annoyed Mary most was the teacher's impression of her. Although the teacher told her parents that she was a good student, Mary could _____ (see) through him. She could feel that the teacher admired John and thought that Mary was stupid. The teacher usually gave the class a problem to solve after he had explained the theory. John immediately came _____ (to grips) with the problem, but Mary needed a lot of time to catch _____ (on). First, she got the wrong _____ (end of the stick). When she realised her mistake, she could not _____ (take) it in and wasted a lot of time panicking. By the time the light _____ (had dawned on) her, John raised his hand and told the teacher that he had solved the problem.

Please answer the questions below.
1. Would you be angry if a friend of yours dished the dirt on you? Why/Why not?
2. Do you think you would grope for the solution of a problem in astrophysics? Why/why not?
3. Do you usually take the high road or not? Why/Why not?
4. Is it good to get the handle on a problem fast or not? Why?
5. Mention three actions that you would call "low-down tricks". Explain why.
6. Is it right or wrong to blind people with science? Why?
7. Describe what a "clean fight" means to you.

Acknowledgements

Notes

1. A categorisation is called semantic if the words share a superordinate term (e.g. *pencil*, *envelope* and *pen* are all kinds of *stationery*). I compare the results of Li's experiment with those of Boers (2000) and Luciani de las Mercedes (2001) because, in essence, semantic categorisation does not differ from functional. For example, in Boers's experiment, the group title *to describe acute and sudden anger* could be rephrased as *acute and sudden anger*, that is, a kind of anger, the superordinate semantic category for these idioms.
2. Following Lakoff (1987: 447), Boers and Demecheleer (2001: 255) I define imageable idioms as "idioms that have associated conventional images".
3. Skoufaki (2006) reports the pilot study of that experiment. It is summarised in Boers and Lindstromberg (2006) and in the introduction to the present volume.
4. In cases where the definition was disjointed or focused attention on one of its parts and so caused the others to be neglected, I modified the definition so that it would not be misunderstood. My translations of the definitions into Greek were proofread by a native Greek speaker who does not know English. I asked her to judge whether my translations constituted natural-sounding Greek and discussed with her how I should improve them where she found fault.
5. Initially, I intended to use three phrasal verbs (*make out something, look over something, take in something*) and three prepositional verbs (*catch on, see through someone/something, grope for something*). However, on the basis of the results of the second norming study, I excluded from the analysis *make out something* and *look over something*. Unfortunately, I could find only one alternative for the phrasal verbs that were deleted, so the final materials had one expression less in the group "Understanding something as seeing it".
6. For a detailed description of the norming studies see Skoufaki (2006).
7. For example, a participant had defined *the light dawns on someone* as "someone understands something gradually". Although this idiom actually means "understand suddenly something I should have understood earlier", I considered this answer as nearly correct because it contained at least the "understand" component of the definition. A wrong definition was, for example, "People start to suspect someone".
8. I acknowledge that these texts are so packed with idioms that they may come across as contrived and unnatural. They served the purpose of the research experiment, but I make no claims about their suitability as pedagogical material.

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How cognitive linguistic motivations influence the learning of phrasal verbs

Nora Condon

Abstract

Phrasal verbs are widely believed to be particularly difficult to master because the choice of verb-particle combinations seems so unsystematic. According to cognitive linguistics (CL), however, those combinations are in fact motivated. Several small-scale controlled experiments have already demonstrated that revealing the linguistic motivations behind phrasal verbs can help learners better comprehend and remember these lexical units. However, those experiments were typically one-session events in which phrasal verbs were the *principal* target for learning. In the present chapter I therefore report a larger study in which CL treatment of phrasal verbs was integrated into an extended general EFL course. While generally encouraging, the results of the study nonetheless signal that (1) not all phrasal verbs lend themselves equally well to straightforward CL pedagogy, and (2) for CL pedagogy to be optimally effective, it requires a certain level of cognitive investment on the part of the learners, something which cannot under all circumstances be taken for granted.

1. Introduction

Phrasal verbs are widely viewed as particularly difficult for English language learners to master. Among the apparent sources of these difficulties are (1) lack of transparency in meaning and (2) what Side (1990) calls the [semantically] random nature of the particles. However, research carried out within the framework of cognitive linguistics (CL) has demonstrated that much of what was traditionally considered arbitrary in language is in fact systematic and motivated. Brugman's (1981) in-depth analysis of the particle *over* and Lindner's (1983) of *out* and *up* (see also Morgan 1997) were early, influential contributions to the view that

particles in phrasal verbs are like many other aspects of language in showing a great deal of semantic coherence. Other researchers (e.g. Cuyckens 1991; Taylor 1988) have analysed additional particles so that we now have what Morgan (1997: 327) calls an "analysable and systematic semantic view" of these words.

A few linguists (e.g. Rudzka-Ostyn 2003) have seen the potential of this view for the classroom and have produced large-scale adaptations of CL theory in an attempt to make it easier for learners to acquire phrasal verbs. There have also been several small-scale studies whose overall results support the hypothesis that the learning of phrasal verbs can indeed be made easier by CL-inspired pedagogy (Boers 2000; Condon and Kelly 2002; Kövecses and Szabó 1996; Kurtyka 2001; see chapter one for a detailed survey).

However, at least three questions have been left unanswered. (1) Are learners likely to transfer insights into the motivation of particular phrasal verbs to their processing of phrasal verbs they encounter subsequently? (2) Can the positive results obtained with regard to the samples of phrasal verbs that have so far been targeted be straightforwardly generalised to the class of phrasal verbs in general? (3) Will classroom applications mirror experimental results? It is not unusual for an instructional setting to show superior results under experimental conditions and for such superior results to subsequently disappear when the approach under investigation is applied to a regular classroom situation. Spada (2005), for example, highlights a case where laboratory evidence pointed to the effectiveness of a certain type of corrective feedback for L2 learners. Yet, when applied in an authentic classroom situation, such corrective feedback failed, as Harley (1989: 355) put it, "to fully realize the potential of the teaching approach".[1] Controlled experimental settings certainly yield important results, but they nevertheless "[raise] concerns about the authenticity of the treatments and the relevance and applicability of their results to actual classroom participants" (Pica 2005).[2]

The study reported in this chapter addresses these outstanding questions. In so doing, it complements previous studies in five ways:

1. with a total of 160 participants, it is the largest study to date;
2. it covers 28 phrasal verbs, which is a considerably larger sample than has been targeted in previous studies;
3. the CL-inspired approach to be described was integrated into a pre-existing EFL course running over an extended period of time;
4. learning gains were measured by means of a pre-test, a post-test *and* a delayed post-test (while previous studies only had one post-test); and

5.   the results were analysed also with regard to the question whether some CL motivations for particular sets of phrasal verbs might have a stronger effect on learning than other motivations.

The specific research questions are as follows:

1.   Does integrating a CL approach to the teaching and learning of phrasal verbs into an already established language programme over a period of several weeks yield superior results in terms of semi-productive phrasal verb knowledge as compared to the same programme without such CL elements?
2.   Will experimental students exhibit an ability to transfer their knowledge of explicitly taught CL motivations to their processing and remembering other phrasal verbs (instantiating the same motivations) encountered in another context?
3.   Are certain types of phrasal verbs more amenable to a CL approach than others? In other words, are certain types of CL motivations more helpful for learners than others?

The experiment was run over two consecutive years. In the first year we conducted a pilot study. In the second year we repeated the experiment on a larger scale.

2. The pilot study

2.1. Participants

The participants in the pilot study were 49 first-year students enrolled in the Economics Faculty at Namur University, Belgium. They were selected according to the results of a placement test which took place at the beginning of the academic year. Only students of intermediate level whose first language is French were included in this study. This student population was divided into four groups.

English is a compulsory subject for all first year students and all intermediate students follow an identical programme. They attend English lessons for two consecutive hours a week.

One hour consists of exercises in the language laboratory, where the emphasis is on listening comprehension and vocabulary knowledge. The students are required to prepare material for this lesson according to a programme set out at the beginning of the year. They have a CD (approximately 70 minutes totalling 9,600 tokens with 2,600 word types) together with a transcript.[3] Students must study a certain amount of this material to prepare for exercises in the lab. They are assessed on their

preparation and performance in this lesson and the mark obtained forms part of their end of year result.

The second hour of the lesson is an interactive hour where the main aim is to develop oral competence. No specific grammar or vocabulary lessons are provided but the teacher draws students' attention to any important vocabulary and grammar items that students may need to use in order to carry out the communicative activities that form the basis of the lesson. For this interactive part of the course, students are required to read a short article every week based on the topic for discussion, with the emphasis being on the meaning and ideas set out in the text rather than on any language elements.

Since it was not possible for one teacher to teach all students, groups 1 and 3 were taught by the same team of two teachers and groups 2 and 4 were taught by another team of teachers. However, all four teachers (two men and two women) worked in close collaboration with one another and decisions regarding the content, materials, and procedure for each lesson were taken in consultation. One male teacher and one female teacher were assigned to each group. In addition, two of the teachers (one taking the lab course and one taking the interactive course) had themselves been taught and trained in teaching by the other two members of the team and so shared many of the values and much of their knowledge. In sum, even though it was not possible to control the teacher variable, the teaching was very similar in the different groups. Therefore, I postulated that any difference between the groups in their knowledge of phrasal verbs at the end of the experiment would be due primarily to the difference in method rather than to personal style of teaching.

2.2. Research instruments and procedure

A pre-test was administered at the beginning of the first week of the course. Students were informed that they were taking part in a language learning experiment and that the results of the test would have no negative influence on their result for English at the end of the year. Before the test was distributed, the teacher gave students a brief explanation of phrasal verbs, highlighting that a phrasal verb consists of a verb plus a smaller word that looks like a preposition. The test, a gap-fill task targeting 30 phrasal verbs, was distributed. Students were given 20 minutes in which to complete it.

My previous experience with testing phrasal verbs had indicated that students found purely productive tests to be very difficult and frustrating, and consequently, even amongst otherwise very advanced students, the

results were low (Condon 2002). Nonetheless, like Verspoor and Lowie (2003), I was also anxious to avoid the weakness of receptive (or recognition) tests where, given a smallish number of options, it is possible to guess the correct answer. I therefore opted for a semi-productive test. The test required students to choose the correct phrasal verb from a list of 48 phrasal verbs in order to fill in the blank in each of 30 sentences. The sentence as a whole had to correspond in meaning to the French translation given beneath each sentence, e.g.

Crime has _____ in recent years
La criminalité a augmenté ces dernières années

Students were told not to worry about tenses, and that they could, if they wanted, insert the phrasal verb in the infinitive.

Over the next eight weeks students' attention was focused on the phrasal verbs that occurred in the vocabulary, reading and listening comprehension exercises during the lab hour. I will refer to these phrasal verbs as *taught* phrasal verbs. The experiment focused on phrasal verbs that ended in *up, out, in* and *down.*

Each week the experimental group (groups 2 and 4) were introduced to some of the basic CL motivations underlying the phrasal verbs studied in their material during that particular week. These motivations used in the lab hour for the experimental group were based on the analyses set out in the textbook *Word Power* by Rudzka Ostyn (2003), which was specifically designed for use by EFL learners. According to the author, *Word Power's* explanations represent a "filtered and simplified cognitive analysis of phrasal verbs" (2003: x). In simplifying the CL analyses of phrasal verbs, Rudzka-Ostyn thus offers her own view, and not necessarily the view of the CL community, on the most plausible motivations for phrasal verbs for pedagogical purposes. Rudzka-Ostyn classifies each particle into a number of separate but related meanings. For example, the meanings of the particle *up*, according to Rudzka-Ostyn's interpretation, fall into five broad categories, including: *up* is a position at a high place or moving up to a higher one, (e.g. *sit up)*; *up* is moving to a higher degree, value or measure (e.g. *hurry up*); *up* is more visible, accessible, known (e.g. *show up*). I adhered as much as possible to her explanations but modified some of the terminology – for example, by avoiding use of *trajectory* and other highly technical terms. For the control group (groups 1 and 3) the teacher followed a more traditional approach of providing paraphrases and translations in the lab hour.

For the lab hour exercises, both control groups were taught by the same teacher. A second teacher taught both experimental groups. Sample explanations of the phrasal verb *wear out* given to the experimental group students and to the control group students are provided in Appendix. In order to ensure that equal amounts of time were spent on control and experimental group explanations, the teacher of the experimental noted and then communicated to the control group teacher the length of time required for the explanations. The control group teacher tried as far as possible to match this time, if necessary by supplementing the translation or paraphrase with an alternative translation. For the most part, the teachers were successful in achieving a time balance between the two types of explanations. However, perhaps inevitably due to the novel way of thinking required by the CL approach, some of the CL insights required slightly more time.

Each week, during the interactive hour, the teacher introduced students to one or two phrasal verbs that did not occur in the lab material.[4] These new phrasal verbs, which I will refer to as *encountered* phrasal verbs, were presented at the beginning of the interactive English hour. Each phrasal verb was put in a sentence relevant to the discussion. The teacher provided a translation orally. These new phrasal verbs were presented together with two or three other vocabulary items relevant to the topic of discussion for that lesson. The teacher drew the students' attention to the vocabulary on the board saying something along the lines of, "You might find this vocabulary useful for today's class. This is a phrasal verb; make sure you know what it means. Don't forget that this is the past tense – it's irregular…". The phrasal verbs and their contexts were identical for each group. All phrasal verbs that were encountered during the interactive hour instantiate the same CL insights as the phrasal verbs that were taught in the lab hour of the same day. The teachers were asked to try to avoid using any other phrasal verbs for this part of the lesson.

Due to time-tabling constraints, groups 1 and 2 had exercises in the language laboratory *before* their interactive hour, but groups 3 and 4, unfortunately, had their lab hour *after* their interactive hour (see Table 1). Students whose English lesson consisted of a lab hour followed by an interactive hour were called class A. Class B were the students who first had their interactive hour and then the lab hour.

Table 1. Sequence of activities for students in 1st year Economics

	Language lab		Interactive hour	
	Experimental	Control	Experimental	Control
Class A 2pm–3pm	Group 1	Group 2	Group 3	Group 4
Class B 3pm–4pm	Group 3	Group 4	Group 1	Group 2

This meant that in the experimental group, half of the students (belonging to class A) were first taught a phrasal verb along with its CL motivation and subsequently encountered a different phrasal verb instantiating the same motivation in the interactive hour. Other students (belonging to class B) first encountered a phrasal verb and only later were taught the corresponding CL insight and another phrasal verb in the lab hour. The two sets of data were kept separate as the likelihood of transfer from taught to encountered phrasal verb was obviously less likely in class B.

I applied a number of criteria in selecting the phrasal verbs for our study. First, I decided to concentrate on four particles – *up, out, down* and *in* – which are among the most frequently occurring particles in the English language as well is in the students' course materials. I deemed four particles a realistic number given the time limit of the experiment. Four particles could reduce a students' chance of guessing the correct phrasal verbs especially when compared to the use of only one particle in Condon and Kelly's (2002) study or the use of two particles in Kövecses and Szabó's (1996) study. According to Biber *et al.* (1999), the adverbial particles that are most productive in combining with verbs to form phrasal verbs are, in order of productivity: *up, out, on, in, off* and *down.* In the *Collins Cobuild Dictionary* (Sinclair 1989) the order is slightly different: *up, out, off, in, on,* and *down.* The most frequent particles in the students' material, the analysis of which was carried out using WordSmith Tools, were *out, up, in, on, down* and *off.* Since *out* and *up* are consistently represented as the most frequent particles, I decided that they should form the basis of our study. In order to add two extra particles without increasing the learning load dramatically, I included the opposites of *out* and *up* (i.e. *in* and *down*), which, while not the third and fourth most frequent particles, are nonetheless frequent in both English generally and in the students' material in particular, and which instantiate broadly the same motivations as *out* and *up* do.

The phrasal verbs belong to one of six categories described in Rudzka-Ostyn (2003), as summarised in Table 2 for the particles *out/in* and *up/down.* For brevity's sake, I have labelled each particle (a), (b), or (c).

Table 2. Categories of phrasal verb meaning based on CL motivations

Particle	Rudza-Ostyn's explanation (summary)	Our explanation (summary)
In/Out[a]	Entities moving in/out of containers	Things moving in/out of boxes or containers e.g. *We **camped out** for the night*
In/Out[b]*	Ignorance functions as a container	Out is a change from not knowing about something to knowing about it. e.g. *He **pointed out** the way*
In/Out[c]*	Existence functions as a container	Out is a change from existence to non-existence e.g. *She was **worn out***
Up/Down[a]	Moving to a lower/higher degree, value or measure	Up is more e.g. *Prices **went up** steeply*
Up/Down[b]	Aiming at or reaching a goal, an end, a limit	Up is reaching a limit e.g. *It **uses up** more power*
Up/Down[c]	Higher up is more visible	Up is more visible e.g. *She **set up** her own company*

Any instances of *in* and *down* were instances of CL motivations that were the 'opposite' of those studied in *out* and *up.* In Rudzka-Ostyn's (2003) book, what we call Out[b] and Out[c] are actually grouped together, but we decided to separate them as (1) the corresponding phrasal verbs occurred in separate lessons, and (2) being rather abstract concepts, it also seemed pedagogically suitable to present them to the students one at a time.

In order to investigate the effects of the direct teaching of phrasal verbs, half of the 30 phrasal verbs had to occur in the students' course material that they used in the language laboratory. Measures were taken to ensure that those taught phrasal verbs did not occur in the interactive periods during the course of the experiment and that all four teachers made an effort to avoid using those phrasal verbs anywhere except in the lab hour on the week they were explicitly presented to students. The remaining phrasal verbs, which occurred as "incidental" input encountered in the interactive hour, consisted of phrasal verbs that appeared nowhere else in

the students' English material throughout the duration of the experiment. Again, all teachers made an effort to avoid using or referring to these phrasal verbs except when presenting them to the class as the experiment schedule dictated.

One week after the end of the experiment, all groups received what we shall call an immediate post-test, which was identical to the pre-test. Students were given 20 minutes to complete the test. Six weeks later, a delayed post-test was administered. The delayed post-test was again identical to the immediate post-test and the pre-test, and students were again given 20 minutes in which to do the test. The interval between the immediate post-test and the delayed post-test included the Christmas break, during which the students prepare and take a number of exams in other subjects. They do not take an exam in English, or in any other foreign language, at that time. The students thus had no English classes between the time they took the immediate post-test and the delayed post-test. Given that students' time and energies were required for their (rather heavy) exam session during the month of January, it is unlikely that any exposure to English would have had a significant effect on the results. Students were not forewarned of either post-test.

2.3. Results

I performed the data analysis using a Wilcoxon-Mann-Whitney test. The data analysis is divided into:
1. the average scores by the control groups and the experimental groups on each of the tests; and
2. the amount of learning that took place as measured by comparing the scores on the pre-test with those on the two post-tests.

The phrasal verbs *eat out* and *speak up* were removed from the encountered phrasal verbs analysis as during the course of the experiments two of the teachers reported unplanned encounters with these phrasal verbs. Therefore, the results of the taught phrasal verbs represent scores out of 15, while the results of the encountered phrasal verbs represent scores out of 13.

Table 3 shows the average scores obtained by each of the groups on the three tests and the *p*-values representing the degrees of difference between the experimental and the control groups' scores. The pre-test scores indicate that the control and experimental groups were on a par as far as prior knowledge of the targeted lexis is concerned.

Table 3. Mean scores on each of the tests obtained in the pilot study

| | Class A | | | Class B | | |
	Ctrl (n=15)	Exp (n=10)		Ctrl (n=12)	Exp (n=12)	
TAUGHT PVs						
Pre-test	2.93	2.6	*p* > .2	3.75	3.5	*p* > .3
Immediate post-test	4.07	6.5	***p* < .01**	6.83	6.25	*p* > .3
Delayed post-test	3.26	6.3	***p* < .005**	6.67	7.00	*p* > .2
ENCOUNTERED PVs						
Pre-test	2.3	1.9	*p* > .1	3	2.92	*p* > .3
Immediate post-test	2.6	3.5	*p* > .1	4.92	4.58	*p* > .4
Delayed post-test	2.8	3.5	*p* > .2	4.92	4.66	*p* > .4

Maximum scores: taught phrasal verbs = 15; encountered phrasal verbs = 13.

At the end of the experiment, one of the experimental groups (in class A) outperformed their control peers significantly with regard to the taught phrasal verbs, and that difference was maintained in the long run as revealed by the delayed post-test (six weeks later). The same experimental group also obtained better scores on both post-tests as far as the encountered phrasal verbs are concerned, although that difference was not statistically significant. The other experimental group (in class B) did no better than their control peers in either of the post-tests, either with regard to taught or encountered items.

Table 4 shows the different groups' learning gain – calculated by subtracting the pre-test scores from the immediate post-test scores – and the *p*-value signalling whether or not the difference in gain between two groups is significant. The advantage of this calculation is that it takes into account the fact that the control students appeared to have a small (but statistically non-significant) head-start over the experimental students (viz. the pre-test scores). Table 4 confirms the trend discerned in Table 3, but it suggests additionally that the first experimental group, for whom the CL approach was most beneficial with regard to the taught items, experienced a greater

learning effect than the control group with regard to the encountered phrasal verbs, too (*p*-value close to .05).

Table 4. Mean gain between pre-test and immediate post-test

	Number of PVs gained Class A			Number of PVs gained Class B		
	Ctrl n = 15	Exp n=10		Ctrl N = 12	Exp n=12	
TAUGHT PVs						
Pre – Im. post-test	1.13	3.9	*P* < .005	3	2.75	*p* > .1
ENCOUNTERED PVs						
Pre – Im. post-test	0.27	1.6	*p* = .059	1.9	1.67	*p* > .1

The same pattern appears when we compare the pre-test scores and the delayed post-test scores in Table 5.

Table 5. Mean gain between pre-test and delayed post-test

	Number of PVs gained Class A			Number of PVs gained Class B		
	Ctrl N = 15	Exp n=10		Ctrl n = 12	Exp n=15	
TAUGHT PVs Pre – Delayed post-test	0.33	3.7	*p* < .0005	3	3.5	*p* > 0.1
ENCOUNTERED PVs Pre – Delayed post-test	.47	1.6	*p* = .054	1.9	1.75	*p* > 0.1

In sum, the results of the pilot study give us reason to believe that the CL instruction was quite beneficial for one of the two experimental groups (in class A) – almost certainly so with respect to the phrasal verbs that were taught explicitly in connection with CL motivations, and probably also with respect to the phrasal verbs that were encountered in the subsequent lesson without any explicit reminder of the CL motivations.

This trend is not at all mimicked by the scores obtained by the other experimental group (in class B), though. When it comes to the set of encountered phrasal verbs, this can easily be explained as we would not expect insight into a given CL motivation to be transferred retrospectively (recall that in class B the interactive hour *preceded* the lab hour in which the CL motivations were taught). However, the finding that also the taught phrasal verbs were not better retained under the CL condition in this group called for further study.

3. The main study

3.1. Participants, instruments and procedure

The format of the main study was almost identical to that of the pilot study. The principal difference lies in the scale of the experiment. Participants were 111 students of Economics at the same university as in the pilot study. As in the pilot study, only intermediate-level students, selected according to placement test results, were included in the experiment. The pre-test, immediate post-test, and delayed post-test were identical to those in the pilot study, with the exception that I reduced the number of phrasal verbs from 30 to 28, in order to omit *eat out* and *speak up* (which teachers in the pilot experiment had found difficult to avoid using in class).

One change in the learning and teaching stage of the experiment concerned the roles of the teachers. In the pilot experiment, the main researcher taught the experimental group during the lab hour where the CL insights were presented to the experimental group students. In the main study, the roles of the teachers were switched; the researcher involved in this study now taught the control group. The corresponding interactive course teacher, who had also previously taught the experimental group, now taught the control group.

3.2. Results

Table 6 shows the average scores on each of the tests obtained by the different groups, and the *p*-values signalling whether one group outperformed the other.

Table 6. Mean scores on each of the tests in the main study. (Max = 14)

	Class A			Class B		
	Ctrl (n=35)	Exp (n=36)		Ctrl (n=23)	Exp (n=17)	
TAUGHT PVs						
Pre-test	2.571	2.667	*p* > .01	2.87	2.059	*p* > .01
Immediate post-test	4.343	4.5	*p* > .01	5.087	3.059	*p* **< .005!**
Delayed post-test	3.8	5.417	***p* < .005**	4.391	4.353	*p* > .01
ENCOUNTERED PVs						
Pre-test	2.457	3.139	*p* > .01	2.739	2.412	*p* > .01
Immediate post-test	4.2	4.556	*p* > .01	4.391	3	*p* > .01
Delayed post-test	3.914	4.44	*p* > .01	4.522	3.118	*p* > .01

The pre-test scores show that the experimental and the control groups had comparable prior knowledge of the targeted lexis (although the control group in class B did seem to have a bit of a head-start over the experimental group). After the experiment, the experimental group in class A did better than the control group, significantly so with regard to the taught phrasal verbs in the delayed post-test. In class B, however, it was the control group that did best, especially with respect to the taught phrasal verbs in the immediate post-test.

Surprisingly, both experimental groups remembered more of the taught phrasal verbs in the delayed post-test than in the immediate post-test scores. This extra gain under the experimental condition (instead of the loss

observed in the control groups) between the two post-tests was significant at $p < .01$ (class A) and $p < .001$ (class B).

In Tables 7 and 8 I have subtracted the pre-test scores from the scores on both post-test scores in order to estimate the learning gain in each of the groups.

Table 7. Mean gain between pre-test and immediate post-test

	Number of PVs gained			Number of PVs gained		
	Group A			Group B		
	Ctrl	Exp		Ctrl	Exp	
TAUGHT PVs						
Pre – Imm. post-test	1.77	1.83	$p > .1$	2.22	1.00	$p > .1$
ENCOUNTERED PVs						
Pre – Imm. post-test	1.74	1.42	$p > .1$	1.65	0.59	***$p < .05!$***

Table 8. Mean gain between pre-test and delayed post-test

	Number of PVs gained			Number of PVs gained		
	Group A			Group B		
	Ctrl	Exp		Ctrl	Exp	
TAUGHT PVs						
Pre – Delayed Test	1.23	2.75	***$p < .01$***	1.52	2.29	$p > .1$
ENCOUNTERED PVs						
Pre – Delayed Test	1.46	1.31	$p > .1$	1.78	0.71	***$p < .05!$***

The result of this calculation suggests that the control students in class B actually acquired more of the encountered phrasal verbs than their experimental peers. However, these were phrasal verbs that were encountered by class B in the interactive hour *before* the lab hour; that is, before the corresponding CL motivations were explained in the experimental condition, and we did not expect the experimental group in class B to benefit much from the CL approach as far as these encountered phrasal verbs were concerned. The experimental students in class A did benefit from the CL instruction, at least with regard to the explicitly taught phrasal verbs. There is no evidence of successful transfer of CL insights to the processing and remembering encountered phrasal verbs, though.

4. Comparing the effect of different CL motivations

For this stage of the analysis, I will combine the results of both the pilot study and the main study. I will look only at the test scores concerning the taught phrasal verbs, as the evidence of any transfer of CL insights to encountered phrasal verbs turned out to be poor. I will also confine the analysis to the long-term gain (i.e. a comparison between pre-test responses and delayed post-test responses).

Table 9 provides information on whether or not phrasal verbs instantiating a particular motivation were learned by a student during the experiment. If a student gave an incorrect response for a phrasal verb on the pre-test but a correct response on the delayed post-test, then this is classified as a learning situation and is represented in column two by a minus sign followed by a plus sign. Sometimes, a student managed to provide a correct response in the pre-test, but failed to provide a correct response in the delayed post-test. These cases are represented by a plus sign followed by a minus sign.

From the analysis it appears that the experimental group obtained significantly better results in terms of long-term learning in only two of the six phrasal verb categories: In/Out[a] and Up/Down[a], which consisted of (1) *break in* and *turn in* and, (2) *go up*, *turn down*, *settle down*, and *die down*, respectively.

Table 9. Results for phrasal verbs grouped according to the CL motivation

		Pre-test –> Delayed post-test		
		Ctrl	Exp	Significant?
In/Out (a)	- +	18	42	Yes
	+ -	11	3	$p < 0.001$
In/Out (b)	- +	48	53	No
	+ -	16	16	
In/Out (c)	- +	53	66	No
	+ -	16	10	
Up/Down (a)	- +	52	68	Yes
	+ -	15	14	$p < 0.05$
Up/Down (b)	- +	5	9	No
	+ -	5	8	
Up/Down (c)	- +	27	28	No
	+ -	7	5	

5. Discussion

5.1. Answers to research question 1

The results obtained from class A both in the pilot experiment and in the main experiment bear out the findings of Boers' (2000) study indicating that a CL approach can indeed enhance the learning of phrasal verbs. The superior performances of experimental groups in class A with regard to the taught phrasal verbs support the idea that explicit knowledge of CL motivations underlying phrasal verbs helps retention. The fact that the effect is most pronounced in the delayed post-test is of particular interest. The time investment does not necessarily yield immediate benefits; but, over time, there appears to be a significant advantage for the experimental group.[5] In answer to research question 1, then, the results of class A suggest that spreading the experiment out over a number of weeks will yield

significantly superior results for the experimental group, thus indicating that the CL approach to phrasal verbs can indeed be integrated with a pre-existing language programme.

The results obtained from class B, however, are much less encouraging. Despite the fact that the experiment involved identical phrasal verbs, identical course materials, identical teachers and identical teaching procedures, the delayed post-test displayed no significant differences between the two groups.[6] One difference between class A and class B was that, for students in class B, the lab hour was their last period of the day. We may speculate that students were too tired and lacking in concentration in the second hour to enable them to dedicate the necessary cognitive resources to assimilating the CL explanations. While students in class A profited from these explanations, the processing required of the students in class B for the purposes of assimilating the new approach to phrasal verbs may have been beyond what they were willing and able to undertake at that late hour in the day.[7] Such an explanation would be in keeping with the findings of Csábi (2004: 246), who found that learners performed better when she divided the learning session into two 20-minute sessions in order to "reduce the possibility of feeding too many things for students to learn". With the experiment spread out over a number of weeks, the participants were not overloaded with CL insights; but it does appear that with two consecutive hours of English practice, they were overloaded with English vocabulary and language in general. Research in learning and memory highlights the effect of massed (versus distributed) practice where after a certain amount of learning, further learning proceeds less efficiently (Baddeley 1997).

Another difference between class A and class B, in both the pilot experiment and the main experiment, was that taught phrasal verbs were presented to the class B participants during their second hour of English; that is, after one hour of conversation practice in the interactive course (see Table 1). Consequently, we were not expecting the experimental students in class B to benefit much from the CL motivations when processing encountered phrasal verbs, as they met these prior to the CL explanation. In other words, we were expecting the post-test scores regarding encountered phrasal verbs in class B to be quite similar for the experimental and the control group. And yet, the control group (in the main study) obtained better scores in that regard. This may point to the possibility that, by chance, this group was made up of more efficient language learners than the experimental group.

A rather surprising result relates to the fact the experimental groups in the main study appear to have learned more phrasal verbs between the time

of the immediate post-test and the delayed post-test. Yet it is unlikely that there was any intake of new information as there were no language classes during that time.[8] Thus, rather than learning new phrasal verbs, it seems that during the delayed post-test, the participants may have activated knowledge that was dormant in memory. The immediate post-test may have functioned as a practice session, with the participants processing and organising information, as well as simply filling in the blanks. Yet, if it were only a question of the post-test being a practice session, one would expect to find similar learning gains in the control group; yet no such gains were observed for the control group. It may be that for the experimental group, their being equipped with underlying CL insights for some of the phrasal verbs (i.e. the taught phrasal verbs) rendered the test less opaque for them and so enabled them to get better with practice. We also know from research in memory that memory improves with testing; that is, actively recalling information is a very efficient mechanism for learning (Baddeley 1997). An alternative explanation for the extra gain under the experimental condition may lie in the possibility that students in the experimental groups were more aware of being participants in an experiment (as they had been confronted with a novel instructional method), and so these students may have been more likely (out of interest) to talk about the immediate post-test and, in doing so, fill each other in on forgotten items.

5.2. Answers to research question 2

Our second research question concerns the issue of strategy transfer; that is, whether students in the experimental group would transfer their knowledge of the CL motivation underlying a given phrasal verb to the learning of a new phrasal verb instantiating the same motivation. The findings from previous studies are contradictory: Kövecses and Szabó's (1996) results point towards strategy transfer while the Boers' (2000) findings fail to bear out the hypothesis that students will transfer their knowledge of CL insights to novel phrasal verbs. The results of our study lend support to Boers' finding in that they provide no evidence of strategy transfer.

As mentioned above, this was not an unexpected result for students in class B as the encountered phrasal verbs were presented *before* the taught phrasal verbs. But class A also failed to exhibit any evidence of strategy transfer. During the lab hour, the students were given explanations for a maximum of two phrasal verbs in any given learning session. It may be that this amount of exposure in a single session is simply too little for subjects to be able to fully appreciate the use of individual CL motivations. Not

having sufficient input on the different particle meanings, the students may have been unable to fully grasp the systematicity of the particle(s) in question.

One also needs to look at the fact that the CL motivations used in the experiment were filtered and simplified versions of the CL theory. As the teacher set out the CL motivations for individual phrasal verbs, students may have found *some* of them to be logical and transparent, and consequently more memorable. However, this may not have been the case with all CL motivations insights. So, although there is no evidence to suggest that strategy transfer occurred, the reasons may lie not in the effects of a CL approach per se, but in the effects of an over-abstraction of some of the CL motivations used in this particular study.

5.3. Answers to research question 3

The third research question aimed to determine if different sets of phrasal verbs, instantiating different CL motivations, would prove to be more helpful than others. The results in Table 10 show that the CL motivations which are closely related to the literal meanings of the particles were the ones that yielded significantly superior results for longer-term learning.[9] This is not surprising as literal meanings are more easily and quickly learned by foreign language learners (Dagut and Laufer 1985; Liao and Fukuya 2004). For the more abstract CL motivations, there were no significant benefits for the experimental group. The results indicate that for certain types of phrasal verbs – *out*[b] (change from existence to non-existence), *out*[c] (change from not knowing to knowing), *up*[b] (reaching a limit) and *up*[c] (higher up is more visible) – the CL motivations used in this study may not necessarily provide a good return on the time/energy investment.

However, one must remember that the literal meanings of phrasal verbs and particles are usually those that students encounter *with understanding* more frequently (e.g. *put up your hand, sit down, stand up, go on*). This implies that students may already have had a partial understanding of some of the more frequent literal phrasal verbs (knowledge that was not captured by the semi-productive nature of the pre-test). It could be that a CL approach, rather than presenting students with new material, may just have allowed them to iron out previous elements of confusion in relation to *out*[a] and *up*[a].

A possible enhancement of the CL approach would be to rework the CL analyses so that the link between the literal and the figurative is more

salient. This may necessitate going beyond Rudzka-Ostyn's simplified account of the CL approach by spending more time explaining the specific details of any given CL insight as well as by supplying more examples of phrasal verbs that instantiate the CL insights. For example, Rudzka-Ostyn (2003: 22) explains that "states of existence, work, duty, knowledge, consciousness, possession, accessibility, visibility, etc […] are seen as containers". This is a rather abstract explanation from which a vital piece of information is missing, namely, the location of the "viewer" and the experiential link between seeing and knowing. According to Lindner (1983: 88), this group of meanings for *out* contains instances where "the viewer will be considered IN the [landmark's] boundary with the trajector, which, once it leaves the LM, becomes inaccessible to the viewer". Lindner further subdivides this meaning of *out* into 16 subcategories, such as the category where "the trajector becomes inaccessible to perception" as in *drown out the music*.

Obviously, explanations as detailed as Lindner's would increase the learning load for the student. Yet, a more precise explanation that clarifies the extra-linguistic motivation behind phrasal verbs may allow the link between the more abstract uses and the more literal uses of a particle to become more obvious. For example, the learner might benefit from an account of why leaving a container renders an entity that stays inside imperceptible (rather than perceptible). It also allows the learner to distinguish between the seemingly opposing meanings of *go out* and *come out* in sentences such as *the lights went out* and *the sun came out*. In sum, it is worth looking for CL explanations that strike a balance between simplicity (which can lead to over-abstraction) and precision (which can lead to over-burdening).

Another variable is the influence of the teacher. The researcher involved in this study taught the CL insights to the experimental group during the pilot experiment of the investigation. In the main experiment the roles were reversed and the researcher taught the control group, while the previous control group teacher now taught the experimental group. The pattern of results, while not identical, was very similar for both experiments. However, the experimental group in the pilot study (taught by the researcher) did obtain better results than the experimental group in the main study. Larsen-Freeman (2001: 182) offers an explanation: "What makes a method successful for some teachers is their investment in it. This is one reason why the research based on methodological comparisons has often been so inconclusive". As far as I am aware, this study is one of the few where an attempt has been made to control the teacher/researcher variable. The fact that the results yield a similar pattern, regardless of the

teacher, suggests that it is an approach that teachers and non-researchers could be taught to cope with.

6. Conclusions and call for further research

The aim of this study was to further the research in the area of phrasal-verb learning through CL insights by carrying out an investigation in as rigorous a manner as possible in classroom-based research. I have attempted to complement previous studies (1) by including pre-, immediate post- *and* delayed post-tests, (2) by statistically analysing of the data, and (3), in order to adhere to what occurs in real-life classrooms, by spreading learning out over weeks rather than staging just one or two highly focused learning sessions. The study shows that:

1. spending time on CL insights can be of benefit in the classroom for the purposes of learning English phrasal verbs;
2. a CL approach can successfully be integrated with a pre-existing language learning programme so as to yield superior results for longer-term learning rather than short-term learning; and
3. a CL approach seems particularly to suit lexis that instantiates fairly concrete and transparent CL motivations.

At the same time, it must be acknowledged that a CL-inspired pedagogy is not a miracle cure. There are many factors, such as fatigue on the part of the student, that can hinder a CL approach, and such variables need to be studied in order to fully exploit the pedagogical potential CL has to offer.

This study also leaves open the question of how CL motivations of phrasal verb particles should be presented to the learner. The short, simplified statements I used are relatively abstract and hard to visualise. For example, the statement "*out* is a change from existence to non-existence" – which was applied to both *black out that sentence* and *she set out her ideas* – omits key information about the location of the LM and about the experiential link with visual perception. Such spare generalisations may not always be pedagogically appropriate, particularly in relation to relatively abstract phrasal verbs. With respect to the experiments reported here, the use of brief generalisations may in fact underlie the observed poor transfer of taught explanations to phrasal verbs that were merely encountered. In sum, the preference of specific over general CL explanations, or vice versa, is a matter which particularly merits further investigation.

Appendix: Examples of the instructions supplied to teachers

<div align="center">CL-inspired approach</div>

Luisa was **worn out**
Luisa était épuisée
Tell students that *worn* is the past participle of *wear*. Remind students that
they have already seen that when the particle *out* is used in a phrasal verb,
there is an image of **something moving out of a container** or a box. They
have also seen that boxes (containers) can be both concrete (e.g. a house or
an office) and abstract (ignorance). In this sentence, the 'box' image is again
an abstract concept. Give the students a few seconds to absorb what you
have just said. Then, ask them to think about what sort of container might be
implied in the above sentence. After a few seconds, tell them that the
container is Existence or Life. We are all alive. We all therefore exist, and
belong to the container of Existence or Life. When we die, we move *out* of
that container. Draw the following diagram for students to see.

<div align="center">

Existence (Life)   Existence (Life)

Luisa   Luisa

Worn OUT

</div>
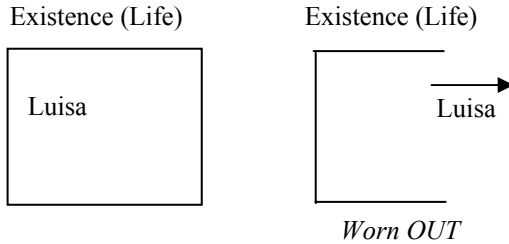
Sometimes when we are speaking we exaggerate. When we are very tired,
we compare ourselves to dying, *(crever)*. That is what has happened here.
The woman in this sentence was so tired after all her physical efforts that she
felt as if she had left the container of Existence, that she was no longer alive,
and so we have a phrasal verb with the word *out*.

<div align="center">Approach used in the control groups</div>

Luisa was **worn out**
Luisa était épuisée
Tell students that *worn* is the past participle of *wear*. *Wear* on its own means
porter. Explain to students that the verb in this sentence consists of *worn
out*, and not simply *worn*. By adding the word *out* to the verb *worn,* the
meaning of the construction as a whole is *épuisé*. Other words for *worn out*
in this context are *exhausted,* or *very very tired*.

Notes

1. To give another example, psycholinguistic evidence of the effectiveness of the keyword method (Atkinson and Raugh 1975), prompted a series of classroom experiments (e.g. Levin et al. 1979; Pressley et al. 1980), several of which failed to show a significant difference in effectiveness between the keyword method and other forms of vocabulary learning.
2. Researchers such as Pica (2005) and Spada (2005) argue that controlled experiments are necessary but not sufficient to inform our knowledge on language learning and teaching. Their results have to be complemented by data from intact classes.
3. The figures here refer to the amount of material covered during the course of the experiment.
4. The two teachers who taught in the lab hour played no role in the teaching of the interactive hour. A second team of two teachers were responsible for the interactive hour. One teacher taught the control group, a second teacher taught the experimental group.
5. In the pilot study, the difference between the control and experimental groups, although significant, is smaller on the immediate post-test than the difference observed in the delayed post-test. In the main study, there is, in fact, no observable difference between the experimental group and the control group on the immediate post-test.
6. Initially, control group B outperformed the experimental group, but by the time the delayed post-test took place, the two groups exhibited a comparable knowledge of phrasal verbs.
7. For both experimental and control conditions, class A had their lab hour of English before class B. If fatigue were a factor in learning and test performance, one might expect the students in class A, being less tired than those in class B, to obtain superior results to class B. This was not the case. However, in instances where class B results are higher than class A, class B results are also higher on the pre-tests. This indicates that the starting level for classes A and B was not identical. Thus, the higher scores obtained by class B in the post-tests does not exclude the possibility that fatigue was indeed a factor that affected learning for class B, rendering the CL approach less efficient than it may otherwise have been.
8. There were no classes during that time due to the Christmas break and the exam period that immediately followed.
9. The two categories are *out (a)* and *up (a)*.

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A discovery approach to figurative language learning with the use of corpora

Fiona MacArthur and Jeannette Littlemore

Abstract
By means of their search function, electronic corpora can be employed to isolate a large number of usage events involving the same lexical unit, providing learners with the kind of information gained by native speakers over a long period of time. In this chapter we investigate to what extent this use of corpora can help learners discover how target language words have developed figurative senses (i.e. appreciate their polysemous nature), and foster not only understanding of these senses but also facilitate learning of associated phraseology. We report an experiment in which learners were asked to (collaboratively) work out the meaning of figuratively used words on the basis of concordance lines. In a post test the participants' recollection of the words was gauged as well. Qualitative analysis points to the interplay of multiple variables that will determine learners' performance. These variables include learner characteristics, the possibility of L1 transfer, the content and phraseological patterning of the concordance lines, and the amount of prompting by the teacher.

Keywords: corpora; concordance lines; polysemy; metaphor; metonymy; aptitude; L1 transfer; phraseological patterning; learner autonomy.

1. Introduction

In all languages, the senses of words can be extended, metaphor and metonymy being among the most readily identifiable principles that motivate meaning extensions (Taylor 2003). However, languages vary considerably in terms of the figurative extensions they permit. For example, in English, the word *cup* can be used figuratively to refer to a part of a bra, a part of an acorn, and a hip joint (Dirven 1985). In addition, a common metonymy – ENTITY FOR ACTIVITY – allows the word to change grammatical class, and *cup* can also be used as a verb to describe a way of holding (something in) the hands. However, none of these senses exist for

taza in Spanish. Thus, while similar principles of meaning extension may motivate many of the polysemous uses of a word in a given language, these are not fully predictable and may indeed appear somewhat arbitrary, particularly to the non-native speaker. This unpredictability, occasionally underestimated by cognitive linguists concerned with providing retrospective explanations of linguistic motivation, poses a problem for the foreign language learner both in understanding and in using the conventional figurative extensions of target language words.

A further difficulty for the learner is that when words are used figuratively, they may be accompanied by fairly fixed phraseological patterns that differ from those surrounding the more basic senses of the words (Cruse 1986; Deignan 2005). For example, both English *hand* and Spanish *mano* 'hand' can be used to denote people engaged in manual work. However, while in English this metonymic sense is realised by the noun alone (*all hands on deck*) or a noun-noun compound (*farm hand*), in Spanish it is instantiated by a noun + prepositional phrase (*mano de obra*).

Littlemore (2005) points out that language corpora are potentially a powerful pedagogical tool in helping learners cope with these two types of difficulty because corpora can provide useful information not only about usage but also about phraseological patterning. A large electronic language corpus can be employed to isolate a large number of usage events involving polysemous words, providing learners with the kind of information gained by native speakers over a long period of time in their daily contact with the language. If judiciously used, a corpus may help learners to discover how target language words figuratively extend their meaning, and foster not only understanding of these senses but also learning of their associated phraseology.

Figurative usages are particularly likely to be revealed if one enters a word that has undergone a shift in its grammatical class as a search item. For example, a search for the word *shouldered* in the British National Corpus reveals sentences such as the following:

(1)   *Erlich **shouldered** his way through the crowd*
(2)   *He **shouldered** towards them*
(3)   *Yet she **shouldered** the blame*
(4)   *The old woman **shouldered** her bag*
(5)   *Ian had **shouldered** him all the way home*
(6)   *I've already been **shouldered** out of the nativity play*

The variety of senses of *shoulder* exemplified here ranges from the metonymic[1] (for example, the association of this part of the human body

with carrying in [4] and supporting in [5]) to the metaphorical (for example, sentence 3 illustrates how speakers of English construe experiencing problems or difficulties as carrying or being burdened with heavy loads). All of these senses are arguably figurative, and may reflect what Dirven (2002) refers to as a figurative continuum. According to Dirven, figurative word senses may be usefully regarded as being located on a continuum stretching from purely literal senses, through metonymic senses, to metaphorical senses. All the above examples might be seen as sitting somewhere along this continuum, as they bear a metonymic or metaphorical relationship to the literal sense of the noun *shoulder*. However, the relationship among the different senses as regards the conceptual distance between the name for a part of the body and its use as a verb is often not simply a matter of one set of related senses. For example, the senses of *shoulder* in sentences (1) and (2) share a focus on manner of motion, which in sentence (1) implies pushing people out of the way using the shoulders. This, in turn, could be seen as motivating the metaphorical use in sentence (6), where *shouldered out* means something like rejected. That is, not all senses of *shoulder* can be seen as related to each other on the same figurative continuum, but rather there are branches of different orientations on the activities and functions of the body part. These examples are good illustrations of what Barcelona (2000) refers to as metonymically-motivated metaphors (see also Goossens' [1990] discussion of what he terms metaphtonymy).

If language learners could be encouraged to perform searches like this with a target language corpus, they could be helped to develop a sensitivity to possible figurative extensions of target language vocabulary (Littlemore and Low 2006). They might then use these figurative extensions to expand the range of topics that they are able to discuss with their existing vocabulary, thus improving their levels of communicative competence. However, the preceding sentences contain a number of ifs and maybes and a full study of the phenomenon would entail a somewhat lengthy investigation, which should begin with a study of the kinds of things that language learners actually do when they are asked to search for forms with figurative meanings in corpora and an assessment of the extent to which such an approach is likely to aid their understanding and retention of target language vocabulary.

Against this background we describe a small-scale study carried out to investigate whether and in what ways learners are able to use a corpus to get to grips with the referential flexibility of target language words. Being part of an on-going project, this study is only a first step in shedding light on both the potential benefits of using corpora and any problems associated

with their use. We hope that its preliminary findings will prove useful to researchers and language teachers interested in the use of corpora to foster the acquisition of conventional metaphors and metonyms in a foreign language.

2. Method

This study was carried out at the University of Birmingham, England, and the University of Extremadura, Spain. The same method was used with both groups of learners, but there were some slight differences in procedure due to the nature of the corpora and the participants involved. These are mentioned in the relevant sections.

2.1. Participants

Two groups of participants volunteered to take part in this study and agreed to allow the results to be published. At the University of Extremadura, 11 upper-intermediate Spanish speaking learners of English and 1 German speaker[1] took part. All were in their fourth year of a degree programme in English Language and Literature and had expressed a desire to discover more about English phraseology. None had had any previous experience of using a corpus in language learning. At the University of Birmingham, 6 upper-intermediate English speaking learners of Spanish took part. All of them were studying Spanish as a module outside the main discipline; that is to say, they were all studying for degrees in subjects other than Spanish, and were taking Spanish as an optional extra. As with the learners of English, none had had any previous experience of using a corpus.

We chose to work with two groups of learners who shared a number of characteristics but differed in others in order to gauge the extent to which the benefits of a discovery approach to figurative language using corpora might vary across groups of learners. While the participants were all undergraduates of the same age, their experience of learning a foreign language and their reasons for doing so were quite different. The Spanish group had had a longer and more intensive exposure to the foreign language both at school and during the degree programme. Furthermore, their future professions as teachers or translators would require more than a purely instrumental command of the language, and reflection on language (both in literature courses as well as other subjects in the degree programme) comprises an important component of their learning

experience at university. In contrast, for the English group, an instrumental command of Spanish would be the aim of their class work, and, in these circumstances, less time is devoted to such reflective activities. The expected outcomes of learning a foreign language for the different groups of participants, and the educational contexts in which this learning was taking place, meant that they would bring to the experience of exploring corpora different expectations and learning backgrounds.

2.2. The corpora

The corpus chosen for the study with the learners of English was the on-line version of the BNC (100 million words) and for the learners of Spanish, the CREA (slightly over 150 million words), which can be accessed freely at the website of the Real Academia Española. Both corpora are very large and allow a variety of applications. The choice of the online version of the BNC was motivated by the desire to use the corpus in a way that learners might be able to replicate outside their normal place of learning. This meant that only simple word searches were possible and the maximum number of hits shown for any given word was 50; these are given in the context of a single sentence and no concordancing of the data is possible. However, we considered the automatic constraint of the number of examples encountered by the learners to be desirable, as unlimited access might tempt the learners to read a great number of examples – a time-consuming task which would be undesirable in the classroom.

In contrast, the CREA allows concordancing of the examples, with the word examined appearing in red type, although part of the sentence may be lost on the screen. It is possible when using this corpus to restrict word searches to particular types of discourse (for example, conversation or newspapers) or to particular varieties of Spanish (for example, Peninsular Spanish versus varieties used in Latin America or the Caribbean). However, in the actual word searches made by the participants, the data were not limited in any way. This meant that the number of hits for any item was unlimited, although during the study the learners only looked at two pages or about 80 examples because of the limited time available for this activity.

2.3. Items chosen

In choosing the items to be explored, an important concern was the density of figurative senses in the corpus. We were worried that in searching for any word in either language, learners would be likely to come across significantly more literal uses than figurative ones in the corpus. Although some advantage may be gained from reminding learners of the core meaning of a word as they come across figurative uses (Verspoor and Lowie 2003), it is possible that when faced with a high density of literal tokens, learners will either overlook the occurrences of figurative uses in the examples they encounter, or need more time than is generally available in class to discover them. We thus decided to choose nouns whose derived verb and adjectival forms are more frequently figurative than are the base forms. Both English and Spanish words display this tendency, and part of the challenge facing language learners is to become familiar with this aspect of the target language. The nouns themselves were used to prompt the word searches.

For the learners of English, the items chosen were five animal names (*rat, ape, snake, worm* and *dog*), three body part terms (*shoulder, elbow* and *head*) and six other nouns whose verbal use is predominantly figurative (*mushroom, weather, table, chair* and *pencil*). The learners of Spanish were provided with a similar list of nouns which have derived verb and adjective forms that are similarly figurative: *aleta* 'fin' (of a fish)*, avispa* 'wasp', *mono* 'monkey', *toro* 'bull'; *cuadro* 'square', *caldo* 'soup', *arma* 'weapon', *joroba '*hump' (e.g. of a hunchback), *forro* 'lining', *ningún/ninguno '*nothing/nobody'*, baraja* 'pack of cards', *hilo* 'thread' and *agosto* 'August'.

2.4. The corpus evidence

Large corpora such as the BNC or the CREA provide a wealth of information about usage and phraseological patterning rarely recorded in learner dictionaries. For example, the only sense for the denominal verb *snake* glossed in the *Collins COBUILD English Dictionary* is as an intransitive verb meaning 'wind' or 'twist', and although the *Oxford Advanced Learner's Dictionary* notes that the verb is used to describe movement (followed by different particles), the example provided illustrates the 'wind' sense, which accounts for 50% of the examples shown in the BNC, as in the following sentence:

(7)   *We followed a narrow path that **snaked** precariously down the escarpment side*

The verb is also found in the BNC used to describe a manner of motion, both intransitively and transitively:

(8)   *Kirov's arm **snaked** out, grasping the young man's elbow*
(9)   *Cursing herself, she **snaked** a hand back inside*

Both fictive and factive motion senses (Talmy 1998) may be accompanied by subjects denoting entities that are similar in shape to that of a snake (*path, hose* or *arm*, for example). However, other types of nouns are also found in subject position:

(10)   *He **snaked** off again and within minutes the throng began moving towards dinner, dividing into ten to a table, lowering bottoms onto inadequate chairs, fingering menus, peering at the print through candlelight, scanning their allotted neighbours*

Among sentences that display uses of the verb in which the presence or absence of real movement can be fairly clearly distinguished, we find others which may be ambiguous. This is particularly the case when the Subject denotes smoke or a light source.

(11)   *Smoke **snaked** up from a campfire*

That is, the corpus examples do not always provide evidence of a clear distinction between one sense and another, but rather a continuum of senses with fuzzy boundaries.
     Even this small selection of uses of *snaked* in the BNC reveals semantically opaque uses, where the relationship between topic and vehicle may be difficult to perceive when the subject (or topic), as in the case below, is not a concrete noun:

(12)   *Something **snaked** its way out of their Civil War – from fifty years ago – to wrap itself around our throats*

That is, the corpus examples provide evidence of Dirven's (2002) figurative continuum. Evidence of this figurative continuum was also found in Spanish in the CREA. For example, if we look at the word *agostado* 'withered by the heat and drought of August', we find a range of uses along

the continuum. Some of these are very near the literal/metonymic end of the continuum:

(13)   *... el jardín, sacudido por el viento y **agostado** por el calor, ...*
         '…the garden, shaken by the wind and affected by the August heat, …'

(14)   *... eran símbolos las plantas marchitas y el suelo **agostado** durante la estación de la sequía ...*
         '... the withered flowers and the dry ground during the drought season were symbols …'

And some of the metonymic uses occur within similes:

(15)   *...sin José Mari Manzanares son como un jardín **agostado** ...*
         '…without José Mari Manzanares they are like a dry and withered garden. ...'

The word can also be used metaphorically in a wide range of contexts:

(16)   *Una fuerza y un empuje que se han **agostado**. Margaret Thatcher lo constataba en su recie ...*
         'A strength and drive which had withered away. Margaret Thatcher stated this in …'

(17)   *... su triángulo amoroso a partir de un matrimonio **agostado** ...*
         '... a triangle of love resulting from a withered marriage ...'

While it may be convenient for lexicographers to separate and even ignore (some of) the multiple senses of words such as this, this selection of uses in the corpus reveals a much more complex picture. This complexity, as will be seen in section 3.2, had consequences for the way learners dealt with the figurative senses of these verbs and adjectives.

2.5. Procedure

The learners of English attended three one-hour sessions at one week intervals. In the first two sessions, the learners were given the list of nouns and asked to predict what they thought these words would mean if used as verbs. They were then asked to compare their predictions with the uses

found in the BNC, by doing a simple word search for the word with a past tense inflection (*dogged* or *tabled*, for example). The learners worked in pairs or groups of three and their discussions were recorded and transcribed. In the third session (one week after the second session), the learners' retention of the items looked at was tested using a gap-fill test (see Appendix 1). All the test sentences were authentic utterances (taken from the BNC) which the learners had not seen before. Discussion of the learners' choices was similarly recorded and later transcribed.

The learners of Spanish attended two one-hour sessions. The first session was similar to that of the learners of English, in that they were given a list of 13 Spanish words and asked to hypothesise about possible figurative senses that each word might have if its word class were changed. They were then encouraged to test their predictions against the corpus. In the second session, they were asked to complete a gap-fill test (see Appendix 2), which they did as a whole group. The purpose of this test was to provide a means of exploring what the learners did or did not remember and provide a springboard for whole-group discussion of the reasons.

The gap-fill tests consisted of a number of sentences (12 for the Birmingham group and 13 for the other) taken from the two corpora used, but which had not been seen by the learners before. The test was administered twice: once without the base forms, and the second time with a list of the words to remind learners of the forms looked at. Each original sentence had contained a verbal or adjectival use of one of the target words, which was removed. Before administering the gap-fill, we examined each set of sentences independently with the words removed to judge the ease or difficulty of inserting the correct item, changing those which did not appear to offer a sufficiently clear context for the correct choice to be made. This was judged by the two authors and by a native Spanish-speaking teacher of Spanish. Each sentence displayed what we considered to be a fairly transparent or frequent use of each word, although we need to acknowledge that this would not necessarily match the learners' perception. Likewise, with a test of this kind only one sense of the words in question was tested, so at best this could only give a partial notion of how much the learners remembered of the way these words are used. The majority of the students of Spanish were unable to complete either version of the test on their own, so instead we decided to use the second version as a spring-board for discussion rather than for objectively assessing recall of the senses encountered. After all, the primary aim of this qualitative study was to gain insight into the ways students process corpus-enriched input of figurative word-meaning extensions.

After doing the gap-fill task, the learners of Spanish were given a paper printout of concordance lines for a new set of words: *cabrear* (literal translation 'to goat'); *ser un lince* (literal translation 'to be a lynx'); and *perruna*; *perruno* (literal translation 'dog-like'). They were then asked to use these concordance lines to try and work out the meaning of these items. The aim of this activity was to see how their response to the paper-based concordance lines compared to their response to the screen-based lines, although it should be borne in mind that quantitative comparisons were not possible as they were not looking at the same lexical items in both conditions.

3. Results

3.1. Learners' predictions

The predictions made by the learners of English about the possible meanings of the denominal verbs were remarkably homogeneous. These can be summarised as follows. If an *A is B* metaphorical expression existed in the L1, learners would use this to predict the meaning of the verbal use of a noun. So, for example, the PEOPLE ARE ANIMALS metaphor prompts linguistic expressions in Spanish of the type *ser un/a* or *estar como un/a +* ANIMAL NAME to negatively evaluate aspects of human behaviour. Learners predicted that the same undesirable aspects of human behaviour would be expressed in English by the verbal use of the animal name. The following are examples:

(18)   S7: *I don't know. Rat … dirty… be dirty. Maybe something like behave in a dirty way. Not be good. I don't know.*
        S8: *Or you know, be … how do you say that in English … 'keep money'*
        T: *'Be mean, tight-fisted'?*
        S8: *Yes, like 'be dirty' in that way. 'Be mean'.*

The equation of people and animals is made in most, if not all languages, and learners resorted to this knowledge in their reasoning. *Ser un/a rata* 'be a rat' means to be tight-fisted, and this was the basis for their prediction in this case. Likewise, 'lazy' was thought likely to be part of the meaning of *dog*. However, if a linguistic expression of the type *be an* ANIMAL NAME did not exist in the mother tongue, the learners usually did not find it possible to predict a meaning, only occasionally using knowledge of the

animal in question (i.e. the metaphor vehicle) to guess the meaning of the verb. This pattern was also observed with regard to other items: some learners guessed that *table* when used as a verb would mean 'lie flat', based on the L1 expression *estar como una tabla*, the idiomatic meaning of which is 'be flat as a pancake'.

A corollary of this tendency to reason about the possible meaning of these verbs using an *A is B* metaphor in the mother tongue was that learners ignored one-off verbal metaphors that could have informed their predictions. For example, *serpentear* 'to snake' is used in Spanish in a very similar way to English to describe the way a road or path winds or twists; nevertheless, learners did not draw on this knowledge in attempting to predict the meaning of this verb. And although the figurative sense of *codearse* 'to elbow' is different from the English senses (in Spanish it means something similar to English *rub shoulders with*), learners did not use knowledge of this verbal use when talking about the possible meaning of *elbow* used as a verb.

In the absence of any such nominal metaphorical expressions in the mother tongue, learners replied that they had no idea what *mushroom* or *weather* might signify if used as verbs, and even an item like *chair* elicited only three guesses at a metonymic relationship (these learners thought it might mean 'sit down'). This reliance on the existence of a metaphorical expression in the mother tongue and the failure to consider appropriate aspects of the metaphor vehicle was particularly arresting in the students' inability to assign any probable meaning to *mushroom*. The session took place in the month of November when heavy rain had, as usual, prompted the appearance of mushrooms in the patches of lawn that students passed on their way to class and in the countryside visible to all from the windows of the room in which the session took place – yet none related this linguistic use to the proliferation of mushrooms all around them until they worked out the meaning of the verb in the corpus.

It is hardly surprising to find that these learners transfer knowledge from L1 patterns to the foreign language; more remarkable is the salience that the *A is B* pattern appeared to have for them. Although the *A is B* realisation of (conceptual) metaphors is not at all as frequent as might be suggested by discussion in the literature of expressions such as *My lawyer is a shark* or *That surgeon is a butcher*, the nominal realisation does appear to be especially marked or memorable, as Goatly has suggested in his discussion of metaphor and word-class (1997: 82–92). He points out that the entities referred to by nouns are imageable because they have spatial dimensions, and the creation of images contributes to the ability to enhance memory (see the introduction to this volume). Indeed Goatly's remarks on

nominal vehicles being "less prone to oblivion than vehicle terms of other word classes" (1997: 83) is borne out by the way learners used nominal rather than verbal metaphors in their L1 to predict the meaning of L2 verbs:

(19)   S4: *I think it probably means something like 'be a bad person', because in German we say someone is a snake when we mean he's bad.*

In sum, although these learners were willing to guess at the possible figurative meanings of the denominal verbs, none of their predictions matched the figurative senses of any of these words in English. Neither deploying knowledge of L1 figurative usage (which tended to be restricted to nominal metaphors) nor limited attempts to focus on salient characteristics of the entity in question led to accurate predictions of the conventional extensions of these words in English.

It could of course be that the tendency to reason on the basis of a nominal metaphor in the L1 was a consequence of the task itself. The prompt for predicting the figurative use of a verb in English was a noun with which these learners were familiar, and this may have predisposed them to think about equivalent L1 nouns and their figurative use. A different result might thus have been obtained if the stimulus had been a verb rather than the noun from which it derived.

A slightly different pattern was observed for the learners of Spanish. Initially, they were very uncomfortable at being asked to guess the possible extensions of the words in their lists. They needed a substantial amount of help from the teacher, as we can see from the example below, where they were asked to guess possible figurative meanings of the warm-up item *hormigueo* 'ant-like, pins and needles'.

(20)   T: *How do you feel when an ant is walking on your skin? What does it feel like?*
        S: [Inaudible]
        T: *When your leg is numb how does it feel?*
        S: *As if a lot of ants were walking on your leg.*

One reason for this reluctance may have been that they were not language learners *per se*, and they may have had less confidence in their ability to make predictions such as these than the Spanish learners of English. On the other hand, it may represent a wider trait among language learners in general. Their behaviour is line with Kellerman's (1998) finding that Dutch learners were particularly sceptical about the transferability into English of

Dutch expressions involving *non*-prototypical senses of *breken* 'break' almost regardless of whether these expressions were literal or metaphorical. Both our findings and those of Kellerman suggest that teachers may encounter a certain amount of resistance when they ask language learners to make figurative extensions of target language vocabulary. Further research is needed into the effectiveness of this technique with different types of learners. Because of the learners' extreme reluctance to make predictions, we progressed to the corpus work. The findings from this part of the study, for both the Spanish and the English learners, are discussed in section 3.2 below.

3.2. Using the corpora to interpret extended word meanings

The learners of English were in general able to accurately interpret the different senses of the verbs as used in the corpus examples. The only item to which none were able to assign an appropriate meaning was *table*, which appeared in such expressions as *table a motion/an amendment*.

In using the corpus, the learners read through the examples, remaining silent as they scrolled down the page until they found an example which they understood. They then used the sense identified in this example to check the meaning of those uses already encountered, extrapolating from the "core" sense they had identified to others which they had not grasped. The core sense identified — or the best example, from the learners' perspective — was not the one that would necessarily be predicted either from frequency or from the researcher's intuition that certain senses would be more transparent than others. For example, although the most frequent sense of *snake* is that which describes the winding of roads, paths or rivers, this was the most opaque for these learners, who focused first on the manner of motion sense. The following exchange shows how learners' attention had to be directed to the subject of the verb in clarifying the most frequent meaning. Curiously, the corpus example that clarified this sense for all the learners was the same: one in which *queue* appeared in subject position:

(21)   T: *So what do you think* snake *means?*
        S6: *Well, it's something like 'move', 'go', like this* [*gesture*]
        T: *Always? What about here?*
        S6: *Yes ..no ... I'm not sure. What's* hose*?*
        T: *'Manguera', 'una manguera'.*
        S6: *Oh.*

> S7: *Ya veo – mira 'queue'. Claro, es la cola que va así* [*gesture*]
> *por la calle doblando la esquina y no se mueve.* ['I see – look
> 'queue'. Of course it's the queue that goes like this [*gesture*] down
> the street round the corner and it doesn't move']
> S6: *Entonces será la forma ¿no?* ['So it must be the shape, mustn't
> it?'] *The shape?*
> T: *Right. The same as Spanish, isn't it?*

Focus on manner of motion in the case of *worm* not only aided learners'
comprehension of the verb used in this sense in phrases such as *She
wormed her hand through the gap in the railings* but also led to an
appreciation of the entailments of the metaphorical expression *worm one's
way into someone's heart/affection*, as the following exchange illustrates:

(22)   S9: *I think* worm *means 'move, go', like this* [gesture] *when there
            isn't any room.*
        T: *And here?* [points to corpus example "Now, to his intense
        shame, he found he was even jealous of the child, Corrie Palmer,
        who had **wormed** her way into Sarah's heart so thoroughly there
        seemed no dislodging her"]
        S9: *The same. It means 'enter'. I mean, not really 'enter'. But if
        you go in someone's heart, they love you.*
        T: *So why not say* enter*? What's the difference do you think?*
        S7: *Maybe it's difficult to enter. Like here it says 'he **wormed** his
        hand through the rails' when there's little space. Maybe it means
        something like la conquistó,* ['he conquered her'] *like a battle, when
        it's difficult.*
        S9: *No, no, because it's like a worm, like this* [gesture]. *Under the
        ground. You can't see it, it's hidden.*

In the cases cited here, as well as in those of the other verbs explored, the
strategy employed by learners seems to have been to focus on one sense,
which they then used as a base line to guess at other meanings. Although
further research would be needed to substantiate this claim, it looks as if the
learners are drawing on, and extending, the sense they have taken as the
core sense in order to relate this to the different uses they found, organising
their knowledge of the sense relations in a way not dissimilar to the radial
categories used by cognitive linguists to describe, for example, the sense
relations of *over* (e.g. Brugman 1981; Lakoff 1987). Interestingly, one
sense of *worm* which all these learners, except the German speaker, had
great difficulty with was when it was used to signify eliminating an

animal's intestinal parasites. The multiple senses of the noun to denote either an earthworm or a parasite had not arisen in discussion of the possible figurative extensions of verbal *worm*, and this may have influenced the way they dealt with the corpus examples they encountered.

In some cases, there was collaboration between individuals in the task, with one learner helping a slower partner see the meaning relation between one sense and another. For example, in the following exchange one learner clarifies for another the relationship between transitive uses of *ape*, and its use as a reporting verb:

(23)   S2: *Bueno, aquí significa 'imitar', pero en este caso no lo sé.*
        S3: *Pero ¿no ves? Es igual que la otra frase, o sea, 'simular'.*
        Como los monos. ¿No has visto las películas de Tarzán?
        S2: *Ah claro.*

        S2*:* 'Well here it means 'imitate', but in this case I don't know.'
        S3: 'But can't you see? It's the same as the other sentence, that is,
        'pretend'. Like monkeys. Haven't you seen the Tarzan films?'
        S2: 'Oh right*.*'

In general, then, encountering a range of senses in the corpus, for these learners at least, appeared to be advantageous: it not only helped them to create a network of meanings that made sense to them but also contributed to their appreciation of the metaphorical entailments of these verbs. Although they had not been able to predict the conventional extensions of these verbs earlier, they were able to apprehend the figurative motivation of the different senses once they had encountered them in the corpus, as the following exchange about *mushroomed* seems to indicate:

(24)   S7: *Mira, aquí dice que son las townships que han* **mushroomed**
        around the site, o sea, han proliferado.
        S8: *Ya pero no siempre quiere decir eso. A veces es 'aumentar'*
        ¿no? Como cuando dicen más arriba que Latin America's foreign
        debt **mushroomed**.
        S7: *Si vale, pero es más o menos lo mismo. Es como las setas que*
        no sólo aumentan de tamaño cuando crecen sino que las
        encuentras por todas partes.

        S7*:* 'Look, here it says it's the townships that have **mushroomed**
        around the site, that is, they've multiplied'

> S8: 'OK but it doesn't always mean that. Sometimes it's 'grow', isn't it? Like when they say further up that Latin America's foreign debt **mushroomed**.'
> S7: 'Yes right, but it's more or less the same. It's like mushrooms which don't only get bigger as they grow but you also find them everywhere.'

Focusing on known characteristics of mushrooms allows this learner to justify for herself and her partner the overlap she perceives between different senses of the verb when used with a count or non-count noun as Subject. This appreciation of the figurative motivation of these senses of the verb may have been fostered by asking the learners to think about possible figurative extensions before looking at the corpus, as it got them into a 'figurative frame of mind' that was helpful in many, but not all, cases (as has been seen in the case of *worm*).

As for the learners of Spanish, they were much better at using the corpus than they were at guessing the figurative meanings of the words out of context. They were able to use the basic senses of the words and to explore their semantic networks in an attempt to find possible meanings. They also used contextual clues to help them identify possible meanings:

(25)   T1: *What do you think* cuadrar *might be?*
        S1: *'To square'? Like mathematically?*
        T1: *Does that work in Spanish? You know like '4x4'?*
        T2: *No, well as far as I know*
        T1: *Any other thoughts on what it might mean?*
        S1: *'To enclose' maybe?*
        T1: *Does it work?*
        T2: *No, I don't think so*
        S2: *It means 'charge'*
        T1: *Charge?*
        S2: *Mm*
        T1: *Where do you get that from?*
        S2: *You've got government wants to charge the cost of the market ... is it or...*

In this extract, student 1 uses her knowledge of the basic sense of the word *cuadro* 'square' and its semantic network to come up with 'to square' and 'to enclose'. When it is made clear that these solutions are not right, student 2 uses contextual cues to work out the meaning 'charge'. There was no evidence in the transcription data of the students *combining* these strategies when working with the on-screen corpus, indicating that it may be useful

for teachers to show their learners how to do so, in order to work out the meaning of figuratively used items.

Turning now to the paper-based input, the learners did appear to make more links between the basic senses and the contextual clues. They were even able to combine these strategies with the use of transfer, and they appeared to work much more collaboratively. These points are illustrated in the two extracts below, where the learners were trying to establish the meaning of *perruno/a* 'dog-like' and *lince* 'lynx':

(26)   S1: *Is it like 'very kind of caring' sort of like* una devocion **perruna**, una fidelidad*, which is like 'faithfulness'?*
S2: *Like* nuestra familia *like loyal family, like close family.*
S1: *Yeah.*
S2: *And* personalidad *like loyal personality.*
S3: Una **perruna** voz de mujer. *It's talking a lot about, it's almost like kind of the way a bitch cares for her pups.*
S2: *Well that's more like well, again, it's quite similar to the lynx, isn't it cos it's like attributing the characteristics of the male dog or a female dog, so this is more like kind of strong.*
S1: *It could be like defensive?*
S2: *Yeah,* del **perruno** calor.
S1: *The first one says 'lynx to observe' so possibly like 'pry on someone', 'to spy on someone'.*
S2: *'Be sly'. A lot of them are literal though, like references to* **lince** iberico.
S1: *Yeah.*
S2: … [indistinct] …*you have to be sly and see everything that's going on.*
S3: *Yeah I think that's what the first one would be, like you don't have to be sharp to see what's going on.*
S1: *Yeah.*
S2: *Oh yeah, so 14 is that.*
S3: *Yeah.*
S2: *que hacen falta ojos de* **lince** *para percatarse.*
S3: *So you've got a lot of things to do with eyes and* [unclear].
S2: *So like 'to spy'.*
[quiet-voiced S4 says something indistinct]…*It's just like relating* [unclear] *to being a lynx to people. I'm sure there's something in English to say that. Kind of like you'd relate someone really quiet and shy to a mouse.*

> T: *What do you think would be the characteristics of the lynx that
> can be compared to the person?*
> S2: *Quite stealthy, quite cunning, wily … being able to see well.*

In the *perruno/a* example, the learners appear to be drawing on their
knowledge of the semantic networks for *dog* to come up with ideas such as
"loyal" and "close". They then relate these ideas to the contextual clues of
mujer 'mother' and *personalidad* 'personality'. They even explicitly state
that "it's like attributing the characteristics of the male dog or a female
dog". In the lynx example, the learners quote phrases from the corpus,
either translated into English (*lynx to observe*) or left in Spanish (*que hacen
falta ojos de lince para percatarse*). They then begin to think in terms of
transfer from English: "It's just like relating [unclear] to being a lynx to
people. I'm sure there's something in English to say that".

As well as appearing to promote more effective use of strategies, the
paper-based approach was more popular with the learners than the
computer-based approach. There are two factors that may account for the
relative success of this approach. One factor may have been that the use of
paper allowed the learners to underline words and phrases on the page, and
highlight links between related items. Another may have been that in the
paper session they were able to sit closer to one another, in a circle, rather
than at a distance, in a straight line. On the other hand, we must be careful
not to read too much into these findings because different words were used
in each of the approaches, and the learners carried out the paper-based task
in the second session, by which time they were already used to the idea of
using a corpus. Further research is needed to establish whether it is more
pedagogically effective to have the learners work with a computer screen or
a printout.

Another interesting finding is that in the initial stages of the computer-
based session, the learners were more likely to come up with literal or
metonymic interpretations than metaphorical ones:

(27)   T2. *What* [characteristic] *of soup can you also have of the
        atmosphere?*
        S1. *The heating.*

In this example, the learner is still thinking in terms of literal, as opposed to
metaphorical, warmth. However, once they had started to process the items
as metaphors, they appeared to find it difficult to identify more literal or
metonymic senses of the words. For instance, the word *aletear* (which is
derived from the Spanish *aleta* meaning 'fin', and which can mean 'to

wave or flap one's arms') caused a number of problems. Learners were unhappy to accept that this was a figurative usage, and were determined to find a more metaphorical usage in the corpus. They were happy when they found that the word *aletear* could be used to mean 'leaf through (papers)', as in the following example:

(28)   ... *el libro con sumo cuidado y lo hojeé, dejando **aletear** sus páginas ...*
        '... the book with great care and I glanced through it, flicking through the pages...'

Only then were they prepared to move on to the next item. One reason for this reaction may have been that the concordance lines were ambiguous; another may have been that they were simply cautious about solutions that seem too self-evident to be true. From a pedagogical point of view, it may be worth pointing out to learners that different degrees of figurativeness can exist for a single item in different contexts.

Although learners in both groups made sporadic use of their first language when working with the corpus, we were unable to ascertain whether use of the native language had a significant effect on retention. However, the learners of English remembered the animal names (used as verbs) better than the other items. This may have been the consequence of activating a mental image through an *A is B* metaphorical expression in the mother tongue (see 3.1 above). Further research would be needed to explore this possibility.

3.3. Patterns of behaviour with the corpus and comprehension

When the learners were working with the corpus, we observed a number of patterns of behaviour that seemed to remain constant across both groups. For both learners of English and learners of Spanish, a number of factors appear to influence the salience of certain items in the corpus[2] and their ability to remember them. It is important to note at this point that our study of retention was not systematic. The Spanish learners were on average only able to remember how 60% of the items could be used in sentences provided in the gap-fill test[3]. The items they best remembered were *snake, weather, mushroom, dog* and *worm.* The majority of the English learners found their gap-fill test much too difficult to do individually, so we decided to work through the examples as a group. Some learners in the group were able to remember the meanings of *ningunear, monear, cuadrar, agostado,*

aletear, and *jorobar*, unprompted, but needed prompting to remember the other items. Because of the unsystematic nature of this test, we cannot draw firm inferences about retention rates. On the other hand, the items recalled without prompting were among those that had provoked most discussion in the first session, indicating that there may have been some sort of relationship between salience and memorability although much more systematic research is required to test this claim. The factors affecting how much attention learners paid to the different items were: the content of the corpus examples, the ease with which the items lent themselves to the use of gesture, and phraseology and alliteration. In the following sections, we discuss each of these in turn.

3.3.1. The content of the corpus examples

One obvious consequence of using a corpus in the way described here is that the input from the corpus is not mediated in any way, and teachers may find unexpected or even undesirable features associated with the unfiltered data. For instance, in the BNC examples of *snaked*, seven of the sentences read by the learners described sexual activity more or less explicitly[4]. Not unnaturally, this caused a certain amount of amusement and may have distracted learners from the task at hand. It is possible that learners' success in recall of verbal *snake* in the gap-fill test later (although the verb appeared with *lanes* as subject) may, in part, have been influenced by the smutty content of the corpus examples. It was certainly the verb that was best remembered later.

In the case of *table*, which remained stubbornly opaque for these learners even after looking at the corpus examples, the preponderance of examples referring to parliamentary activity, (typical subjects were nouns denoting Members of Parliament, often a proper name) affected their ability to understand the use of the verb. Their lack of familiarity with parliamentary procedures or political figures made it unlikely that they could make sense of this use[5].

The English learners spent a particularly long time discussing *monear las matas*. Although there may have been other reasons for this (see below), one explanation may have been the contexts in which the phrase occurred. It should be noted here that we were using the full version of the CREA (which includes Latin American usages) and that the expression *monear las matas* tended to occur in articles about drugs (in particular cocaine). Items to do with sex and drugs are perhaps particularly likely to be noticed and remembered.

3.3.2. Gesture

Reasoning about the senses of the words explored was often accompanied by gesture. That is, a verbal explanation was supported and elaborated by physical movement, serving to clarify and illustrate the learners' understanding of the sense of a verb. Among the learners of English, this was particularly associated with *worm, snake* and *elbow*, all of which can express a manner of motion which may then be figuratively extended to refer to another type of activity or process. The following exchange illustrates how gesture supports a learner's understanding of the metaphorical use of *elbow*:

(29)   T: *So how did you remember **elbow** there, Luis?*
        S9: *I just remembered it. There was **elbow** aside and **elbow** out.*
        T: *Yeah, but you get **shoulder** aside too, don't you?*
        S9: *Yes, and it said **shoulder** your way or **elbow** your way through a crowd.*
        S8: *Yes, but it's different. If you use your elbows it's like this* [makes jabbing motions outwards with elbows] *like when you get on the bus, it's rude –and when it says "judo has been **elbowed** out of the next Commonwealth games" it mea*ns 'dejar de lado, ignorar'. Es más que eso –quiere decir 'dejar de lado' cuando alguien se impone [gesture with elbows again] *y no le importan los demás. ['...it means 'leave to one side, ignore'.* It's more than that- it means 'leave aside' when someone imposes on others and doesn't care about others']

Gesture in this case allows the learner to distinguish between similar senses of *shoulder* and *elbow*, and clarify why one verb could extend its meaning metaphorically to denote a negatively evaluated action while another would not usually do so. This is similar to the student's reasoning about the figurative use of *worm* cited in 3.2. This creative, physically oriented understanding of the senses of these verbs is far from insignificant and may constitute an important contribution to the learner's overall grasp of figurative usage generally. Metaphors, particularly when realised by phraseological units, are rarely neutral in discourse, but are used by speakers to evaluate the events and situations they describe (Nunberg, Sag, and Wasow 1994; Moon 1998). Failure to grasp the axiological load of a metaphorical expression may lead non-native speakers to use such expressions inappropriately. Use of the corpus and of gesture thus appeared

to be helpful in guiding learners' appreciation of this aspect of figurative language.

Furthermore, these three verbs were used by five of the learners in this group in two writing tasks done later in a class unrelated to these sessions (one under exam conditions). The tasks had been designed to elicit the expression of motion events in English, an area of great difficulty for learners whose mother tongue is typologically different (see, e.g. Cadierno 2004). Spanish learners of English tend to use L1 patterns in their expression (producing, for example, *I came down to the university walking* rather than *I walked down to the university*) and also experience difficulty in differentiating between the meanings of such English verbs as *trudge, stride*, *strut* or *plod* which distinguish the manner of pedestrian movement in a way Spanish does not. As found by Lindstromberg and Boers (2005), mime-like gesture or physical enactment can foster acquisition of these verbs, their patterns and their metaphorical extensions – and although this had not been the purpose of the study, the examination and discussion of the corpus examples which were accompanied by gestures led to this very result.

The learners of Spanish also used gesture to work out affective or physical components of the vocabulary items. The three items that triggered the use of gesture were *agostado*, *aletear*, and *torear*. Interestingly, *agostado* and *aletear* were among those items that were most likely to be remembered by the learners. *Torear* provided an interesting focus for discussion in the first session. It means 'to dodge' and is taken from the behaviour of the bull fighter getting out of the way of the bull. This interpretation is quite culturally specific, and the learners took a long time to work it out. This is because they were working with those aspects of a bull that are perhaps more prototypical for English speakers (size, ferocity, and so on). A sudden, spontaneous use of gesture by one of the learners in the first session was a significant impetus to correct interpretation of the word by the others.

3.3.3. Phraseology and alliteration

In working out the figurative senses of the items used, the presence or absence of fixed phraseological patterns affected learners' ability to perceive their meaning. For example, while learners would encounter repeated patterns such as *worm one's way* or *weather a storm,* a verb such as *mushroom* or *pencil* did not display the same tendency to occur with the same or similar subjects or complements. This meant that learners were

very much slower in working out the senses of the latter type of verbs, as they would have needed to focus on elements in the sentence not directly adjacent to the verb. Thus, the clue to the "growth" sense of *mushroom* would not be provided by the subject but rather by an adjunct like *all over the countryside* or *from 1,000 to 5,000 in two years*. In fact, the learners of English preferred to use the elements directly to the right of the verb in working out the meaning of the verb, often ignoring not only an adverbial element elsewhere in the sentence but also the subject. This, as could be seen in 3.2, impeded their understanding of the different senses of *snake*, but aided their comprehension of *dog, rat* or *ape*, for example, which tend to be followed by nominal objects denoting the same kind of entity or state of affairs (*rat on promises/commitments* or *ape one's betters/the ways of the upper classes*, for instance).

Boers and Lindstromberg (2005) draw attention to the fact that (semi-) fixed phrases are often characterised by alliteration, and show how this feature may aid their recall by learners. Our study provides support for this suggestion, as the learners' attention to and recall of certain phraseological patterns seemed to be affected by the presence of alliteration. For example, the presence of semi-consonantal [w] at the onset of the two syllables in the pattern *worm* (*one's*) *way* may help account for why this was the most salient use of *worm* for these learners and also why they remembered this pattern when the verb was removed in the gap-fill test. Two other verbs explored (*shoulder* and *elbow*) also appeared frequently in the corpus followed by (*one's*) *way* but these patterns were not the focus of attention when learners were looking at the corpus examples, nor did any insert any of these three verbs into the slot for *worm* in the gap-fill test.

The learners of Spanish were also much more likely to notice phrases that had conspicuous alliteration. Two expressions that were particularly salient for them were: *cuadrar las cuentas* and *monear las matas*. These items provoked a significant amount of discussion in the first session, and were among the easiest to work out with very little prompting in the second session. Interestingly, the expression *monear las matas* is unknown to all the Spanish-speaking consultants we have asked. As we saw above, *monear las matas* tended to occur in articles about drugs, which may have attracted the students' interest. This could be seen as either an advantage or a disadvantage of using corpora to expose learners to large amounts of the target language. On the one hand, it introduces them to usages that would never be found in a dictionary; on the other hand, some of these usages may be so specialised that they are of little use to the learners.

3. Conclusions and call for further research

This chapter has described how higher level students of English and Spanish made use of corpora in a classroom setting to investigate the figurative potential of the foreign language they were learning. It has aimed to show how corpora can be used to bring such learners into contact with the multiple senses of everyday lexical items, or the figurative continuum in language use, which is rarely accounted for by dictionaries and is unlikely to be the focus of regular classroom activities. Although it would be necessary to conduct longitudinal studies to measure the impact of activities such as this on learners' ability to cope with the referential flexibility of target language words in general, a number of observations can be made about some of the potential benefits and drawbacks of this approach:

– When transparent uses of an item are encountered together with its more opaque uses, the former may help the learner to understand the latter. Presenting learners with both types of usages at once may help to draw their attention to the non-arbitrary nature of some types of figurative language.

– The learners in the study used several different strategies (i.e. inferring from basic meaning and context, and transfer) to work out the meaning of the items. It may be that language learners need further help to use these strategies in combination.

– We observed that distinctive phraseological patterns, alliteration, and the use of gesture appeared to aid understanding and retention. In future studies, it would be useful to conduct more systematic studies of the effects of phraseology, gesture, relative opacity, and alliteration on the learners' ability to retain and use the items studied.

– The English and Spanish learners in this study responded very differently to the activity, although all reported that they had enjoyed it. Firstly, the Spanish learners (who were all language majors) were much more willing to guess at word meaning out of context, whereas the English learners of Spanish preferred to work with the context. This difference could be due in part to differences in the learners' previous experience of language learning. In their previous language learning experiences, the Spanish learners had been exposed to a slightly more decontextualised approach in which language is studied in its own right and students are given the opportunity to experiment or "play" with different language forms. Likewise, study of literary language in their degree course is

likely to have increased their awareness of the figurative potential of the target language. The English learners, on the other hand, had been exposed to a more functional, task-based approach to learning, where the focus was much more on the transactional aspects of language.

- The Spanish learners also appeared to remember more of the items than the English learners. A possible explanatory factor for this finding may be that the learners in the two different groups experienced different types of motivation. The Spanish learners were all majoring in English, and as such they may have been more likely to enjoy exploring language for language's sake, whereas the English students, who were majoring in science and business-related disciplines, may have had a more instrumental approach to their study, and may have found it harder to see the point of the activity. The relative merits of these two approaches are discussed at length by Cook (2000), and future studies might usefully examine the effects of the previous language learning experiences in more depth, as well as the effects of learning style, motivation, and proficiency on strategy preferences of the learners.

- The two groups of learners in this study required a substantial amount of support and guidance from their teachers during their collaborative quests for meaning, mainly because of the richness and rawness of the data with which they were confronted. Language corpora, by their very nature, are unedited and will therefore contain language that is well beyond the level of the student. Full autonomy is therefore unlikely to ever be a feasible option. Thus, the choice of corpora available online (which would allow learners to replicate this discovery approach outside the classroom) may be an irrelevant consideration. Pre-selection of corpus lines by teachers (as a means of reducing the amount of text to be read) and providing learners with the printouts may be more appropriate. Indeed, the English students in this study appeared to prefer such an approach, but more rigorous research is needed to establish whether the approach is actually superior in terms of its ability to foster motivation and promote learning.

No firm conclusions can be drawn about the value of employing a data-driven learning approach such as that described here. Rather, it would be necessary to conduct follow-up studies which could address issues such as:

- Whether pre-selection of corpus lines by teachers would be beneficial to learners or whether this might result in impoverished input from the point of view of learners. Frequency of particular

figurative uses did not appear to correlate with transparency as far as these particular learners were concerned, and teachers run the risk of missing the "best example" from the learner's perspective.

– Whether learners might benefit from a tandem learning approach where Spanish-speaking learners of English are paired up with English-speaking learners of Spanish, and asked to work together on figurative language in Spanish and English corpora. Both learners would then benefit from native-speaker input and would have opportunities to select from among all the senses those which to her appear the most accessible or useful. By studying what learners do in such a setting, researchers would be able to investigate the role of interlanguage and culture, the negotiation of meaning, and pair-dynamics, in the acquisition of figurative language through the use of corpora.

– Whether using corpora in the way described here is particularly valuable in terms of the learning of the various meanings of individual lexical items and their associated phraseology, and/or whether such an approach may have benefits for developing strategies for coping with unfamiliar uses of familiar lexical items.

Appendix 1: English gap-fill test

Fill each of the blanks in the following sentences with a suitable verb.

1. Despite the success of the sport in Auckland, however, judo has been ………………. out of the next Commonwealth games in Canada in 1994.
2. The Committee's second meeting on February 15th was ………………….. by Dr. James Susman, who died in 1954.
3. Although the mischief in his personality occasionally overrides good sense, he has ……………… his way into our family affections and is a much loved member of our family.
4. Mr Delors said Germany had ……………….. a "huge burden" by agreeing to take 200,000 refugees.
5. He was a little surprised at how much pleasure the prospect gave him; the sense of frustration and failure which had ………………….. him when he first arrived in England had disappeared almost without his realizing it.
6. In the House of Commons sixty MPs ……………. a motion "deploring the manner in which Lady Jane Spencer is treated by the press".
7. He reacted angrily to Tory leader Tony Richmond's suggestion that Labour had "……………… on promises to the disabled and to shopkeepers".

8. He expects profits this year of $135m and has ……………………. in $150m for next year.
9. The police car held the road, even the treacherous lanes that …………….. up into the hills.
10. The inquiry is ……………. by John Stevens, the Deputy Chief Constable of Cambridgeshire.
11. The new rich middle class ………….. the social ways of the old gentry and aristocracy and the Grand Tour was an important pursuit of this class.
12. John Major and his friends think they have ………….. the storm of their lives.
13. Between 1970 and 1984, Latin America's foreign debt …………… from $21 billion to $360 billion, the bulk of it owed to Western European countries.

Appendix 2: Spanish gap-fill test

Complete the gaps with a verbal or adjectival form of the words in the list below.
cuadra   caldo   joroba   forro   ningún   baraja   hilo   agosto   aleta
avispa   mono   toro

1. Se _____ los bolsillos con la vente ambulante de muñecas de plastico.
2. La relación entre ellos parecía _____ y me preguntaba a mí mismo cuanto tiempo tardían en separarse.
3. Por su parte, el presidente de Baleares, Jaume Matas, acusó hoy al presidente del Gobierno, José Luis Rodríguez Zapatero, de "despreciar y de _____" a las islas Baleares; le pidió "transparencia" y que incluya a las islas en "su agenda" y le ofreció "entendimiento", "porque no queremos enfrentamientos partidistas".
4. Para _____ sus cuentas el año entrante el gobierno ha tomado varias medidas.
5. El buzo no puede suspenderse cerca del arrecife o del fondo - horizontal ni verticalmente. Debe _____ para mantener una posición apropiada en el agua.
6. Yo te consejo no _____ estos peligrosos árboles.
7. Cabe recordar que hace ocho días una mujer murió en el intento de atravesar Tollocan y hay muchos que se han librado porque han sabido _____ los autos
8. José, por favor, deja de _____ a Sandra, tiene que presentar ese trabajo la próxima semana y no tiene tiempo que perder**.**
9. Pero eso no lo sabe mucha gente y a muchos no les importa. Basta con que un comerciante _____ se aproveche de su ingenua vanidad para que quede contento.
10. Al rato, como lógicamente no podía faltar, un grupo flamenco comienza a ____ el ambiente. Se arrancan con rumbas y bulerías que nos hacen vibrar a todos.
11. Al principio, éste trató de no prestar demasiada atención al affaire -ojo por ojo-, pero a la larga no pudo contenerse y, hacia 1924, comenzó a _____ la posibilidad del divorcio. Ninguno de ellos podía saber que 1925 sería un año milagroso.
12. El titular del diario británico 'The Sun' utiliza un juego de palabras para _____ dos ideas.

Notes

1. *Metonymic* is used here to denote the relationship ENTITY FOR ACTIVITY, which involves a change in word class. This designation is by no means uncontroversial (*cf* Haser 2005) and would not be accepted as a case of genuine metonymy by many scholars. However, since not all nouns can be used as verbs, and there is considerable diffference between Spanish and English in this respect, the use of this term to denote a denominal verb or adjective used in this way as *figurative* is congruent with our approach throughout this study, which adopts the point of view of the non-native speaker of these languages.
2. The German speaker was spending a semester at the University of Extremadura as an Erasmus-exchange student.
3. We are using the term *salience* here very much in a lay sense, to refer to items that appeared to stand out for the learners, and which formed the focus of much class discussion.
4. This percentage corresponds to the results of the gap-fill once the learners had been given a list of the words. Without this help (which might suggest that some correct answers were the result of guess-work) the figure is lower: 43.3%.
5. The sources for this use of the verb were romantic novels written by male and female authors.
6. This is always likely to be a problem with a static corpus such as the BNC, as opposed to one that is added to, such as the Bank of English. The names of political or other famous figures will be unfamiliar because they are no longer in the news or active in public life.

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Variables in the mnemonic effectiveness of pictorial elucidation

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Abstract
In this chapter we examine ways in which the pictorial elucidation of the literal sense of a word or expression can help learners remember its figurative usages. We report a series of experiments the results of which reveal the interplay of a number of variables in the pedagogical effectiveness of this CL-inspired imagery approach. One of those variables is the cognitive style of the learners. Learners who have a relatively strong inclination to think in mental pictures appear generally to be more susceptible to the mnemonic benefits offered by CL-inspired pedagogy. Encouragingly, learners who tend to show a preference for thinking in words can be helped to reap similar mnemonic rewards if input is supplemented with pictures. Our data suggest though that pictorial elucidation of target expressions is beneficial mostly for learners' retention of *meaning*. As for recollection of *form*, it appears that pictorial elucidation may even have a counter-facilitative, distractive effect, especially in the case of expressions which are relatively long and complex. Much may depend, however, on where in a sequence of learning activities the pictures are presented.

Keywords: Imagery; cognitive style; polysemes; idioms; pictorial elucidation; semantic vs. structural elaboration; retention of meaning vs. retention of form; prepositions, idioms.

1. Introduction

1.1. Imagery in applied cognitive linguistics

It is well known that Cognitive Linguistics (CL) makes extensive use of imagery in describing and analysing linguistic constructions. CL jargon abounds with terms drawn from the domains of visual perception and

physical space (an early version of Langacker's *Cognitive Grammar* was actually called *Space Grammar*), such as *scope*, *perspective*, *viewpoint*, *orientation*, *vantage point*, *search domain*, *profile*, *base*, *trajectory* and *landmark* (e.g. Langacker 1987, 1991). CL analyses are also typically elucidated by means of schematic drawings which, for example, signal whether a given situation is construed as a process or as a-temporal relation, and which identify the trajectory and the landmark in that construal.

Given that CL descriptions of language make extensive use of imagery, it is unsurprising to discover that many of the recommendations made by cognitive linguists in the area of language teaching also involve images in one form or another, be it use of descriptions that are likely to call up mental images, frequent resort to enactment and mime, and/or use of pictorials (i.e. more or less schematic drawings and pictures) as a more direct means of triggering an association between a language item and an image. In this chapter we will be concerned mostly with measuring the mnemonic effects of the latter kind of stimulus.

There are some grounds for caution when it comes to predicting the success of image-based pedagogy in general and the use of pictorials in particular. Firstly, not all words or expressions lend themselves equally well to pictorial elucidation (Hupka 1989) and pictures may vary in the degree to which they actually aid learners' comprehension of the words or expressions they are meant to elucidate. Secondly, even if a picture has successfully aided comprehension and is in some fashion stored in memory alongside the word or expression it elucidated, then this may be likely to help the learner recognise the meaning of the word or expression on future encounters but there is no guarantee that this will equally well help the learner recollect the precise form of the word or the precise lexical composition of the expression for active production. After all, showing learners a picture representing a concept does not necessarily encourage them to contemplate the form of the corresponding lexical unit.

1.2. Grounds for scepticism about pictorial elucidation as an aid for comprehension

Some authorities have actually claimed that pictures are inherently highly ambiguous (e.g. Gombrich 1972 and, especially, Fodor 1981). If they are correct, a picture by itself cannot safely be counted on to convey any particular finely delimited intended meaning. In this state of affairs, pictures would still have some of the pedagogical uses familiar to us from

current practice – that of triggering disparate associations in a brainstorming activity, for instance – while certain others, such as displaying a picture in the hope of accurately communicating the meaning of a particular lexical item, might be fruitless or even counterproductive.[2]

It seems clear that any two different kinds of lexeme are not necessarily optimally elucidated by the same kind of picture, and that some are not feasibly elucidated by pictures at all (Hupka 1989). The effectiveness of elucidating the meaning of a word or expression through pictures will depend on many variables, including the quality of the picture and the imageability of the word or expression that is targeted. However, since CL shows a strong preference for targeting words and expressions that are highly imageable in the first place, there may be more room for optimism about the use of pictures in CL-inspired pedagogy than in most other strands of educational linguistics.

To estimate the success rate of using pictures as clues for interpreting figurative (i.e. highly imageable) phrases, one of the authors (J. L.) set up the following activity at the University of Birmingham. A series of sentences were presented on computer to a group of eighteen advanced students of English for Academic Purposes. Students were a range of nationalities though the majority were Chinese. Each of the sentences contained a figuratively used word that had been marked as problematic by a corresponding group of students. A hypertext link was provided for each of the problematic words to a corresponding image from clipart (http://www.clipart.com/) to elucidate the literal sense of the word. A sample item was given on the screen, in which the word *entrenched* was linked to an image of a First World War trench, and various properties of a trench were listed, such as the fact that it is deep, depressing, difficult to get out of, and one is likely to be there a long time. The learners were then presented with thirteen further items, such as *rooted* with an image of tree roots and *spawned* with an image of a frog producing spawn (see Appendix 1). The learners were invited to read each sentence, access the image elucidating the literal sense of the problem word, think about the ideas they associated with the image, and then think which associations might apply to the figurative usage of the word. Having made a decision, they typed in what they thought the contextual meaning of the word might be. For each item, they were asked to indicate, by ticking a box on the screen, if they already knew the word, and these cases were eliminated from the analysis.

Many of the students in this activity were able to come up with acceptable paraphrases for the figurative expressions, using the hyper-links provided. For example, interpretations of the expression *spawned by the internet* produced by students who had not previously encountered this

expression included "spread" and "put available". Interpretations of the expression *Birmingham University has embraced all of these ideas* included "incorporated"; and "made as own". However, as can also be seen in Appendix 1, the method was by no means equally successful for all items. The average scores ranged between 1.72 and 0.72 (the maximum possible score for each item was 2, and the minimum was 0), which suggests a considerable variability in the effectiveness of pictorials in this kind of exercise. Some of the variability is undoubtedly due to the fact that, while figurative usages of words tend to be motivated by their literal senses, they are certainly not fully *predictable*. Because of the observed risk that pictures alone may fail to guide learners to an appropriate interpretation, the focus in the experiments reported further below will be on the use of pictorial elucidation *in combination with* (rather than as a substitute for) verbal (or propositional) explanations. Interestingly, the "hyperlink activity" also revealed a considerable variability in individual students' success rates, as reflected by startlingly high standard deviations (see Appendix 1). Given the fact that the group of participants was felt to be fairly homogenous in terms of proficiency and aptitude, the high standard deviations led us to wonder whether differences in cognitive style among individual participants might enhance or weaken the pedagogical effectiveness of pictorial elucidation. We shall return to this hypothesis below.

1.3. Grounds for scepticism about pictorial elucidation as an aid for recollection

With regard to retention, the CL use of pictorials to elucidate L2 lexis is backed up by memory studies in which concepts were more likely to be remembered if they were encountered pictorially instead of in words (e.g. Nelson, Reed, and Walling 1976; Kinjo and Snodgrass 2000). Still, it must be noted that there are reasons for not taking the mnemonic benefits of the use of pictures for granted:

a. Neither the scope nor the strength of the robustly attested 'picture superiority effect' (PSE) have been finely determined. (For discussion of some of the complexities involved see, e.g. Stenbert, Radeborg, and Hedman 1995 and Hamilton and Geraci 2006; for a sceptical view of the PSE, see Amrhein, Daniel, and Waddill 2002). For example, it is not sure whether pictures aid the retention of the linguistic form as well as the meaning of words or expressions. In other words, it is not so

clear whether pictures aid the recollection of words or expressions for active usage as well as they aid "passive" recognition of meaning.

b.   The cognitive basis of the PSE is hotly disputed. Proponents of 'dual coding', most notably Paivio (1971, 1986; see also Pellegrino, Siegel, and Dhawan 1975), have argued that the PSE arises from the coding of (some) memories in imagistic (i.e. iconic or analogic) form rather than always and only in propositional (i.e. strictly symbolic, non-iconic) form. The main alternative hypothesis, that there is a single "common coding", has it that all concepts are coded propositionally (Amrhein, Daniel, and Waddill 2002; Pylyshin 1973). A large body of evidence of imagistic processing in other aspects of cognition than memory (e.g. Johnson 2000, Klatsky et al. 1989; Kosslyn 1994, 2005) has by no means sufficed to bring all knowledgeable sceptics into the dual coding camp. [2]

We speculate that the outcome of any experiment set up to measure the mnemonic effect of pictorials is likely to be influenced by at least the following variables:

a.   The aim: retention of meaning (i.e. receptive knowledge) and/or recollection of form (i.e. productive knowledge).

b.   The moment of pictorial elucidation in the learning process: before, together with, or after a verbal (or propositional) explanation. This choice of timing may determine the role fulfilled by the pictorials in the learning process.

c.   The characteristics of the individual participants: aptitude, habitual learning strategies and cognitive style profile. The main thread throughout the present chapter is the investigation whether differences in participants' cognitive style may play a part in enhancing or dampening the mnemonic effect of imagery techniques.[3]

1.4. Looking at one cognitive style variable: high versus low imagers

Cognitive style is defined as an individual's characteristic and consistent approach to organising and processing information. Although there is some debate over the extent to which an individual's cognitive style can be said to be fixed, there is some evidence to suggest a degree of consistency in the way one prefers to process incoming information.

A fair number of cognitive style continua have been identified in cognitive psychology (for an overview, see Riding and Cheema 1991), but the one that is of interest to us here is the widely studied *imager* continuum

(Katz 1983; Paivio and Harshman 1983; Riding 1991), which refers to the degree in which an individual is inclined to think in mental pictures rather than in words. It may be that, when faced with CL approaches that rely heavily on imagery, students with an imaging cognitive style (henceforth "high imagers") perform better than those with a verbalising style (henceforth "low imagers"). After all, CL pedagogy typically aims to stimulate the dual coding of words and expressions in the learner's mind. However, its effectiveness may depend on the learner's readiness to form sufficiently precise mental images to be stored in memory alongside the verbal form of the expressions, and cognitive style theory predicts that this inclination to form mental images may not be equally present in all learners. Experiments in psycholinguistics suggest, for example, that high imagers are more likely than low imagers to go on associating conventionalised figurative expressions (e.g. so-called "dead or "frozen" idioms) with mental pictures (Boers and Littlemore 2000).

A well-established and user-friendly instrument to estimate whether one is a relatively high or low imager is the cognitive-styles questionnaire, called the "style of processing scale", proposed by Childers, Houston and Heckler (1985). In this questionnaire respondents are invited to indicate on a four-point scale to what degree each of 22 statements applies to them. Half of the statements are meant to estimate the extent to which a respondent is inclined to think in mental pictures (i.e. to estimate the extent to which a respondent is a high or a low imager). These include statements such as "I like to relive special times in my life by mentally picturing just how everything looked", "When I have forgotten something I try to form a mental picture to remember it" and "My thinking consists of mental images". The other half of the statements are analogous to these, but they refer to the respondent's relative inclination to think in words rather than pictures. The respondents' self-assessment with regard to both types of statements gives an indication of their position on a cognitive-style continuum from low imager to high imager. The Childers, Houston and Heckler (1985) style of processing questionnaire was used in several of the experiments reported below.

1.5. Research questions

In this chapter we measure some of the potential variables in the effectiveness of pictorials as an aid to teaching/learning (figuratively used) lexis:

a. The learning objective: do pictorials (in combination with verbal explanations) aid recollection of form (for production) as well as retention of meaning (for comprehension)?
b. The stage in the learning process when the pictorials are introduced (and the role that is given to the pictorials through this choice of timing). Does it make any difference whether the pictorials are presented before, together with, or after the verbal explanations of the meaning of the targeted lexis?
c. The cognitive-style profile of the learner: does the use of imagery (which is so typical of CL pedagogy) work equally well for all learners, and – if not – can any differences in effectiveness among individuals be related to the cognitive style variable high imagers versus low imagers?

We shall try to provide some answers to these questions via three case-studies, each focusing on a different segment of figurative lexis and each using pictures at a different stage in the instructional process.

First we shall return to the above-mentioned hyperlink activity in which pictures were used as a clue for students to interpret figuratively used lexis prior to any verbal corroboration (or falsification) of the interpretations. Secondly, we shall look at a case-study where the meaning of a preposition was elucidated through pictorial and/or verbal imagery. Finally, we shall discuss the results of an experiment on idioms in which pictures were used with a view to consolidating learners' intake of verbal imagery. In each of the case-studies, we shall explore the potential correlation between individual students' performance and their position on the low-to-high imager cognitive-style continuum.

2. Case-study one: pictorials as clues for interpretation *before* verbal explanations

2.1. Background

In this section we return to the hyperlink activity we described in section 1.2., i.e. the activity where students were shown pictures elucidating the literal senses of words as a stimulus for them to make inferences about the figurative senses. While the purpose there was to estimate the success rate of such an activity with regard to comprehension, we shall investigate in the present section whether, after verbal confirmation or correction of the

interpretations, the use of pictures as initial clues might be beneficial to students' ability to recollect the targeted words for active usage.

2.2. Method

Two of the authors (F.B. and J.E.) decided to replicate the hyperlink activity in a controlled, pen-and-paper experiment, with the participation of 34 modern-languages students at a college for higher education in Brussels. From the original list of thirteen expressions (see Appendix 1) we made a selection of five, based on our estimation that our students were not yet familiar with the targeted words. The sentential contexts were slightly adapted (or localised for our students, e.g. references to Birmingham University were removed), resulting in the following:

– Our convictions were **diluted** by the new discoveries
– The controversy was re-**ignited** by the new research findings
– I wonder if our college is going to **embrace** the minister's guidelines
– New teaching methods have been **spawned** by the internet
– What are the major **pitfalls** when one translates legal documents?

The pictorial elucidation (the hyperlink picture) for each of them was retained from the pilot activity (see Appendix 1).

Two parallel groups of 17 students participated in the experiment. According to their previous end-of-term exam scores, the two groups were on a par as far as English proficiency was concerned. At the beginning of the class, the experimental group was given a paper copy with the five expressions accompanied by their associated pictures meant to elucidate the literal sense of the keywords. The control group was given a paper copy with the same expressions accompanied by translations into Dutch (the students' L1) of the literal senses of the keywords. The students were given two minutes to study the information, after which the copies were taken away from them. They were then given a multiple-choice exercise where the same expressions were listed and for each the students were asked to decide which of four options was the appropriate paraphrase (see Appendix 2). The teacher then went over the multiple choice exercise with the students, so that any misinterpretations were corrected. This constituted the verbal-explanations stage. The next thirty minutes were devoted to a classroom activity that was not related to the experiment. Finally, the students were given an unannounced post-test. Their task was to translate five Dutch sentences into English. Each of the sentences invited an English

translation that included one of the figuratively used words that had been introduced at the beginning of the class. Students were told explicitly that they were to try to remember and use those words.

The students who participated in this experiment had (in the context of another research project) also been administered the Childers, Houston and Heckler (1985) style of processing questionnaire (see section 1.4 above), which enabled us to estimate individual participants' position on the continuum from low imager (or verbaliser) to high imager.

2.3. Results

The experimental students reproduced (in their translations of the Dutch sentences into English) on average 3.59 of the five taught figuratively used words, while their control peers reproduced on average only 1.88 of them. Application of the Mann-Whitney U-test reveals the better recollection under the experimental condition to be significant at $p < .01$ ($U = 60$). This suggests that the use of pictorial elucidation of the literal senses of words as a pathway for interpreting their figurative senses can indeed be an effective mnemonic technique.

Moreover, the difference between both groups' performance would have been even more outspoken, if we had accepted responses in which targeted words were misspelled. While the control students typically failed to remember the words (or the concepts?) altogether, the experimental students usually remembered at least part of them (resulting in rejected responses such as *dilude or *delute instead of *dilute* and *pittfal or *fallpit instead of *pitfall*).

We applied the Spearman Rank test to calculate if there were any correlations between students' performance in the translation task (i.e. the post-test for recollection of the taught words) and their position on the cognitive-style continuum from low to high imager. The results show significant correlations for the data in both groups (twice *rs* .05; $p < .05$). In the experimental group (i.e. under the picture condition), the high imagers were especially likely to obtain high scores. However, in the control group (i.e. under the verbal condition) the correlation was reversed. Here the low imagers (or verbalisers) obtained the better scores.

These correlations strongly suggest that cognitive-style variables may indeed play a part in the relative effectiveness of imagery-based pedagogy (which is so typical of applied CL).

3. Case-study two: elucidating the meaning of prepositions by means of pictorials *together with* verbal explanations

3.1. Background

The initial concern behind the experiment below (designed by S.L. and F.B.) lay with the way prepositions are represented in (advanced) learners' dictionaries. The issue of how best to define prepositions in learners' dictionaries has attracted relatively little attention. Such studies as we are aware of are alike in arguing that there is much room for improvement (Lindstromberg 2001; Low 1988: 141–42). For example, dictionaries typically list the different senses of a preposition without hinting at the motivated links between those senses, let alone the motivation of metaphorical uses. Lindstromberg (2001), who discussed the entries for *on* in six UK published advanced monolingual learner's dictionaries, observed that all avoided giving explicit information about paradigmatic contrasts (e.g. between *on* and *to* as in *march to/on Paris*) as well as about the relations among *on*'s literal and metaphorical senses. Two of the dictionaries even omitted the usage of *on* to express abstract burdening (as in *The phone went dead on her*, *My car broke down on me* and *Her husband walked out on her*), although it is colloquially quite common. Crucially, in the context of the present chapter, none of the examined dictionaries gave any pictorial elucidation of prepositions. So far as we know, makers of learners' general decoding dictionaries have yet to act in a marked fashion on any CL-inspired recommendations (although it must be said that Rundell [2005], a dictionary of phrasal verbs, has, in its portrayals of prepositional meaning, taken on board aspects of the CL notion of radially organised polysemy).

And yet, there is some evidence for the pedagogical effectiveness of definitions which emphasise the characteristics of the prototypical literal sense that motivate the metaphorical extensions. For example, Boers and Demecheleer (1998) report how experimental students, who were given information only about the spatial senses of *beyond* (but emphasising the aspect of distance between the landmark and the trajectory), managed to interpret metaphorical uses of this preposition (e.g. *Her recent behaviour is beyond me*) as well as control students, who had been given copies of a complete dictionary entry on *beyond*.

In a "real" dictionary definition, one would not expect users to figure out a number of missing senses themselves, of course. In the following section we therefore report an exploratory follow-up in which we propose CL-inspired dictionary definitions of *beyond* that include the metaphorical

senses too. In the previous experiment, only verbal explanations were used (in order to keep variables to a minimum), but – in accordance with CL descriptive practice of prepositions – one of the proposed alternative dictionary definitions will make use of pictorial elucidation as well. In order to maximise the likelihood of dual coding, however, the pictorial elucidation chosen will be less schematic and thus more concrete than is common practice in CL.

The primary objective of the following experiment was to assess (1) whether our CL-inspired dictionary definitions would be more effective than an established traditional definition at helping users appreciate the various senses of the preposition, and (2) whether the CL-inspired definition with pictorial elucidation would be more effective than the CL-inspired definition without any pictorial support.

3.2. Method

Participants in this small-scale experiment were 27 modern languages students at a higher education college in Brussels, Belgium. We chose *beyond* first and foremost because our participants' L1 was Dutch, and Dutch lacks a close counterpart of *beyond*. Additional reasons were that (1) *beyond* seems to have only two spatial senses (i.e. the closely related place and path usages as in *be/go beyond the river*), which are both quite easy to characterise pictorially, and (2) the metaphorical usages of *beyond* are sufficiently varied to pose a challenge for intermediate and even advanced students.

Three groups of BA1 students who were taking the same courses of English participated in this experiment. The students' comprehension of both the spatial and the figurative senses of *beyond* prior to the experiment was tested by means of a translation task (from English into Dutch). We created three conditions involving two experimental groups and one control group. One experimental group (N 8) were given copies of a CL-inspired definition of *beyond* including pictorial representations (simple, unsophisticated drawings that most teachers or lexicographers should be able to produce). The other experimental group (N 9) received copies of a CL-inspired definition without pictorial support, but including (jargon-free) clarification of the motivation behind the figurative senses. Both CL presentations can be found in Appendix 3. The control group (N 10) were given copies of the *Oxford Advanced Learner's Dictionary* (2003 edition) entry for *beyond*. For the sake of 'fairness' in comparing the effectiveness of the three presentations, we made sure the CL presentations would not

take up more space in a dictionary than the *OALD* entry. To compensate for the presence of the drawing, for example, we reduced the verbal description. The *OALD* entry consists of 232 words, whereas the CL presentations contained 165 words in the condition without drawings, and only 50 words in the condition with drawings.

At the beginning of the class students were given five minutes to contemplate the definition they had been given, after which it was removed.[4] Then they spent 30 minutes on exercises that were unrelated to the experiment. After that interlude they were given an unannounced post-test that measured their recollection of the precise meaning of various senses of *beyond*. This time a combination of multiple-choice and other types of exercises was used (see Appendix 4).

3.3. Results

Unfortunately, the pre-test revealed that the three groups differed in their prior knowledge of the semantics of *beyond*. Average pre-test scores were 45.50% for the group that received the pictorial CL presentation, 55.11% for the group that received the verbal CL presentation, and 62.80% for the group that received the *OALD* presentation.

Average post-test scores were 78.63%, 79.22%, and 85.5%, respectively. A comparison of pre-test scores and post-test scores suggests that the experimental group that had received the pictorial CL presentation had gained most and had thus managed to somewhat close the gap on their peers. The difference in learner gain was not sufficiently pronounced to be of statistical significance though (which is not surprising considering the fact that with such a small number of participants the difference would have to be very marked to be significant even at $p < .05$). Between pre-test and post-test, the experimental students who had received the verbal CL presentation gained about the same as the control students. The results therefore suggest that it was especially the pictorial instruction that contributed to learning. However, we also need to acknowledge the possibility that the learner gain under that condition might have been greater simply because these experimental students had most room for improvement in the first place (considering their poorer pre-test scores).

At any rate, the learner gain under all three conditions varied considerably among individual participants. This led us to investigate whether a cognitive style variable might be at play in causing this variability. We re-visited the three groups of students and administered the Childers, Houston and Heckler (1985) style of processing questionnaire

(see section 1.4 above) to estimate individual participants' position on the continuum from low imager (or verbaliser) to high imager. We then applied the Spearman Rank test to correlate participants' position on the continuum with their relative gain in the *beyond* experiment. Despite the very small number of participants, we found some significant correlations.

Low imagers (or verbalisers) were found to have benefited more than high imagers from the purely verbal description of *beyond* (*rs.* .8; $p < .01$). No significant correlations were obtained for the two small experimental groups taken separately. However, if we take these two groups together, Spearman Rank does yield a significant correlation: high imagers in general benefited more than low imagers from either CL-inspired presentation (*rs.* .5; $p < .05$).

4. Case-study three: pictorials as consolidation *after* verbal explanations

4.1. Background

The following experiments were conducted with the aid of an on-line programme of exercises that was developed (by F.B., J.E. and H.S.) to help Dutch-speaking students in higher education comprehend and remember a total of 400 English idioms (also see the introduction to this volume). In this programme, each idiom is presented to the students in three types of exercises: a multiple-choice exercise (henceforth called "origin MC") where the student is asked to tick the right source domain of the idiom (e.g. "What domain of experience do you think the expression *To be on the ropes* comes from? Sports, food or sailing?"), a multiple-choice exercise (henceforth "meaning MC") where the student is asked to tick the right dictionary-like definition of the idiom, and finally a gap-filling exercise where the student is invited to fill in (a keyword of) the idiom inserted in a suggestive context. After each exercise the student is given feedback with the correct answer. In the case of the origin MC, the feedback gives a brief explanation of the literal, historical, cultural or etymological origin of the idiom, which is meant to help the student associate the expression with a concrete scene or scenario (e.g. an association of *To be on the ropes* with the scene of boxing where a fighter is in trouble). The exercises are presented to students in sets of 25 to 30 items at a time, i.e. students process 25 to 30 idioms in the multiple choice exercises and are subsequently presented with a series of gap-fills targeting the same 25 to 30 idioms. The

decision to test students' recollection of 25 to 30 idioms at a time was made with a view to avoiding ceiling effects in the following experiments.

After having been confronted time and again with considerable standard deviations in student groups' performance on the exercises, we decided to investigate whether cognitive style variables might be contributing to these (see also Boers, Eyckmans, and Stengers 2006). We therefore asked a new group of 29 modern-languages students – who were about to tackle 4 x 25 English idioms – to answer the Childers, Houston and Heckler (1985) cognitive-styles questionnaire. We then applied the Spearman Rank Correlations test to correlate the students' position on the imager continuum with their performance on the meaning MC (i.e. the idiom comprehension task) and the gap-fills (i.e. the idiom recollection task). This yielded significant correlations: *rs* .455 ($p < .01$) and *rs* .360 ($p < .05$), respectively. High imagers (i.e. students with above-average imager profiles) obtained mean scores of 82% and 78.5% on the meaning MC and the gap-fills, respectively. This compares to mean respective scores of 73% and 72.5% by the low imagers. Application of the Man-Whitney *U*-test reveals that these differences in the performance of high and low imagers are significant at $p < .05$.

Unfortunately, because of the absence of a pre-test we could not control for any potential individual differences in prior knowledge of the targeted idioms in the exercises, and so we could only use the students' raw scores on the exercises to calculate any correlations with cognitive-style profiles. However, in an earlier version of our on-line idiom exercises, the meaning MC was administered as the *first* step in the sequence, and this was done precisely with a view to testing students' prior knowledge of the idioms and to trace their subsequent learner gain through the instructional method. We tracked down 13 students who had done that earlier version two years before and asked them to re-do the gap-fill exercise targeting 2 x 30 idioms. We could now estimate each student's learner gain by subtracting their correct answers to the meaning MC given two years earlier (now used as a pre-test) from their newly obtained gap-fill scores (now used as a delayed post-test). We administered the cognitive-styles questionnaire again to estimate their position on the imager continuum. Again, the Spearman Rank test yielded a significant correlation: *rs* .510 ($p < .05$).

In sum, both correlation analyses suggest that high imagers benefit most from verbal explanations that are meant to trigger mental imagery. We speculated that, on reading these kinds of verbal explanations, high imagers form mental pictures more readily than their low imager peers.[5] This then raised the question whether dual coding might not be stimulated in low imagers if "real" pictures were added to the explanations. It is that

question that will be addressed in the following sections, where we assess a new version of the on-line exercises in which the verbal feedback about the literal origin of the idioms was followed by a picture on the computer screen.

4.2. Method

A new generation of second-year students (N 34) were asked to do the on-line exercises targeting the same 100 idioms as their predecessors. The two cohorts of students had very similar levels of general proficiency in English, as measured by their scores on a standardised grammar test and an interview that were part of the exams at the end of their first year of study at the college (Mann-Whitney *U* yields *p* > .1). In the new version of the on-line exercises, however, the feedback given after the origins MC, i.e. the verbal explanations about the historical / cultural / etymological origin of the expressions, is followed by a picture illustrating the literal meaning of the idioms. For example, the meaning of *a carrot-and-stick method* is illustrated (below the verbal feedback) by the picture of a donkey with a carrot dangling before it and a stick behind it. The meaning of *being on the ropes* is followed by the picture of a boxing match in which one of the fighters is hanging on the ropes of the boxing ring, under attack by his opponent. Before they tackled the idioms exercises, the new cohort of students completed the Childers, Houston and Heckler (1985) style of processing questionnaire, so we could calculate possible correlations between students' position on the low-to-high-imager continuum and their scores on the idiom exercises.

4.3. Results

In contrast with what we found the previous year, the Spearman Rank test showed no correlation between students' position on the low-to-high imager cline and their scores on the meaning MC. The low imagers (i.e. students with a below-average imager score on the questionnaire) now performed as well as the high imagers. Average scores on the meaning MC were 81% and 80.5%, respectively. Moreover, compared to the previous cohort (who were given only verbal explanations, not followed by pictures), the new one performed significantly better in the meaning MC: 76.5% vs. 81%, respectively (Mann-Whitney *U* yields *p* < .02). This suggests that using pictures *and* verbal explanations in elucidation of

meaning is indeed a worthwhile technique, at least for the purpose of enhancing the recall (or recognition) of the meanings of idioms.

In contrast with what we had found the previous year, the Spearman Rank test no longer showed a correlation between students' position on the low-to-high imager cline and their scores on the gap-fill exercises. The low imagers (i.e. students with a below-average imager score on the questionnaire) now performed as well as the high imagers. Average scores on the gap-fill exercises were 73% and 70%, respectively. Again, it seems that the new version of the exercises (with pictures added to the verbal explanations) neutralised the previously observed effect of the cognitive-style variable.

However, the addition of pictures did not generate any better results in the gap-fill exercises: the new cohort of students scored on average 71.5% while the previous one had obtained a mean score of 75%. Surprisingly, it was especially the high imagers among the new cohort who performed *worse* on the gap-fill exercises than the high-imagers among the previous generation: average scores of 70% vs. 78.5%, respectively (a difference which came very close to statistical significance).

4.4. Discussion

The comparison of students' performance on the two versions of the idiom exercises leads us to speculate that the presentation of a picture on the screen below the verbal description of a concrete scene may have been successful at helping low imagers associate the idiom with that picture, and that the memory of this picture may have helped them recognise the correct meaning in the subsequent MC. High imagers, on the other hand, did not need this extra prompting. Either the picture or the verbal description of a scene would probably have been sufficient for high imagers to form a mental image. Hence, the meaning-MC scores obtained by the high imagers showed no difference across the two generations.

On the other hand, the findings also lead us to speculate that the presentation of a picture on the screen may have distracted students from that verbal explanation. Since the previous generation of students had to rely exclusively on the verbal explanations, they may have read these more attentively and in some complicated cases perhaps even re-read them. They were thus perhaps more likely to take in the precise linguistic form or lexical composition of the idioms as they occurred in the verbal feedback. The new generation of students, however, may have paid less attention to the verbal feedback or may simply have skipped it, either because their

choice of origin of the idiom in the MC seemed confirmed by the picture (and so there seemed to be no reason to read the feedback at all), or their comprehension of the verbal feedback was facilitated by the picture (and so less time and effort needed to be invested in reading that feedback). Either way, it is likely that less intake of the precise linguistic form or lexical composition of the idiom took place. This speculation seems supported by the finding that it was precisely the high imagers in the new cohort who scored more poorly in the gap-fill exercises. High imagers' attention may have been drawn fastest to the picture (below the verbal feedback which they were supposed to read). In other words, rather than *dual* coding of image and linguistic form taking place, the image seems to have been coded at the expense of the linguistic form. Future versions of the on-line idiom exercises may need to remedy this problem by, for example, displaying the picture on a separate the screen and/or by adding an incentive for students to carefully contemplate the verbal explanation.

At any rate, pictures seem to lend themselves quite well to stimulating *semantic* elaboration, and this is beneficial for retention of *meaning*. However, if the objective is to help learners recollect fairly complex lexical units (i.e. multiword expressions such as idioms) for productive purposes, then activities that stimulate *structural* elaboration (i.e. activities that invite the learner to contemplate form) may be necessary too. Some proposals for the latter will be presented in Part two of this volume.

5. Conclusions

5.1. Answers to the research questions

Let us now see what answers to the three research questions (see section 1.5) can be distilled from the above mix of experimental data.

Firstly, with regard to the learning goal (i.e. receptive versus productive knowledge), the data suggest that the use of pictorials (in combination with verbal explanations) is, first and foremost, effective as a pathway for the retention of meaning rather than form. This is not surprising, of course, since a picture typically elucidates a concept rather than either a word form or the exact lexical composition of a multi-word expression. (Obviously, we are not talking about rebuses.) The weaker mnemonic effect with regard to linguistic form is unlikely to show up in experimental results concerning relatively simple lexical units (e.g. short words such as prepositions), but it becomes more noticeable when more formally complex lexical units, such as polysyllabic words and multiword units, are targeted. This may help

explain the sometimes mixed results of experiments in which participants are post-tested on their ability to (re-)produce lexis after experiencing types of CL pedagogical treatment.

Secondly, with regard to the stage in which pictorials are introduced (i.e. before, together with, or after the verbal explanations), the data suggest that different effects are obtained depending on the role the pictorials are given in the learning process. The benefits are greatest if the pictorials are used to stimulate active cognitive involvement on the part of the learner, as in our first case-study where learners were asked to hypothesise about the meaning of figuratively used words on the basis of pictorial clues. Merely contemplating pictorial support alongside verbal explanations, as learners were asked to do in the *beyond* experiment, seems to yield somewhat weaker benefits.

Finally, with regard to learners' cognitive-styles, the data show virtually consistent evidence that high imagers thrive the most under CL pedagogy which stimulates mental imagery, and this seems to apply to "direct" imagery through the use of pictorials as well as "indirect" imagery through the use of verbal explanations meant to call up mental pictures. Low imagers (or verbalisers), on the other hand, who seem less susceptible to the imagery techniques, seem to be at a relative advantage when information is presented to them propositionally. This does not mean, of course, that low imagers cannot benefit from CL pedagogy. It just means that they may need extra stimuli for dual coding, such as the addition of an actual picture to strengthen the stimulus of verbal explanations meant to call up a mental image. At the same time, however, teachers and materials writers of all stripes should remember to try to accommodate students with differing cognitive-style profiles.

5.2. Issues for the future

The investigations reported here have applied a particular version of the construct of cognitive style, that which consists in the hypothesis that individuals vary along a verbaliser/imager continuum. It seems probable that refinements of this construct might enable more light to be cast on some of the issues we have been attempting to address. Thus, according to one prominent school of thought, mental imagery is not the product of a unitary faculty; rather, there are two distinct sub-systems, those of:

a. *object imagery* – which can be markedly aesthetic in character and has to do with the form, size, colour and brightness of the representations of individual objects, and

b. *spatial imagery* – which has to do with the relatively schematic representation of spatial relations *among* objects and parts of objects and the representation of trajectories and of complex spatial transformations such as rotations (e.g. Kosslyn 1994).

Blajenkova, Kozhevnikov and Motes (2006) have composed a self-report imagery questionnaire designed for use by researchers interested in determining the extent to which individuals are object or spatial imagers. Whether or not this particular questionnaire turns out to be useful in investigations such as the ones we have described in this chapter, this is certainly one kind of development that could enable us to learn more about the interaction of cognitive style and foreign language learning.
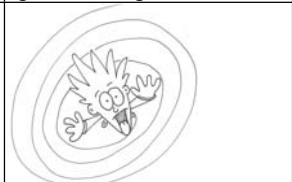
Beyond the realm of language pedagogy, we may wonder to what extent different paradigms in *descriptive* linguistics appeal to different audiences with their own distinct cognitive-style profiles. More specifically, we may begin to wonder to what extent the paradigm of CL might be the product of (and have a special appeal to) scholars who happen to be high imagers themselves. Similarly, there may be areas of interest both beyond and within language pedagogy, that have attracted more imagers than verbalisers or – perhaps especially in the case of lexicography – vice versa.

Appendix 1: Expressions and pictures used in the hyperlink activity, with students' mean scores and standard deviations

Expression	Hyper-linked image	Mean score	SD
Identifying and **targeting** the right students are both vital to the Unit's success	A target	1.72	.57
Many of the problems that new students face are **rooted** in cultural differences	Roots	1.67	.69

In this university, old attitudes are often challenged, and staff are discouraged from holding **myopic** views of new ideas.	If someone is myopic, they need to wear these to see things that are far away	1.44	.62
Although it's an IBM **clone**, you'd never be able to tell	'Dolly' the sheep was cloned	1.39	.92
The costs of doing all this extra work far **outweigh** the benefits	The contents of the side on your right outweigh the contents of the side on your left	1.28	.96
I was wasting my time on those art classes, so I've decided to **channel** my energy into something else instead	Different channels running down a mountain	1.28	.89
The strength of her argument was somewhat **diluted** by the language that she used	Diluting with water	1.17	.92

Birmingham University English department has **embraced** all of these new ideas	 An embrace	1.11	.90
The controversy surrounding lecturers' salaries was re-**ignited** recently when an expensive new swimming pool was built for the Vice Chancellor	 To ignite	1.11	1.02
I've invested all my money in this company, and we're only just managing to stay **afloat**	 They're working hard to stay afloat	1.06	.94
By the late 1990s, even the big names such as Hewlett Packard had joined the **bandwagon**. Intel's chips were used in the computers of more than 1,600 manufacturers	 These people have all joined the bandwagon	1.00	.91
Innovative vocabulary teaching methods, **spawned** by the internet, have the potential to make teachers lose their jobs	 A spawning toad	.89	.83

	Spawn on a pond.		
Although the various **pitfalls** that students fall into are related, they tend to occur at different stages	Falling into a pit	.72	.89

Appendix 2: The multiple-choice activity used in case-study one

Tick the best interpretation of the figurative expressions:

I wonder if our college is going to **embrace** the minister's proposals
    A. I wonder if our college is going to reject the minister's guidelines
    B. I wonder if our college is going to let go of the minister's guidelines
    C. I wonder if our college is going to consider the minister's guidelines
    D. I wonder if our college is going to accept the minister's guidelines

*New teaching methods have been **spawned** by the internet*
    A. New teaching methods have been covered up by the internet
    B. A great many new teaching methods have been neglected by the internet
    C. New teaching methods have widely been spread by the internet
    D. A great many teaching methods have been created by the internet

*Our convictions were **diluted** by the new discoveries*
    A. Our convictions were strengthened by the new discoveries
    B. Our convictions were unaffected by the new discoveries
    C. Our convictions were weakened by the new discoveries
    D. Our convictions were shown by the new discoveries to be unfounded

*What are the major **pitfalls** when one translates legal documents?*
    A. What are the major risks when one translates legal documents?
    B. What are the major difficulties when one translates legal documents?
    C. What are the major disadvantages when one translates legal documents?
    D. What are the major strategies when one translates legal documents?

*The controversy was re-**ignited** by the new research findings*
    A.   The controversy was ended again by the new research findings
    B.   The controversy was sent into a new direction by the new research findings
    C.   The controversy was started up again by the new research findings
    D.   The controversy was given a wider scope by the new research findings

Appendix 3: The CL-inspired definitions of *beyond*, used in case-study two

Condition without pictorial elucidation

The central meaning of **Beyond** is 'on the other side *plus* some distance farther'.
    Examples:
    Imagine that you are on one side of a river. You look across it and see a hill several km away from the river on the other side.
    If you say, '*There is a hill **beyond** the river*', you make it clear that the hill is on the other side but not close to the river.
    If you say, '*I will go **beyond** the river*', you will not stop as soon as you reach the other side. Instead, you will continue. You will not stay near the river.
The notion of distance is also present in figurative uses of *beyond*.
    Examples:
    '*John's behaviour is **beyond** any excuse.*' = His behaviour is on the other side of what we find excusable and it is at a distance from that.
    '*John's behaviour has gone **beyond** any excuse.*' = His behaviour was excusable in the beginning, but it is far from excusable now.

Condition with pictorial elucidation
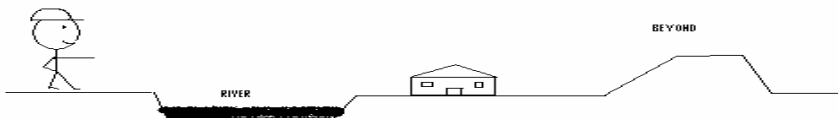
      '*There is a hill **beyond** the river*'
'*Going beyond the river*' does not mean going to the house; it means going farther.

'*John's behaviour is **beyond** any excuse.*'
'*John's behaviour has gone **beyond** any excuse*' means that it was excusable in the beginning, but it is far from excusable now.

Appendix 4: Post-test used in case-study two

1. Identify the meaning

"In most European countries, more and more people are living **beyond** one hundred."

    a)   = to more than 100
    b)   = to 100 or to more than 100
    c)   = up to 100

"His appearance is **beyond** a joke."

    a)   = his appearance was a bit funny
    b)   = his appearance was too strange to be funny
    c)   = his appearance was very funny

"Higher mathematics is **beyond** me."

    a)   = I understand some of it very well
    b)   = some of it I cannot understand at all
    c)   = most of it I cannot understand at all

"His stories are getting **beyond** belief."

    a)   = they are finally becoming believable
    b)   = they are becoming absolutely unbelievable
    c)   = they are becoming almost unbelievable

2. Complete the sentences

Behind the church, a path led to a group of trees and then **beyond** that …
    a)   back to the church
    b)   to an open field
    c)   to a gravestone in the group of trees

Beyond a general hope for orderly government, those people …
    a)   have little interest in politics
    b)   are politically very active
    c)   love sports too

3. Is the use of beyond *in the following sentence appropriate? Explain why (not).*

"This shore of the lake is hard and stony. The other shore – the one beyond the lake – is soft and sandy."

Notes

1.   MacArthur (2006) reports surprising gaps in the ability of supposedly highly image literate teenage EFL learners' to make the intended construal even of pictures (cartoons) containing the iconic glosses known as graphic runes, e.g. trail lines or trajectory lines for indicating the path and direction of movement of, say, a flying tomato or a plummeting coyote. Nőth (1995) is an excellent introduction to the wider debate on the ambiguity of pictures.
2.   For a broad overview of various controversies relating to imagery in cognition, see http://www.gis.net/~tbirch/mi10.htm. For a highly interesting discussion of iconophobia / -philia in psychology, see Thomas (1989) (also online).
3.   We may wonder whether the debate about the merits of dual coding might not to some extent be fuelled by the cognitive style differences among the scholars engaged in that debate. A similar hypothesis with respect to the debate about the nature of metaphor was put forward by Boers and Littlemore (2000).
4.   We acknowledge that, by taking away the descriptions we added an element of short-term retention to the experiment, which was first and foremost meant to measure effects on comprehension.
5.   Returning to the control condition in our first case-study (i.e. the hyperlink activity), we may wonder, however, why high imagers did not also benefit from the presentation of literal senses through translations. After all, that presentation could also call up mental images, and yet it was the low imagers who were found to benefit most from it. We speculate that the description of a scene or scenario in the idiom-teacher programme is a stronger incentive to form a mental image than the mere presentation of literal translations of individual words.

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Part two: Broadening the scope

Reasoning figuratively in early EFL: Some implications for the development of vocabulary

Ana María Piquer Píriz

Abstract

The Cognitive Linguistic theoretical framework has provided applied linguists with important aids in the quest for ways of promoting acquisition of figurative L2 lexis, with pedagogical implementations of the idea that the different senses of a word are motivated via metaphorical and metonymic relations being one subject of exploration (for a survey, see the introduction to this volume). However, this line of research has mainly focused on adolescents or adult learners. Given that many children are raised speaking more than one language, or learn a foreign language at an early age, it would seem relevant to explore whether the capacity to understand the motivation for a transfer from the literal to the figurative senses of a term is also available to children in an L2. This chapter reports on three studies that aim to shed some light on this issue.[1] The results of these studies clarify, to a certain extent, how young learners cope with some figurative meanings of lexical items whose core meanings they know and may therefore contribute to improving current approaches to the teaching of vocabulary in early EFL.

Keywords: young learners; polysemes; linguistic motivation; metaphor; metonymy; figurative reasoning; analogical reasoning.

1. The development of vocabulary in an L2

1.1. Acquiring vocabulary in an L2

The gradual development of the L2 lexicon is a fundamental part of the process of learning a foreign language. However, for a long time, vocabulary was among the neglected aspects of language teaching. Carter (1987) attributed this neglect to two main factors: (1) more emphasis was traditionally placed on grammar because it was often considered that vocabulary would be picked up if learners were given sufficient exposure to

the target language and (2) there was an underlying perception that syntactic relations can be efficiently typified because they are finite whereas this cannot be done within lexis, where relations are theoretically infinite. Still, a number of attempts have been made to define the most useful words for learners to acquire. Ogden's (1934, 1968), West's (1953) and Nation's (1990) lists of the core, or basic, vocabulary of English, which illustrate such attempts, recognise that speakers use a limited number of lexical items across a wide range of communicative events. A superficial examination of these lists shows that the most common are function words such as pronouns, prepositions and determiners along with some nouns (e.g., *man*, *woman*, *house*), verbs (e.g., *make*, *come, go*) and adjectives (e.g., *hot*, *warm*, *bad, good*).

Although in theory learners would need to acquire a relatively low number of basic words in order to be able to get by, these words tend to have multiple, context-dependent senses. Therefore, it is not sufficient that learners apprehend the core meaning of a given high frequency lexeme, they also need to be aware of its semantic extensions.

1.2. Motivated polysemy

The belief that the relationships among the different meanings of a polysemous word are arbitrary and that learning them must largely be a matter of blind memorisation may have discouraged the formulation of systematic pedagogical approaches to dealing with polysemy. Cognitive Linguistics, however, holds that polysemy is often motivated by metaphors and metonymies grounded in experiential correlations of a physical and a social nature (Lakoff and Johnson 1999, Grady 1997). The development of standardised figurative senses can also be considered as a shift from "partial sanction" to "full sanction" (Langacker 1987, 1991). Initially, a novel figurative usage of a word may be felt to deviate from its conventional usages, in which case the figurative usage is said to be only partially sanctioned by the 'schema' that covers the conventional ones. Through repeated usage events, however, that schema is likely to adapt so as to also encompass (i.e. fully sanction) the formerly novel figurative sense.

The experiential motivation of metonymy and metaphor accounts for the systematicity of its products; that is, whole clusters of lexical items are linked in non-arbitrary relations. For instance, it seems clear that three semantic extensions of HEAD – *I can't get that song out of my head[2], the head of the school* or *the head of the stairs* – convey different meanings

which are all metonymically and/or metaphorically linked to the core meaning of HEAD ('the top part of your body, which has your eyes, mouth and brain in it'). In the first expression, *head* is equated with mental abilities and, therefore, grounded in a metonymy that could be cast as HEAD FOR MENTAL ABILITIES (HEAD FOR FUNCTION). A further instantiation motivated by this metonymy would be *an exceptional analyst who could do complex maths in his head*. In the case of *the head of the school*, a combination of metonymy (HEAD FOR CONTROL) and metaphor (AN ORGANISATION IS A PHYSICAL BODY) seems to motivate the linguistic expression. This would also be behind utterances such as *the head of a company* or *organization* or in the verbal realisation *to head a company or organisation*. Finally, *the head of the stairs*, where the head is the top part on a vertical axis, is an illustration of a metaphorical mapping of the human body schema onto the parts of the staircase. All these uses of HEAD reflect our everyday knowledge of our bodies and the functions associated with them, whether of an experiential or cultural type.

1.3. Implications for the teaching of vocabulary

This theoretical framework, which accounts for the motivation of the semantic extensions of a polysemous word, is very promising in terms of foreign language instruction. A speaker's capacity to communicate in different contexts and express ideas with a limited number of lexical items seems to depend on awareness of the "productivity" of these items (i.e., their semantic extendability), either in isolation or in combination with other words. Barlow and Kemmer (2000) argue that someone learning a language does not need to learn all the meanings of the words in the language but rather usage patterns for particular combinations of words, appropriate to particular circumstances, the rationale being that speakers abstract over usage events because if they did not, they would have no basis for extending their linguistic behaviour beyond already encountered utterances. In the case of vocabulary, if speakers master the core meanings of words that are frequently used in English and are aware of the regular principles of meaning extension, mainly metaphor and metonymy, they will tend to be able to understand and perhaps produce these words with other, related meanings.

As will be shown below, the children participating in these studies knew the core meaning of the words *head*, *mouth* and *head* and could comprehend some semantic extensions of these lexemes (for example, *give me a hand* or the *head of a hammer*) by resorting to metaphor or

metonymy. Therefore, it would seem worthwhile to encourage this capacity in learners by helping them start from the central meaning of a lexical item and then gradually explore its more figurative or abstract usages.

1.4. Polysemy and young EFL learners

Children who are native speakers acquire polysemous words in their daily interactions in English. In contrast, in their EFL classrooms young learners are very often induced to associate one word with one meaning, frequently its literal, core sense. Figurative meanings sometimes do not appear in EFL course books until later stages (Amaya and MacArthur 2006). The reason behind this neglect may be that figurative language has been traditionally associated with an advanced stage of cognitive development not found in children. However, there are semantic extensions of, for example, body part terms such as *head a ball* or *hand it to me* which are relevant to the social, physical and communicative world of EFL learners even at early ages. Besides, EFL is being introduced at ever younger ages all over the world. In Spain, for example, English is a compulsory subject from the age of six at the latest. Thus, attempts to enhance learners' awareness of and ability to cope with the referential flexibility of such words may be fruitful from early stages of learning and not only at intermediate or advanced levels.

Most scholars working in the field of child language agree that children think and speak figuratively from a very early age (e.g. Cameron 2003; Gentner 1977; Vosniadou 1987; Winner 1988). That is, the ability to think and speak about one thing in terms of another – figurative capacity – is not a competence of adults alone. However, these insights seem not to have been explored elsewhere in relation to younger L2 learners.

One question to be addressed then is whether making young learners aware of the principles of meaning extension from core senses to less central ones can help them both to organise and to understand the target language lexicon more as native speakers do. The studies presented below attempt to shed some light on this issue.

2. The studies

Three studies were carried out with young students of EFL in two state schools in Extremadura, Spain (Piquer Píriz 2005).

The two research questions were:
1. Are young Spanish learners of EFL (aged 5, 7, 9 and 11) able to identify semantic extensions of English core lexical items whose prototypical meaning they know from their English lessons?
2. What kind of reasoning is involved in the children's recognition of these figurative senses?

2.1. Participants

A total of 148 children (77 girls and 71 boys) took part in the studies. They were either in their final year of pre-school (mean age 5:8) or the second (mean age 8:0), fourth (mean age 10:0) or sixth year (mean age 11:9) of primary education. The pre-schoolers only participated in Study Three (see below).

All the students were Spanish apart from one boy from Ecuador. They all spoke Spanish as their mother tongue except for two bilinguals, one in Spanish and Italian and the other in Spanish and English. The children attended state schools and they came from a variety of social and economic backgrounds.

2.2. Materials

2.2.1. Stimuli

The stimuli used in the three studies were semantic extensions of three body part terms: HAND, MOUTH and HEAD. These core lexemes were chosen because they are highly polysemous, frequent in English, and appropriate in both their literal and in the figurative senses in children's communicative interaction in the EFL classroom. The specific semantic field of body parts was chosen for two reasons:
  – English concrete body part lexemes show considerable figurative extension of meaning, and
  – these lexical items typically receive a great deal of attention in EFL for young learners. Body part terms were part of the syllabus from age three in the schools where these studies were carried out.

The semantic extensions of HAND, *give me a hand*, *the hands of a watch* and *hand it to me* were used in Study 1. For Study 2, the figurative extension of MOUTH (*not open one's mouth*) was chosen. And finally, four extensions of HEAD (*the head of a bed*, *the head of a hammer*, *the head of a*

line of cars and *the head of the stairs*) were selected for Study 3. As can be seen, these figurative extensions illustrate different syntactic classes: there are nominal realisations (the four semantic extensions of HEAD and *the hands of a watch*), a verbal realisation (*hand it to me*), and two figurative multiword expressions[3] (*give me a hand* and *not open one's mouth*).

2.2.2. The semantics of the stimulus expressions

It seems clear that in the cases of *give me a hand*, *hand it to me* and *not open one's mouth*, there is a mapping within the same conceptual domain that gives rise to the expressions which are, therefore, metonymically motivated. They can be considered instances of the conventional metonymy that Barcelona (2000: 11) describes as BODY PART FOR (MANNER OF) FUNCTION.

The semantics of the rest of these figurative extensions is more complex. For instance, in the case of *the hands of a watch,* a comparison between one specific function of the human hand – pointing or indicating – and the same function of the device of a watch or clock may have given rise to this semantic extension. That is, an analogy between two different entities (human hands and parts of watch/clock) arises from the conventional understanding of their respective functions. The definition of *the hands of a watch or clock* provided by the *Oxford English Dictionary (OED*; Weiner and Simpson 1989)*)*, emphasises this pointing function: "19. The pointer or index which indicates the division of a dial, esp. that of a clock or watch." In fact, in the case of *the hands of a watch*, HAND really stands for one of its parts, namely, the index finger. Although the comparison is established across two domains (the human hand and instruments that show the time) and could, therefore, be considered metaphorical, there is a metonymic component as well: the vehicles (the human hand and the hand of a watch or clock) provide mental access to the target (pointing) within their own ICMs (the human hand and instruments that show the time). Apart from the shared conventional knowledge that gives rise to the cross-domain mapping, a conceptual metonymy that could be phrased as HAND FOR POINTING is also behind this semantic extension, illustrating Goossens' (1990) and Kövecses' (2002) idea that both conceptual metonymies and/or metaphors, and conventional knowledge play a role in the motivation of the meaning of a conventional figurative extension.

The four semantic extensions of HEAD used in Study 3 illustrate the complexity of the system of meaning relationship formed by the lexeme

HEAD and its numerous figurative extensions. In the case of *the head of the stairs*, it seems that the metaphorical mapping of a salient attribute of the human head – namely, its top position on a vertical axis – to the top part of the staircase, accounts for its motivation. The motivation of *the head of the hammer*, however, seems to be based on the similarity of configuration between a hammer (relatively compact head + elongated handle) and humans or certain animals (compact head + elongated body). *The head of a line of cars* may arise from a metonymy grounded in one of the functions of the head (control). However, mapping an animal body schema onto a line of cars would provide another grounding of this extension – simple precedence – for there are many animals (e.g., snakes) whose head precedes the body when it moves from one place to another. This motivation may account for other expressions such as *the head of a convoy* or *the head of a queue*.

The semantics of *the head of a bed* are more obscure. The *New Oxford Dictionary of English* (Pearsall 1998) records the phrase *the head of a bed* as an illustration in the third entry for *bed*: "the front, forward, or upper part or end of something, in particular: the upper end of a table or bed". So, it may be – as with *the head of the stairs* – that this is a case of semantic extension via metaphor based on the notion of being on the top position on a vertical axis. However, a bed is not prototypically placed on a vertical axis. There is a more plausible motivation based on physical contiguity, and therefore, metonymic: the head of the bed is the part where a person's head lies when in bed. The *OED* includes this notion in its second entry *(*"II: A thing or part of a thing resembling a head in form or position." Subentry 15: "the upper end of something on a slope or so regarded; e.g. that end of a lake at which a river enters it; the higher end of a valley, the inner extremity of a cave, gulf, etc.; that end of a bed, grave, etc. towards which a person's head lies; that end of a table at which the chief seat is"*)*. This definition, which starts by emphasising the resemblance of the top position, recognises the juxtaposition of the human head with the part of the bed we are dealing with in the specific definition of the phrase ("that end of a bed, grave, etc. towards which a person's head lies"). In a somewhat similar vein, the *Collins COBUILD Dictionary* (Sinclair 2001)*, which does not give a definition for *the head of a bed*, provides one for *the foot of a bed* which only takes into account physical contiguity: "the end nearest to the feet of the person lying in it."

Dictionaries do not seem to take into account the relationship between the different meanings of this lexeme either in the definitions or in the organisation of the meanings (cf. Lindstromberg [2001], who discusses a similar problem in learner's dictionary entries for *on*). As will be seen later,

the syntactic and semantic features of the linguistic expressions differentially affected children's understanding of utterances.

It should be mentioned that some of the target figurative extensions have counterparts in Spanish. There is an equivalent multiword unit, *echar una mano* for *give me a hand* although *echar* literally means 'throw' rather than 'give'. And *not open one's mouth* has the Spanish counterpart *no abrir (alguien) la boca*, which is recorded in the *Diccionario de la Real Academia Española (DRAE)* and defined as: *"callar cuando se debería hablar"* 'to keep quiet when you should speak'. The requirement to speak, however, is not salient in the English expression. Finally, three of the semantic extensions of HEAD have approximate equivalents in Spanish. The Spanish counterpart for *the head of the bed* is *cabecero/cabecera*, which is a derivation (root + suffix) from *cabeza* and allows the masculine and feminine form. To call the metal part of a hammer its head is recorded in the *DRAE*'s definition of hammer: *"herramienta de percusión, compuesta de una cabeza, por lo común de hierro, y un mango"* 'striking tool that consists of a head, generally made of iron, and a handle'. And finally, the notion conveyed in the *head of a line of cars* is expressed in Spanish phrases such as *encabezar una fila* 'to head a line', *el cabeza de carrera* 'the head of a race' or *ir en cabeza* literally, 'go in head'. In contrast, there are no counterparts for the rest of target figurative meanings. The syntactic shift of noun to verb in *hand it to me* is not possible in Spanish and the preferred realisation for *the hands of a watch* is *agujas* (*needles*) although *manecillas* also exist. There is no equivalent for *the head of the stairs*[4].

2.3. Experimental design

The three studies differ in the type of stimulus used: a situation presented orally (study 1), a short story with visuals (study 2) and photographs (study 3). What they all had in common was that the language input was oral: the children did not have to recognise or produce the written form of the semantic extensions.

2.3.1. Study One

In Study One a situation in which the figurative meaning would be appropriately used was devised for each the three semantic extensions. Each situation was presented orally, accompanied by a multiple-choice item with three options (three body parts). The situation was presented in

Spanish and the body part terms given in English. For example, the following situation was used to contextualise *hand it to me*:

"X (el nombre de uno de los niños) tiene una hoja de papel y le pido que me la dé, ¿qué creéis que le voy a decir en inglés?"
'X (the name of one of the children) has got this piece of paper and I ask him/her to give it to me. What do you think I will say in English?'
"Head it to me, hand it to me or mouth/foot it to me?".
In this study, the participants had to identify the most logical candidate for use among several body part words.

2.3.2. Study Two

The stimuli used in Study Two were a short story told to the children in English and three visual story strips to illustrate its contents and to facilitate its comprehension. The story ended with the idiom *not open one's mouth* and was followed by a comprehension question with two answers (a literal paraphrase of the figurative expression and a distracter). The children's task was to choose one of the two options.

2.3.3. Study Three

In Study Three the participants were provided with four photographs which represented each of the four elements referred to by the figurative uses of HEAD: a bed, a hammer, a line of cars and a staircase. The task consisted in marking the part of each element in the photograph they considered to be the head.

In all three studies the participants were also asked to explain their choices.

2.4. Procedure

The children were tested in groups of three to five (Studies One and Three) or in their usual classes (Study Two). Group work was deemed appropriate for four reasons.
   1. It was supposed that the participants would feel comfortable working in a very similar context to that of their usual classroom and so speak more freely and produce the desired qualitative data.

2. Working in a group enables interaction among its members, sometimes giving rise to discussions on shared experience and background.
3. These experimental tasks are designed to test children's ability to comprehend figurative meanings. It has been argued that negotiation of meaning with adults, older siblings, or peers is an important factor in children's understanding of new concepts in natural occurring contexts (Cameron 1996, 2001; Vygostky 1962; Wood, Bruner, and Ross 1976). Plainly, working in a group fosters negotiation of meaning among peers, as will be seen in some of the examples of the children's answers (see below).
4. As one of the aims of the studies was to shed light on pedagogical issues, the classroom itself is the most natural context for experimental work to be carried out.

This procedure did not imply that members of each group always worked towards a common solution. In some cases, the first answer in a group initiated a common interpretation or biased the ensuing discussion. The other participants then agreed or disagreed with it. In this way, the first answer sometimes opened up a line of thought which further answers expanded or contradicted.

In the three studies the children were asked to identify the semantic extensions as described above. In addition, they were asked to motivate their answers; that is, to explain their interpretations. The children's answers and explanations were tape-recorded and transcribed. The databank of the children's explanations allowed a qualitative analysis to be added to the quantitative results.

2.5. Results

The results of the three studies indicate that young Spanish learners of English are, in general, able to identify a variety of semantic extensions of the English lexemes HAND, MOUTH and HEAD, the prototypical meaning of which they know from their English lessons (See Tables 1, 2 and 3, for detailed results).

Although the subjects' success in comprehending the figurative uses varied both across the age groups and across the different semantic extensions, in general over 50% of the children were able to identify the correct figurative extensions in the three studies. Thus, in Study One (see Table 1), apart from the 7-year-olds in the case of the semantic extension *give a me a hand*, in which 46% of the children chose *hand*, successful

identification of the three figurative uses (*give me a hand*, *the hands of a watch* and *hand it to me*) occurred more than 50% of the time. Especially remarkable is the children's recognition of the phrase *hand it to me*, identified by over 80% of the participants in the three age groups. The 11-year-olds' identification of *give me a hand*, with 92% of the participants providing the correct answer, is also noteworthy.

Table 1. Participants' correct selection of *hand*

	7-year-olds	9-year-olds	11-year-olds
Give me a hand	46%	52%	92%
The hands of a watch	70%	58%	70%
Hand it to me	83%	89%	85%

The quantification of the children's selections of the literal paraphrase of *not open one's mouth* in the task proposed in Study Two (see Table 2) shows that over 75% of the children across the three age groups chose this semantic extension of MOUTH.

Table 2. Responses to *Not open one's mouth*

	7-year olds	9-year-olds	11-year-olds
Literal paraphrase	79%	95%	92%
Distractor	21%	5%	8%

Finally, in Study Three (see Tables 3, 4 and 5), apart from the 5-year-olds in the case of *the head of a line of cars* (where only 42% of the children marked the first car as the head), over 50% of the children in all the groups were able to match the four semantic extensions of HEAD (*the head of a bed*, *the head of a hammer*, *the head of a line of cars* and *the head of the stairs*) with their visual representation in photographs. The results in the case of *the head of a hammer*, where over 95% of the children identified the metal part of the hammer as its head, are similarly noteworthy.

Table 3. Responses to *The head of a line of cars*

	First car	Police car	Last car	Top parts	Front parts	other
5-yr-olds	42%	29%	12%	5%	7%	5%
7-yr-olds	59%	5%	7%	25%	0%	4%
9-yr-olds	77%	9%	0%	0%	14%	0%
11-yr-olds	83%	17%	0%	0%	0%	0%

Table 4. Responses to *The head of a bed*

	Bed head	Pillow	Bed head & pillow	other
5-year-olds	45%	41%	0%	14%
7-year-olds	45%	43%	11%	2%
9-year-olds	36%	46%	18%	0%
11-yearr-ols	50%	25%	25%	0%

Table 5. Responses to *The head of the stairs*

	Top part	Top steps	Middle	Bottom	Other
5-year-olds	55%	17%	7%	14%	7%
7-year-olds	77%	5%	0%	0%	18%
9-year-olds	55%	36%	0%	0%	9%
11-year-olds	25%	33%	17%	17%	8%

However, as is well known, multiple-choice format may give rise both to correct and incorrect responses as a result of guesswork. Thus, in Study One, 33% of the correct responses may appear at first sight to result from guessing and up to 50% of the correct choices in Study Two. However, the requirement to provide a verbal justification for their answers – they had to explain why they had chosen a particular answer – meant that these children were encouraged to reason about their choices, rather than simply guess which one might be correct.

As regards the role played by these children's figurative thinking in their identification of the figurative extensions presented to them, when the samples elicited were analysed individually it became clear, as will be seen, that the children involved in these studies seemed able to set up links via metonymy and metaphor between the different uses of a core lexical item. This is reflected in their ability to use metaphorical comparisons, creative similes and utterances grounded in metonymy.

2.6. Discussion

The results of these studies corroborate some of the findings of previous research into the figurative capacity of monolingual children: the ability to establish analogies and the transfer of knowledge from a concrete to an abstract domain play a significant role in children's abstract reasoning (Cameron 1991, 1996, 2003; Gardner et al. 1998; Johnson 1999; Nerlich, Clarke, and Todd 1999; Vosniadou 1987; Winner 1988; Winner and Perkins 1975; Zurer Pearson 1990).

The results of the studies presented in this paper also indicate that this capacity operates with linguistic forms in the second language from, at least, the age of five. However, not all the semantic extensions were equally transparent for the participants. It seems that different types of figurative language pose different problems in the process of understanding. In connection with this, it is important to recall that, although a large amount of research has been devoted to so-called idiomatic expressions, figurative language is not manifested only in fossilised strings. Lazar's (1996) classification, which also includes the figurative extensions of a word's meaning, provides a more complete taxonomy of the different types of figurative language use. In relation to vocabulary development in early EFL, it seems more useful to think in terms of core lexemes and the semantic extensions that are accessible to children at different stages of their cognitive development, regardless of whether they occur in a fixed combination or not. In fact, although certain multiword units may pose difficulties for young children, this is not necessarily so in all cases. The unitary meaning of the figurative expressions *give me a hand* and *not open one's mouth* arise from salient functions of the two body parts they refer to. Many of the children participating in the studies reported here had no difficulty in grasping the meaning of these two figurative multiword expressions because they perceived the metonymic connection. Thus, to class figurative multiword units as inherently difficult for children is to ignore aspects such as the semantic transparency/opacity of the string.

Different types of figurative language use can also be distinguished in terms of their syntactic form and semantic motivation. Syntactically speaking, the eight semantic extensions employed in the studies are realised by two figurative multiword expressions (*give me a hand* and *not open one's mouth*), five nouns (the four semantic extensions of HEAD and *the hands of a watch*) and a verb (*hand it to me*). In general, it appears that length was not a distracting factor for these children. In fact, *hand it to me* was the most accessible of the three figurative extensions of HAND for the children in the three age groups, despite the syntactic shift of the

prototypical form of HAND realised in this particular extension which does not have a counterpart in Spanish.

However, the results of Studies One and Two indicate that form may pose a problem in some cases. For instance, the multi-word units in the studies (*give me a hand* and *not open one's mouth*) were less accessible to younger children (7-year-olds), and the negative form of the latter seemed to pose a difficulty that decreased with age. Nevertheless, a small-scale study such as this (both in terms of the figurative extensions studied and the learners involved) can only be very tentative as regards the type of problems that might be predicted with young learners generally.

Unlike the syntactic form, semantic motivation seems to play a significant role in how these children understood the figurative extensions. Detailed examination of the children's explanations of the different figurative uses indicates that the schema of the human body is very salient to them, especially at the earlier ages (5 and 7). Thus, those semantic extensions motivated by this schema are more transparent for these children. This is particularly evident in the case of *hand it to me*, which offers the most uniform data across the three age groups, from both a quantitative and a qualitative perspective. Qualitatively speaking, most of the children's explanations were metonymy-based, being grounded in awareness of two functions of the hand – to manipulate and pass objects. Some of their answers, for example, clearly illustrate the latter function:

(1) hand *porque cuando damos algo lo hacemos con la mano*
     '*hand* because when we give something out we use our hand'

(2) hand *porque se da con la mano – tú se lo das con la mano ¡no con el pie, con la cabeza ni con la boca!*
     '*hand* because you hand it with your hand – you hand it to someone with your hand not with your foot or head or mouth!'

In general, these children were very aware of the functions of different body parts and they used this concrete knowledge extensively to reason about abstract uses, as shown in a significant number of explanations motivated by the metonymy BODY PART FOR FUNCTION and its more specific entailments HAND FOR DOING, MOUTH FOR SPEAKING or HEAD FOR THINKING. For instance, concerning case 1 (*Si necesito que me ayudéis a hacer algo, ¿cómo creéis que os lo voy a pedir en inglés?* 'If I need your help to do something, how do you think I will ask for it in English?', the 7-year-olds focused on different parts of the situation. Their answers were justified by resorting to the metonymies mentioned above. Thus, MOUTH

was related to speaking in 15 out of 18 answers, as in the following example:

(3) mouth *porque tienes que hablar – porque no vas a ayudar a la gente sin hablar – porque él o ella si no sabe alguna palabra se la dices tú*
'*mouth* because you've got to speak – you can't help people if you don't speak – because if he or she doesn't know a word you can tell them.'

HEAD was similarly correlated with thinking in 10 out of 12 answers:

(4) head *porque si tú estás pensando – vamos a suponer – que no sabes 9 x 9 y te pueden ayudar – te pueden decir cuántos son y se piensa con la cabeza*
'*head* because if your are thinking – for example – that you don't know 9 times 9 and you can get some help –somebody can tell you the answer and you need your head to think.'

Finally HAND was clearly linked to "doing" in 23 out of 26 answers:

(5) hand *porque con ella puedes hacer de todo – puedes escribir – puedes coger cosas – puedes trabajar*
'*hand* because you can do all sorts of things with it – you can write – you can pick up things – you can work.'

Similarly, in Study Two, the awareness of the functions of the mouth when open and closed was behind most of the answers that successfully identified *not open one's mouth*:

(6) *la B porque al final dice mouth – porque dicen que se quedan con la boca cerrada*
'answer B because *mouth* is said at the end – it says that they stayed with their mouth closed.'

This awareness of the function of different body parts coincides with Nagy's (1953) findings concerning children's body knowledge at different ages; first the child knows no internal organ and thinks about the processes in terms of the whole person (you eat, you breathe). When the young child comes to know some internal organs, each is assigned a function: the heart is for love, the lungs are for breathing, the stomach is for eating and the brain is for thinking.

The 7-year-olds that participated in the studies seem to have passed beyond the first stage and assigned a function to each organ (in this case external organs) presented to them, as their explanations showed: MOUTH FOR SPEAKING, HAND FOR DOING and HEAD FOR THINKING.

The human body schema is also behind the children's reasoning when they attempted to understand the four semantic extensions of HEAD in Study Three. The children participating (especially the 5- and the 7-year-olds and, to some extent, the 9-year-olds) mostly based their reasoning on the identification of the head of each object or configuration with its top part on a vertical axis. That is, they used their knowledge about the domain of human body parts and mapped it onto the four elements in question: a bed, a hammer, a line of cars and a staircase. In fact, younger children tended to over-generalise explanations based on the human body schema to the cases where there was no vertical axis, which prevented them from correctly identifying semantic extensions that have a different motivation (e.g., *the head of a line of cars*). This is illustrated in the 5- and 7-year-olds' choices of the top parts of the first car and the police car:

(7) *porque está encima del primer coche – la cabeza está encima del cuerpo humano*
   'because it's on top of the first car – the head is on top of the human body'

In their search for the "top" part of the line of cars, the actual evidence tells them that the roofs of the cars are in the topmost position.

In contrast, older children (some of the 9-year-olds and most of the 11-year-olds) were more specific in their answers. They appeared to have a better differentiated and more developed knowledge of domains and were more flexible in the use of other schemas. For example, they seem to have used the animal body schema to reason about *the head of a line of cars*:

(8) *el primero – porque es como una serpiente y la serpiente tiene la cabeza al principio*
   'the first one because it's like a snake and snakes have their heads at the beginning'

The failure of the 5- and 7-year-olds to resort to this animal schema might be explained in relation to the development of the concept ANIMAL in children which, as the studies carried out by Anglin (1977), Carey (1985) and Keil (1989) have shown, poses difficulties for young children[5].

The more developed domain knowledge that older children (9 and 11-year-olds) had may have played a role in enriching their explanations (as in example (8) above), but failure to resort to the human body schema at these ages led them to problems when *head* does refer to top part. In fact, the 11-year-olds, who were not so reliant on the human body schema, were less able to identify and explain *the head of the stairs* than the younger children. Most children in this age group ignored the relation between the top part and the head, derived from the human body schema, which had been so frequent in the younger children's answers.

3. Conclusions

The results of these small-scale studies suggest that a capacity to think figuratively about L2 forms is available to children from a very early age and that it develops during childhood along with linguistic and conceptual knowledge, and social skills. Thus, it is not only older intermediate and advanced learners who seem likely to benefit from the pedagogical application of the CL approach to metonymy and metaphor. Even very young learners might be helped to cope with the referential flexibility of the words they know in the L2. Furthermore, bearing in mind that learning a language is a developmental process, the first stages are fundamental in terms of establishing a solid basis for future development. It seems likely that clarifying the prototypical meanings of core lexical items constitutes a necessary foundation for learning figurative extensions. Encouraging children to use analogical reasoning in the EFL classroom may help them to grasp the meanings of semantic extensions. This research also indicates that, although the natural ability to reason figuratively is present in very young learners, the predominance of certain schemas (such as that of the human body) seems more salient at age 5 than 11 (we saw that *the head of a staircase* was more logical and transparent to the younger learners than to the 11-year-olds). If the salience of those schemas in understanding is not taken advantage of at that early age, we may actually be missing an opportunity that will not be available later on.

However, my study of children's understanding of extensions of body part terms also corroborates the broad conclusion of Winner (1988), Vosniadou (1989) and Cameron (1996) that "knowledge of the world" (or domain knowledge) plays an important role in children's understanding or misunderstanding of figurative meanings. The teacher needs to be aware of the kinds of knowledge the children bring into the classroom at different ages and refer to the most useful knowledge for each age group – to the

human body schema in the case of the 5-year-olds. That is, teachers and material designers should be aware that at a given age children should be taught particular expressions relating to the domains of knowledge that children are becoming aware of.

Existing course materials give little attention to the possibility of enriching young EFL learners' understanding of the ways in which core vocabulary items, such as the body part terms studied here, extend their meanings in motivated ways. However, according to the research reported here, there seems to be no reason to suppose that pedagogical applications of metaphor research should only be relevant to older learners or to those already relatively proficient in the L2. Fostering a capacity for figurative thinking may well have beneficial effects throughout the learning process, at all ages and stages, and may, in particular, lead to the deployment by learners of useful strategies for understanding polysemes.

Notes

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   I would like to thank my colleague Fiona MacArthur, for her insightful advice.
2. All the examples come from the *Collins COBUILD Dictionary*.
3. I have avoided the ambiguous label "idiom" to refer to these two particular utterances because I think that "figurative multiword expression" defines them more clearly: a string of words with a unitary non-literal meaning. As is well-known, experts in the field (Fernando 1996; Moon 1998; or more recently Grant and Bauer 2004) have acknowledged the problems to establish a clear typology of these types of utterances, to define their properties and even to agree on a name (idioms, fixed expressions, multiword unit, etc.). Although some scholars (for example Grant and Bauer [2004]) try to restrict the category of idioms to the type of non-compositional expressions whose literal origins have been lost, many others (e.g. Gibbs and colleagues, Moon 1998) argue that there is a cline of idiomaticity determined mainly by different degrees of syntactic flexibility/frozenness and/or semantic opacity/transparency of the expressions. I think that this broader understanding of the concept portrays better the complex picture of these utterances and is more useful in foreign language instruction. For a similar view, see Littlemore and Low (2006: 39).
4. The possible influence of their L1 in the children's understanding of these semantic extensions is beyond the scope of this paper. For further details see Piquer Píriz (2005).

5. Anglin (1977) finds that when asked what things are animals, children under 7 exclude people and tend to exclude non-prototypical animals such as insects. His results also show that for the pre-school child the word *animal* is not synonymous with the word *alive*. Carey's (1985) findings show that deep conceptual differences underlie the different meanings children and adults attach to the words *animal* and *living thing*. Keil (1989) finds that children have problems in fully understanding the distinction dead vs. alive or between the categories of animals, objects and living plants.

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Translating the senses: Teaching the metaphors in winespeak

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Abstract
In this chapter we first briefly discuss the figurative language used by wine critics. The topic is approached from the vantage point of conceptual metaphor theory. We illustrate by means of examples from a corpus of tasting notes how wines are described (and evaluated) metaphorically as living organisms, pieces of cloth, three-dimensional artefacts such as buildings. We then move on to propose pedagogical activities designed to help learners appreciate and master the rich and ever-expanding repertoires of figurative descriptors that are part and parcel of winespeak. Through this particular case study we hope to demonstrate that cognitive-linguistics inspired pedagogy can be of use in a wide variety of language-for-specific-purpose courses.

Keywords: metaphor; metonymy; wine; tasting notes; corpus; genre; language for specific purposes.

1. Introduction

A conspicuous characteristic of *winespeak* is its highly figurative nature. For instance, in wine descriptions it is far from unusual to find wines qualified by means of adjectives like *muscular*, *sexy*, *demure*, *broad-shouldered*, or *feline* (which suggest a view of wines as LIVING BEINGS either human or animal), *embroidered*, *silky*, or *tightly-knit* (instantiating the metaphor WINES ARE PIECES OF CLOTH), *buttressed*, *fortified*, or hidden behind *a wall of tannins* (portraying wines as BUILDINGS), or *rough-hewn* and *molten* (which suggest a view of wine as shapeable wood or metal building material). Indeed, the large amount of figurative language in wine discourse suggests that without metaphor wine would be practically un-discussable in a world where wine is rapidly becoming a cultural icon in an emerging hedonistic sub-culture accessible to a larger number of consumers than ever before. However, irrespective of the growing popularity of this

beverage, winespeak still retains some of the mystique traditionally associated with the topic – a mystique that partly rests on the use of figurative language. But while such language may strike the layman as deliberately obscure, it is a valuable tool that allows the – albeit imperfect – communication of the experience of drinking wine.

In this chapter, we briefly describe the figurative language used by wine critics to describe wines in tasting notes, and the view(s) underlying this language. The topic is approached from the vantage point of the cognitive theory of metaphor as initiated by Lakoff and Johnson (1980), which involves regarding metaphorical language as (a) symptomatic of particular and systematic ways of thinking rather than being a decorative device for stylistic purposes, and (b) an essential cognitive tool helping us to conceptualize the world. Thus, the metaphors expressed in wine discourse, not only reveal the way wine specialists conceptualize wine, but also work as an indispensable tool for communicating the complex sensory experience of tasting wine to others.

Although wine discourse cannot do without metaphor, even wine cognoscenti have seen its figurative nature as a somewhat negative characteristic, that is, as some kind of juggling with words more typical of the informed amateur than of the expert (Peynaud 1987) or as some sort of lampoonable camouflage rather than serious technical discourse (Gluck 2003). On the other hand, scholars pointing to the figurative quality of wine assessment have explained people's understanding of the figurative language used as the result of the connotative power of words and their relationships with other words in the lexicon, e.g.:

> Especially interesting are the descriptors that are taken over from very different semantic domains, such as words that describe personality and character: *aggressive*, *charming*, *diffident*, *honest*, *feminine*, *masculine*. How can these descriptions be meaningful? In order to understand how a wine can taste *feminine* or *aggressive*, we rely on intra-linguistic associations. Since *feminine* is semantically related to words like *sweet*, *perfumed*, *light*, and *delicate*, which can be related to the smell, taste, and "feel" of wines in the mouth, we can understand how a wine might be described as *feminine*. (Lehrer 1992: 13)

These views are not uncontroversial. In the first place, a "masculine" wine may well also be sweet and perfumed and a wine qualified as "feminine" can be *powerful* as well, as shown in passage (1) below, which means that the connotations of adjectives used to describe entities other than wine may not be equally applicable to the wine domain. Moreover, although terms

such as *monster* or *whore* usually carry negative connotations, they are used as positive appraisal terms in examples (2) and (3):

(1)   *The 2002 Corton-Charlemagne, sporting a nose of spices, Golden Delicious apples, and minerals, is medium-bodied, beautifully detailed, and pure. Slate, spices, minerals, and pears can be found in its concentrated, deep character as well as in its prolonged finish. This* powerful, feminine, elegant *wine will require some patience.*

(2)   This monster *[...] possesses sensational concentration, power, and depth. However, the rustic tannin in the finish may be off-putting to readers looking for a more succulent, velvety-textured style. Nevertheless, there is amazing depth and richness in this clean, blockbuster-sized offering.*

(3)   *Impressive is Elderton's 1997 CSM. My tasting notes started with the words* a whore of a wine. *This effort recalls some of the older Eldertons. While it offers huge amounts of toasty oak in the nose, it is better integrated than young Elderton wines have been in the past. The 1997 (14.5% alcohol) is a voluptuous, lusty wine with loads of glycerin, fat, and concentrated fruit as well as decadent levels of pleasure [...].*

In other words, the understanding of the figurative language used in tasting notes does not necessarily rely solely on intra-linguistic associations of terms but, rather, on the understanding of the experiential domains involved in the metaphors used in the conceptualization and description of wine. A point worth noting in this regard is our hypothesis that different types of wine may demand different metaphors. This does not mean that certain metaphors are exclusive to certain types of wine (i.e. that the particularities of the target domain constrain the choice or use of metaphorical sources). However, a brief look at tasting notes suggests that some metaphors are more successfully applied to white wines while others are consistently used in the description and evaluation of red wines. This point is addressed in section 2.4.

   Understanding the contribution of metaphor to wine assessment is also the inevitable consequence of approaching metaphor from a discourse perspective, a task that involves examining the figurative language found in real discourse contexts, the uses to which it may be put, the factors determining such uses, and, of course, the topics or ideas thus expressed. A discourse approach to metaphor in winespeak, then, entails paying attention

to the *what*, *how*, *when* and *what for*, a research agenda that implies choosing a context that will ensure the validity of our results and, at the same time, be of manageable proportions.

The particular subject of this chapter is the genre of the tasting note. Our choice has been determined by the critical role of both wine critics and tasting notes in the wine world. Thus, wine critics have shaped – indeed, educated – the growing number of wine drinkers from the 1990s and their tasting notes, published in well-known magazines such as *Wine Spectator* or *The Wine Advocate*, have gone beyond being mere private records of a sensory experience to become extremely useful consumption guides in today's ever-expanding wine market. Between the winemaker's technical discourse and the consumer's choice loom the figures of wine critics and sommeliers, almost exclusively oriented toward the professional description of wines for an audience who may buy in the direction it is headed, and are prepared to pay more for tasting notes that are particularly reliable.

Finally, to the best of our knowledge there are no courses explicitly designed to teach wine appreciation through language, let alone through the metaphors motivating it. In this sense, our ultimate aim in this chapter is to outline ways in which the figurative language underpinning the language of wine critics can be taught to those wishing either to become experts in the field or simply to be able to understand a tasting note and/or evaluate a particular wine themselves. This, of course, implies taking into account a multifarious lot of aspirant cognoscenti with diverse needs and approaches to the subject, even if all of them will need to reach a consensus on what can and cannot be said when assessing wines regardless of whether the ultimate purpose is to describe it to importers, sell it, or, simply, to share the experience afforded by it with others at the table.

2.   Construing wine through metaphor

This chapter draws upon the – preliminary – results of an ongoing research project into the discourse of wine.[1] The purpose of the project is to explore the metaphors used in evaluative texts aimed at the promotion of wine for a general audience. In its preliminary stage, we built a corpus consisting of 12,000 *tasting notes* (i.e. wine reviews) of both red and white wines written by the most authoritative British and American voices in the field, and retrieved from seven well-known magazines and websites (*Decanter*, *Wine Enthusiast*, *Wine Spectator*, *The Wine Advocate*, *Wine News*, *The Wine Pages*, and *The Wine Anorak*). We wanted wines representative of (a) the

entire (i.e., worldwide) wine-producing spectrum, and (b) various qualities – as indicated by the 100-point rating system conventionally employed in the field.

Any tasting note reproduces in verbal form the three-step process in any standard tasting procedure. Thus, after describing a wine's colour (sometimes referred to as its *robe*, *cloak* or *mantle*), critics focus on its *nose* (a metonymy referring to its aroma) and on its *palate* (again, a metonymic term referring to flavor and mouth feel), and finish with a global evaluation of the wine at issue. What follows is a typical tasting note:

(4)   *Deep coloured. Full expressive nose of sweet fruit and herbs, with a rich menthol edge. Lovely concentrated palate has great acidity and dense herby fruit. Spicy tannins and a sweet vanilla edge add complexity. A big wine with great potential. Very good/excellent.*

The linguistic data from the corpus exemplify various figurative phenomena (e.g. metonymy and metaphor) which play a role in articulating what wines smell, taste and feel like in the mouth. Indeed, winespeak reveals an incredible expressive richness derived, no doubt, from sheer necessity, and largely resting upon imagery. Besides aromas, there are many other aspects of wine that the wine expert is concerned with: spotting "apple" and "slate" in a white wine, or "cranberries" and "tar" in a red one is one thing, but describing a wine's tactile impression on our palate, its *size*, or its *length* are totally different tasks that almost always demand the use of different metaphors.

The figurative repertoire of wine critics draws upon diverse experiential domains. Among these, most figurative language portrays wines as living entities of diverse sorts (plants, animals or human beings), tangible, material entities such as cloth or pieces of metallurgical work, musical pieces, buildings, and three-dimensional, geometrical artifacts, each of which foregrounds certain aspects of the wine under scrutiny.

2.1. WINES ARE LIVING ORGANISMS

The most comprehensive – and complex – metaphorical schema in wine discourse is WINES ARE DISCRETE LIVING ORGANISMS, as instantiated through terms such as *big*, *fleshy*, *flabby*, *medium-weight*, *aged*, *full-bodied*, *longevity*, *expressive* or *backward* (the last two adjectives suggesting a more specific view of wines as PEOPLE, while the other terms focus on

anatomical and physiological detail). The following examples (only organic terms are italicized) illustrate how this organic schema is instantiated:

(5)   *The palate [of this wine] has a good weight of citrus fruit, perhaps lacking a touch of lushness that would improve the mouth-feel, but really lovely poise and length. Ver*y grown-up.

(6)   *[T]he 2001 Ermitage Cuvee de l'Oree does not possess the* muscle, volume, or weight of the 2000, *but it is a beautifully etched, elegant, intensely mineral wine offering hints of white flowers, citrus oils, and earth in its dense,* full-bodied*, chewy* personality. *Like its* older sibling, *it will be delicious in its* first 3-4 years of life.

(7)   *The spice and flower-scented 2000 Puligny-Montrachet is velvety-textured and* medium to full-bodied. *This* sexy *wine is stacked in all the right places. Poached pears, buttered apples, cinnamon, and vanilla can be found in this spicy,* extroverted beauty's *core fruit. Anticipated* maturity*: now-2008.*

As shown in these examples, the metaphor WINES ARE LIVING ORGANISMS foregrounds several aspects of wines:

–   Some instantiations focus on the physiological properties and, thus, we find that the different stages in the development of a wine are commonly referred to by means of terms like *baby*, *young*, *junior*, *well-aged*, *venerable* or *dead* (so much so that the drinking of a wine in a premature stage of development is often condemned as *infanticide*) or its state of 'health' (e.g., through terms like *vigor*, *sickly*, *malnourished*, *weak* or *tired*).
–   Other terms point to 'kinship' relationships among wines (e.g. *clone*, *pedigree*, *sister*, *mate*, *sibling* or *peer*).
–   The 'anatomical' or structural properties of wines are articulated by terms such as *big-bodied*, *robust*, *fleshy*, *backbone*, *sinewy*, *long-limbed*, *fat*, *flabby*, *broad-shouldered*, *lean*, *disjointed*, etc.).
–   We also find a view of wines as people with appearance and personality traits (e.g., *a beauty*, *pretty*, *handsome*, *curvaceous*, *sexy*, *boisterous*, *assertive*, *sensitive*, *demure*, *shy*, *expressive*).

2.2. WINES ARE PIECES OF CLOTH

Textile metaphors also focus on diverse aspects of wines. In the first place, we find a view of wines as pieces of cloth, which may *wrap* and *unwrap*, have a *fabric* or *weft*, may *be interwoven, burst at their seams*, and can be variously described as a *tapestry, open-knit, well meshed*, or *tightly wound*. Likewise, some wine elements may be portrayed as garments themselves (e.g., *cloak, glove, frock* or *mantle*) which can *envelop, enrobe*, or *dress up* the wine.

The following passages illustrate how the metaphor is instantiated in the corpus:

(8)   *The wine is fabulously concentrated, with that* seamless *characteristic found in the greatest wines, […] acid, alcohol, and tannin, are* interwoven *into a majestic, multidimensional, compelling wine […].*

(9)   *This Spanish red is* velvety *smooth on the palate, but the lush texture* cloaks *a firm, tannic structure.*

(10) *A monster* in a beautiful frock. *The strawberry aromas jump out of the glass, with hints of roses and tar. Full-bodied, with loads of* velvety *tannins and a long, long dried cherry finish.*

(11) *An extraordinary wine, not just because it* wears *its 16.4% alcohol so well.*

Textile metaphors also provide a personified view of wines. This view is an implication of the portrayal of some of its components as diverse pieces of clothing or garments 'worn' by the wine at issue – e.g. (9)–(11).

2.3. WINES ARE THREE-DIMENSIONAL ARTIFACTS

This metaphor may be decomposed in two distinct, yet related schemas. On the one hand, we find the view of wines as three-dimensional artifacts, as suggested by their having *edges, layers, contours, backs* and *fronts*, or being *square, angular, well-delineated, wide, threadlike, long, pointed, deep* or *round*. Indeed, the ideal wine should be *round* or *spherical* since

this represents space in perfect equilibrium (Peynaud 1987: 168). The following extracts illustrate the metaphor:

(12)   *[…] a big, blockish, masculine style, a bit* angular *and still oaky.*

(13)   *Analytically, [these wines] are like the 2000s, but tender, not* square.

(14)   *This is a* round*, generous Shiraz that's packed with* layers *of flavor, offering ripe berry, plum, exotic spices and a touch of mint as the long finish unfurls.*

Another conspicuous – and related – metaphor in tasting notes can be stated as WINES ARE BUILDINGS, as illustrated in the following examples:

(15)   *The 2003 Hermitage blanc was* assembled *from vineyards in Les Rocoules.*

(16)   Structured and built *for the long haul, the densely packed aromatics hint at the power within.*

(17)   *A magnificent* edifice of a wine*, elegant and refined in* structure *but dripping with flavour […].*

(18)   *This is one juicy, rock steady wine;* the tannic structure is that of a fortress.

(19)   *[This wine's] future is all but ensured, with its tight core,* solid wall of tannins *and a deep, black cherry finish that lasts a good two minutes.*

As shown in these passages, the architectural view of wines is suggested by reference to some of the constitutive elements of wine (e.g., acid, alcohol and tannins) as its *building blocks*, to the wine itself as an *edifice* or *monument constructed*, *built*, *buttressed*, *backed up* or *fortified* by all or some of those constituents, or by qualifying wines as *monumental*, *massive*, *monolithic*, *foursquare* or *skyscraper-like*.

2.4. The role of figurative language in tasting notes

The most frequent views of wine yielded by corpus data present wine either as living organisms with anatomical, physiological, social, and personality traits, or as crafted objects with a particular contour, surface texture and internal structure or design. Besides allowing reviewers to avoid repetition in wine assessment, the co-occurrence – diversification[2] – of these two metaphorical schemas points to the existence of a more basic or primary metaphor, namely ORGANIZATION IS PHYSICAL STRUCTURE (Grady 1997). In turn, the view of wine as a structured entity calls attention to the presence of the whole-part image schema (Johnson 1987), which may well motivate the co-existence of textile, anatomy, and architecture metaphors in wine assessment. By way of illustration, consider the following examples:[3]

(20) *In less than a decade this has become one of the qualitative* titan[ANATOMY]/blue blood[PERSON] *Cabernet Sauvignons of Napa Valley. [...] The wine is fabulously concentrated, with that* seamless[TEXTILE] *characteristic found in the greatest wines, the* building blocks[ARCHITECTURE] *of this Cabernet, acid, alcohol, and tannin, are* interwoven[TEXTILE] *into a [...] compelling wine.*

(21) *Magnificent, exotic, a veritable cascade of opulent flavours – earthy currant, black cherry and licorice – on a grand* frame[ARCHITECTURE] *of incredible* length[3D], wrapped[TEXTILE] *in finely grained tannins.*

(22) *[Wine] with a* firm[ANATOMY] backbone[ANATOMY] *to* support[ARCHITECTURE] *the* well-articulated[ARCHITECTURE] *currant and blackberry flavors. Finishes with a nice* echo[SOUND] *of fruit.*

(23) *An extraordinary bouquet of raspberries, blueberries, and vanilla jumps from the glass of this dense,* medium to full-bodied[ANATOMY], *luscious,* seamlessly[TEXTILE/CLOTHING] constructed[ARCHITECTURE] *effort.*

(24) Firmly[ANATOMY/ARCHITECTURE] *tannic, the only question is whether it has enough fruit. Our money says it does! The hints of black cherries, leather and citrus peel currently* walled off[ARCHITECTURE] *by a* veil[TEXTILE] *of cedar and tannin should emerge by 2010.*

The difference between these metaphors in wine discourse and those which Grady (1997) portrays as relying on the primary metaphor [ABSTRACT]

ORGANIZATION IS PHYSICAL STRUCTURE is that in the realm of wine both source and target are physically grounded concepts.

As pointed out earlier, certain metaphors appear to be more successfully applied to white wines than to reds. This is particularly noticeable in the metaphors used to describe the structural properties of wine. Thus, whereas the use of figurative lexis instantiating organic (or, more specifically, anatomical) and architectural metaphors is conventional in descriptions of the structure of both red and white wines, the metaphor ACIDITY IS LIGHT is mostly used to describe the structural properties of white wines. This is confirmed by corpus data: 3,597 instances of ANATOMY and ARCHITECTURE metaphors in descriptions of 6,000 white wines and 4,006 instances in descriptions of the same number of red wines. In contrast, there are 626 instances of ACIDITY IS LIGHT in descriptions of white wines and only 337 instances in descriptions of reds, a ratio of nearly 2:1.

A possible reason is that whereas white wines usually rely principally on acidity for structure, red wines aged in oak use tannin as the principal structural element – although acidity plays a critical role in their structure.[4] Moreover, acidity is portrayed differently in each case, as shown by these examples describing a red and white wine respectively:

(25) *Ripe and sweet-tasting, with enough opulent fruit* to balance the firm tannin structure that rises like an impenetrable wall *on the spectacular finish.*

(26) *This is elegant and snappy, with* bright acidity *supporting the grapefruit, peach and mineral notes.*

In other words, while a red wine may possess "a firm tannic structure that rises like an impenetrable wall" (the architectural portrayal being unmistakable), a white wine rests on "bright acidity".

Finally, although the distinction between descriptive and evaluative uses of language is far from clear-cut, some figurative instantiations appear to be descriptively oriented, whereas others appear to be more suitable for evaluative purposes, for example:

– Description: *building blocks*, *interwoven*, *big*, *full-bodied*, *broad-shouldered*, *feminine*, *masculine*.
– Evaluation: *seamless*, *velvety*, *silky*, *satiny*, and, above all, personifying lexis such as *titan*, *blue blood*, *bold*, *expressive*, *friendly*, *shy*, *sexy*, *assertive*, *demure*, *muted*.

By way of illustration, compare examples (27) and (28), the former clearly descriptive and the latter loaded with evaluative lexis:

(27)   *This* big^{3D}, masculine^{PERSON}, broad-shouldered^{ORGANIC} *wine is* medium-bodied^{ORGANIC}*, concentrated, and fresh. Slate, minerals, and pears can be found throughout its* satiny-textured^{TEXTILE} *character.*

(28)   *The* big^{3D}, bold^{PERSON}*, and* sultry^{PERSON} *2001 Chevalier-Montrachet is a highly* expressive^{PERSON}, fleshy^{ANATOMY} *wine packed with spices, pears, and minerals. This white chocolate, truffle, cream, and spice-scented* beauty^{PERSON} *is* medium-bodied^{ANATOMY}*, concentrated, and* sexy^{PERSON}.

However, such pure examples are hard to find. Example 29 illustrates a much more complex picture of how figurative lexis is used in the genre:

(29)   *The* tightest-knit^{TEXTILE}*, in addition to being the most* backward^{PERSON} *of the four Artadi Riojas reviewed in this segment, is the 1994 Rioja Viña El Pison Reserva. [...]* aged^{PHYSIOLOGY} *24 months in 100% French oak casks, this* tight^{TEXTILE}, backward^{PERSON} *wine should be cellared for 5-6 years. The color is saturated opaque ruby/purple. The* nose^{METONYMY} *is* tight^{TEXTILE} *but promising, with blackberry, cigar box, mineral, and pain grille* notes^{MUSIC}. Well-delineated^{GEOMETRY}, full-bodied^{ORGANIC}*, and well textured, this wine displays* explosive^{EXPLOSION} *richness and intensity at the back of the palate – always an encouraging sign for* longevity^{PHYSIOLOGY}. *Outstanding purity and* layers^{TEXTILE} *of* fruit^{METONYMY} *are* buttressed^{ARCHITECTURE} *by good acidity and sweet tannin. This superb Rioja has at least two decades of* aging potential^{PHYSIOLOGY}. *Wow!*

3.   Pedagogical applications

Insight into the use of metaphors by wine experts may provide a good starting point for introducing wine enthusiasts to the intricacies and subtleties of winespeak – particularly given the lack of courses explicitly devoted to explaining the intricacies of winespeak, the norm being that wine lovers will learn the jargon as they drink their way into the field.

For, indeed, unlike other disciplines where the teaching of metaphors may play a supporting role, in wine tasting metaphor *is* knowledge. Metaphor is not a later ability, an embellishing flourish, or a marker of sophistication. Rather, metaphor is used in day one, in wine 101. Moreover,

there is an added degree of complexity in the current concept of teaching wine as you taste it: beyond a few basics, little can be taught or learned in the absence of wine itself. Simply put, wine literacy is intrinsically cross-modal and, accordingly, requires procedures where first-hand experience (i.e. wine tasting) is inextricably linked to awareness and learning of the metaphors used to translate it into words. Unlike in other contexts, the question here is not whether metaphor is or isn't teachable, or whether it should be taught in an explicit or implicit manner. Rather, as we have tried to illustrate, metaphor is part and parcel of winespeak.

Introducing newcomers to wine metaphors cannot be done without drinking. People need to link the figurative expressions used by wine experts to the different sensations a wine provokes in their noses and mouths. They need to *taste* the metaphors, so to speak.

3.1. Learners' profile

The classroom activities outlined in the following sections could be useful for two kinds of upper-intermediate or advanced learners:
–   wine aficionados wanting explicit instruction in English winespeak (an alternative being trying to learn it through extensive reading)
–   oenology undergraduates and sommelier trainees (whose native language is not English) who must learn English winespeak as part of their training.[5]

3.2. Selection and sequence of metaphors for classroom activities

The data selected for designing our classroom activities instantiates the metaphors (a) WINES ARE DISCRETE LIVING ORGANISMS placing the emphasis on the physiological and anatomical aspects of the metaphor, (b) WINES ARE THREE-DIMENSIONAL ENTITIES, WINES ARE BUILDINGS, WINES ARE PIECES OF CLOTH, and (c) WINES ARE PEOPLE.

a) The conspicuous use of language motivated by the metaphorical schema WINES ARE LIVING ORGANISMS makes it the perfect candidate to start the course. More specifically, among the metaphor "basics" that learners must understand and manage from the very beginning we find instantiations focusing on the physiological and anatomical dimensions of wines.

b) The metaphors WINES ARE THREE-DIMENSIONAL ENTITIES, BUILDINGS, and PIECES OF CLOTH concern the structural properties of wines. Familiarity with these metaphors will help learners understand the relationship between

texture and structure. In fact, tactile impressions are the only guide we have to determine the ageing potential of a wine. *Balance* is what we look for in a wine: if acidity, alcohol, fruit, and tannin are present in the right proportion, the odds are that everything will eventually develop beautifully. However, there is no instrument like our tongue and palate to measure that fragile concept. Many factors work against balance, or at least against our appreciation of it in a young wine. Concerning structure, for example, the fruit in a *tightly-knit* wine may be hidden behind a *wall of tannin*, lack of acidity may be perceived as *blandness*, a young wine may result already too *velvety* for its age (so it may be balanced but will not *live long*), etc.

c) Once learners become familiarized with figurative language used for descriptive purposes, the next step would be to introduce them to the possibilities of language used for evaluative purposes. Here the range of possibilities is wider, resting heavily on the metaphor WINES ARE PEOPLE. Indeed, the attribution of human qualities seems to be by far the most subjective of all evaluative strategies since it is characterized by a proliferation of complex adjectives that demand careful explanation. For instance, in the list of personifying adjectives it would be extremely difficult to build a cline consistently ranking qualities such as *expressive*, *bold* and *assertive* versus the opposite *shy*, *demure* and *muted*.

3.3. Activities

The approach to teaching wine metaphors we advocate comprises:
- – awareness-raising of the figurative language used in wine discourse;
- – activities designed to introduce learners to metaphor basics involving both figurative schemas used for descriptive purposes and schemas concerned with evaluation (despite the difficulties in drawing a clear line between both uses); and
- – hands-on activities demanding that learners actively relate learned metaphors to their own sensory response to wines.

3.3.1. Step One: Warming-up activities

These activities are designed to help learners understand and remember some of the most recurrent figurative terms in winespeak so that when in later activities these terms are re-encountered in their real context of

appearance, learners will be able to relate them to their sensory perception of the wines involved. The activities can be of two types:

Activity 1
For this activity it is necessary to (a) select a batch of figurative terms illustrating the aforementioned metaphors, and (b) design a multiple choice activity like the following:

Tick the right definition of the following terms used to describe a wine:

Youthful:
1.   a wine from a very recent vintage
2.   a wine that seems to have evolved very little
3.   a wine that drinks easily and produces pleasant, immediate euphoria

Seamless:
1.   a harmonious and smooth wine; with no rough edges
2.   a blend of different grape varieties whose individual identity is lost
3.   a wine whose flavors are undistinguishable

Heavy:
1.   a wine that lacks enough acidity to balance its structure
2.   a very viscous wine
3.   a wine with a high percentage of alcohol

Intellectual:
1.   a wine with a label full of text in small type
2.   a wine whose charm is not immediately obvious; that demands attention
3.   a wine produced using the latest winemaking technology

The learners' answers will be commented on in class, but will not be corrected until they have retaken the same test after finishing the activities in steps 2 and 3.

Activity 2
This activity requires the selection of tasting notes illustrating the way(s) in which the terms previously defined are actually used. The activity may be exploited either as a warming-up activity or as an activity to get learners zoom in to the discourse of wine (in which case it would be proposed in Step 2). As a warming-up activity, it can be used to encourage learners first to consider whether their previous answers correspond to the meaning of the terms in context and then to pool and discuss their opinions.

3.3.2.   Step Two: Exploring the figurative language in tasting notes

These activities are explicitly designed to raise the learners' awareness of the metaphorical nature of winespeak and help them remember the terms discussed earlier for later activities where the terms (a) are presented in their real context of appearance and (b) must be related to the learners' sensory perception of the wines in the activities proposed in Step Three.

For instance, learners can be first provided with fairly simple tasting notes like the following:

(30)   *A phenomenal, still youthful and backward Chateauneuf du Pape, this opaque purple-colored effort offers scents of violets, creme de cassis, minerals, and spice. Aromatically, it is reminiscent of a great Musigny from Comte de Vogue. However, no Burgundy would have such concentration, power, richness, and seamlessness at such a young age. There is plenty of tannin, but it is sweet and melted.*

(31)   *This superb blend of 85% old vine Tempranillo, 10% Graciano, 3% Grenache, and 2% miscellaneous grapes is bottled unfiltered after spending two years in French and American oak. A blockbuster, it is an elegant, stylish offering that builds incrementally in the mouth offering considerable sweetness as well as fruit. Medium-bodied, pure, and nuanced, it is an intellectual Spanish red that requires introspection, but there is considerable pleasure and complexity to be found.*

Among the things learners can do after reading tasting notes are:
   –   underline any figurative term they find in the text;
   –   determine the source domain in the metaphor;
   –   group instances of figurative language according to source domain;
   –   compare their own results of the above three steps with those of co-learners (in order for them to appreciate that a degree of subjectivity in metaphor interpretation is inevitable);
   –   if several metaphors co-occur in a tasting note, reflect upon the motivation of this co-occurrence; and
   –   sort the figurative language according to whether it is used for description, evaluation or both.

Learners do these activities either in pairs or in groups, and the results should be pooled and discussed in the classroom. After this, learners can

move on and work with more complex tasting notes – i.e., ones where a greater amount of figurative language is used, as nicely illustrated by example (29) discussed in section 3 – so that they become gradually acquainted with the complexities of the genre and the figurative language used by wine critics.

A warning note seems to be in order at this point. Forced to assess and describe several thousand wines per year, usually in batches of similar wines, wine writers and critics often resort to strategies of lexical variation for the sake of not boring their audiences with almost identical notes. This fear on their part is in fact more a circumstantial mirage than anything else, for they may write all these notes sequentially but their audiences often use internet search engines to find specific tasting notes. In any case, the consequences are very real: the desire for lexical variation too often translates into verbosity and far-fetched analogies that can only be described as unnecessary metaphorical fireworks. While the critic seems bound to benefit from a clear rhetorical awareness, showing off or performing feats of verbal imagination often severs the communication link with the reader, sacrificing the ultimate concern of the review for the sake of stylistics. What is worse, if we may say so for our purposes here, this vice ruins the consistency and coherence in the management of figurative schemas, thereby creating much trouble for researchers. However, learners must also be aware of the existence of such inconsistencies.

3.3.3.   Step Three: Tasting the metaphors in winespeak

The activities proposed at this stage are hands-on activities where learners must relate previously encountered figurative language to their sensory perception of wine. The necessary materials are tasting notes and samples of the wines reviewed in them. Given the difficulties inherent in activities of this type, they should be proposed in a gradual manner. For instance, learners can start by tasting wines yielding fairly simple notes, and discuss whether the figurative language used corresponds to their own perception. They may well provide their own, different critiques of the wine tasted if they feel confident enough.

Once learners are confident enough with the genre, they can be provided with activities which require the use of figurative language for quantitative analysis. It must be noted, however, that this set of activities reveals yet another difficulty for learners: many metaphors are used to express gradable qualities of wine (for instance, acidity, alcohol, fruit, and tannin levels). In other words, a good number of figurative instantiations imply

quantification and are susceptible to being arranged in a cline. The learners are expected to become highly knowledgeable about these clines in order to be able not only to detect the presence of a wine element, but also to assess its relative impact in the overall sensory impression conveyed in the taster.

A possible way to overcome these difficulties may be to start with activities pivoting on the figurative language used to evaluate only one aspect/element of a wine before moving on to activities where several dimensions of wine are assessed through metaphorical language. By way of illustration, consider the following two activities:

Activity 1
The following terms are used to assess the relative presence of fruit over other elements in wines: *austere, intellectual, elegant, forward, sexy,* and *whore.* Study in small groups how they are used in these tasting notes and decide whether they can be arranged on a –/+ fruit cline. Compare your results with those from other groups.

(32)   *Still young and quite austere, this offers green acidity and mineral flavors. A lean, racy style that needs food to soften the tartness.*

(33)   *This superb blend consistently exhibits a Bordeaux-like character in its notes of scorched earth, graphite, leather, tobacco, spice box, and sweet black currant fruit. It is a stylish offering that builds incrementally in the mouth offering sweetness as well as fruit. Medium-bodied, pure and nuanced, it is an intellectual Spanish red that requires introspection.*

(34)   *This has a complex, restrained nose with nutty, creamy character. Delicious rich, savoury palate is quite elegant with citrus notes.*

(35)   *This is a sexy, open-knit, low acid wine exhibiting lusty chocolate and black cherry flavors with foresty/herb scents in the background. Deep, rich, round, opulent, and easy to understand and consume, this forward, in-your-face offering can be drunk now as well as over the next 5-6 years.*

(36)   *A whore of a wine. This is a voluptuous, lusty wine with loads of glycerin, fat, and concentrated fruit as well as decadent levels of pleasure. I doubt there are many Puritans among my readers, but should there be any, they may want to stay clear of this wine.*

Activity 2
Using the previously discussed tasting notes, study how figurative language is used to assess the different components in the wines at issue. Compare your results with those from other groups.

3.3.4.   Step Four: Becoming a wine critic

This last step should comprise "free" activities where students are asked to evaluate wines as they taste them by using the figurative language previously introduced and discussed in the classroom.

4.   Concluding remarks

In this chapter we have discussed some of the lexis instantiating the many metaphors used in tasting notes. We have also seen that figurative language in winespeak is both at the service of description and evaluation, and that each rhetorical goal appears to constrain the choice of metaphor. Finally, we have sketched a – tentative – procedure for teaching the figurative language used by wine experts. We cannot, however, overemphasize the importance of a practical approach in this endeavour. In short, learning the metaphorical motivations of winespeak is an integral part of a wine taster's education, and inseparable from the act of tasting wine.

Notes

1. This project was financed by the Universidad de Castilla-La Mancha (Spain).
2. As discussed in Goatly (1997), *diversification* is one of the patterns of figurative language in texts, and involves the use of different sources to talk about or refer to the same target, each source term highlighting different aspects of it. This is similar to *composing* in Lakoff and Turner (1989).
3. The metaphorical source domains are presented in superscript.
4. This is a simplification, but we wish to avoid prolix winemaking theory here.
5. All top-flight sommelier training courses require mastery of both English and French.

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What bilingual word associations can tell us

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Abstract
Even advanced language learners still sometimes use L2 lexical units in ways that deviate from native speakers' expectations, and this is typically due to erroneous L1 transfer where the learners assume there is a complete match between the L2 target word and a counterpart in their mother tongue. In this chapter I first argue that this subtle type of false friend phenomenon can adequately be described by means of cognitive semantic notions such as Lakoff's (1987) Idealized Cognitive Model (ICM). I then demonstrate that similarities and differences between the ICMs around near-equivalent L1 and L2 lexical items can be identified by comparing learners' and native speakers' word associations triggered by these items. The information obtained via bilingual word associations is useful for anticipating and possibly remedying learners' non-native-like usage of lexis. Finally, it is shown how the research instrument of bilingual word associations can easily be adapted for pedagogical use in the language classroom, where it can serve the purpose of awareness-raising.

Keywords: L1 transfer; semantic networks; Idealized Cognitive Models (ICM), Frame Semantics; word associations; comparison; awareness-raising.

1. Introduction

A third-year English major at the University of Cantho, Vietnam, wrote the following essay as a classroom assignment.

> *(1) Having many careers or ways of earning money is always target of people in modern period. (2) The society provides them a lot of opportunity in order to promote their position through modern technology and wide relation among the countries in the world. (3) When one person goes downtown, he can see material life developing more and more. (4) As a result, he must try his best to earn money so that he can buy valuable things. (5) Besides their*

> *professional career in offices, people can work in other places such as factories, schools, even in their house. (6) They will have high income thanks to many ways of making money or different careers. (7) If one person only has one career, he may not both enjoy benefits and keep up with the progress of the society as well as life in modern period.*

A quick glance at it might make clear what the general message is: A person should have several ways of earning money so that he can make enough money not only to cope but also to enjoy some of modern life's luxuries. However, a closer look reveals quite a few parts that may confuse a non-Vietnamese reader, and his English teacher may find it difficult to decide what comments to make to help him improve his English. What exactly are the problems?

If you look at the syntax, you will notice that there is not really a major problem there: almost every sentence consists of appropriate constituents (even though one might argue that a verb is left out in sentence 5 after *Besides*) and these are in the right order. If you look at the grammar, you will notice that the preposition *with* (to go with *provide*) is missing in sentence 2, and there are a number of article errors: in sentence 1 (*target*), in 2, (*society* and *relation*), in 6 (*income*), and in 7 (*society*).[1] However, most problems concern the lexicon. The reader may be confused by several awkward or odd uses of vocabulary items and expressions, which I have underlined below.

> *(1) Having many <u>careers</u> or ways of earning money is always [a] <u>target</u> of people in modern period. (2) <s>The</s> society provides them [with] a lot of opportunity in order <u>to promote their position</u> through modern technology and [a] wide <u>relation</u> among the countries in the world. (3) When one person goes downtown, he can see <u>material life developing</u> more and more. (4) As a result, he must try his best to earn money so that he can buy valuable things. (5) Besides [having] their professional <u>career</u> in offices, people can work in other places such as factories, schools, even in their house. (6) They will have [a] high income thanks to many ways of making money or <u>different careers</u>. (7) If one person only has <u>one career</u>, he may not both enjoy <u>benefits</u> and keep up with the progress of the society as well as life in <u>modern period</u>.*

The most conspicuous problem has to do with the word *career* because it occurs four times. First of all, the writer uses it in the plural, considering it a way of earning money (see sentences 1 and 7), and associates it directly

with a target, which sounds rather odd because careers usually have goals rather than targets. Therefore, just giving the student the grammatical information that *career* is not usually used into the plural may not give the student enough insight into the meaning of the English word to be able to use it in a more native-like sense. One would expect a student who has had English classes since he was twelve years old and who has had three years of English classes at university level to be able to use the relatively frequent word *career* without much of a problem, but he obviously does not; nor do his fellow students, judging from the similar types of errors they make. So, what might be so difficult about acquiring the meaning of a word like *career*?

In this chapter, I would like to argue that this learner is probably very much influenced by the L1 translation equivalent and that he does not (yet) realize the differences in the conceptual content of the seemingly equivalent L1 and L2 words. I will very briefly survey how the bilingual lexicon is organized according to empirically tested psycholinguistic models, focusing on the implications of such models for the organization of conceptual knowledge. I will argue that these implications are compatible with a cognitive linguistic (CL) view of meaning. Then, by analysing L1 and L2 word associations within a CL framework, I will show that L2 learners are indeed likely to take an L1 concept as a starting point when first in contact with an L2 word and that even very advanced students may still be influenced by the L1 concept in subtle ways, a phenomenon that has not received much attention, as far as I know, and that may merit attention in the L2 classroom. I will illustrate how bilingual word associations can be used to anticipate, diagnose and even remedy this type of L1 interference.

2. The organization of the lexicon

In order to gain insight into what influence L1 vocabulary may have on L2 vocabulary acquisition, it is important to know how and where the L2 vocabulary is stored and accessed. In this section, I will very briefly outline what the rather commonly accepted findings are in psycholinguistic research (cf. de Bot, Lowie, and Verspoor 2005, Chapter A4).

The most commonly accepted model is the interactive activation model based on McClelland and Rummelhart (1981), a network model that basically predicts that an entry – a word, expression, or construction – that is used often will also be activated faster and more easily than one that is not frequently used. When the entry is activated, it will also activate its strongest connections such as collocations, associations, and so on.

Through a mechanism of activation and inhibition, the level of "resting" activation is primarily determined by the frequency of a lexical item. A frequently occurring word will have a higher level of activation than a word that is scarcely used. This image of a lexical item in the mental lexicon is adjusted to the *bilingual* lexicon by assuming that there is an additional source of information linked to the entry node referring to the language a lexical item is associated with. Such language tagging in a modified form is part of current models of bilingualism, even though its precise status remains a subject of on-going debate (Li 1998). If we accept that different languages are part of one interactive system and that much of the retrieval is related to activation, the question that is relevant to the bilingual mental lexicon is whether and to what extent L2 learners make use of the lexical knowledge from their first language in the acquisition and use of the second language.

As the adult L2 learner possesses a fully developed lexicon, it makes sense to assume that an L2 learner will make use of the knowledge already acquired. Therefore, it is likely that at initial stages of L2 acquisition, the learner assumes a more or less full overlap between the conceptual content of the L1 word and the L2 word (cf. Lowie and Verspoor 2004). However, as Kellerman (2000)[2] has also pointed out, the learner is initially also very cautious in assuming similarities when words are used in figurative senses. The general assumption is that with enough input and use, the learner will gradually become aware of similarities and differences between the L1 and the L2 words, and s/he may eventually acquire a native-like lexical representation. Studies have pointed out, though, that the knowledge a bilingual has can never be the same as that of a monolingual (de Groot 1993).

One might assume that the more similar L1 and L2 words are in conceptual content, the sooner the semantic content of an L2 word is understood. On the other hand, we may also have to keep in mind what Flege (1993) has shown concerning the acquisition of L2 sounds: it may actually be easier for an L2 learner to learn an entirely new item than one that is rather similar to the L1 because subtle differences between an L1 and L2 items may be difficult to notice. Even though I am not aware of any research in this area with respect to lexis, it would not be unlikely that the same principle plays a role in the acquisition of L2 vocabulary. When there is a great degree of conceptual overlap between an L1 and L2 word, it may be extra difficult for the learner to become aware of the subtle differences between them.

3. Conceptual representation and cognitive linguistic theory

The model described above tells us that the bilingual mind is organized in one interactive system and that the degree of activation is probably the most important factor in recall or use of items. The model also suggests that the conceptual representation of L1 and L2 words may overlap and supposes that learners may assume full overlap between translation equivalents until they experiences otherwise. However, this type of psycho-linguistic research has been limited to response-time experiments and has been tested mainly on words in isolation.

As convincingly argued by Aneta Pavlenko and her peer commentators in *Bilingualism: Language and Cognition* in 2000, such a laboratory approach cannot ascertain conceptual knowledge to its full extent because words do not have static senses: only when words are actually used within a social, cultural, and situational context do their meanings emerge. Therefore, meaning and conceptual realization are highly complex and it may be difficult to determine to what extent L1/L2 translation equivalents may be very similar or significantly different. In my view, CL theory and methodology are useful in shedding some light on what is involved in the overlap between L1 and L2 meanings, and I would like to illustrate this with the *career* example previously discussed.

As many cognitive linguists have pointed out, a word has no compact, intrinsic meaning of its own (Langacker 1991: 2). Instead, a word's meaning is all the events, contexts, uses, and so on that it can be associated with. If we also accept that the linguistic system is not separate from other cognitive systems such as perception, cognition and emotion, this means that the meaning of a word also involves perceptual, cognitive and emotional associations. Translated into psycholinguistic terms, this means that an activation of a word may activate any type of association, be it social, cultural, psychological, linguistic (e.g. collocational), or pragmatic. It would also mean that the system is in constant flux because a currently activated notion may influence existing concepts. This is in line with Langacker's notion of a symbolic unit as an access node in a network:

> The entity designated by a symbolic unit [e.g. a word – MV] can therefore be thought of as a point of access to a network. The semantic value of a symbolic unit is given by the open-ended set of relations …in which this access node participates. Each of these relations is a cognitive routine, and because they share at least one component the activation of one routine facilitates but does not always necessitate the activation of another (1987: 163).

Not surprisingly, a definition of a linguistic expression cannot be simple:

> The semantic description of an expression therefore takes for its starting point an integrated conception of arbitrary complexity and possibly encyclopedic scope (Langacker 1991: 3).

The encyclopedic knowledge Langacker refers to can be related to Fillmore's Frame Semantics and Lakoff's Idealized Cognitive Models, both of which see lexical knowledge as being organized by experience. For example, in a restaurant frame, 'restaurant' entails associations with the way a restaurant may look, the notion of a customer, waiter, the way to order the food, asking for a check and paying the bill, and so on. In other words, our knowledge of 'restaurant' is organized by what one has experienced oneself, seen in movies, read about, or heard from others. When speakers use a word or construction, it may evoke a frame that helps the full, rich understanding that a speaker intends to convey and that a hearer constructs. The advantage of a frame-based approach to meaning is that it also includes associations and knowledge that are extrinsic to the concept denoted by the word per se. For example, a scar is not just a feature of skin, but also the healing state of a wound and a widow is not just a single woman, but a woman whose husband has died, and who has had to overcome grief and mourning. Fillmore's original frames are propositional in structure and are therefore considered but one of the four components of Lakoff's notion of an Idealized Cognitive Model (ICM) (Lakoff 1987: 68), which also includes image-schematic structure (from Langacker's Cognitive Grammar) and metaphorical and metonymic mappings (from Lakoff and Johnson). An ICM takes into account that even though our associations of a concept are based on real-world experience and knowledge, we often idealize it: we abstract away somewhat from all everyday instances. Lakoff gives the example of *week* to illustrate this:

> Take the English word *Tuesday*. *Tuesday* can be defined only relative to an idealized model that includes the natural cycle defined by the movement of the sun, the standard means of characterizing the end of one day and the beginning for the next and a larger seven-day calendric cycle-- the week. In the idealized model, the week is a whole with seven parts organized in a linear sequence; each part is called a day and the third is *Tuesday*. Similarly the concept weekend requires a notion of a workweek of five days followed by a break of two days, superimposed on the seven-day calendar.

> Our model of a week is idealized. Seven-day weeks do not exist objectively in nature. They are created by human beings. In fact, not all cultures have the same kinds of week. (Lakoff 1987: 68–69).

He further states that any element of a cognitive model can correspond to a conceptual category. The properties of such a category would depend on several factors: the role of the category in the ICM and the overall interaction of the ICM with other aspects of the conceptual system. For example, when I say *I had a nice and quiet weekend*, the expression *weekend* probably refers to a Saturday and Sunday, the days that people usually do not work outside their homes; however, this sense of *weekend* also reflects an idealization because in reality many people do work outside the home on the weekend. Also, the idea of the two-day weekend is idealized because it can be easily overruled with an expression such as *I had a long weekend,* where the prototypical sense of weekend no longer precisely holds.

Besides reflecting our idealized experience with and knowledge of the world, an ICM may have image-schematic structure. For example, in Western thought, time is seen as passing through space and is linear and sequential, as illustrated for example in the expression *The week flew by*. This particular expression also includes metaphorical mapping (time is conceptualized as an object and this object behaves like a bird) and metonymic mapping (*week* in this expression stands for all events that occurred and actions taken by an individual during a time period). To summarize, an ICM of a concept is a dynamic model of a concept (depending on the context in which the concept is used) that includes a great deal of declarative, experiential, and image-schematic knowledge but may abstract away from everyday oddities and exceptions. We subconsciously apply such models in our everyday lives to make sense of the world around us (cf. Lakoff 1987, Ch 4).

In my view, the notion of ICMs is compatible with the notion of conceptual representation. To illustrate how an ICM may be used in teaching a second language, I would like to go back to the Anglo concept of *career* discussed earlier, which had not quite been acquired by our Vietnamese learner. A quick Google search for "definitions of *career*" produces quite a list, excerpted below with underlining to make clear which parts of the Anglo ICM were not included by our Vietnamese writer.

- Career: the <u>particular</u> occupation for which you are trained.
- Career: the <u>general progression</u> of your working or professional life; "the general had had a distinguished career"; "he had a long career in the law"
- A career is a course of <u>successive</u> situations that make up some activity. One can have a sporting career or a musical career, but most frequently 'career' in the 21st century references a working existence: the series of jobs or positions by which one earns one's bread.
- A career is a <u>lifestyle concept</u> that involves a <u>sequence</u> of work or leisure activities in which one engages <u>throughout a lifetime</u>. Careers are unique to each person and are <u>dynamic, unfolding</u> throughout life. They include not only occupations, but pre-vocational and post vocational concerns as well as how persons integrate their work life roles. The <u>sequence</u> of occupations, jobs, and positions engaged in or occupied throughout the lifetime of a person.

The word/concept *career* evokes an ICM of a person making a choice (usually intentional) for a particular direction and an unbounded sequence of education and work activities, and it can be metaphorically seen as a rather long-term education-work journey. In the Anglo concept, a person can have goals in a career, but a career is not associated with simultaneous jobs to make money to make ends meet.

Now let's go back to the original sentences in the student's essay in which he used *career*:

(1)   *Having many careers or ways of earning money is always a target of people in a modern period. Besides their professional career in offices, people can work in other places such as factories, schools, even in their house.*

(6)   *They will have [a] high income thanks to many ways of making money or different careers.*

(7)   *If one person only has one career, he may not both enjoy benefits and keep up with the progress of the society as well as life in modern period.*

As has become evident from the immediate co-texts in his own writing, our L2 learner has a different concept of *career*. On the one hand, he sees a

career as something you can have many of and as a way of making money, which would be more compatible with the Anglo concept of *job,* but he also sees a career as a goal people may have. (However, the combination with *target* is also odd as *target* is associated with a specific point that is aimed for and careers, having only direction, are associated more with goals, which are more vague and wider than targets.) And the context in 6 shows he conceptualizes *career* as being multiple.

How come this learner conceptualizes *career* the way he does? One may speculate that the nearest Vietnamese translation equivalent is conceptualized differently and that L1 interference is at play. To find out, a linguist might undertake a detailed analysis of the actual uses of the counterpart words in English and Vietnamese and from these analyses try to pinpoint the similarities and differences. Another useful, but very technical approach would be to undertake an analysis by means of semantic primitives, as proposed by Wierzbicka (e.g. 1996). However, if the goal is simply to see to what extent the L1 concept is taken as a starting point and still influences the understanding of the L2 concept, I would like to propose yet another method, one that is fairly simple, that provides ways of involving the learners themselves, and that is based on a well-known approach to discovering the organization of the mental lexicon: word associations.

4. Word associations and discovering L1 and L2 conceptualizations

In this section, I would like to argue that word associations may be used to discover if and to what extent the L1 concept influences the L2 concept.

The field of psychology has a long tradition of using word associations to explore the organization of the L1 mental lexicon. Usually subjects are asked to respond to a stimulus with one or more words. The more words one elicits, the greater the likelihood that nodes beyond the very core of the conceptual network are activated and revealed by the procedure. On the one hand, these less central associations may point to subtle differences between closely related concepts (such as those conveyed by nearest equivalent L1 and L2 words). On the other hand, asking for multiple word associations obviously adds to the workload on the part of the respondents (and on the part of the researcher who has to process the resulting data). In the studies reported in the present chapter I have opted for a compromise design in which three word associations were elicited, which I felt to be justifiable given the requirement of pedagogical applicability with actual learners (see below).

Schmitt (2000) points out that even though responses may show quite a bit of variation, there is also a great deal of systematicity with a small number of responses being relatively frequent. For example, when asked for a one-word association to *career*, 43% of 96 native-speaker respondents responded with *job* and 71% responded with words that occurred at least twice in the total sample of responses (*Edinburgh Associative Thesaurus*, Internet Resource at http://www.eat.rl.ac.uk).

According to Verhallen and Schoonen (1993), most L1 word association research has looked at the types of responses and how these may develop over time. The following types are those most often reported:

– So-called clang associations are words that are similar in form, but are not semantically related (e.g. *effect-reflect*).
– Syntagmatic relations pertain to responses that have a sequential relation to the stimulus word (e.g. adjective-noun or verb-object).
– Paradigmatic relations pertain to semantically related words (e.g. synonym, antonym, hyponym, or superonym).

It has been found in L1 research that younger children tend to give more clang and syntagmatic responses and that these are gradually replaced with more paradigmatic responses as the child gets older, but shifts occur at different times for different words (Henning 1973). Also, as Rosenzweig (1961, 1964) has pointed out, association responses may be different among different groups of L1 speakers, depending on social class and education.

Paul Meara (1980), who surveyed the SLA word association research, summarizes several L2 association traits. First, L2 learners have smaller vocabularies and tend to be less systematic in their responses than L1 respondents. Like children, non-native speakers tend to use more clang and syntagmatic responses at first, but with increasing proficiency in the language, L2 responses seem to become more like those of native speakers (e.g. Söderman 1993). This suggests that the associations of L2 learners, like other elements of word knowledge evolve in an incremental fashion, but seldom does an L2 learner, even the more advanced ones, give native-like responses to stimuli (cf. Schmitt 1999). Schmitt concludes that "It seems that native-like association behavior, and by implication native-like lexical organization, is something that is not easy to acquire" (2000: 42).

If we take the view of the mental lexicon as briefly presented above as a starting point, then it is not surprising that an L2 learner's word associations are not often native-like. First of all, native speakers will have been exposed to certain linguistic combinations much more often than L2 speakers, so certain collocations will be more entrenched. Secondly, if L1 and L2 words and concepts are part of one system, the associations to a

similar L1 word may very well influence associations for an L2 word. Moreover, if we take a CL perspective, associations are not likely to be purely linguistic, but will also be experiential. Therefore, when the learners' cultural background is very different, the associations may also be quite different.

I would like to argue that in order to see to what extent the L2 learner has acquired an L2 concept in a native speaker way, we might use word associations. I will show that when the responses of similar groups (in education and level of exposure to the L2) are taken together and analyzed, it is possible to gain insight into the ICM of a particular concept for that particular group (while still acknowledging the fact that ICMs are by definition partly idiosyncratic and dynamic). Then, when we compare the ICMs of the L1 and L2 near equivalents (as estimated on the basis of native speaker associations), we can see to what extent the L1 concept is likely to influence the learners' interpretation of the L2 concept. This information is useful for several purposes. Firstly, it can help us *anticipate* L1 interference at the level of near-equivalent words. Secondly, an individual learner's L1 and L2 word associations may help us *diagnose* in precisely what respects he or she has not yet acquired the L2 concept. Thirdly, a comparison between the ICMs around the L1 and the L2 concept can help us *remedy* this particular problem of L1 interference through awareness-raising activities in the classroom.

To demonstrate the procedure, I will first analyze and discuss the native and non-native (Dutch learners of English) speaker responses to the word *abandon*. I will then return to the case of the word *career,* where I will compare English native-speaker responses with Dutch- as well as Vietnamese-speakers' responses. In the final section of the chapter, I will propose a number of ways in which the procedure can be adapted for use in the classroom.

5. Demonstrating the procedure: constructing and comparing ICMs for *abandon*

In this first case study we shall see how bilingual word associations can help us estimate to what extent two groups of Dutch students who differ in proficiency level have acquired an L2 concept. I chose the word *abandon* at first because its one-word associations by native speakers were reported by Schmitt (2000: 39).

In a regular university class meeting of Dutch native speakers at the University of Groningen, I asked a group of about 40 students to give me

the Dutch translation of *abandon*. Even though dictionaries give the Dutch translation *in de steek laten* as the first entry, about 80% of the students translated the word with the more frequently used Dutch verb *verlaten*, which is much more neutral than *abandon* and is closer to the English *leave*. After establishing what most Dutch students (Group 0) considered to be the best translation equivalent of *abandon*, I asked another group of Dutch students (Group 1) to give me three associations to the Dutch verb *verlaten*. The ICM constructed from these responses is taken as the L1 concept.

Then two different naturally occurring groups, a first-year group of English majors (Group 2) and a third-year group of English majors (Group 3), were asked to write down three associations to the word *abandon*. Both these groups can be considered advanced learners of English as they had had about eight years of English in school and had been exposed to a great deal of English through TV, music and internet. Moreover, only the better students in English will choose an English major. The first-year students tend to obtain TOEFL scores of 560-600 and the third-year students, who have had a great deal more input in English through literature, language and proficiency classes, can be considered near-natives and tend to obtain TOEFL scores in the range of 600-620. Dutch university classes are quite homogeneous as far as age is concerned. The majority of these students are between the ages of 18 and 23.

Finally, a colleague collected native speaker associations (Group 4) at Birkbeck College, (University of London) with a similar procedure in a similar classroom setting. However, the student population there was less homogeneous than in the Netherlands and ages ranged between 19 and 54.

After I had gathered all the associations, I sorted them thematically by hand, putting words together that referred to similar things or had similar relations to the concept of *abandon*. So, within groups of syntagmatic and paradigmatic responses, I sorted them according to words that were similar in meaning or theme. After the responses had been grouped, the following categories emerged: (1) near synonyms; (2) words referring to agents that may abandon; (3) words referring to persons, animals, things, and places that may be abandoned; (4) words referring to emotions and perceptions associated with the concept; and (5) words that refer to causes, reasons, effects and instruments related to the concept. There was also a small group of words left that did not fit any of the above categories, categorized under (6) "other". Appendix 1[3] lists the elicited word associations by category. Below, each of the categories of responses are discussed separately. The numbers correspond to the subsections in Table 1.

(1) Among the synonyms, we can see that the Dutch and English words have *leaving* in common, but in English the word is also associated with *giving up* and *ending*. When we look at the NNS responses of Groups 2 and 3, we see that both have words that refer to the leaving sense, but none that refer to the other ending senses. Moreover, some members of Group 2 come up with words that seem to be associated with another word, which they confuse with *abandon*, namely *verbannen*, which is a translation equivalent to English *banish*. These learners apparently have an incorrect translation equivalent in mind, which is in line with Paul Meara's remark that L2 responses may be quite different because the concept has been misunderstood. In this case, the source of the confusion probably lies in the word segment *ban*, which occurs in *abandon*, *banish* and Dutch *verbannen*.

(2) Both Group 2 and the NS Group produce associations referring to agents that may abandon: *father* and *dad*.

(3) When we look at things that can be left or abandoned, we can see that Dutch *verlaten* is associated purely with places, while in English it is also associated with animate beings such as babies, and with (personified) entities such as ships, and abstract emotional entities such as hope. On the one hand, both NNS groups seem to understand that the concept is related to beings or things that need care, including pets, cars, homes and the homeless. On the other hand, the L2 responses include a lot of places, such as *prison cell, country, woods, railways, street* and *study* that are similar to those given to the Dutch word *verlaten*. (In English these responses might be expected with *leave* rather than *abandon*). Group 2 again has a number of responses that seem to be related to *banish* rather than *abandon*.

(4) Some members of Group 2 produced responses that relate to English *banish* instead of *abandon*, but besides that, we find responses similar to the native responses to *abandon* and responses similar to the Dutch word *verlaten.* Like the native speaker English informants, both groups have words of negative human emotion such as *loneliness, fear* and *anger* and, like the native speaker Dutch informants, both groups also include neutral words such as *silence*, *quiet* and *peace*, which are associated with a more neutral act of leaving a place.

(5) Both Group 2 and 3 have responses here that match neither the responses to the Dutch concept nor the English concept. Dutch *verlaten* is associated with *rain*, a common Dutch weather condition that leaves streets and areas deserted. *Punishment,* which occurs both in Group 2 and 3, and *fight* are probably related to *banish*, another sign that the word is misunderstood. *Katie* and *Katerina* refer to the tornado that hit

New Orleans in 2005. The experiment took place in the week of the aftermath of the tornado and the city of New Orleans and according to the media its inhabitants had felt "abandoned". These examples show how dynamic conceptual networks can be.

Summing up, both NNS groups seem to have understood at least one sense of *abandon* very well: leave someone who needs or counts on you, as in "The mother abandoned her children", which is related to an ICM of caretakers being responsible for the well-being of children, pets and so on. Several of the responses (e.g. car and house) showed associations with objects that may be abandoned and the sense of being lost and having pity for the entity that is abandoned. On the whole, the more advanced students have a more native-like notion of the L2 concept, but even the most advanced ones give evidence of having acquired only one of the senses of *abandon*. Both NNS groups have a concept of *abandon* that overlaps to a degree with the Dutch concept of *verlaten*, which has especially spatial associations related to emptiness and also sadness evoked by deserted spaces. The learners' concept of *abandon* is obviously a blend of both concepts. Even though the learners have acquired one of the main senses of *abandon*, they have not abandoned the spatial sense of *verlaten*. Even the more advanced learners, whom I would consider near-natives, seem to hold onto a spatial sense which is not found among the native speakers' responses. This would support my hypothesis that L1 conceptualizations are included in the L2 word and that subtle differences between L1 and L2 concepts are difficult to recognize and acquire.

It is possible, of course, that a broad ICM around Dutch *verlaten* comprises the same elements as the ICM around English *abandon*, the difference being that elements that are fairly peripheral in the former network may be more central in the latter. It may take a greater number of word associations per respondent to reveal the more peripheral elements of a network. At any rate, the challenge for learners in that case is to readjust the level of prominence of certain associations (i.e., of certain nodes in the conceptual network) if they want to use an L2 word in a native-like manner.

6. Constructing and comparing ICMs for *career*

The purpose of this case study is to see to what extent the Vietnamese translation equivalent of *career* may play a role in the understanding of the L2 concept of Vietnamese learners of English. As a control, Dutch students

were also tested. Surprisingly, Dutch students also turned out to be influenced by their L1 concept, and to a greater degree than was expected.

Because the Vietnamese student mentioned earlier obviously did not have an English native speaker concept of a career, I decided to test this concept with Vietnamese students and asked a Vietnamese colleague to conduct the experiment in Vietnam. One naturally occurring group (19 students) was asked to write down three associations in Vietnamese to the translation equivalent of *career*. Another naturally occurring group of Vietnamese students were asked to respond in English to the English stimulus word *career*. These students, aged between 19 and 25, were in their second year at university majoring in English Education. Although they may be considered advanced students in Vietnam, they would be considered intermediate compared to the Dutch students, whose L1 is of course typologically much closer to English.

Wanting to show that the proximity / distance between languages is likely to facilitate / hinder a positive cognate effect, I also asked one group of Dutch students to give three responses to Dutch *carrière* in Dutch and a large group of first-year Dutch students majoring in English to give three responses in English to *career*. These native speaker English associations were also obtained at Birkbeck College, University in London. For ease of reference, I will refer to the groups as Dutch L1 (D-L1), Dutch L2-English (D-L2-E), English L1 (E-L1) and Vietnamese L2-English (V-L2-E) and Vietnamese L1 (V-L1).

The procedures to reconstruct ICMs from the responses were the same as for *abandon*. Responses were put in categories that emerged from the responses. Below, I will briefly compare responses for each category as presented in Appendix 2, pointing out salient similarities and differences between L1 and L2 responses and L2 and English L1 responses. The numbers refer to the subsection in Table 2.

(1-4)   For all five groups a career is future and goal oriented, provides financial benefits, and requires education. Careers can be made in fields such as teaching.

(6)   Only the E-L1 group sees a career as a journey.[4]

(6-9)   Only the two Dutch groups (D-L1 and D-L2-E) mention colleagues in an organization and associate a career with city life and an office. They also associate career more with power, status, dressy clothes, and other luxuries.

(10-12)   All groups associate *career* with time. Whereas both Dutch groups and the English group associate a career with fulfilment, both Vietnamese groups associate a career with *preferences*, which I

assume denotes choices. The V-L1 associate career with stability, being taken care of and quality.

(13-14) Both Dutch groups and the English group mention the ambition and drive that is needed for a career. They also mention people who may have a career. Neither Vietnamese group mentions these.

(15-16) These categories contain some odd responses.

(17)   All groups respond with *job*, *work* and *profession*; however, members in both Vietnamese groups also associate career with joblessness. Some of the Vietnamese responses are similar, but there are also some clear differences from the English responses. For one thing, the word *job* has been put in the plural. Also both L1 and L2 Vietnamese responses include reference to "kind of job". According to my Vietnamese informant, the nearest translation equivalent of English *career* encompasses *profession*, *occupation*, and *job*; and it was difficult for him to decide whether they meant a profession, as having a job which requires education, or just a trade or some skills. However, he felt that most students, when they used the term *profession*, might think of doctors, professors, or lawyers. When he used the term *job* for the Vietnamese term, it referred to a piece of work, or a piece of work to be paid for. The two other Vietnamese responses that were not similar to the English responses were "general kind of job", "employment", "labour" and "jobless". Assuming the Vietnamese speaker knows what English *labour* means, he may also see it as a job of lower status. The word *jobless* may be linked to the fact that in Vietnam levels of education are less strongly correlated with (un)employment than they are in the West.

Summing up, both the Dutch L1 and L2 responses included quite a few associations indicating that a career, according to these students, involves a rather high-status job for which you have to have ambition and drive, and that may also be quite a struggle. This interpretation of *career* may be due to the fact that the Dutch cognate that comes to mind most readily (because of phonological resemblance) is *carrière*, a word which is typically used to refer to high status jobs. *Career* could also be translated into Dutch *loopbaan*, which is a more neutral term (and semantically perhaps closer to *career*), but given its different phonology *loopbaan*, is not likely to function as a cognate for *career*. The Vietnamese associations such as "jobs" and "kind of job" allude to the fact that no real distinction is made between job, profession, and career by the nearest Vietnamese counterpart.

The information given by my Vietnamese consultant, who translated the Vietnamese responses into English, is also very helpful here.

If we now look back at the essay written by our Vietnamese student, the problem with the word *career* becomes clear. The student confused the English lexemes *career* and *profession*. Whereas *career* prototypically refers to a path one chooses in the domain of work, *profession* prototypically refers to a function or occupation in the domain of work. The mapping of the logic of the path metaphor dictates that one cannot have several careers simultaneously (as one cannot travel several paths simultaneously). In other words, the student meant to say that if one has several *professions*, one has a better chance to be successful in life.

> *(1) Having many ~~careers~~ professions or ways of earning money is always [a] target of people in modern period. (2) ~~The~~ society provides them [with] a lot of opportunity in order to promote their position through modern technology and [a] wide relation among the countries in the world. (3) When one person goes downtown, he can see material life developing more and more. (4) As a result, he must try his best to earn money so that he can buy valuable things. (5) Besides [having] their professional career in offices, people can work in other places such as factories, schools, even in their house. (6) They will have [a] high income thanks to many ways of making money or different ~~careers~~ professions. (7) If one person only has one ~~career~~ profession, he may not both enjoy benefits and keep up with the progress of the society as well as life in modern period.*

7. Using word associations as an awareness-raising technique in the classroom[5]

Students' awareness of subtle differences between L1 and L2 counterparts and the challenge of approximating native-like use of the L2 term can be enhanced by having them compare their own word associations with native-speaker information. The purpose of the activities below is therefore to refine students' understanding of an L2 lexeme that they are not yet able to use or interpret appropriately and that is judged important enough to spend considerable classroom time on because it is frequent, crucial for the discussion of a particular topic area, or crucial for in-depth comprehension of a particular text.

7.1. Procedure for a class sharing the same L1

1. Divide the class into two groups. One group produces associations with the L2 lexeme; while the other group produces associations with the L1 "equivalent".
2. The associations from both groups are displayed and compared. If the students in this class have not fully mastered the specificities of the L2 concept yet, the two sets of associations will show a fair degree of similarity.
3. Students compare dictionary entries for the L1 and the L2 lexeme and / or students examine L2 lexeme concordance lines and report if they have come across any uses or contexts where the best L1 equivalent would sound odd.

To save time, step three could also be replaced by the teacher pointing out to the students what is missing from their set of L2 word associations.

7.2. Procedure for a multilingual class

Word associations may lend themselves especially well as a gateway for helping students appreciate cross-lingual and/or cross-cultural variation. If a class consists of students from various linguistic and/or cultural backgrounds, the different L1 best equivalents can be explored as potential sources of non-native-like interpretation of the L2 lexeme under investigation.

1. Divide the class into groups of students who share the same L1. Each group produces associations with the L2 lexeme.
2. The associations from the different groups are displayed and compared. If the L1 concept still influences the students' appreciation of the L2 lexeme, then the different sets of associations will show a fair degree of disparity.
3. Each group then explores the notions they associate with their L1 "equivalent" in an attempt to explain the disparity revealed in step two.
4. Students evaluate how closely their L2 conceptualisation approximates the native-speakers' on the basis of dictionary information, concordance lines, or simply on the basis of the teacher's input.

7.3. Adaptation of a common, versatile exercise type

"Find the odd one out" exercises, which are known to be mnemonic if well-designed (see Dunlosky, Hunt, and Clark 2000), can be adapted to focus learners' attention on associations as follows:

1. Preface a sequence of exercises with the notification to students that the L1 and L2 translation counterparts they are going to encounter are not in fact precisely equivalent. They must indicate the discrepancy by identifying the one bogus native speaker association among the genuine ones given in each exercise item.
2. Each item targets an L2 lexeme and consists of:
    a. the L2 target lexeme and the nearest L1 equivalent;
    b. three or so example sentences (e.g. concordance lines) showcasing the L2 term; at least one of these sentences should signal a discrepancy between the L2 and L1 counterparts;
    c. a few native speaker associations sparked by the L2 term among which is a distracter keyed to the respect in which the L1 best equivalent is misleading.

8. Conclusions

Even highly proficient learners sometimes make subtle errors at the level of lexis that seem to arise from their assuming that full overlap exists between L2 concepts and their L1 counterparts (when available).

A first case study showed that Dutch learners of English indeed seem to have L1 word associations with an English translation equivalent and that these associations moved closer to those of native speakers as the learners became more proficient. A second case study showed that both Dutch and Vietnamese learners included L1 conceptualizations in the L2 word *career*, and that the unconventional use of the word *career* by Vietnamese learners may indeed be influenced by the L1 concept, which does not distinguish between the English concepts of career, job, and profession. Subtle differences between L1 and L2 concepts may be difficult for the L2 learner to detect. Using word associations of L1/L2 translation equivalents may help construct ICM's of the L1 and L2 concepts and enable detection of the extent to which the L1 conceptualization still plays a role in the L2 concept.

Finally, we have made a couple of suggestions as to how the procedure of using bilingual word associations can be put to pedagogical use as a means of diagnosing and remedying this type of L1 interference.

Appendix 1: Associations for Dutch *verlaten* and English *abandon*

GROUP 1 L1 DUTCH 84	GROUP 2 L2 ENGLISH First year students 205	GROUP 3 L2 ENGLISH Third-year students 90	GROUP 4 L1 ENGLISH 92

(1) ASSOCIATIONS WITH *LEAVING*:

weggaan 'leave', *vertrekken* 'depart', *achterlaten* 'leave behind' *verbannen* 'banish' *afscheid* 'good-bye' *achterblijven* 'stay behind')	**Leave/ing, left (behind)** go/gone, let alone, let down, throw away, forget	**Leave/leaving /leave behind, desert**, let go, being removed, disappear, to break away, block	**Leave, left, left out, desert** gone, destroy, give away, join, jump, run **Give up, stop, end**
	exclude(d), forbidden, expel, refuse, travel, journey		

(2) ASSOCIATIONS WITH CARETAKERS WHO ABANDON

	dad, father		father, mother

(3) ASSOCIATIONS WITH PERSONS, THINGS, OBJECTS THAT ARE ABANDONED

buurt 'neighborhood', *land* 'country', *gebied* 'area' *woestijn* 'desert', *huis* 'house'	ship, car child(ren), orphan, friend, love(r), refugee, someone, dog, cat, pet island, prison, cell, country, manor house, woods, ruins, sea, house, home, garbage, stuff, hope.	ship, car child/ren, friend, pal, orphan, addicts, crowd, dog island, landscape, garden, railways, street, wall, study palm tree, cactus, rock, spoon. religion, luggage, movie	ship, boat, train. child, baby, orphan, Mario, Moses, pets, puppy island, river, home, tree luggage hope
	kings, Napoleon, army, troops		

(4) ASSOCIATIONS WITH EMOTIONAL AND SPATIAL MARKS AS A RESULT OF BEING ABANDONED

desolaat 'desolate', *leeg* 'empty', *eenzaam* 'lonely', *alleen* 'alone', *angst* 'fear', **verdriet** 'sadness', *dierenasiel* 'animal asylum'.	alone, lonely/loneliness, lonesome, by yourself, no one, single, lost, negative,. fear, scared, afraid. pain, sad(ness), grief. not nice angry, desperate. estranged, homeless, unaccepted, reckless. cold, desolate, isolated, dark (ness), derelict, empty, quiet, silence, peace, away	alone, lonely, missing, lost afraid, hurt. sad, desolate, silence, gone, away disaster	alone, lonely, loss, sole, loss scared, pain, sadness, hopeless, hopelessness, amazement, shock, cry, not fair reckless empty, derelict, dark, cold

(5) ASSOCIATIONS WITH NATURAL DISASTERS OR HUMAN TRAUMAS THAT CAUSE PEOPLE TO ABANDON

Deur 'door', *regen* 'rain'	Katie, Katrina Punishment	Divorce, fight, punish/punishment	Carelessness fate

(6) OTHER

	Wrong, yellow, death, demon, exodus, movie, robe		hand reason

Appendix 2: Associations with English *career* and its Dutch / Vietnamese "equivalents"

DL1 Dutch L1	DL2 Dutch L2-English	EL1 English L1	VL2 Vietnamese L2-English	VL1 Vietnamese L1
74 responses to Dutch word	**207 responses to English word**	**85 responses to English word**	**56 responses to English word**	**57 responses to Vietnamese word**
(1) Associations with the future and prospects				
future (2), chances	future 2, life time 2 goal, opportunity, prospects	future 3, choice 2, prospects 2, opportunity, progress promotion	chance 2, future, product	Development, promotion
(2) Associations with financial benefits				
money (15), a lot of money	money 28, salary 2 pay check 2, wages	money 6	(High) salary 4, making a living	money , salary 7 profits

(3) Associations with certain types of education or preparation

| degree, knowledge study | university, college high education, education 4 exam, study 15 | degree, study,train university, books | (good) knowledge 3, learning, major, study, student | Degree go abroad for study |

(4) Associations with examples of areas of career

| politics | Dentist, director2, navy, business housewife, music | Lawyer, teaching, research, music, Singing, linguistics | teacher (2), doctor, business (2) | doctor, (having) patients, hospital business, finance engineer |

(5) Associations with journeys

| | ladder, start | ladder 2, path 2, line longevity, flow, point, zone | | |

(6) Associations with people you work with

| colleagues (2), boss, committee | boss, management, manager | | | employer |

(6) Associations with certain places

office, The Hague, city, abroad	city 2, office 4	company		work in an office, work place, company

(8) Associations with status

status, important, power, responsibility	success(ful) (10), top position, power, prestige	Success	successful 2	success, status of the job

(9) Associations with wearing certain clothes and having certain luxuries

three-piece suit, suit, women's suit, clothes, dressy clothes	suit (s) (4), car (3), apartment, business suit, high heels, bar, travelling	Suit, automobile		(to have) a car (3)

(10) Associations with personal fulfilment

accomplishment, pleasure	accomplishing, fulfilment, joy, happiness, improvement, advancement	satisfying, award, fulfilling	preferences	balance (stability?), (being taken) care of, quality, existing, preferences

(11) Associations with pressure and burden

Time	pressure (2), time (2), effort, workload, struggle, hard, burn-out	stress, race, commute, hard	necessary for you, time (2)	tiredness, time

(12) Associations with judgments

boring, useless, betrayal	good

(13) Associations with certain personality traits

ambition (3), communicative, creative	ambition (2), desire, drive	ambition, devotion, single-mindedness, motivation

(14) People who typically seek or have careers

Woman	woman (3), people(2), man, old, yup
	People

(15) Associations with what is affected by careers

			relationships
entry position, make, later, far away	abandoned child, day care	Family	

(16) Other

			cause (career)
job(4), good job, work (3), hard work (2), to work (2), to work a lot, profession career* (2)	hello, make, paper, portfolio, red	Jacob, country, language, questions, type, food	

(17) Near synonyms/antonyms

			job (4), jobless (2), kind of jobs, to work profession (8), occupation
job (29), work (ing)/ work hard (26), profession, employment hard work	job (9), work 8, employment (2), profession (2)	job(s) (12), jobless, work in company /offices, worker (2), work, profession (2), occupied, labor, employment (5)	

Acknowledgements

Notes

1. The English article system is notoriously difficult to acquire for students whose L1 has a classifying system, mainly because learners may not know which nouns are count or non-count and when a noun should be considered definite or not; but as Thu (2005) has shown, these article errors do not affect overall writing grades, probably because they hardly interfere with the communicative message. Of course, a teacher could focus on giving feedback on these errors; and, as Thu (2005) has shown, a cognitive approach may be useful in helping students discover principles underlying why and when articles should be used.
2. This article by Kellerman was originally published in Spanish. An abbreviated English version can be found in de Bot, Lowie and Verspoor (2005).
3. The choice to have naturally occurring groups respond had the disadvantage that the groups were not similar in size, which led to more responses by Group 2 than any other group. Since the analysis is qualitative rather than quantitative, this was not felt to be a problem.
4. Boers and Demecheleer (1997) report quantitative evidence suggesting that journey metaphors are comparatively frequent in English (socio-economics) discourse (at least as compared to French and Dutch).
5. The activities under 7 are the editors' suggestions.

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Factors which influence the process of collocation

Crayton Walker

Abstract
Mainstream applied linguistics takes it for granted that collocation is arbitrary. If that assumption is correct, then there seems to be little teachers can do to help learners come to grips with L2 collocational patterns (apart from making sure learners get ample exposure to authentic L2 discourse for them to imitate). In this chapter, however, I demonstrate on the basis of corpus evidence that collocation need not be arbitrary at all. More particularly I will show how various nouns and verbs invite distinct, "characteristic collocates" that fit their semantic make-up, their etymology, their prototypical literal sense, and their semantic prosody. It follows that pathways for insightful learning of L2 collocational patterns may be available after all.

Keywords: collocation; corpus; prototype; etymology; metaphor; semantic prosody.

1. Introduction

In English language teaching (ELT), collocation tends to be seen as something which is idiomatic, and therefore cannot be explained. The message from Michael Lewis (1997: 29), one of the most influential writers on lexis in the field of ELT, is very clear: "Collocation is not determined by logic or frequency, but is arbitrary, decided only by linguistic function." George Woolard (2000), writing in the only book I know of which is totally devoted to the subject of teaching collocation, goes even further:

> As teachers, then, we can offer no explanations to our students for the particular choices that are selected and sanctioned by the speech community beyond saying 'this is simply the way the language is'. We should resist the teacher's automatic reflex of seeking explanations for all aspects of language patterning. (Woolard 2000: 34)

In ELT, the term collocation is normally used to refer to something which can be regarded as the product of the collocational process. *Run a department*, for example, is seen as a collocation, something similar to an idiom or a phrasal verb in that it cannot be explained; it is simply something which has to be learnt. On the other hand, if a collocation could be explained, that would make it more meaningful and therefore more memorable. In this chapter I shall report on the findings of a study designed to identify some of the factors which influence the collocational process. By establishing some of these factors, and designing teaching materials which take account of them, it should be possible to have classroom activities which present and practise collocations in such a way that they can be explained. It can be seen from the quotations shown above that such an approach would seem to challenge the way that collocation is currently treated in the ELT classroom.

2. Methodology

2.1. Key terms

For the purposes of this study collocation is seen as a process whereby two or more words frequently co-occur, a definition based on that used by Sinclair:

> Collocation is the occurrence of two or more words within a short space of each other in a text. The usual measure of proximity is a maximum of four words intervening. (Sinclair 1991: 170)

(In my experience, however, it is sometimes necessary to examine words which occur outside of this span of four intervening words in order to fully describe and explain the collocational behaviour of a particular lexical item.) Sinclair introduced additional terms important for any discussion of collocation:

> We may use the term **node** to refer to an item whose collocations we are studying, and we may define a **span** as the number of lexical items on each side of the node that we consider relevant to that node. Items in the environment set by the span we will call **collocates**. (Sinclair 1966: 415)

Sinclair goes on to limit the term collocate to a word which occurs above a purely random level of frequency. However, it is difficult to attach a precise degree of significance to a list of words ranked according to the number of times they occur (their raw frequency) together with the node. This explains why statistical measures such as **t-score** and mutual information (MI) are frequently used in corpus linguistics in order to assign a more precise level of significance to each co-occurrence[1]. Any collocate with a t-score of 2.00 or above can be regarded as significant; that is, the way that it combines with the node is not simply the result of chance. (It should be noted that all the collocates described in this chapter have t-scores which are well above the 2.00 level.)

Given that a number of reservations have been expressed concerning the use of statistical measures in corpus research (Stubbs 1995), both t-score and raw frequency data have been included in the tables shown below, with the collocates being ranked according to their t-score values[2].

2.2. Corpora and target lexis

Two corpora were used in this study, the Bank of English (BoE) consisting of 450[3] million words and a more specialised corpus of business English made up of the commercial and financial data files from the British National Corpus. This second corpus, which I have called the British National Commercial Corpus (BNCc), contains 6.3 million words. The items whose collocations were to be studied were chosen because they are all medium to high frequency items in the BNCc, and because each item within a particular group is a partial or close synonym of the other. Comparing the collocational behaviour of each item within a group of partial or close synonyms makes it easier to identify *characteristic collocates* – that is, collocates which occur more frequently with one member of the group).

The following items were selected for study:

Group 1:	issue, aspect, factor	noun forms
Group 2:	run, head, manage	verb forms
Group 3:	deal with, handle	verb forms
Group 4:	aim, objective, target, goal[4]	noun forms
Group 5:	system, process, procedure	noun forms

3. Factors which influence the collocational process

The study has shown that there are a number of factors which influence the collocational process. The first and most significant factor influencing the process is the semantics of the node word itself.

3.1. The semantics of the individual item

Generally, the characteristic collocates associated with a particular item reflect the semantics of that item. It is the characteristic collocates which identify those semantic features which are unique to that item and are not shared by the other members of the group. In the first group of items, for example, an *issue* is something which is often *contentious* or *controversial*, whereas an *aspect* is something which can be *worrying* or *disturbing*. *Factor*, on the other hand, would seem to be frequently associated with technical usages (e.g. *growth factor, clotting factor, load factor*) although it is also used in a kind of pseudo-technical way (e.g. *feel-good factor, wow factor, comfort factor*), which may reflect an attempt by the speaker or writer to bring a degree of technical objectivity to something which is inherently subjective. Table 1 shows the most frequent characteristic collocates (i.e. collocates mainly associated with only one of the items in the group) of the members of the first group of items. (Data from the BoE.)

Table 1. Characteristic collocates of *issue, aspect* and *factor*

	Issue		aspect		Factor	
node −1	t-score	freq.	t-score	freq.	t-score	freq.
Sensitive	17.77	316	2.00	4	1.00	1
contentious	15.45	239	2.45	6	1.41	2
controversial	15.09	229	6.32	40	1.00	1
Worrying	2.64	7	8.42	71	3.60	13
Disturbing	1.99	4	6.41	41	3.16	10
Pleasing	0.00	0	5.29	28	2.23	5
Risk	1.00	1	0.00	0	19.61	386
feel-good	0.00	0	0.00	0	18.11	329
Growth	2.00	4	0.00	0	13.69	189

Although there are a number of collocates which were found to occur with all three items in group 1 (e.g. *key, important, major, main, crucial*), it is the characteristic collocates which identify those semantic features which can be used to differentiate between one member of the group and another. For example, the adjective *contentious* mainly occurs with *issue* because one meaning of the word refers to something which people are arguing about or discussing (Sinclair 2001). *Contentious* can be used with either *aspect* or *factor*, but the corpus data show that the native speaker is much more likely to use *contentious* together with *issue* because it relates to a key feature of its meaning (or at least one of its meanings).

Where a particular item has a number of distinct meanings, it is often the collocates in the surrounding co-text which disambiguate the item, indicating the particular meaning which is intended on that occasion. For example, it is possible to discern three common meanings of *issue* in the data from the BoE: *a contentious issue*, *an issue of a magazine* and *a share issue*.

The four most frequent collocates associated with each of these three distinct meanings are shown in Table 2 (data from the BoE). The corpus data clearly show that one of the most significant factors which influences the collocational process is the semantics of the individual item, and where the item has two or more distinct meanings, each different meaning will normally be associated with a different set of characteristic collocates.

Table 2. Most frequent collocates (in the node-1 position for each of the three most frequent meanings of *issue*

	issue$_1$			issue$_2$			issue$_3$	
	t	freq		t	freq		t	freq
Political	22.05	535	latest	20.80	452	rights[5]	33.48	1024
Palestinian	18.09	332	current	18.57	368	bond	19.41	377
contentious	15.43	239	next	16.78	282	share	18.66	349
controversial	14.96	229	special	14.45	240	stock	6.95	49

3.2. The etymology of an item

A well-established meaning may influence the way in which a particular item is used, as was found to be the case with the verb *run*[6]. The reasons for selecting the verbs in group 2 are largely connected with my experience of teaching business English. One reason a manager often needs to learn

English is to give business presentations, and this type of presentation will frequently involve a manager introducing him- or herself. For example, the manager may say something like this:

> "Good afternoon ladies and gentlemen. My name is Crayton Walker and I *run* the training department here at Siemens in Munich."

It would appear that there are a number of verbs which the manager could use in this situation. He could use *manage* or *head* instead of *run*, but are all three verbs truly synonymous or would they have the effect of giving the impression of different types of management style? Is *run*, for example, associated more with a top-down management style and is *manage* associated more with a collaborative style?

   A comparison of the corpus data for all three items in Table 3 shows that *run* is more frequently associated with inanimate entities such as *companies* or *businesses* (as the object of the verb), while *manage* is associated both with inanimate entities like *companies* and *businesses* and with animate entities such as *people*, *staff* and *employees*. *Head*, on the other hand, is frequently associated with entities made up of people such as *committees*, *panels* and *boards*. (Data from the BoE.)

Table 3. Characteristic collocates associated with *run*, *head* and *manage*

run		*head*		*Manage*		
t-score	freq.	t-score	freq.	t-score	freq.	node +2
30.73	946	3.73	14	12.80	164	business
24.48	601	7.00	49	9.73	95	company
11.12	124	3.87	15	5.74	33	firm
0.00	0	7.40	55	0.00	0	committee
2.45	6	3.71	14	0.00	0	board
0.00	0	3.66	13	0.00	0	panel
0.00	0	0.00	0	5.99	36	staff
0.00	0	0.00	0	5.10	26	workers
0.00	0	0.00	0	3.16	10	employees

Some of the earliest uses of *run* found in the *OED* describe "a machine running", in this example the machine is a clock:

(1)   1635 *You must get you a watch or clocke, apt to runne 24 houres.*

It would seem from the entries in the *OED* that *run* was not used with the sense of "someone running a machine" until the nineteenth century.

(2)   1892 *Standard 7 Nov. 4/7. The owners of Cotton Mills have been running their spindles unprofitably.*

The following example taken from the *OED* shows how *run* was also used in the nineteenth century with the sense of running an organisation.

(3)   1864 *G. A. SALA in Daily Telegraph. 23 Dec. 5/5 'To run' is a term which is so purely a modern American locution that I cannot let it pass without brief comment.*
       You may 'run' anything a railroad, a bank, a school, a newspaper, an administration.

The etymology of *run* shows that it has consistently been associated with inanimate entities in the object position, and the fact that *run* is frequently associated with machines may contribute to a reluctance to use the same verb with people.
       There is evidence from both corpora to show that *run* is associated with the notion of power. Both *country* and *government* are among the most frequent nominal collocates associated with *run*, as can be seen in these concordance lines taken from the BoE.

(4)   *they were both men of power, **running** a **country**.*

(5)   *progress. Whites have **run** this **country** for three centuries*

(6)   *Alastair Campbell **run** the **Government** with a rod of iron*

(7)   *a new leader who would **run** the **government** until elections*

Run is also associated in phrases like *run the show* or *run the place,* both of which have similar meanings to *be in charge (of)*, as can be seen in these examples taken from the BoE.

(8)   *while the power brokers **run the show** from the back room*

(9)   *be invited by those now **running the show** in Haiti*

(10)   *the Indian family that owns and **runs the place**.*

(11)   *Party apparatus in Russia still* **runs the place**.

It would seem therefore that *run* is not necessarily the best verb for the manager to use in his business presentation, given its associations with power and machinery. As *manage* was found to be more frequently associated with people than either *head* or *run*, this would seem to be the most suitable verb to use, especially if the manager wishes to convey an impression of a more collaborative management style.

3.3. Metaphor

Another important factor which influences the collocational process is metaphor. The items in group 4 were all chosen because of the difficulties associated with teaching them to German speakers. There would seem to be only one German word[7] for all four items, which would explain why German learners' of English seem to lack an awareness of the semantic differences between the individual members of this group. The data from both the general BoE corpus and the business English corpus (BNCc) show that *target* and *goal* are more frequently associated with verbs such as *set*, *hit*, *miss*, *reach* and *meet* (see Table 4).

Table 4.   Set, hit, miss, meet *and* reach *are more frequently associated with* target *and* goal *than with either* aim *or* objective

	Aim		**Objective**		**target**		**goal**	
Node −3	t	freq.	t	Freq.	T	freq.	T	freq.
Set	1.00	1	2.64	7	18.91	331	11.57	134
Meet	2.45	6	2.45	6	8.72	76	4.00	16
Hit	1.41	2	1.00	1	8.72	76	11.18	125
Reach	1.00	1	2.45	7	7.14	51	6.40	41
Miss	1.00	1	1.00	1	3.46	12	3.61	13

An arrow will hit or miss its target; the object of the game of football is to score a goal; and under normal circumstances it is clear whether a goal has been scored and whether the target has been hit. These are just some of the features which are carried over from the literal to the metaphorical senses of *target* and *goal*. Both items are perceived as being more precise and measurable than either *aim* or *objective*, which is why they are more frequently associated with verbs such as *hit, miss* and *reach*.

The influence of metaphor can clearly be seen when examining the collocational behaviour of *target*. For example, *target* is frequently found as a classifier, or as the head of a noun phrase denoting something which is normally very precise and something which is to be aimed for. The following concordance lines taken from the BNCc illustrate some of these more frequent uses of *target*.

(12)   *want the EC to set a **target date** for their entry.*

(13)   *in an attempt to achieve a **target level** of at dollar $21*

(14)   *can achieve its **target profit levels***

(15)   *reflecting a below **target performance***

(16)   *it was able to meet its **borrowing target***

(17)   *consumer so to achieve the **profit target** or other objectives*

(18)   *is required to meet their **cash target**.*

(19)   *the Chancellor's 3 per **growth target** in 1994*

That *target* is perceived as being more precise in nature than the other members of the group can also be seen in the way that it is used in combination with prepositions such as *on*, *above* or *below* (lines 20-25). The data from the BNCc also show that when *target* is used in a business context, it is frequently associated with a numerical quantity (lines 26-28).

(20)   *bonuses but you tell me I am **on target** for the large bonus*

(21)   *rates in to keep money supply **on target**.*

(22)   *twenty seven percent **above target** for the quarter*

(23)   *are below target, you're **above target**.*

(24)   *reflecting a **below target** performance*

(25)   *levels were 37 per cent **below target** in 1949*

(26)   *sticking to its **£244.5bn target**, a real increase of 4*

(27)   *the Government's new **1% to 4% target** range*

(28)   *never approached the **800,000 target***

The fact that *target*, and to a lesser extent *goal*, were found to be associated with numerical values would seem to support the proposition that both have a feature of 'exactness' which results from the influence of certain features associated with their literal senses. This feature of 'exactness' would seem to be lacking in the case of *aim* and *objective*.

It is also possible that features associated with the literal sense of an item may restrict the way in which that item is used metaphorically. There is evidence from the corpora to show that *handle* is more frequently associated with collocates (in the object position) which refer to inanimate rather than animate entities. When the corpus data for *handle* is compared with that for *deal with*, it can be seen that both are associated with nouns which refer to inanimate entities. However, *deal with* is associated more frequently with nouns which refer to animate entities such as *people*, *customers* and *clients* than *handle*. This is shown in Table 5 (data from the BoE).

Table 5. Frequent collocates associated with *handle* and *deal with*

deal with		handle		
t-score	freq.	t-score	freq.	node +2
17.03	296	16.14	264	*situation*
9.73	96	7.43	56	*complaints*
8.48	72	6.32	40	*things*
15.82	251	6.99	49	*people*
6.88	48	3.44	12	*customers*
5.88	35	2.63	7	*clients*

One possible explanation for this difference could be that certain features associated with the literal sense of *handle* are influencing the way in which it is used metaphorically. For instance, the fact that the literal sense normally refers to physically touching items may explain why we are reluctant to use *handle* in connection with *people*, *customers* and *clients* and consequently use *deal with* instead.

3.4. Semantic Prosody

Semantic prosody is another factor which influences the process of collocation. Louw defines semantic prosody as "a consistent aura of meaning with which a form is imbued by its collocates" (Louw 1993: 157). He observes that the prosodies based on very frequent forms can bifurcate into "good" and "bad" and that "[t]here seem, prima facie, to be more 'bad' prosodies than 'good' ones" (Louw 1993: 171). Sinclair used the example of *set in* to show how it is associated with negative subjects:

> The most striking feature of this phrasal verb is the nature of the subjects. In general they refer to unpleasant states of affairs. Only three refer to the weather, a few are neutral, such as *reaction* and *trend*. The main vocabulary is *rot, decay, malaise, despair, ill-will, decadence, impoverishment, infection, prejudice, vicious (circle), rigor mortis, numbness, bitterness, mannerism, anticlimax, anarchy, disillusion, slump*. Not one of these is desirable or attractive. (Sinclair 1987: 155-156)

The basic premise behind the idea of semantic prosody is that by being associated with negative subjects, *set in* will itself be imbued with a level of negativity. One of the problems one encounters when looking for semantic prosody in corpus data, is that generally not all occurrences of a particular item in the data will exhibit a clear and consistent prosody. *Process* (group 5), for example, would seem to be associated more frequently with adjectives which refer to negative attributes (e.g. *complex, lengthy, painful*) than adjectives with more positive ones (e.g. *simple, easy, quick*) (see Table 6 – data from the BoE).

Table 6. Adjective collocates of *process*

node -1	t-score	freq.	node -1	t-score	freq.
long	17.42	304	short	1.73	3
lengthy	11.74	138			
slow	16.90	286	quick	3.60	13
gradual	12.20	149	fast	1.73	3
complex	13.37	179	simple	9.16	84
difficult	11.31	128	easy	6.56	43
painful	12.44	155	painless	3.74	14

However, when *process* occurs in phrases like *manufacturing process*, or *learning process*, there is no evidence from either corpora to show that it is associated more frequently with negative collocates such as *long*, *complex*, *slow*. The corpus data clearly show that a negative or positive semantic prosody can only really be attributed to a particular sense, and not to an item as a whole. The data for *deal with*, for example, show that it is a semantically depleted item with at least seven different, but related, senses. It is an item which has little meaning when used in isolation, and it is only when the co-text is considered that the item can be said to have a meaning. The following concordance lines taken from the BNCc illustrate the seven different senses found in the data.

Sense 1. *deal with* (solve)

(29)   *An alternative way of **dealing with** the **problem***

(30)   *Arrangements to **deal with crisis situations***

(31)   *best equips people to **deal with** all **eventualities***

Sense 2. *deal with* (punish)

(32)   *for their actions and **dealt with** as severely as allowed*

(33)   *break the rules would be **dealt with** swiftly, effectively*

(34)   *could be considered in **dealing with** some **wrongdoers***

Sense 3. *deal with* (cope with)

(35)   *lop your own method for **dealing with stress***

(36)   *It's so difficult to **deal with** the **pressure** week in, week out*

(37)   *that he will not able to **deal with** the **worries** and pressure*

Sense 4. *deal with* (covers)

(38)   *In the last **chapter dealing with** trans-binary comparisons*

(39)   *second part of this **book deals with** the analysis and valuation*

(40)   ***conference*** *session **dealt with** women and firearms*

Sense 5. *deal with* (handle)

(41)   *This **office** will **deal with** all matters regarding council*

(42)   ***She deals with** all routine business other*

(43)   *officers' **secretaries** to **deal with** external calls*

Sense 6. *deal with* (interact with)

(44)   *responding to employees. **Dealing with people***

(45)   *During her service Hazel **dealt with** all **managers***

(46)   *that a leader adopts in **dealing** with **others***

Sense 7. *deal with* (trade with)

(47)   ***manufacturer** should only **deal with distributors** who*

(48)   *decision not to **deal with** the new **carpet superstores***

(49)   *now also **deals with** the other **firms** or dealing*

It is obvious from the data that only the first three senses are associated with collocates which refer to negative items, and therefore it would only be possible to attribute a negative semantic prosody to certain senses of *deal with* and not to the item as a whole.

Unlike Louw, who seems to have found only generally "good" and "bad" prosodies, Sinclair (1996, 2003) suggests that semantic prosodies may be much more varied and specific. Data from both corpora show that *procedure* is indeed associated with a kind of semantic prosody that is more precise than the general good-or-bad categories: it is frequently associated with a normative value, i.e. it is often used to refer to the correct or normal way of behaving in a particular situation (e.g. *court procedure*, *parliamentary procedure*). This can be seen in the way that *procedure* is frequently associated with adjectives such as *standard*, *normal* and *correct* (see Table 7).

The prescriptive nature of *procedure* can also be seen in the way that verbs such as *follow* and *comply* were found to be frequent collocates, and the way that the phrasal verb *lay down* , which is strongly associated with rules, regulations and laws, was also found (albeit less frequently) to be a collocate of *procedure*. Concordance lines 50 to 56, taken form the BNCc data, show how these items are used together with *procedure*.

Table 7. Adjective collocates of *system, process* and *procedure*

	System		**process**		**procedure**	
node -1	t-score	freq.	t-score	freq.	t-score	freq.
standard	4.88	24	2.43	6	12.12	147
normal	3.98	16	9.21	85	10.29	106
correct	2.45	6	1.73	3	7.87	62
usual	2.45	6	2.99	9	6.70	45
agreed	1.00	1	1.41	2	3.74	14

(50) *applicants **follow** the **procedure of** applying on prescribed*

(51) *the **procedure** to be **followed***

(52) *they had to **follow procedure***

(53) *They **lay down** the **procedure** by which delivery is to*

(54) *only if it **lays down** the **procedure** in detail*

(55) *we still **comply** with the **procedure***

(56) *Newco has **complied** with this **procedure***

Although this normative prosody was found to be widespread in the case of *procedure*, it is still not present every time *procedure* appears in the corpus. In the case of *surgical procedure*, for example, the normative element would seem to be absent, in that a *surgical procedure* is a complex medical operation which does not seem to be associated with the same sense of being the correct way to behave. There is, therefore, a case for arguing that this normative element is not part of the core semantics of *procedure* but rather a semantic prosody associated with some, but not all, occurrences of the item.

3.5. Phraseological behaviour

Some of the items were found to be associated with various types of fixed and semi-fixed phraseological units, and this phraseological behaviour is another factor which influences the collocational process. For example, the preposition *of* follows both *aspect* and *aspects* in 75% of all occurrences in the BoE, and the phrases *all aspects of, some aspects of, one aspect of* and *every aspect of,* account for 23% of the total number of occurrences of *aspect of* or *aspects of* in the BoE data. The phrase *one aspect of* is used far more frequently than phrases such as *two aspects of* or *three aspects of* (see Table 8 – data from the BoE).

Table 8. Fixed phrases associated with *aspect*

	av. no. per mil.	freq.		av. no. per mil.	freq.
All aspects of	4.00	1,799	one aspect of	2.11	949
every aspect of	3.27	1,473	two aspects of	0.32	143
one aspect of	2.11	949	three aspects of	0.15	66

It can also be seen from the corpus data that these phraseological units are themselves associated with particular collocates. *One aspect of* is frequently associated with *just* and *only* (lines 57-60) while *all aspects of* and *every aspect of* are frequently associated with *interested in* and *involved in* (lines 61-64) as these concordance lines taken form the BoE illustrate.

(57) *but it was **only one aspect of** his life*

(58) *your job is **only one aspect of** your life*

(59) *management activities is **just one aspect of** the broader subject*

(60) *Sex is **just one aspect of** your relationship*

(61) *he's probably **involved in every aspect of** the process*

(62) *She is **interested in every aspect of** my business*

(63) *being **involved in all aspects of** the work*

(64)   *I'm **interested in all aspects of** the theatre*

The phraseological units associated with *aspect* are both fixed (i.e. the phrases do not allow the substitution or addition of other elements) and compositional (i.e. the meaning of the phrase can be derived from the meaning of the items which make up the phrase). However, there are phraseological units in the data which are neither fixed nor compositional, and *take issue with* is an example of one of these. Although the meaning of *take issue with* is related to *issue,* the phrase would seem to have a distinct meaning of its own (to disagree with something someone said). There are examples in the BoE data which show that additional items can be added to the basic phrase, as the concordance lines shown below exemplify (lines 65-69). It can also be seen that the collocates associated with *issue* when it appears as part of the phrase *take issue with* are very different from those associated with *issue* when it is used as a single item. For example, compare the collocates shown in the concordance lines below with those listed in Table 1 above.

(65)   *editor, Ian Black, **took polite issue with** some of Pilger's*

(66)   *or pluralism, **took friendly issue with** Kallen*

(67)   *in Indiana and Ohio, **takes sharp issue with** such a character*

(68)   *salty but Debs and I **took fierce issue with** him*

(69)   *Dr. Claeys **takes vigorous issue with** most previous*

It is obvious that words can be associated with various types of phraseological unit, and that the tendency to form such units has to be taken into account in describing their collocational behaviour.

4. Conclusion and implications for the classroom

An examination of the data from this corpus-based study of groups of business English verbs and nouns shows that the collocational behaviour of these items is not arbitrary. Although it is not totally predictable and rule-governed, the evidence clearly supports the conclusion that much of the collocational process is motivated. This conclusion has significant implications for ELT, as it means that much of our current practice needs to

be re-considered. If, as would seem to be the case, collocations are motivated and therefore can be explained, it is not sufficient to encourage our learners to read more and to list the collocations which they encounter. There needs to be a movement away from the current emphasis on techniques for the rote memorisation of lists of collocations. Instead, teaching material needs to contain exercises which focus upon one aspect of collocation, such as the semantics of individual items, or the use of metaphor. A contemporary ELT coursebook contains grammatical exercises which are designed in such a way that the learner is able to deduce the underlying rule. There is absolutely no reason why the majority of exercises which target collocation could not be designed in the same way. Once collocations become items which can be explained, they are immediately more meaningful to the learner and therefore more memorable. The whole process of working out why a particular item collocates with another will involve a considerable amount of mental processing, which should result in more items being retained by the learner in his or her long term memory. A well-designed collocation exercise should challenge the learner to work out why something collocates with something else. With the right kind of materials and the right approach to the teaching of collocation, the whole process of learning collocations should become more meaningful for the learner, as well as more enjoyable.

Notes

1. A more detailed discussion of the use of statistical measures in corpus linguistics can be found in Stubbs (1995), Clear (1993), and Barnbrook (1996: 87–101).
2. As there is a strong correlation between the raw frequency and t-score data, there are usually only a few differences between a list of collocates which has been ranked according to t-score and one which has been ranked according to raw frequency.
3. Most of the data was taken from the Bank of English during 2003 when the corpus contained just less than 450 million words.
4. *Goal* here refers to a personal goal or a management or business goal and not to a goal scored in football.
5. This item only refers to a rights issue of company shares. Items such as *human rights*, *gay rights*, *animal rights* etc. have been eliminated from the data.
6. The words in the tables are used to denote a lemma e.g. *run* includes all forms of the verb i.e. *run, ran, running, runs*.
7. *Aim*, *objective*, *target* and *goal* (not the goal scored in football) are normally translated as *Ziel* in German.

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The notion of *boundedness/unboundedness* in the foreign language classroom

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Abstract
This chapter argues for a strengthened awareness on the part of foreign language teachers of the recently established paradigm of Applied Cognitive Linguistics. As an example of how to apply ACL insights, two phenomena are discussed which, at least in Germany, appear early in English language learning and teaching – namely, the distinction between count and mass nouns and the progressive aspect. From an ACL perspective, these two phenomena seem to be closely connected through the notion of *boundedness/unboundedness* whereas in mainstream English teaching they are completely separated. Discussion of count/mass nouns is in fact often neglected in the teaching of German-speaking learners of English as the underlying concept is relatively easy for these learners to grasp because they are already familiar with it from their mother tongue. The progressive aspect, on the other hand, is seen as difficult on account of the fact that German verbs are not marked for this aspect. Pointing out the connection between these two linguistic phenomena may help learners appreciate that similar structuring principles are at work in both grammar and lexis. The topic of this chapter is thus not vocabulary teaching per se but rather the lexis-grammar continuum.

Keywords: boundedness vs. unboundedness; count vs. mass nouns; simple vs. progressive aspect; lexis-grammar continuum; viewing arrangements; perspective; prototype.

1. Introduction

Let us for a moment imagine an English lesson in an 8th grade of a German grammar school. The lesson is a review of the progressive aspect. The teacher is showing pictures of certain actions, which the learners are to verbalize. The typical question-answer sequence is "What do you see in this picture?" – "There is a boy riding his bike". At a certain point, a learner

says "I am seeing a man". The teacher shakes her head disapprovingly, but when no self repair is forthcoming, she says "I see a man – and what is that man doing?" The learner answers correctly this time, but after a short while, the same mistake is made again. The teacher reacts as she did before. The learner wants to know why his answer is not correct and the teacher says "Because verbs like *see, hear, feel* and the like are exceptions, they can't take the progressive form. You have to learn such exceptions by heart".

An exceptional scenario? It happens quite frequently that learners are referred to so-called exceptions which they are told to remember and for which no understandable explanation is provided. Phenomena which mainstream theories of language failed to embrace in all their complexity have been degraded to exceptions, for lack of adequate explanations. Such a perspective on language can no longer be held in light of research results from cognitive linguistics (CL), which suggest that "exceptions" should no longer be considered exceptions. Instead, CL describes language in terms of radial networks in which marginal instances are derived from a prototype in motivated, explainable ways. For some time now CL has been mature enough to be applied[1]. One of these applications is foreign language teaching, and there seems to be ample reason to believe that such an application will be fruitful (cf. the introductory chapter of this volume).

One of the objectives of Applied Cognitive Linguistics (ACL) is to raise learners' language awareness and cultural awareness. The goal is to enable learners to grasp the reasons and motivations behind aspects of lexis and grammar by offering them comprehensible explanations for what they otherwise might perceive as linguistic idiosyncrasies. Neurophysiological research (cf. Lamb 1999, 2001) posits that learning matter is more easily stored and retrieved if as many neural connections as possible have been established. As we shall see below, ACL aims to stimulate the establishment of such connections.

In this chapter, I demonstrate the explanatory potential of CL and its possible contribution to a more successful ESOL pedagogy by focusing on the concept of *boundedness/unboundedness*. Whereas this concept is well-known amongst cognitive linguists, it has so far nowhere been discussed in the literature of TESOL. Instead, traditional ESOL teaching separates the linguistic phenomena in question, i.e. count/mass nouns and the progressive aspect, with the connection between them being never even implicitly established. However, as will be shown, this strategy of separation is unhelpful for the reason that learners could profit from an additional perspective. We will also discuss the teaching of so-called difficult verbs, such as verbs of involuntary sensory perception (cf. introductory example),

which cannot normally take the progressive aspect – but why is it still possible to say "I am seeing him tonight"?

I will (1) briefly sketch the potential of ACL for ESOL teaching, (2) focus on the cognitive-linguistic background of the notion of boundedness/ unboundedness, (3) reflect upon applying this knowledge to ESOL teaching and (4) discuss concrete ways of implementing this approach in the foreign language classroom. In this context, I will also argue that the approach is in line with recent trends in TESOL such as action-oriented learning and constructivism.

ACL takes a humanistic, holistic view on language and thus complements the growing holistically oriented view on foreign language learning and teaching that is prevalent in Germany[2]. If we adhere to such a view, we no longer apply notions such as right or wrong, nor are we exclusively interested in a strict application of prescriptive rules of language usage, which also Langacker (2001: 4) describes as being "of limited importance". Instead, our aim is a context-dependent and communicatively successful use of language by the learners.

2. The concept of boundedness/unboundedness in Cognitive Linguistics

The concept of boundedness vs. unboundedness has been well described by Langacker (1999, 2001) who posits the notion of certain viewing arrangements on the part of the language user. The notion of boundedness/unboundedness as one of the organizing principles of language is not to be understood as a language-structuring phenomenon, but rather as being closely related to the language user's perspective. Langacker defines viewing arrangements as follows:

> Inherent in every usage event is a presupposed viewing arrangement, pertaining to the relationship between the conceptualizers and the situation being viewed. The default arrangement finds the speaker and hearer together in a fixed location, from which they report on actual occurrences in the world around them. There are however numerous kinds of departures from this canonical circumstance. The departures help make it evident that the default arrangement, so easily taken for granted, is nonetheless an essential part of the conceptual substrate supporting the interpretation of expressions. Whether canonical or special, the viewing arrangement has a shaping influence on the conception entertained and consequently on the linguistic structure used to code it. (Langacker 2001: 16–17)

In other words, our own perspective on the situation to be represented linguistically is integrated into the upcoming representation itself because the neutral situation – i.e. the speaker and the hearer seeing the same situation from exactly the same perspective – is hardly a realistic one. We encode our subjectivity grammatically and our interaction partner decodes it – not necessarily in exactly the same way because from a constructivist point of view this would be an impossibility – but we as speakers have at least provided the hearer with valid hints concerning our subjective perspective, for example whether we see an action as being in progress or as completed.

Although Langacker describes his viewing arrangements with special reference to grammatical phenomena, they seem to be transferable to lexical phenomena because the perspective from which an object is seen and referred to plays an important role in the choice of lexical items. When we talk about *mass nouns* and *count nouns* – for example, about whether they are used with a determiner and whether they can be pluralized – we are at the interface between lexis and grammar because we are dealing both with the semantic level of such expressions and with their grammatical characteristics. While we cannot posit rigid rules for the areas to be analyzed, we certainly find prototypical usages which behave according to traditional rules; but it is still possible at any time to switch to more marginal usages by a change of perspective.

This means that we can no longer think in terms of right or wrong *per se* but rather in terms of the correct fit between the perspective and the usage of the linguistic form in question. If we perceive conceptual boundaries in the widest sense, we are dealing with an instance of *boundedness*, and if our perceptual field does not contain any boundaries, we are dealing with *unboundedness*.

The distinction between *boundedness and unboundedness* is reflected not only in the choice between count and mass nouns, but also in the choice between simple and progressive tenses. In the ESOL classroom, the topic count/mass nouns tends to be dealt with (at least incidentally) earlier than that of the progressive aspect because nominal expressions are used from the very first English lesson onwards. This linguistic phenomenon presents relatively little difficulty for German learners because it is found in German as well. It is tempting to recur to the learners' prior appreciation of the count/mass distinction when the progressive aspect is to be introduced. By connecting the two phenomena in question, the already present explanatory potential could be exploited to help learners appreciate the semantics of simple vs. progressive tenses, and even to help them make sense of the so-called exceptions.

3. Applied Cognitive Linguistics in the TESOL classroom

3.1. Count nouns – mass nouns

Count nouns and mass nouns appear quite early in English teaching and, in German-speaking settings, are often not even dealt with in detail, as the phenomenon is part of the German language as well. However, we should keep in mind that this is not true for every language[3]. If we look at classic pedagogical grammars such as *Learning English – A Guide to Grammar* (Ungerer *et al.* 1992: 9–10), we may find the claim that uncountable nouns are "nouns only used in the singular", although it is added in a tiny footnote that "some nouns referring to substances have a plural form, but the meaning is not quite the same: fruits – types of fruit; breads – types of breads; cheeses – types of cheese; two coffees – two cups of coffee". These examples of exceptions seem to have been haphazardly chosen; they can only be learnt by heart as no explanation is given. ACL, by contrast, seeks to offer explanations which are convincing and meaningful and which present linguistic phenomena as motivated.

Traditionally, in English as well as in German, every noun is counted as a member of one of these groups: it is either a count noun or a mass noun, or, to use Givón's terms (1993: 56), *an individuated* or *an unindividuated entry*. However, we may find more or less prototypical exemplars in both categories.

(Proto-)typical count nouns are *house, spider, computer*; but also more abstract nouns such as *war* or *vocation* are countable, can have an article or a numeral and can be pluralized. Count nouns each refer to a clearly delineated conceptual entity – therefore, they include the boundaries of this entity and thus express boundedness. (Proto-)typical mass nouns like *beer, sugar, rice,* with more abstract examples being *peace* or *love,* are not countable, may describe a state and can neither be determined by an article or a numeral nor can they carry a plural marker. Mass nouns designate substances and thus express unboundedness, i.e. they have no inherent boundaries or clearly delimited contours.

If you take some *sugar* away, the part taken away as well as the part left over are both still *sugar*, but if you take a part of a *computer* away, the thing that is left over may still marginally be a *computer* – depending on what you take away – but the part taken away is definitely not a *computer* anymore[4].

Mainstream linguistics has perceived the differentiation between count and mass nouns as arbitrary and non-explainable (e.g. Bloomfield [1933: 266] and followers). From a cognitive linguistic perspective, however, the

fact that a certain noun is either used as a count noun or a mass noun is closely related to the language user's perspectivization. Why is *rice* a mass noun, but *beans* a count noun? This is related to our world view and experiences because in contrast to the single beans, the single rice grains are too small to be perceived individually at one glance and appear to us as a mass without sharp contours (cf. Wierzbicka 1985).

Importantly, we are not dealing with grammatical characteristics of the lexemes as such but with a context-dependent perspectivization, as the following examples show:

(1)   *Pat was afraid of the fat black spider sitting in the shower.*

Somewhat later, however, one could describe the situation as follows:

(2)   *There was squashed spider all over the shower cabin walls.*

In example (1) we are dealing with a single, countable, prototypical spider, which – although it may exist of definable single parts – is perceived holistically. In example (2), however, we are no longer describing a single animal that is anatomically perceivable as such, but a nondescript spider mash which is glued to the shower cabin walls and which, even if we remove parts of it, stays "spider" (similar to the conceptual differences between *a potato* vs. *mashed potato*, *chocolate* vs. *chocolates*, or *Sally has grey hair* vs. *This morning, Sally spotted three grey hairs*).

Such a change of perspective also functions the other way round, i.e. from mass noun to count noun: if we order "A water, please" in a restaurant, we are presumably not thinking of a portion of the water available all over the world, but rather of the shape of a bottle or a glass, i.e., a countable entity full of water which we have mentally constructed. An identical explanation accounts for sentences such as "Please pass me the sugar!" referring to the mentally constructed sugar bowl rather than to the substance itself.

Therefore, countability is not an arbitrary category behaving unpredictably, but a vital instrument for expressing our conceptualization, i.e., the meaning we intend to transmit, because how we perceive something in the world determines our choice of linguistic tools, and not vice versa. Thus, the use of count nouns and mass nouns is highly iconic[5], reflecting the language user's perception and conceptualization.

It should also be taken into account that there are culture-specific differences in the prototypical uses of count and mass nouns. The German noun *Hafer*, for example, is conceptualized as non-countable whereas the

English *oats* is countable; but in the case of *Weizen* 'wheat', there is no conceptual difference between the two languages. Why this is the case can only be speculated about. In order to be able to explain this phenomenon convincingly, we need more research in cultural studies, which might help to elucidate such cross-cultural discrepancies. What can be stated with certainty, however, is that between two less related or even non-related languages we would find differences both more numerous and more obvious.

On the other hand, even a speculative answer may open up many other possible explanations and solutions, and this is what makes speculating so attractive for the foreign language classroom. I believe that having learners speculate can be fruitful because speculating means reflecting on the language as well as on the culture behind the language. No matter what speculative solution learners may end up with, such a process involves a great deal of creativity and contributes to the learners' language awareness. If one stops short learners' reflections on language or on the semantic content of an utterance by referring them to a rule or to a specified cultural phenomenon, the framework of meaning they had been constructing – and which was quite fuzzy edged and open – becomes sharply demarcated again and may thus break down against disparate examples. Instead, the procedural character of the search for meaning, which theoretically never stops (in the sense of Peirce's "endless semiosis"), should remain fore-grounded. In this constructivist view, a falsified hypothesis is still a success because it leads directly to the next hypothesis. Such a process entails playing with language at a meta-level and not only at the level of language production. Such "games" are highly creative and as such stand in stark contrast to memorizing restrictive - and restricting - rules. In other words, teachers should encourage their students to think on a meta-linguistic level and guide them carefully towards developing their own insights into the structuring and organizing principles of language, on the one hand, and into the intricate connection between language and culture, on the other.

3.2. The progressive aspect

In contrast to German verbs, English verbs are always marked not only for tense and modality but for progressivity as well (on CL-inspired tense/aspect teaching see also Niemeier and Reif, forthcoming). If we use English, we have to decide with every verb whether we need the progressive or the non-progressive verb form. Many German-speaking learners tend to think that the non-use of the progressive aspect means that

they are using a neutral form. This, however, is not the case because in not using the progressive aspect they have – without knowing or intending it – opted for a specific perspectivization because here again, we are dealing with boundedness vs. unboundedness.

If we want to describe an event (in the widest sense) in English, we always have to decide how we want to conceptualize and communicate it. If we say:

(3)   *Tom repaired the radio.*

we are describing the complete process of repairing in a wide focus perspective. Tom got hold of the necessary tools and spare parts, started to work and finally, the radio was working again. We can partition the event into its separate parts: preparation, repairing, result. The above sentence encompasses all of this. Thus, we are dealing with boundedness comparable to what we described for count nouns; that is, although we could single out the separate parts of the event (much as we can separate out individual grains of sugar), this would not describe the complete process from beginning to end.

If we say, however,

(4)   *Tom was repairing the radio [...]*[6]

we are describing something different, as we are concentrating only on the act of repairing itself in a narrow focus perspective. The preparations and the result are out of focus. From the utterance itself, we are even unable to deduce that Tom has finished the repair work. We are therefore dealing with an instance of unboundedness comparable to that expressed by mass nouns because we cannot single out any sub-events from the process of repairing but conceptualize the event as a continuum and see it as some kind of homogeneous mass. Unboundedness always focuses on a certain duration of the event in question, but does not take its beginning or its end into account as it is only referring to an "inner perspective".

Thus here as well, the choice of aspect always depends on the language user's perspectivization. There is no inherently correct perspective, but the speakers present events in the way they experience and understand them or want others to experience and understand them.

3.3. "Difficult" verbs

We can argue that the perspective of boundedness is from the outside, allowing a holistic perspective on the event in question whereas the perspective of unboundedness is an internal one, not focusing on either the beginning or the end of an event. Although both of these are present, they are faded out.

Let us look at some examples relating to the progressive form. Sentence (5) is an example of the non-use of the progressive form for specific reasons connected to the semantics of the verb *to kick*, whereas example (6) shows a non-prototypical instance of the progressive aspect because it does not refer to a single event:

(5)   *Daria kicked her little brother.*

(6)   *When the mother finally entered the room, she saw that her daughter was not only screaming wildly, but that Daria was also kicking her little brother furiously.*

Actions which are short and quick can normally not take the progressive aspect, as their brevity does not allow for an internal perspective (5); that is, the prototypical sequence of the event's beginning, its continuation, and its end is blurred and the phases all overlap, as the event happens so very quickly that we are unable to single out an unbounded "middle phase" but perceive the event as a whole, i.e. as bounded. If the progressive aspect is used nevertheless as in (6), the perspective has changed and we are dealing with repeated short actions and not with a single instance of the action as in (5). Thus, the quick repetition of the kicks appears to be a single event, for example in the framework of a tantrum. Therefore, the unboundedness of (6) cannot become bounded, as the tantrum is perceived as one single event, which renders **Daria was kicking her little brother three times* ungrammatical because the three kicks are conceptualized as three separate events. Each of these three separate events would be bounded and therefore would have to be expressed by the simple past.

Interestingly enough, the *Grammar of Present-Day English* (Ungerer *et al.* 1990: 127) uses a very similar example in a footnote to the paragraph on the progressive aspect: "When verbs that denote activities of very short duration (e.g. *knock, clap, tap, nod*) are used in the progressive form, this usually expresses a series of repeated actions (*Somebody is knocking at the door like mad*). However, if the number of repetitions is stated, the simple form is used (*I knocked three times, but nobody heard me*)". This can be

seen as prototypical for the way traditional pedagogical grammars treat the linguistic phenomenon in question – it is just stated that certain verbs behave differently than might be expected, but no explanation whatsoever is provided although the deviation from the prototype is motivated and as such explainable, as can be seen in the preceding paragraph.

Many ESOL textbooks and grammars also list the verbs of involuntary sensory perception (*see, hear, feel, smell, taste*) as exceptions for not taking the progressive aspect. I would argue, however, that these perceptions simply do not invite an internal perspectivization because they happen so fast. If we verbalize a perception such as seeing or hearing something, then that event is over before we have had the time to contemplate it or describe it, so to speak. It therefore seems difficult to conceptualise such perceptions as being in progress.[7] Although one might argue that a sentence like *He saw the long caravan pass(ing) by* refers to an extended time period, the "seeing" itself is not extended, just the "passing by". If the visual perception itself was extended, we would have to use the verbs *watch, observe* or *look at*. The unintentional perception, i.e. the "seeing" of the caravan, refers to just one short instance of the complete event. This phenomenon can be explained to learners by pointing out that the boundaries of events that happen very quickly are more narrow than the boundaries of our perceptual "window" and therefore the possibility of a change of perspective by "stretching" the event is not likely.

However, we do find verbs of involuntary sensory perception which nevertheless take the progressive aspect. This is only possible when these polysemous verbs are *not* being used in their basic, prototypical sense, but in more marginal, mostly metonymically motivated senses which no longer focus on the actual sensory perception in question but rather on the complete scenario and where the sensory perception just acts as the metonymic link. Such a scenario has a certain duration and can therefore accept an inner perspectivization, which again allows the progressive aspect (8):

(7)   *I see a car drive by.*

(8)   *I am seeing Jim tonight* (*see* metonymically stands for *meet*)

Such a perspectivization can also be found in more complex sentences. As for verb complementation, we often have the choice between the present participle/progressive or the simple form, each choice implying a different perspective:

(9)   *I saw Peter cross the street.*

(10)   *I saw Peter crossing the street*

In (9) we see the complete process of Peter crossing the street – he steps onto the street, crosses it, and arrives at the street's opposite side. In (10), however, we just see him in the middle of the street, the beginning and the end of the crossing process are out of focus. We know of course that he must have stepped onto the street at a certain point and that he will reach the opposite side of the street (if he is not extremely unlucky), but such knowledge is irrelevant in this perspectivization. A similar example is the following:

(11)   *I listened to Mary play a Mozart sonata.*

(12)   *I listened to Mary playing a Mozart sonata.*

In (11) we listened to Mary playing the complete sonata, from beginning to end whereas in (12), we have listened to a part of the sonata, as we only started to listen after Mary had started to play and as we did not stay through to the end.
      A further example are verbs which can only take specific complementizers, i.e., verbs that have some kind of inbuilt internal perspective and can therefore only take the progressive form, as they would clash semantically with the non-progressive form:

(13)   *I smell something burning (*burn).*

(14)   *I became aware of something moving in the dark (*move).*

It is impossible to adopt a holistic, bounded perspective in these cases because in (13) the fire has started before the sensory perception and is apparently still burning – that is, is not at its end – and because in (14), the movement has also started before it was noticed and is also still going on.
      A final example refers to verbs describing states (*knows, have, be*, etc.). We are dealing with a semantically problematic area here: these verbs cannot take the progressive aspect in their prototypical usage as states are already inherently unbounded and therefore unboundedness does not have to be construed by using the progressive form. Still, if these verbs are used *non*-prototypically – that is, if they no longer refer to states but to events or actions, which are *per definitionem* bounded – such events/actions can be

described from an internal perspective and can take the progressive form after all. Such non-prototypical usages are mostly metonymically motivated, i.e. the basic meanings of the verbs in question are only a part of a larger scenario. The following example sentences may illustrate this.

(15)   *I have two brothers and no sister (*am having).*

(16)   *Sheila was having her baby in the ambulance.* (have = deliver)

(17)   *I am having pizza for dinner.* (have = eat)

(18)   *You are an obnoxious person (*are being)*

(19)   *You are being obnoxious* (right now, at this moment).

In (15) and (18) we are describing permanent characteristics, whereas in (16) and (17) we are talking about an internal perspectivization of an action. In (19), we are describing the current, non-permanent – and thus bounded – behaviour of a person. *To know*, as in the introductory example, is an even more obvious case in point: due to the semantic stability of the verb, no internal perspectivization is possible and therefore, the progressive form is not possible semantically.

    These are only some examples concerning which the concept of boundedness/unboundedness may offer helpful explanations. Especially when it comes to complementation, there are many more convincing examples, but the short overview above should already have demonstrated the explanatory potential of this conceptual strategy.

4. Pedagogical applications

The question remains how the above reflections can successfully be used in ESOL teaching, i.e. how can the concept of boundedness/unboundedness and the connection between the linguistic phenomena discussed in the previous sections of this paper be introduced and elaborated?

    Raising the learners' awareness of language-structuring phenomena in general instead of having them learn the distinct phenomena by heart is certainly a constructive idea. However, this kind of awareness raising is presumably more useful when dealing with more advanced learners. If such learners do not have to learn every deviation from the norm by heart (which would make them see the deviations as exceptions) but instead know *why*

the English language selects a certain perspectivization, they may be able to make use of this strategy with every linguistic form that appears unusual to them in order to explain that form or to generate it.

Concerning the distinction between count nouns and mass nouns, we could theoretically get along quite well without referring to the concept of boundedness/unboundedness, but if we want to use that concept later on in explaining progressivity or in explaining so-called exceptions (see 3.3), we should lay the foundations early. Therefore, I suggest (1) focusing more intensely on the topic of count/mass nouns than happens in traditional course books and (2) providing the learners from this very early stage onwards with explanations of why the English language behaves the way it does in order to help learners see how flexible and user-dependent this system is. Such a teaching strategy may also supply the learners with a certain feeling of self-determination because they may realize that they themselves can influence language and are no longer the slaves of "rules".

This may not only facilitate learners' comprehension of grammatical phenomena such as aspect but also lead them to understand how much their own perception is connected to the perspective of progressivity and how they can use language as an instrument for expressing their own communicative intentions. This would presuppose a contrastive analysis of the two perspectives that the aspect of progressivity refers to. Such an analysis, introduced via a discussion on *count/mass nouns,* may make the phenomenon of progressivity appear less abstract. All in all, it seems worthwhile to transgress traditional boundaries.

As to count/mass nouns, we might first of all introduce the notion of boundaries, as the notion of countability might lead to confusion (see above) and then elaborate, as specified in the following example procedure:

1. Learners practise the correct use of nouns and their grammatical properties (determiners, pluralization) in well-chosen examples with the help of pictures or realia, starting with prototypical nouns (*book*, *computer*, *apple*) and slowly advancing to more marginal ones (*war*, *peace*, etc.).
2. The teacher presents a complex context, for example an upcoming class trip. Learners enumerate everything that should be taken on that trip (equipment, food, etc.).
3. Concentrating on the food, the difference between count and mass nouns is focused upon, for example, the difference between *eating soup* and *eating an apple.*
4. Learners enumerate what they want to eat on the trip. The teacher may supply keywords that are more complex than simple nouns, not shying away from unusual examples, as those are generally

retrieved more easily due to their strong tendency to be integrated into mental networks ("squashed spider", "barbecued cat", etc.) and as they also tend to have an affective appeal via the laughter or the astonishment that they cause, so that learners will remember such unusual examples better than others.

5. The examples are collected and the learners categorize them according to count/mass properties. They will quickly detect that certain nouns can fit both categories, depending on the perspective taken (*an apple* vs. *applesauce*) and are asked to come up with possible explanations on a metalinguistic level.

6. Once the learners have grasped the notion of different perspectives, they continue by working with perspective changes in more creative contexts, for example in creative writing tasks (e.g. describing an apple from a worm's perspective or similar).

If at a more advanced level progressivity is focused upon, the learners can be briefly referred to the concept of "boundaries" and they will realize that this concept is not only valid for objects but also for events. A possible procedure is outlined below:

1. For the sake of visualization, the teacher uses a time line on which a past event[8] (such as "built a canoe") is roughly sketched: preparations, the building phase itself, the finished product.

2. A keyhole stencil is placed on top of the visualization, so that only the building phase remains visible. In this way, the event is not perceptible in its completeness, but is "unbounded". It is obvious that beginning and end are still present (covered by the stencil), but they are not in focus.

3. This strategy is repeated with some more suitable and visualizable prototypical events (watching a movie, riding a horse, writing a letter, getting dressed etc.).

4. The contrast between boundedness and unboundedness can also be elucidated using holiday snapshots: "Last summer, I travelled to Italy – here you (can) see me travelling. In Italy, I ate a lot of pizza – here you (can) see me eating one in Naples", etc.

5. The learners bring along pictures of their own and comment on them or have them commented on by their peers. Other learners can also ask questions about the pictures, as such questions have to contain the correct aspect.

When a "mistake" is made, it should suffice to hold up the keyhole stencil in order to induce the learners to self-repair their utterances.

Such a visualization instructs learners to reflect upon what they really want to express: does it concern the complete event including its beginning

and its end, or does it concern just the middle phase which is perceptible in a keyhole-like way? Similar explanations and/or visualizations are also helpful at an even more advanced level, when for example certain verb forms – such as the so-called exceptions described in 3.3. – appear, because the explanations are identical: are we dealing with a complete event from an outside perspective, or are we dealing with a partial event whose beginning and end are not perceptible due to the (self-) chosen perspective?

The "keyhole method" also helps to design other kinds of exercises: the learners can invent a fantasy story and report or write what they have seen through family X's keyhole; or the teacher could provide the learners with keyhole pictures which they have to describe. Such keyhole pictures could also be produced by the learners themselves and then be exchanged. In this way, the visualization would be connected to and mnemonically stored together with the progressive aspect, and thus with boundedness/ unboundedness.

Again, it remains to be discussed whether the keyhole should be introduced earlier with respect to count/mass nouns. On the one hand, it is not really necessary as an explanation (see above), but on the other hand, the connection between count/mass nouns and the progressive aspect would already be grounded. We could, for example, use the keyhole for riddles, in covering a picture of a cat first with the keyhole stencil so that the learners can only see "fur" or better still "cat" and not yet "a cat". In this way, the change in the language user's perspective would be introduced in a game-like way. Due to this game-like procedure, such a method is already suitable for very young learners, because it trains communicatively adequate language usage in a realistic context (as the learners are indeed guessing) and is fun at the same time. Furthermore, the focus on context-dependent language usage strengthens the neural networks in question and lexical items as well as their correct grammatical usage are retrieved more quickly every time the language learners use them. Thus, without focusing either on the correct "grammar" or the correct "vocabulary", language-in-use is trained-in and enables learners to become ever more confident in unforeseeable real-life communication situations, which is what foreign language learning should prepare for.

5. Conclusion and perspectives

The ACL proposal described above is in accordance with various current trends in foreign language teaching methodology. Firstly, it is action-oriented (see Bach and Timm 2004), as the learners act with and in the

foreign language. Handling language in this way is authentic, given that learners are equipped with the possibility of formulating their own perspectivizations and are thus enabled to say exactly what they want to say. They are not inhibited by rules with exceptions but can act creatively because their language competence is more firmly grounded than it would be via memorized, opaque rules.

Secondly, it complements constructivist learning theories (see Wendt 1996), which posit that the teacher should offer input that is as diverse as possible so that learners may select those building blocks which they need at that specific stage of their interlanguage development. Offering the necessary building blocks should ideally happen in a way that different types of learners are accommodated. Visualization by means of the keyhole method can at least complement purely verbal explanations and thus cater to the learning style of students who happen to be high imagers.

Thirdly, it caters for positive affect. Learners learn to use language as a tool for extending their communicative competence. Grammar and vocabulary are no longer seen, as is still frequently the case today, as an opaque end in itself, but as allowing the learners to convey meaning. Learners can be encouraged to create stories in which different perspectivizations are used (for example describing a piece of wooden furniture from a carpenter's point of view as well as from a termite's point of view). Other potentially enjoyable activities include solving riddles, or creating them and having peers solve them.

Finally, it is a holistic, humanistic approach to language learning which gives prominent roles to self-expression and culture-embeddedness. Not only vocabulary, but also grammar is presented to learners as a carrier of meaning and culture.

The distinction between boundedness and unboundedness is but one CL notion that may successfully be translated for purposes of language pedagogy at the lexis-grammar interface. We will be in a position to assess the precise didactic scope of ACL only if more language teachers, teacher trainers and teacher trainees become acquainted with it and begin piloting its proposals.

Notes

1. See the introductions in both volumes of Pütz, Niemeier, and Dirven (eds.), 2001 for a more detailed discussion.
2. See for example Mayer (2002), Froese (2000) or Klippel (2000).

3. Some languages, for example the Australian language Yolngu, have no articles and thus no such possibility of objectifying, i.e. perceiving an entity as individualized or non-individualized. According to Lee (1997), this conforms to the world view of such cultures (they do not share our Western perspective which individualizes things or objects), a contention which could lead right into the middle of a discussion of Whorf's linguistic relativity principle. For CL-inspired neo-Whorfian viewpoints see Niemeier and Dirven (eds.) 2000 and Pütz and Verspoor (eds.) 2000.

4. This perspective is of course clearly related to the culturally determined perspective of the concepts in question. In this context, it is quite interesting that – at least when used in a prototypical way – *war* is a *count noun,* while *peace* is a *mass noun*. A possible explanation might be rooted in the experience that the concept of *peace* is a desirable and temporally unlimited state (something like a substance), while the concept of *war* is related to temporally limited durations. Although wars might last as long as 30 or even 100 years, they can still be seen as single events, with beginnings and ends.

5. Iconicity is one of the major research areas in CL. At issue is whether – and if so how – concepts or structures reflect language users' conceptualization processes. For example, concerning the sequence of adjectives determining a noun, it can be demonstrated that the most relevant and specific adjectives stand closer to the noun they are determining than the more general adjectives, which are conceptually further removed (see e.g. Radden [1992: 515–516], who claims that the word order in a sentence such as *the famous delicious Italian pepperoni pizza* cannot be freely changed and that the relative order of the attribute modifiers reflects their increasing conceptual proximity to the entity designated by the noun). Iconic effects can be discovered at all levels of language, from phonetics to pragmatics. Dirven and Verspoor (2004) present convincing examples in their first chapter.

6. The dots at the end of the example indicate that this utterance is incomplete in normal communication, as the perspective taken is always context-dependent, i.e., it depends on the way the utterance is embedded into the total context of the events we are describing.

7. Editor's note:
    Another motivation that is sometimes proposed is that involuntary perception almost by definition lacks clear temporal boundaries, and that marking verbs of involuntary perception for the progressive aspect would therefore be superfluous. However, that kind of explanation presupposes that the non-progressive aspect is the default case and that progressive tenses are used to signal a special semantic dimension. That assumption is *not* shared by the author of this chapter. More research (be it comparative and/or corpus-based) would be required to estimate whether or not the non-progressive and the progressive aspect have equal status in natural languages. From a pedagogical perspective, it certainly seems true that instilling a belief in learners that the simple tenses might serve as some kind of default choice will not help them appreciate the proper semantics of those simple tenses and may incite learners

to overuse them in cases of doubt. Whether or not learners are likely to find the explanation proposed by the author (i.e. that verbs of involuntary perception denote events that happen too fast to invite an internal perspectivization) very plausible would have to be evaluated experimentally (see chapter 12, section 4, for an example).

8. It seems advisable to use the past tense because the present tense (which is generally introduced earlier in English textbooks even though it is considered the most complex tense in the English tense system, cf. Langacker [2001]) is not really well-suited for this purpose, as in this case the concept of and forms for expressing habituality would have to be introduced. If, however, one should decide to introduce the progressive aspect in the present tense, one would have to add expressions such as *every day* to contextualize the simple form and expressions such as *right now* to contextualize the present progressive – which would presumably distract the learners from the concept of boundedness/unboundedness.

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Structural elaboration by the sound (and feel) of it

Frank Boers and Seth Lindstromberg

Abstract

The majority of cognitive linguists have so far focused on motivations involving the semantic pole of lexical units. Applications of their insights to language pedagogy have shown that revealing those motivations to learners provides a pathway for semantic elaboration that is beneficial for their comprehension and recollection of figuratively used polysemes and idioms. However, we have to accept that (1) a fair proportion of vocabulary and phraseology is *not* figurative and (2) semantic motivation does not necessarily help recollection of either the precise form of words or the lexical composition of phrases, although such recollection is essential for language production. In this chapter we therefore propose a pathway for *structural* (as opposed to semantic) elaboration. We demonstrate that the lexical makeup of a considerable number of phrases (whether figurative or not) is motivated by patterns of salient sound repetition, such as alliteration, which have strong mnemonic potential. In addition, we suggest broadening the scope of phonological motivation to include considerations of articulatory ease, which we show can help explain the frozen word order in many binomial phrases. We acknowledge though that, because of cognitive style variables, not all learners are equally likely to reap the same mnemonic benefits from phonological motivation.

Keywords: structural elaboration; phonological motivation; alliteration; rhyme; assonance; lexical selection; articulation; word order; retention of form; cognitive style.

1. Introduction

Most of the contributions to this volume demonstrate linguistic motivation involving the semantic pole of symbolic units and focus on ways in which that motivation can be exploited pedagogically for purposes of semantic elaboration – that is, for mental operations regarding the meaning of the lexical items – with a view to increasing the chances of long-term retention. Several chapters deal with meaning-meaning connections (for example,

with how the figurative senses of polysemous words can be re-connected to their literal prototypes, and how idioms can be connected to overarching conceptual metaphors or traced to their original, literal usage). Some contributions also look at meaning-form connections. Walker, for example, shows how collocational patterns and thus the form, or lexical composition, of semi-fixed phrases is motivated by the semantic properties of their constituent words. Niemeier illustrates meaning-form connections with reference to the 'sameness-of-form; sameness-of-meaning' principle at the grammar-lexis interface.

In the present chapter, however, we shall explore linguistic motivation at the phonological pole of symbolic units. More precisely, we shall demonstrate how phonological patterns can serve as pathways for structural elaboration with a view to helping students remember the lexical make-up and even the internal word order of (semi-)fixed phrases.[1]

While semantic motivation can offer a retrospective explanation of the meaning of a phrase, it cannot explain that phrase's precise lexical makeup. It cannot explain, for example, why the standard phrase is *Time will tell* rather than *Time will show*, or why we say *It takes two to tango* rather than *It takes two to waltz*. Phonological motivation may help in this regard because it appears that in the process of standardising word combinations, euphonious word strings are preferred over same-meaning but non-euphonious word strings. For example, alliteration and assonance help motivate the precise lexical selection in a large number of compounds (e.g. ***p**ick**p**ocket* and ***pl**ay**m**ate*), collocations (e.g. ***t**ell a **t**ale* and ***s**ay a **pr**ayer*), idioms (e.g. ***p**ublish or **p**erish* and *the **n**ame of the **g**ame*), proverbs (e.g. ***C**uriosity **k**illed the **c**at* and *When the **c**at's a**w**ay, the **m**ice will **pl**ay*), discourse markers (e.g. ***f**irst and **f**oremost* and *It is **s**afe to **s**ay that …*), exclamations (e.g. ***G**ood **G**od* and ***Tr**ick or **tr**eat*), and various other kinds of phrases (e.g. *by **c**ommon **c**onsent*, ***f**ew and **f**ar between*, *from the **g**et-**g**o*, *the **m**ore the **m**errier*, ***r**ock and **r**oll*, *a **s**ight for **s**ore eyes* and *the **wh**ys and **wh**erefores*).[2]

2. The mnemonic effect of catchy sound patterns

The mnemonic effect of catchy sound patterns has been widely assumed in a panoply of fields, including literature (e.g. the titles of novels such as *Pride and Prejudice* and *Sense and Sensibility*), in marketing (e.g. slogans such as ***G**uinness is **g**ood for you* and *Always Alldays*), in politics (e.g. slogans such as ***b**ack to **b**asics* and ***sh**ort **sh**arp **sh**ock*), in entertainment for children (e.g. cartoon characters' names such as *Mickey Mouse* and ***D**onald*

Duck) and for (near) adults (e.g. film titles such as *Desperately Seeking Susan* and *Karate Kid* and TV titles such as *The Bold and the Beautiful* and *Big Brother*), and even in academic discourse (e.g. *Publish or perish* and *life-long learning*).

To our surprise, however, empirical studies of the mnemonic effect of such sound patterns appear to be extremely rare – and in the field of applied linguistics, almost non-existent. To our knowledge, the first empirical evidence of the mnemonic effect of catchy sound patterns in the context of foreign language learning was reported by ourselves (Boers and Lindstromberg 2005a), and that evidence was discovered by chance during an item analysis of on-line exercises designed to teach Dutch-speaking students English idioms. (For a description of those on-line idiom exercises, see the introductory chapter to this book, section 3.2, and chapter six, section 4). Coincidentally (or rather inevitably, see section 3 below) this battery of exercises also targets a fair number of idioms made up of alliterating words (e.g. *chop and change* and *ride roughshod over someone*). From the retrospective analysis of the performance of several cohorts of students on the gap-fill tasks that are part of the idiom exercises, it has turned out that time and again (at the time of writing this chapter, already for five consecutive years) alliterative idioms are more likely to be recollected ($p < .01$) than idioms that do not show such catchy sound patterns. Moreover, this strong effect has occurred even though the on-line instructional programme was set up to draw the students' attention to imagery rather than sounds – that is, it was set up to stimulate semantic elaboration (via information about the historical / cultural / etymological origins of the idioms) in the students' minds rather than structural elaboration (via phonological motivation).[3]

It also seems that even minimal awareness-raising (in the form of occasionally drawing students' attention to alliterative phrases they have encountered in classroom materials) is sufficient to enhance the mnemonic effect of alliteration quite considerably, so that alliterative multiword units become even more memorable than the others (Lindstromberg and Boers, forthcoming).

These findings led the authors to propose that – apart from the established criteria of frequency and relevance – the criterion of ease of learning (West 1953: ix) might also usefully be taken into account in selecting phrases for foreign language instruction, in order to use teaching time efficiently and to foster positive affect.

3. Cognitive style variables again?

Drawing students' attention to the catchy sound patterns of some phrases may be especially useful for individuals whose cognitive-style profile is not inclined towards noticing such patterns spontaneously. (See chapter six of this volume, for a discussion of cognitive-style variables and, more specifically, their role in the effectiveness of imagery as a stimulus for dual coding). Boers, Eyckmans and Stengers (2006) report the following two correlation analyses which lend support to the thesis that some students may need more prompting than others to reap the mnemonic rewards of phonological motivation.

The first analysis involved a group of 29 modern-languages students in their second year of higher education who were asked to tackle four sets of 25 English idioms in the above-mentioned on-line exercises. The students were first asked to guess the origins of the idioms, after which they were given feedback about the historical/cultural/etymological origins. This stage was meant to foster dual coding with mental pictures of concrete scenes. Subsequently they responded to multiple choice (MC) items about the meaning of the idioms, where they were expected to use the newly acquired knowledge of the origins to identify the right idiomatic meaning of the targeted expressions. Finally, they were asked to do the gap-filling exercises to test their recollection of the expressions. In the week before the students started doing the idiom exercises, they answered a cognitive-styles questionnaire (called the "style of processing scale") proposed by Childers, Houston and Heckler (1985). In this questionnaire, respondents are invited to indicate on a four-point scale to what degree each of 22 statements applies to them. Half of the statements are meant to estimate the extent to which a respondent is inclined to think in mental pictures (i.e. to estimate the extent to which a respondent is a high or a low imager). The other half of the statements are analogous to these, but they refer to the respondent's relative inclination to think in words rather than pictures. The respondents' self-assessment with regard to both types of statements gives an indication of their position on a cognitive-style continuum from low imager (or verbaliser) to high imager.

The Spearman Rank Correlations test was used to correlate the students' position on the imager continuum with their performance on the idiom exercises. Boers et al. (this volume) report the positive correlations obtained between the degree to which individual students are inclined to think in images and the mnemonic effectiveness of the dual coding technique. Of interest to us in the present chapter, however, are the correlations between the degree to which individual students are inclined to

think in words and the extent to which alliteration helps them recollect phrases in a gap-fill task. The 100 idioms that these students were asked to try to learn through the on-line exercises included 11 alliterative phrases (e.g. **bring** someone to **book** and **carry** the **can**). As expected from previous item-analyses (Boers and Lindstromberg 2005a), these 11 phrases were in general better retained in the gap-fills than the other idioms, the averages being 84% and 76%, respectively. However, the retention of alliterative phrases in comparison to the non-alliterative ones varied considerably across the group of students. Most students with a low-imager profile recollected the alliterative phrases much better than the non-alliterative ones, but for most students with a high-imager profile there was hardly any difference in the recall rates of alliterative and non-alliterative idioms. The Spearman Rank test indeed shows a significant correlation (*rs* .350; *p* < .05) between the degree to which alliterative idioms were better retained and the position of the students on the imager cline. In other words, low imagers tended to benefit most from the mnemonic effect of alliteration.

Unfortunately, because of the absence of a pre-test, there was no control for any potential individual differences in prior knowledge of the targeted idioms in the exercises, and so only the students' raw scores on the exercises could be used to calculate correlations with cognitive-style profiles. However, in an earlier version of the on-line idiom exercises, the meaning MC was administered as the first step in the sequence, with a view to testing students' prior knowledge of the idioms and to trace their subsequent learner gain through the instructional method.

Therefore, in a second analysis, Boers, Eyckmans and Stengers (2006) tracked down 13 students who had done that earlier version two years previously and asked them to re-do the gap-fill exercise targeting twice thirty idioms. Their performance now allowed for an estimate of each student's learner gain by subtracting their correct answers to the meaning MC given two years earlier (now interpreted as pre-test) from their newly obtained gap-fill scores. The Childers, Houston and Heckler (1985) cognitive-styles questionnaire was administered again to estimate the students' position on the imager continuum. Again, the Spearman Rank test yielded a significant correlation (*rs* .510; *p* < .05).

In sum, we have begun to collect convincing empirical evidence to support claims that some repetitive sound patterns afford additional possibilities for structural elaboration and so tend to make phrases more memorable for at least some language learners. But because such patterns tend to be associated with poetry and poetic prose, the next question is how common these patterns are in everyday phraseology.

4. Coverage?

4.1. Hand counts in idiom dictionaries

Boers and Lindstromberg (2005a) focused on prototypical, i.e. front-front, alliteration, as in ***spic*** and ***span*** and ***rule*** the ***roost***. Boers and Stengers (forthcoming), reporting a hand-count of catchy sound patterns in the *Oxford Dictionary of Idioms* (Speake 1999), report that 15% of English idioms show this type of alliteration. When the hand-counts also include non-prototypical (i.e. non-front-front) alliteration (e.g., ***off*** the ***cuff*** and *ru**ff**le someone's **f**eathers*) and assonance (i.e. rhyme, as in *be left h**igh** and dr**y***, and near-rhyme, as in *j**u**mp the g**u**n*) it turns out that almost 20% of the English idiom repertoire shows some kind of phonological motivation behind their lexical makeup.

　　Interestingly, catchy sound patterns are even more prevalent in the subset of idioms that are signalled in the *Collins Cobuild Dictionary of Idioms* (Sinclair and Moon 2002 edition) as "frequently used". Over 23% of those idioms show some kind of phonological motivation (mostly alliteration again). This hints at the possibility that catchy sound patterns and/or ease of articulation may exert frequency effects and thus play a role in the standardisation of certain word strings at the expense of others. (See the work by Bybee [2000, 2001, 2002] on the link between phonology and frequency effects.)

　　The appeal of sound patterns such as alliteration and rhyme is certainly not confined to English. Boers and Lindstromberg (2005a) and Boers and Stengers (forthcoming) report relatively high percentages of phonological motivation in the idiom repertoires of Dutch, French and Spanish as well. Still, among these languages, it is English that seems most prone to (prototypical) alliteration. This may be due to the interplay of at least three typological traits of English: (1) it is a stress-timed language and it typically puts word stress on the first syllable of words (which is likely to emphasise the effect of front-front alliteration); (2) it has little inflection and so words tend to be relatively short (which means that there tends to be little distance between same-consonant onsets in a sequence of words); and (3) it has a pretty much fixed word order (which means that phonologically appealing phrases will hang together no matter what, and are hence likely to become entrenched. Hypotheses (1) and (2) are corroborated by the fact that no fewer than 28.3% of English binomial idioms (i.e. idioms of the form "A and B", e.g. ***black*** and ***blue***, in which the key words are by definition close to each other in the string) alliterate.

Boers and Stengers (forthcoming) did not include similes (i.e. "A as B" or "A like B" phrases) in their counts. As with binomials, the keywords in similes are in close proximity to one another, and so we may expect patterns of alliteration and rhyme to be especially common in this subset of the phrasal repertoire. We looked up all the similes included as entries in the *Collins Cobuild Dictionary of Idioms* to assess the extent to which phonological motivation is also at play in this segment of English phraseology. Of the 127 similes we found in the dictionary no fewer than 53 (i.e. an astounding 41.73 per cent) show alliteration and/or rhyme. Interestingly, concern with semantics often seems to play only a very minor role in the lexical selection for these similes. If it were not for the alliteration or rhyme, the word in the B-slot could quite easily be substituted by another without jeopardising the "logic" - if any - of the actual simile. Examples are *brown as a berry*, *cool as a cucumber*, *done like a dinner*, *drunk as a skunk*, *pleased as punch*, *right as rain*, *fit as a fiddle*, and *snug as a bug in a rug*.

4.2. Compounds, collocations and more

Also in the making of compounds catchy sound patters such as alliteration seem to be favoured regardless of semantic substitutability. Examples are *beer belly* (rather than *beer stomach/tummy/pauch/gut*), *big-boned* (rather than *large/stout-boned*), *busy-body* (rather than *busy person*), *pen pal* (rather than *pen friend/chum/mate/crony*), *road rage* (rather than *road fury/aggression*), *far-fetched* (rather than *far-searched/gotten*), *father figure* (rather than *father character*), *founding father* (rather than *founding man/leader*), *leading lady* (rather than *leading woman*), *treasure trove* (rather than, say, *treasure mass/heap/store/find*), *zigzag* (rather than, say, *zig-wag*), etc.

The same applies to strong verb-noun collocations (*run a risk*, *reap a reward*, *commit a crime*, *find your feet*, *mind your manners*, *weigh your words*, etc.) and strong adjective-noun collocations (*common cause*, *crash course*, *high hopes*, *heavy heart*, *serious setback*, *sweet sixteen*, *warm welcome, etc.*).

Also many other phrases that are not always included in idiom dictionaries show alliteration and/or rhyme: *give as good as you get*, *hard of hearing*, *mind over matter*, *if looks could kill*, *my conscience is clear*, *from dawn till dusk*, *damsel in distress*, *friend or foe*, *time is tight*, *in the thick of things*, *turn the tide*, *a way with words*, *first past the post, plug ugly,* etc.

Last but not **l**east, quite a few proverbs also show such patterns: *Birds of a **f**eather **f**lock tog**e**ther*, *He who **p**ays the **p**iper ...*, *Where there's a **w**ill there's a **w**ay*, etc.

A devil's advocate may argue, of course, that merely listing examples of alliterative semi-fixed phrases is no real proof of the operation of phonological motivation since probably a greater number of semi-fixed phrases could be listed that do *not* display any striking sound pattern, and so the alliterative examples might simply be discarded as the result of chance.

A fairly straightforward way of checking whether collocational patterns are indeed influenced by phonology is to select (near-)synonymous verbs with different initial consonants and to compare their respective sets of noun-collocates. Let us, for example, compare *seek* and *look for*. It is well known that the former is typical of formal discourse and is thus less frequent than the latter, which could be considered as the default option. Apart from this paradigmatic difference, however, a comparison of the respective sets of noun collocates also points to a syntagmatic difference between *seek* and *look for*, and that difference appears motivated by the *seek*'s initial /s/. The *Oxford Collocations Dictionary* (Runcie 2002) lists *seek* as verb collocate for six nouns starting in /s/: *sanctuary*, *a **s**ettlement*, *solace*, *solitude*, *a **s**olution* and *support*. By contrast, *look for,* is mentioned only once as another option (in the entry for *solution*). This pattern is confirmed by the *Collins Cobuild* online collocations sampler, available at http://www.cobuild.collins.co.uk/form.html). This sampler lists the 100 words (irrespective of word class) that are most frequently combined with the query item. The list for *seek* includes three noun collocates starting with /s/ (*support*, *solution* and *solace*) and at least two cases that produce non-prototypical alliteration (*a**s**ylum* and *advi**c**e*). The query for *look for* only yields one significant noun collocate (i.e. one with a T-score of 3 or above) which starts with /s/, namely *signs*.[4] A similar trend of favouring alliteration can be observed in the collocations of the verb *fulfil* in comparison with its synonym *satisfy*. The 100 collocations list for the query word *fulfil* shows up several noun collates that alliterate with /f/ (e.g. *function*, *fantasy*, *failure*, *prophesy*, *life*). The query verb *satisfy* does not yield any nouns with /f/ among the first 100 collocates.

An additional way of assessing the validity of the alliteration-as-motivation-for-lexical-selection hypothesis is to use the world wide web as a corpus of everyday language use. One could simply compare the number of hits generated by a powerful search engine such as *Google* for queries made up of competing phrases, some of which alliterate and others that do not.

For example, on 12 August 2006, *fundamentally flawed* and *fatally flawed* yielded 1,130,000 and 851,000 exact phrase Google hits, respectively, while the non-alliterative *badly flawed* (despite *badly* being more frequent as a token in general) yielded only 143,000 hits. Combinations of *flawed* with near synonyms of *fundamentally* and *fatally* that do not alliterate appear to be uncommon or even rare: *basically flawed* (23,100 Google hits) and *mortally flawed* (a meagre 550, even though *mortally wounded* yielded 989,000 vs. 340,000 for *fatally wounded*), and *centrally flawed* (280 hits, even though *centrally* alone yielded six times as many hits as *fatally*). Similarly, *west wind* yielded 2,180,000 hits as against 1,320,000 for *east wind* and *Wicked Witch of the West* 569,000 as against 70,400 for *Wicked Witch of the East* (both witches are characters in Frank L. Baum's *Wizard of Oz*).

We acknowledge that more systematic quantitative studies would be required to measure the extent to which sound patterns such as alliteration play a part in phraseology and to determine whether this motivation varies across languages (along with typological differences) (cf. Boers and Stengers, forthcoming).

The preliminary evidence of the frequent occurrence of alliteration in English semi-fixed phrases, combined with the observed mnemonic effect of repetitive sound patterns as a possible driving force behind the standardisation of alliterative word combinations over others, do however lend a certain likelihood to the thesis. In the context of language learning, patterns of phonological motivation definitely seem to provide inviting pathways for structural elaboration to help learners remember (especially the form or lexical composition of) standardised phrases.

Furthermore, while our demonstration of the phonological motivation behind lexical selection has so far focused mostly on alliteration, the scope of investigation could be broadened by bringing other catchy sound patterns to the fore. For example, several score (at least) of standardised phrases simply repeat the key content word: *boys will be boys*, *neck and neck*, *face to face, no news is good news*, *a rose is a rose is a rose, so and so*, *time after time*, *through and through*, *on and on, (on the) up and up*, *if the worst comes to the worst, farther and farther, the poorest [...] of the poor*, etc. Other phrases (additionally) display catchy rhythmic patterns – e.g. 00o0o as in *lock, stock and barrel*; *hook, line and sinker*, *(every) Tom, Dick and Harry*; *tall, dark and handsome*; *signed, sealed and delivered*.

The rhythmic effect in the latter examples is partly due to the choice of words, but also to the choice of word *order*. This leads us to a second dimension in which the scope of investigation into phonological motivation might be broadened.

4. Exploring articulatory phonology as a motivation for word order

4.1. Case study: Frozen binomials

As shown above, alliteration and assonance can help motivate the lexical make-up of a fairly wide array of phrases. What these catchy sound patterns do not help motivate, however, is why sometimes one given order of lexical constituents is frozen in expressions where, at first sight, word order might as well be free. This is case in a fair number of fixed binomials – that is, phrases in the form of "A and B" where A and B are content words typically belonging to the same word class (e.g. *give and take*, *sweat and tears*, *fair and square*, *near and dear*). The question we shall address in this section is whether, on encountering a frozen binomial in a teaching context, the frozen word order in such fixed binomials can also be presented to learners as motivated; if so, this could constitute a pathway for structural elaboration to help learners remember these expressions.

The word order of frozen binomials has been studied quite extensively (e.g. Benor and Levy 2006; Cooper and Ross 1975; Fenk-Oczlon 1989; Malkiel 1959; Müller 1997), but to our knowledge not yet from a CL perspective. By and large, the previous studies agree that there are a number of semantic, metrical and phonological principles which may determine which word order gets frozen in binomials. They also agree that the semantic principles outrank the metrical ones, which in turn outrank the phonological ones. Benor and Levy (2006) survey the principles (which they call constraints) that have been proposed so far, and evaluate them through a rigorous statistical analysis of word order patterns in a corpus of 692 binomial tokens. Although their study is not confined to frozen binomials but also includes binomials with variable word order, their findings about the relative coverage of some of the constraints is certainly informative. After all, from a teaching/learning perspective, not all of the explanations for the frozen word order in binomials that have been proposed in the linguistics literature seem equally likely to be perceived by language learners as helpful. If we wish to help learners by presenting phrases as motivated, then that motivation will need to be perceived by the learners as plausible. Moreover, if we intend the motivation presented to be perceived as helpful, it should have sufficient coverage. In other words, for reasons of cognitive economy we should avoid burdening learners with intricate linguistic explanations that help explain the word order of just a very small set of binomials.

In this section we intend to (1) distil from previous studies a set of worthwhile teachable motivations for the frozen word order in binomials,

(2) add a type of motivation that has been overlooked by previous studies but which seems to have considerable potential for teaching, and (3) measure the coverage of our proposed set of motivations for word order in a sample of 106 frozen binomials. That sample was made up of all the binomials listed in the *Collins Cobuild Dictionary of Idioms* (Sinclair and Moon, 2002 edition), with the exception of those which repeat the same word (e.g. *on the up and up*), as these are unproblematic as far as choice of word order is concerned.

4.2. Semantic motivation

The most straightforward kinds of motivation for the word order in binomials are undoubtedly iconic ordering (i.e. first things first, as in *bow and scrape*, *crash and burn*, *spit and polish* and *kiss and tell*) and scalar ordering (i.e. crescendo effects as in *sixes and sevens*, *nickel and dime*, *alive and kicking* and *head and shoulders above someone*). Benor and Levy (2006), in a study that included freer binomials as well as frozen ones, found iconic and scalar ordering to be highly reliable predictors of word order in a corpus of 692 binomial tokens. From a teaching perspective these ordering principles also seem easy to apply. To ensure understanding of the literal original meaning of a figurative expression a certain amount of awareness-raising may be required, but once that has happened students are then likely to appreciate the whys and wherefores of the particular word order of the expression. This combination of semantic and structural elaboration may, in turn, help them remember the expression. Under iconic ordering we also include cases where the word order reflects the likelihood of one thing being *perceived* before another, as in *cloak and dagger* (cloaks are much bigger and always on the outside). In addition, we include cases where the first word serves as frame or ground for the second, as in *bread and butter* and *milk and honey*. Iconic and scalar ordering seem to have considerable coverage. We found these types of motivation to be applicable to the frozen word order in 35.85% of the items in our sample of 106 binomial idioms, and, as we shall see below, this may well be too conservative an estimate.

Besides iconic and scalar ordering, several other semantic accounts have been proposed for binomial word order. Fenk-Oczlon (1989) provides statistical evidence that the more frequent word tends to precede the less frequent one in binomials (as in *the cut and thrust*). However, this phenomenon may actually be the result of the workings of another principle that has been put forward, namely, the principle that the word with the

broadest meaning tends to precede the word with a narrower meaning. Benor and Levy (2006) also found frequency to be a good predictor of word order in binomials. The preference for putting the most frequent word first and the less frequent word second in the process of standardising binomials may be motivated by considerations of processing ease, because that is the sequence that is probably easiest to retrieve from memory (i.e. the frequent and thus easily accessible word primes the less frequent one). The explanation that the frequent-word-first trend is the result of considerations of ease of retrieval becomes less plausible once the word order has been frozen, though. After all, if we try to convince students of the usefulness of learning fixed phrases because they are believed to be retrieved holistically from memory, then there hardly seems to be any need for priming effects within the frozen binomial once it is stored in memory as a prefabricated chunk. The main problem with the applicability of the frequent-first motivation, however, is that language learners (and teachers) may not always be able to estimate which of two words is the most frequent (or is the broadest in meaning) in the first place.

Previous studies of binomials have also used the notion of semantic markedness to account for preferred or frozen word order in binomials. The theory is that, because people have an anthropocentric perception of the world, they feel some concepts to be marked in comparison with others (Mayenthaler 1988). The word denoting the perceptually less marked concept tends to come first in binomials. This could coincide with the above-mentioned frequency principle, where the first word (i.e. the high-frequency word) denotes the concept that is most accessible to us. However, there are two problems with the applicability of the unmarked-first hypothesis in motivating the word order in binomials. Firstly, accounts of the experiential basis (i.e. the extra-linguistic motivation) for what is supposed to be unmarked or marked are not always wholly convincing. Secondly, students are likely to come across so many counterexamples that they might begin to consider the unmarked-first account to be an ad hoc explanation with little predictive power. It has been claimed, for example,

- that concrete is less marked than abstract and therefore comes first as in *body and soul* (but then what about *move heaven and earth*?),
- that right is less marked than left because most people are right-handed (but then what about *left, right and centre*?),
- that what is up in your field of vision is perceived more easily (and so faster) than what is down, hence perhaps *search high and low*, although the alliteration in the variant *hunt high and low* may also have played a part in the standardisation process (but then what about *root and branch*, and *through hell and high water*?),

-   that powerful is less marked than powerless, e.g. *cat and mouse* (but then what about *cat and dog*, *a cock and bull story* and *a dog and pony show*?), and
-   that animate is less marked than inanimate (but then what about *drive a coach and horses through something*?).

In sum, we feel that most of the semantic-markedness accounts for binomial word order risk being perceived by learners as unconvincing because they lack extra-linguistic evidence and as unhelpful because they have many counterexamples. Students may come across counterexamples in the target language, but they may also find them even more readily in their mother tongue. For example, motivating *salt and pepper* by saying that salt is generally more common (and thus less marked) than pepper (e.g. Benor and Levy 2006) does not work in Dutch where the equivalent expression tends to be *peper en zout* 'pepper and salt'. And there is no readily conceivable reason why a proposed *extra*-linguistic motivation would be operational in one language and not in another which is closely related to it both linguistically and socio-culturally. Because of the limited coverage offered by the separate kinds of so-called markedness, and because of the sometimes questionable nature of the proposed extra-linguistic basis for such kinds of markedness, we cannot muster much faith in the semantic-markedness hypothesis as a pathway for elaboration in pedagogy.

We must acknowledge though that these expectations about whether or not a given semantic motivation will come across as plausible to learners are based merely on our own intuitions and experience as language teachers, and that such expectations need to be checked against learners' actual reactions. We therefore set up a small experiment in which we presented five advanced learners of English (at level C1 of the *Common European framework of reference*) with a series of 16 binomial idioms accompanied by a jargon-free explanation for the frozen word order. A copy of that questionnaire is added in Appendix 3.

For example:

-   *Bow and scrape* was explained thus: "this word order reflects the order of events in the literal scenario" [chronological iconicity]
-   *Head and shoulders (above someone)*: "crescendo effect: not only the head but even the shoulders are higher" [scalar iconicity]
-   *(Risk) life and limb*: "the most frequent word comes first because it is easiest to retrieve from memory" [frequent first]
-   *Bread and butter*: "the first is the frame or context for the second" [frame/ground first]

- *Apples and oranges*: "apples used to be more common and so less special than oranges in England" [unmarked first]
- *A game of cat and mouse*: "the strongest or most powerful entity comes first" [unmarked first]

The respondents were asked to indicate whether they thought the explanation was (1) very plausible, (2) plausible, (3) just a little bit plausible, or (4) not at all plausible. This was a think-aloud procedure in which the respondents shared their reasoning with the researcher.

The participants' responses confirmed our expectations about what types of explanations would be felt to be plausible. The average scores per type of explanation were as follows (recall that the scale went from 1 = "very plausible" to 4 = "not at all plausible"):

- chronological iconicity (four idioms): 1.55
- scalar iconicity (two idioms): 1.9
- frame/ground first (two idioms): 2.1
- frequent first (two idioms): 3.6
- unmarked first (six idioms): 3.33

Interestingly, in the think-aloud procedure the respondents themselves proposed alternative motivations to the provided unmarked-first explanations for several of the idioms, and these alternative motivations leaned very much towards iconicity. For example, four of the five respondents said that *cat* was placed before *mouse* (in *a game of cat and mouse*) simply because as an observer you tend to see the cat first as it is bigger than the mouse. Also the frame/ground-first explanation for *bread and butter* was recast in terms of iconicity by four of the respondents who said that you first take a slice of bread and only subsequently add the butter on top. In short, the respondents' thoughts revealed by the think-aloud procedure lead us to believe that our own estimate of the proportion of binomial idioms whose word order can be motivated to learners on the grounds of iconicity may well be an underestimation. They also confirm our belief that a fair number of the unmarked-first explanations that have been put forward in (mostly generative) descriptive linguistics literature are not likely to be convincing to language learners.

4.3. Metrical motivation

Three main metrical principles have been put forward to help explain word order in English binomials:

– Preference for the shortest word first (Cooper and Ross 1975)
– Avoidance of more than one consecutive weak syllable (Selkirk 1984)
– Avoidance of main stress on the final syllable of the binomial phrase (Bolinger 1962)

Benor and Levy (2006) find all three principles to be good predictors of word order in their sample of binomial tokens. However, they also find that in practice the three principles tend to coincide. For example, all three principles are typically met in binomials made up of a monosyllabic and a bi-syllabic content word (e.g. *down and dirty*, *mouth and trousers*, *rough and ready*, *rough and tumble*, *blood and thunder*, *pins and needles*) since English tends to put word stress on the first syllable anyhow. If that is the case, then we may wonder from a pedagogical angle which of the three principles might be easiest for most language learners to grasp and have sufficient coverage to be perceived as useful instruction.

We suspect that learners whose L1 is not a stress-timed language (unlike English) might find the second and third principle particularly hard to apply. The first principle may also be hard for many learners when it comes to sizing up same-number-of-syllable words (e.g. on the basis of vowel length; see below). However, it does seem quite practicable when different-number-of-syllable words are involved. It then boils down to simply drawing students' attention to the fact that the first word in the phrase has fewer syllables than the second. If we apply this straightforward heuristic to our sample, we find that it covers 36.79% of the 106 binomial idioms. Sometimes it coincides with iconic semantic motivation outlined above. In 22.64% of our sample, however, the fewer-syllable-first heuristic seems to be the sole motive behind the frozen word order.

The motivation for this pattern, which can be presented to students, then lies in the metrics of the language. Since this type of motivation is language(-type)-specific, it obviously operates at a different level than the extra-linguistic correlates that CL shows a preference for (e.g. iconic ordering, which tends to outrank metrical motivation). It may therefore not be an explanation well-suited to demonstrating the non-arbitrary nature of language. At the same time, however, a brief contemplation of word order in English binomials might actually be a way of raising students' awareness of the importance of word stress in English and how this may differ from their L1.

4.4. Phonological motivations

Benor and Levy (2006) survey the wide variety of phonological properties that have been proposed in the literature as variables behind the standardisation of binomial word order. These include vowel length, vowel backness, vowel height, the number of initial consonants, the number of final consonants, the openness of the stressed syllable, syllable weight, initial segment sonority and final segment sonority.

There are roughly two reasons why we do *not* advocate spending classroom time (or instruction time, more generally) on these properties in an attempt at helping students appreciate the motivated nature of word order in binomials. Firstly, coming to grips with the above-mentioned phonological properties would probably require an investment of effort (perhaps even taking a phonetics/phonology course) which non-language-majors are unlikely to be willing to make. Secondly, Benor and Levy's (2006) meticulous statistical analysis yields very little evidence of the impact of these properties on the word order patterns in their sample of binomial tokens (in comparison with semantic and metrical variables) anyhow.

4.5. A neglected motivation: the easy link

In the analysis of our sample of binomial idioms we stumbled on evidence of a word order pattern that – to our knowledge – has not yet been documented in the literature. When the initial consonant of one of the two content words in an English binomial is /d/ or /t/, then that word is significantly (at close to $p < .001$) more likely to become frozen in the position *after* rather than before /and/. This pattern seems motivated by considerations of articulatory ease: making the link between /ænd/ and /d/ or /t/ is economical because the tongue is already in alveolar position at the onset of the content word.

In our sample of 106 binomial idioms there were no fewer than 17 such cases (16.03%): Some of these are also motivated by the above-mentioned semantic or/and metrical considerations (e.g. *home and dry*, *kiss and tell*, *rough and tumble*, *all mouth and trousers*), but others seem motivated solely by the "easy-link" pattern (e.g. *hammer and tongs*, *raining cats and dogs*, *give and take*). Only four binomials in our sample (*touch and go*, *divide and conquer*, *divide and rule* and *a dog and pony show*) run counter to the easy-link pattern and all of these can be seen as semantically and/or metrically motivated.

We believe this easy-link motivation to be a pathway for structural elaboration that is worth considering for four reasons.

- It seems plausible (see Bybee 2000, 2001, 2002 for other evidence of articulatory economy).
- It seems to cover a fair percentage of frozen binomials.
- It may cater to learners whose cognitive style is less inclined to mental imagery but more to doing things with words and word sounds (see section 3 above).
- It is teachable in a quick and straightforward way: all it takes is asking students to try articulating two potential word orders and compare the "tongue work".

4.6. Coverage by our package of motivations

Summing up, these are the types of motivation for word order that we find worth pointing out to learners when they encounter frozen binomials, because they can offer fast pathways (1) for elaboration that may help learners remember the phrases, and (2) for awareness-raising of the non-arbitrary nature of yet another aspect of language:

- Iconic ordering, scalar ordering, frame first (35.85% coverage)
- The word with the fewest syllables first (22.64% coverage)
- The easy link (16.03% coverage)

Taken together (and often in combination) these straightforward, quickly teachable motivations cover 64.15% of our sample of 106 frozen binomials.

Of our sample, 39 binomials are signalled in the *Collins Cobuild Dictionary of Idioms* as "frequently used". The relative contributions by each of the proposed types of motivations in this small sub-sample are as follows:

- Iconic ordering, scalar ordering, frame first (48.71%)
- The word with the fewest syllables first (30.76%)
- The easy link (23.08%)

Together they cover 74.10% of the small sub-sample.

5. Conclusion

In this chapter we have tried to demonstrate that phonological motivation, which has so far been a neglected dimension in CL, carries good pedagogical potential for "other tongue" learning. It provides pathways for structural elaboration that can help learners remember the form (i.e. the

lexical composition and the internal word order) of a considerable number of (English) phrases. This is a useful addition to the pathways for semantic elaboration (e.g. via imagery and figurative thought) that cognitive linguists have been proposing as a way to help learners remember the meaning of phrases.

We have reiterated evidence of the mnemonic effect of at least one type of phonological motivation, namely alliteration. We have also presented evidence of cognitive-style variables which suggests that not all students are equally likely to notice euphonious patterning spontaneously, and that therefore explicit awareness-raising regarding phonological motivation may be beneficial to at least some learners.

Last but not least, with a view to illustrating that we are only just beginning to appreciate the scope of phonological motivation (i.e. of motivated form-form connections) in language generally and language pedagogy in particular, we have looked beyond the most conspicuously catchy sound patterns to the part played by *articulatory* phonology in the fixation of word order in binomials.

Appendix 1: Expressions showing salient /s/ and /š/ alliteration

Our eclectic compilation of alliterative phrases, which at the time of writing contained approximately 1,400 expressions, is mainly the result of over a year of one author simply trying to notice, in daily listening and reading, alliterative, possibly conventionalised idiomatic and non-idiomatic expressions of all types. It is certainly incomplete.

As an excerpt we have chosen /s/ and /š/ expressions. *A/an* has been added onto the front of some phrases in order to make it easier to recognise their meaning. This must be taken into account in assessing the figure for average length of expressions given in the full list (i.e. ca. 3.4 words). Variable items (e.g. *steal a scene, stole the scene, a scene stealer…*) are generally represented by just one of the possible form. Some items show repetition of more than one element (e.g. *set in stone* shows /t/ as well as /s/ repetition). The items are given more or less in the order they were first recorded.

Included are compounds such as *sunset* (which were very likely once written as two words and whose current spelling as one word simply underscores the likelihood that they have long had unit status for the generality of native speakers of English) and a few dozen expressions showing non-prototypical (especially, front/non-front) alliteration. These expressions are given in tagged-on lists preceded by an asterisk .

Excluded are:
– items whose currency was probably always low and/or which seems to have dwindled markedly;
– expressions showing only final-final or final-interior alliteration (e.g. *mass protest*) except for cases of "heavy" alliteration plus assonance (e.g. *past master*), which are in a sub-list marked with an asterisk;
– names and titles of any sort;
– expressions likely to be ephemeral;
– items which are current but are unlikely to be widely lexicalised (e.g. *pulling pints* and *dodgy décor*). Many such excluded expressions (*catch a crab* is another example) are specific to an activity (in this case, rowing) of which many speakers would have no first-hand experience.
– seemingly infrequent expressions whose wording is highly meaning driven (e.g. *with a purpose and a plan*).

/**s**/-   *the silver screen; saddle sore; a swim suit; so [you] say; a scum sucker; spic & span; a sob sister; soul sister; sweet & sour (sauce); a sailor suit; set sail; signed, sealed & delivered; just to be on the safe side; to settle a score; sink or swim; so to speak; soul searching; to scrimp & save; a sound sleep; (as) smooth as silk; a silent scream; a swan song; a snow/sand storm; your sense of smell; It's safe to say that; the silly season; safe or sunk; seasick; a sight for sore eyes; a sadder sight I never saw; see the sights of; the slippery slope to; to strip search; stop & search; a same sex (marriage); start from scratch; sing for your supper; set the scene for; suffer in silence; set your sights on (success); super-strength; safe & sound; stick out like a sore thumb; the sights & sounds of the city; give service with a smile; service station; cigarette smoke; (walk) with a spring in your step; spring a surprise on; soap suds; (have) a sing-song (voice); a singer-songwriter; set out your stall; not stand on ceremony; a serious setback; [did]n't see a soul; slip & slide; have second sight; more sinned against than sinning; a sad sack; scared stiff of; (only) scratch the surface of (an issue); the seamy side of (life); see stars; the seven deadly sins; (stand) side by side; sink like a stone; a skeleton staff; the small screen; a smoke screen; (the dirty) so & so; soft soap sb; Softly, softly (catchee monkey); so sorry; in a sorry state; (do X) in a split second; a scene stealer; Stolen sweets are sweetest; stop & start; a stranger in a strange land; sb's strong suit; such & such; self-serving; send shivers down your spine; take center stage; a son of the soil; set the stage (for); a sweeping statement; sweet sixteen; the sweet smell of success; set sb straight; (on) a spending spree; a city slicker; sun, sea & sky; sun, sea & sand; the star spangled (banner); street smarts; sunset; sun stroke; summer sun; sunshine; spits & spots (of rain); have a soft spot for; side step x; the sole survivor; self-same; screen saver; the seven seas; stone cold sober; set in stone; all sorts & sizes; something special; sensitive skin; spring has sprung; a spoil sport; set the standard; civil service; civil strife; sunny spells; superstar; (We) can safely say; sterling service; success story; save [your]skin; a simple soul; safe sex; straitened circumstances; skill set; solid citizen; city street(s); slow start;*

state secret; soup spoon; sow the seeds of (discord/discontent); slipshod; stem cell; sex symbol; seesaw; something special [total: 139]
*self-possessed; a sink estate; spare no expense; cease & desist; asylum seeker [total: 5]

/**st**/-   *strut (your) stuff; stand/stop & stare; stirring stuff; sterling stuff; steady state; stand still; a star of stage & screen; star-struck; a star-studded (cast); stage-struck; (stand as) still as a statue; stand sb in good stead; stand the (stress &) strain of; sticks & stones (may break my bones, but words can never hurt me); a stepping stone/stool to; a straight stretch; still going strong;* [total: 17]
*master-stroke; plaster cast; past master; staging post; within striking distance [total: 5]

/**ʃ**/-   *to shilly-shally; (get/give sb) short shrift; a short sharp shock; ship-shape; shell shock; share & share alike; shrug your shoulders; a sure shot; a sharp shooter; X doesn't know the difference between shit & shinola;* [total: 9]

/**s**/ & /**ʃ**/- *sell short; (draw) the short straw; in short supply; the ship of state; short & sweet; show signs of; (in) shirt/short sleeve(s); slowly but surely; stop short of; a show stopper; a straight shooter; shoot on sight; slipshod; sunshine; scattered showers; a short story; shopping spree; all show & no substance; scatter shot; starship; shrouded in secrecy; steal the show; show of strength; sweat shop; more X than you can shake a stick at; skills shortage; [after a] shaky start; shifting sands* [total: 28]
*self-assured

Appendix 2: Expressions showing /ai/ assonance

The following sub-list of /ai/ assonant expressions, which are marginally the most numerous in our overall list of ca. 200 assonant expressions, is given for purposes of comparison with the /s/ sub-list above.

/**ai**/: *high minded; like minded; a sign of the times; (in my) line of sight/sightline; high profile; Rise & shine!; Try as I might, [I] couldn't…; high & wide; out of sight, out of mind; white lie; the ties that bind; a fly by night; a fly by; bide your time; lifestyle; right to life; [straighten up &] fly right; the high sign; the spice of life; guideline; guiding light; drive-by [shooting]; by-line; lightning [might/could…] strike; try something on for size; my kind of [guy]; life time; a time trial; a high wire act; it's high time; Nice try; spiral of violence; timeline; line of enquiry; find [the] time; sideline; high tide; prying eyes; with/in hindsight; fight crime; shine a light on; nice time; blind sight; blind side; flight time; right time; wild rice; rice wine; buy time; eye sight; right size; slice of life; high flyer* [total: 53]

The first thing to observe is that our overall list of assonant expressions is much shorter than the corresponding list of ones that alliterate even though the two lists were compiled during the same period of time, by the same investigator and in the same manner. On the assumption that this investigator was moderately normal and competent during the time of this study, two possible, and possibly inter-related, reasons for the relative brevity of the assonant list merit further investigation:

    a.   Assonance is not as common in English phraseology as alliteration is. This is also suggested by Boers and Stengers (Forthcoming) on the basis of their hand counts in idioms dictionaries: while 17.84% English idioms were found to display alliteration (15.03% word initial), only 3.41% were found to show assonance (vs. 1.87% rhyme).

    b.   Assonant expressions may relatively often have been overlooked because of lesser salience (in English) than alliteration. (Detection of assonance may require a less casual scanning practice than was employed in the compilation of our list).

At this point, our hypothesis is that assonance is unlikely to be as important in English phraseology as alliteration is. Specifically, it seems unlikely that assonance, compared with alliteration, may as often tip the scale towards the conventionalisation and retention in current usage of one particular whole expression rather than another that happens to show less, or no, phonological repetition. With respect to pedagogy, a further question is whether there is a continuum of mnemonic potential that reflects the number of repeated elements, a continuum roughly of this structure:

    Repetition of two or more words: *You win some, you lose some*
    Repetition of single words: *[walk] side by side*
    Alliteration: *settle a score*
    Assonance: *my kind of guy*
    Repetition of stress pattern: *bread 'n' butter* (OoOo)
    No repetition: *Beginner's luck.*

It is quite possible, however, that assonance (most notably the heavy form called rhyme) is more salient, more common, and mnemonically more powerful in some other languages than English, notably languages with final-syllable word-stress, such as French. If that is the case, then activities designed to raise students awareness of assonance may well help "cover" a larger segment of phraseology and be mnemonically more effective when applied to those particular languages.

Appendix 3: **Questionnaire on word-order explanations**

The word order in the following expressions is fixed. Various explanations have been proposed to explain why one word comes before the other in them. Please indicate under each example whether you think the proposed explanation is: (1) *very plausible*, (2) *plausible*, (3) *just a little bit plausible*, or (4) *not at all plausible*.

Expression: ***crash and burn***
Explanation: this word order reflects the order of events in the literal scenario

Expression: ***alive and kicking***
Explanation: crescendo effect: not just alive but also kicking

Expression: ***bread and butter***
Explanation: the first is the frame or context for the second

Expression: ***the cut and thrust***
Explanation: the most frequent word comes first, because it is easiest to retrieve from memory

Expression: ***search high and low***
Explanation: what is up in your field of vision is easy to perceive

Expression: ***apples and oranges***
Explanation: apples used to be more common than oranges in England

Expression: ***all's fair in love and war***
Explanation: positive comes before negative, because it is the most common experience

Expression: ***a game of cat and mouse***
Explanation: the strongest or most powerful entity comes first

Expression: ***signed and sealed***
Explanation: this word order reflects the order of events in the literal scenario

Expression: ***chapter and verse***
Explanation: you first look up the chapter and then the precise verse in that chapter

Expression: ***head and shoulders above someone***
Explanation: crescendo effect: not only the head but even the shoulders are higher

Expression: ***in leaps and bounds***
Explanation: the most frequent word comes first, because it is easiest to retrieve from memory

Expression: ***bound hand and foot***
Explanation: your hands tend to be up in your field of vision and are thus seen first

Expression: ***carrot and stick***
Explanation: positive comes before negative, because it is the most common experience

Expression: **bow and scrape**
Explanation: this word order reflects the order of events in the literal scenario

Expression: **risk life and limb**
Explanation: the most frequent word comes first, because it is easiest to retrieve from memory

Notes

1. We may assume that the same types of phonological motivation demonstrated in this chapter are also at play in the makeup of single words. We focus on phrases rather than single words in this chapter because phrases (given the fact that they tend to be longer) often pose an extra challenge to learners when it comes to recollecting their form (i.e. their precise lexical composition).
2. We draw from a (non-exhaustive) list of about 1,000 alliterative multiword units which can be found in Lindstromberg and Boers (2005). Excerpts from an updated, expanded version of this list are given in Appendix 1.
3. In their qualitative study, MacArthur and Littlemore (this volume) also notice that alliterative phrases tended to be remembered better than others. It might be interesting to re-analyse the data obtained in earlier experiments in which participants' retention of multiword units (such as idioms) was measured by means of (semi-)productive tasks in order to check whether the mnemonic effect of alliteration and rhyme played a part there as well. For example, in Skoufaki's quantitative study (this volume) the cloze test scores of participants who had first been given a form-focused task were (perhaps surprisingly) not significantly better than the scores of participants who had first been given a meaning-focused task. However, some of the target lexis in the experiment happened to show alliteration and assonance (e.g. *Do the dirty on someone*, *Squeaky clean*), and this may have facilitated retention of their form in the meaning-focused condition too.
4. See Walker (this volume) for an explanation of T-scores in corpus linguistics.

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A quantitative comparison of the English and Spanish repertoires of figurative idioms

Frank Boers and Hélène Stengers

Abstract

In language teaching circles it is widely recognised that English is a very idiomatic language. But would that not hold for all natural languages? In this chapter we zoom in on one subcomponent of idiomaticity, and present a corpus-based quantitative comparison of the relative prevalence of figurative idioms in English and Spanish. The results of the study suggest that Spanish makes use of idioms as intensively as English does. There is thus no reason why Spanish idioms (and idioms in any other target language) should not be awarded the same attention as English idioms have received in cognitive-linguistics inspired pedagogy. However, cross-lingual differences can definitely be discerned at the level of the kinds of clusters of idioms (defined in terms of their experiential source domains) that are comparatively popular in either language (as reflected in their variety and frequency of occurrence). We argue that such quantitative differences (and similarities) at the level of idiom clusters can be a useful source of information for teachers and materials writers.

Keywords: idiomaticity; figurative idioms; idiom repertoire; source domain; comparison; corpus; frequency; culture.

1. Introduction

1.1. Different degrees of idiomaticity?

The vast majority of cognitive linguistic (CL) studies of idioms – pedagogy-oriented studies not least of all – concern idioms of *English*. It is true that a few recent ones include comparative consideration of learners' L1 (e.g. Beréndi, Csabí and Kövecses, this volume; Boers and Demecheleer 1998; Deignan, Gabrys, and Solska 1997; Littlemore 2003), usually with a view to anticipating and/or remedying L1 interference, but still it is English idioms that are the exemplary targets of learning.

Pedagogy-oriented CL is not unique in this focus on English. Within the vast enterprise of second and foreign language teaching, TESOL and TEFL indisputably dominate, for English remains a target language for millions of learners; paper and electronic/web-based teaching and learning materials for English abound; and the majority of publications in the field of applied linguistics, including language pedagogy, are in English (for one thing, it is easier to write a comprehensible article about a target language likely to be known by your readers). Could it be, though, that the disproportionate attention given to English idioms (e.g. in ESL/EFL workbooks and websites) not only reflects but has even reinforced the popular belief that English is an exceptionally idiomatic language[1]?

Grant and Bauer (2004) point out that the term idiomaticity is used in two ways:

1. Narrowly, it pertains to the relatively high density of idioms (i.e. to the use of the sort of standardised expressions that are typically included in idiom dictionaries).
2. Broadly, it refers to "native-like selection" in the language (Pawley and Syder 1983) – that is, to the whole of a language's current stock of standardised phrases and collocational patterns.

In this chapter we are concerned almost exclusively with the former conception but narrow it down even more so that we are concerned with *figurative idioms whose original, literal sense is still traceable*.

From a standpoint within CL, the assumption that some languages (e.g. English) might be more idiomatic than others lacks credibility with regard both to the narrow and the broad conception of idiomaticity:

1. If figurative idioms are the result of general and universal cognitive processes of figurative thought (such as conceptual metaphor) that enable human beings to communicate about non-tangible things and processes (Johnson 1987; Lakoff and Johnson 1980; Lakoff 1987), then there seems to be little reason to believe that linguistic communities would significantly differ with regard to the overall volume or intensity of use of their idiom repertoires.
2. If language is a structured inventory of symbolic units ranging continuum-fashion from ones that are highly substantive (like concrete nouns) to ones that are highly schematic (like so-called grammatical structures) (Langacker 1991), with multiword units occupying an indispensable central zone on that continuum, then there seems to be little reason to believe that that central zone would be more densely occupied in some languages than in others.
3. With regard to point 2, insights from applied psycholinguistics about the crucial role of prefabricated multiword chunks in enabling language

users to process language fast enough (e.g. Ellis 2002; Pawley and Syder 2000; Skehan 1998) seem to give further ground for scepticism since we may assume that speakers of all languages need a resource of ready-made phrases to be able to process their language in an exemplar-based fashion (under real-time conditions) as well as in a rule-based fashion (under conditions that allow for planning and monitoring). There is little reason to believe that speakers of languages would differ much in their resort to rules when speaking their language, given that deployment of rule-based knowledge tends to proceed too slowly to yield fluent speech.

As yet, though, no quantitative comparisons seem to be available to back up either the belief or the disbelief in cross-lingual variability in the overall pervasiveness of idioms. In section two below, we therefore report such a comparison – of English and Spanish – with a view to estimating whether or not idiom repertoires are exploited more or less equally intensively across languages.

1.2. Different composition of idiom repertoires?

While cognitive linguists will tend to be sceptical about the claim that English might be exceptionally idiomatic, they will tend to agree that the composition of idiom repertoires may differ across languages at the level of the kinds of idioms that constitute comparatively large segments of the repertoire. It is true that conceptual metaphors and conceptual metonymies that are grounded in general physical experience tend to be universal (e.g. MORE IS UP; ANGER IS HEAT),[2] but many figurative idioms are grounded in more specific source domains than general physical experience, such as sailing (e.g. *clear the decks*, *take something on board*, *be on an even keel*, *give a wide berth*), gardening (e.g. *nip something in the bud*, *prune costs*, *weed out corruption, take root*), boxing (e.g. *lower your guard*, *be on the ropes*, *be down for the count*, *throw in the towel*), card games (e.g. *hold all the aces*, *come up trumps*, *follow suit*, *not miss a* trick), horse racing (e.g. *be neck and neck*, *win hands down*, *a dark horse*, *horses for courses*), and cricket and baseball (e.g. *cover all the bases*, *hit a home run*, *go to bat for someone*, *bat on a sticky wicket*). The relative degree of salience of these more specific source domains is likely to vary across cultures (Boers 2003). We must acknowledge that the link between idioms and culture is far from straightforward (see Deignan [2003] for a demonstration of the intricacies involved), but we may nonetheless assume that experiential domains that have been particularly salient in a given community are likely to serve as a

source for analogies to talk about less tangible target domains through figurative language, including figurative idioms. It follows that, if the relative salience of congruent source domains varies across (the histories of) linguistic communities, then this is likely to be reflected in the composition of their idiom repertoires. It has been found, for example, that idioms derived from the source domain of sailing are more abundant in English popular-economics discourse than in French (Boers and Demecheleer 1997), which is not so surprising given the history of England (and later the UK) as a sea-faring nation.[3]

In the context of language teaching, Boers and Demecheleer (2001) and, more convincingly, Boers, Demecheleer, and Eyckmans (2004) have shown that idioms which are derived from source domains that have been more salient in the culture behind the target language than in a learner's mother tongue pose particular challenges for comprehension and retention. A comparison between the L1 and the L2 idiom repertoires may thus be a useful source of information for anticipating such challenges. In addition, an estimation of potential cross-cultural similarities and differences may inform the design of teaching procedures and materials that help learners appreciate the usefulness of getting into the culture behind the target language.[4]

In section three below, we compare the extent to which various source domains are reflected in the idiom repertoires of English and Spanish. The comparison is based on a screening of idiom dictionaries in both languages.

1.3. Different frequencies of occurrence of idiom clusters?

We know that a presentation of idioms that are grouped by metaphor themes or by source domains is beneficial for learning (Boers 2000; Beréndi, Csábi, and Kövecses, this volume). A comparison of the composition of the L1 and L2 idiom repertoires may inform teachers and materials writers about which idiom clusters (by which we mean groups of idioms derived from the same source domain) merit special attention because they make up a large portion of the overall idiom L2 repertoire an/or because their counterpart in the L1 repertoire is markedly smaller. However, a comparison that is solely based on dictionaries can only reveal similarities and differences at the level of what idiom repertoire seems to be available to (idealised) speakers of either language. It does not give any information about which idiom clusters are in fact *used* relatively frequently. It is conceivable that a comparison of available repertoires alone risks being skewed by the presence of (clusters of) idioms that are hardly at

all in current use but which are not yet characterised in dictionaries as archaic or obsolete.

In section four below, we therefore complement the dictionary-based comparative study by reporting corpus-based data about the frequency of occurrence of various idiom clusters, with a view to fine-tuning the estimation of the relative contribution of various source domains to present-day English and Spanish figurative discourse.

2. Comparing overall frequencies of figurative idioms in English and Spanish corpora

2.1. Method

2.1.1. Selection of idioms

The reason why we have opted to compare English with Spanish (apart from the facts that both are world languages and that we happen to be familiar with them) was that comparable idiom dictionaries and comparable on-line corpora were available for these two languages. However, idioms constitute a diverse class of fixed expressions, and idiom dictionaries vary somewhat with respect to their coverage of them. As a result, the number of entries that idiom dictionaries boast varies too. In an attempt to minimize this variable we decided to focus on one type of idioms, namely figurative expressions that are traceable to their original, literal usage. For example, *to show someone the ropes* (teach someone how to do a certain task) can be traced to its original, literal usage for cases where an experienced sailor shows a novice how to handle the ropes on a sailing boat and what each one is called. Idioms obviously display different degrees of transparency or opacity about their origins. Fortunately, several idiom-dictionary makers have recently begun to provide users with information about the origin of certain idioms, including the dictionaries that we chose to use: *The Oxford Dictionary of Idioms* (Speake 1999) and *The Collins Cobuild Dictionary of Idioms* (Sinclair and Moon 2002 ed.) for English, and the *Diccionario Espasa de dichos y frases hechas* (Buitrago Jiménez 1998) for Spanish, supplemented with *Del dicho al hecho* (Giménez 1998). We combed these dictionaries for figurative idioms whose origin or source domain was either self-evident (e.g. *plain sailing* is obviously derived from the domain of sailing) or was explained in the dictionary entry (e.g. *hit below the belt*, *be on the ropes*, and *throw in the towel* were initially used literally in the

domain of boxing). We excluded from our analysis all idioms labelled as "regional".

The search through the dictionaries generated a list of approximately 1,500 English and 1,100 Spanish idioms. The higher number of English idioms is due to the fact that the two English idiom dictionaries, taken together, more often provided explanations about the original, literal usage of the expressions than the Spanish sources.

2.1.2. Corpus search

From each list (i.e. for each language), we decided to look up the frequency of occurrence of 500 idioms in English and Spanish language corpora. We acknowledge that extrapolations from the frequency data obtained for these 500 idioms per language will need to remain fairly tentative. On the other hand, considering the practicalities involved in a corpus-search for multiword expressions (see below), obtaining frequency data for this number of idioms in both languages seemed ambitious enough.

The idioms were randomly selected from the lists we had compiled on the basis of our screening of the idiom dictionaries. For English, roughly one in every three idioms in the 1,500-item list was taken. This ratio was approximately one in two for the Spanish list containing about 1,100 idioms.

The comparison required the use of two similar wide-coverage modern language corpora.[5] The *Collins Cobuild Online Wordbanks* of English (a representative sample of 56 million words of the *Bank of English*) and Spanish (el *Banco de Español*, 73 million words) seemed to best fill the bill, although the Spanish corpus lacked some useful functionalities such as lemmatisation of the node and part-of-speech tagging of the text. Fortunately, these obstacles did not prove insurmountable (see below).

Corpus tools are available for the retrieval of (semi-)fixed word strings by means of a specific "query syntax". For example, in the *Online Wordbanks*, the string *bite@+the+dust*, where @ sign stands for all the inflected forms of the lemma *bite*, will call up all concordance lines containing instantiations of the idiom, as well as possible coincidental occurrences of the string's component words appearing in the immediate vicinity of each other in the order stipulated by the string. Moon (1998) cautions that corpus searches are by definition deterministic and only report what has been sought, and not necessarily what could (or should) have been looked for. The following paragraphs describe the kinds of combined

strategies we employed in order to retrieve most (if not all) instantiations of the selected figurative idioms from the two corpora.

We decided to count only the idiomatic, figurative usages of the expressions and not their non-idiomatic, literal usages. For example, *a shot in the arm, out to lunch*, *miss the boat*, and *cambiar de chaqueta* (Sp. lit. 'change coats', fig. 'turn one's coat') can all be used literally. In so doing, it was essential to examine the contextual clues in the concordance lines in order to ascertain that the word string was indeed used figuratively. Sometimes, though, the context did not provide enough clues about whether the instance was to be interpreted literally or figuratively. In these cases, we systematically opted *not* to include the instance in the count.

Some word strings have various idiomatic senses. For example, *on the rocks* can either mean 'served with ice' or 'in trouble' while *poner las botas* can mean either 'make a fortune' or 'eat too much'. The condordance lines frequently failed to provide sufficient context to work out which figurative sense a given idiom was used in. We therefore decided to add up the occurrences of all the different figurative uses rather than try to keep a separate tally for each. We did the same when the query string called up more idiomatic uses than the originally intended idiom; for example, some of the concordance lines of the word string *por los pelos* 'in the nick of time' also contained utterances of the idiom *traído por los pelos* 'far-fetched'.

We tried to capture all possible variations of the idioms by using series of complementary query strings. For example, complementary queries were also used when the idiom dictionaries indicated variations in spelling (e.g. *with flying colors/colours*). In order to capture transformations involving the inversion of lexical elements (e.g. *wipe the slate clean / a clean slate*; *pass the buck / buck-passing*; *steal the show / show-stealing*; *clip someone's wings / wings are clipped* and *mojar la oreja* 'challenge somebody to fight' / *con la oreja mojada*), the lexical elements in the query string also had to be reversed. We entered query strings that we felt to be flexible enough to also grasp the more creative uses of the idioms. When starting from a precisely framed search, such as *about+the+bush*, in order to retrieve the utterances of the idiom *beat about the bush,* we soon experienced that it was fruitful to expand the search to a more loosely defined one, e.g. *about+5bush* (where 5 stands for the maximum number of words that can occur between the words *about* and *bush*), as this called up concordance lines containing various transformations and more playful exploitations of the idiom. This also allowed us to retrieve:

- antonymous variations – e.g. *swim **with** the tide* and *swim **against** the tide* and *hacer **buenas** migas and hacer **malas** migas* '(not) hit it off with someone'
- other modifier variations – e.g. *cut **no** ice* with and *cut **little** ice*
- aspect variations – e.g. ***ser** la horma de su zapato* 'be one's match' and ***encontrar** la horma de su zapato* 'meet one's match'
- instantiations with different particles – e.g. ***in** full throttle* and ***at** full throttle* or *atar (en) corto* 'to keep a tight rein'.

Since there is a general tendency in active language to lessen the number of components of relatively long idioms or proverbs, we also entered query strings that were a truncated version of the idiom; that is, an idiom was reduced to a clausal component capable of alluding to the original whole – e.g. *second fiddle* instead of *play second fiddle to someone, tough nut* instead of *tough nut to crack*, *al grano* instead of *ir al grano* 'get down to brass tacks', and *a brazo partido* instead of *luchar a brazo partido* 'fight tooth and nail'. The concordance lines were then analysed in order to subtract the number of possible literal or non-idiomatic occurrences of the string from the overall frequency. This procedure also allowed us to locate nominalizations of the idiom, such as *stab someone in the back* and *a stab in the back, take the lion's share* and *the lion's share,* and *dar gato por liebre* and *gato por liebre*. We also checked for such lexical variation as variation in collocating verb – e.g. ***champ/chomp** at the bit* and ***ponerse/ vestirse/ ir/estar** de tiros largos* 'get/be dressed to kill'. Thus, our searches also included causative and resultative variations – e.g. ***come** to the boil* / ***bring** something to a boil* and *morder el polvo* / ***hacer** morder el polvo* '(make) bite the dust' as well as such aspectual variations of an idiom as ***have** / **keep** someone on a string*.

The Spanish corpus searches turned out to be somewhat more intricate than the English ones as, unlike in the English corpus where a verb or noun could be lemmatised by means of the @ sign capturing all inflected forms of the lemma, this was not the case in the Spanish corpus where singular and plural forms had to be entered separately – e.g. *limpi**o** de polvo y paja*, *limpi**os** de polvo y paja*, *limpi**a** de polvo y paja* and *limpi**as** de polvo y paja* 'incorruptible'. Thus, whenever one of the idiom's lexical elements can occur both in a plural and singular form, two separate queries were used.

Despite our efforts to find all the occurrences of each target idiom in the corpora, we cannot deny that some may have escaped our searches, in particular because some transformations may have been too discontinuous to fall within the scope of our corpus queries. Moon (1998) reminds us that whereas idioms are dynamic vocabulary items, quantitative corpus linguistics relies on the presence of stable forms. However, we are

confident that we applied essentially identical procedures in our searches in both the English and the Spanish corpus, which is crucial for the quantitative comparison. Still, given the fact that the Spanish corpus search was a bit more intricate, the chance of missing some instantiations may have been slightly greater with regard to Spanish.

2.2. Results

Table 1 provides an overview of the overall frequencies of occurrence of our samples of 500 idioms in the English and Spanish corpora. As the corpora differed in size (56 million words of English, as opposed to 73 million words of Spanish), the frequencies for the Spanish idioms were converted to values for a 56-million-word corpus. The means of both samples then turn out to be virtually identical: the English idioms in our sample occur on average 24.56 times in the corpus, as compared to an average for the Spanish idioms of 24.57 times.

Table 1. Frequency of occurrence of 500 English and 500 Spanish idioms

Sample	Combined frequency per 56 million words	Mean frequency	Standard deviation
500 English idioms	12, 278	24.56	39.67
500 Spanish idioms	12, 287	24.57	35.78

The frequencies obtained ranged from 0 to 604 for the English idioms, and from 0 to 373.62 for the Spanish idioms. This apparent difference in range, however, is due *solely* to the inclusion in our English sample of the exceptionally frequent *in the wake of*. In both corpora around 75% of the idioms actually occurred only between 0 and 29 times, which also explains why the standard deviations given in Table 1 are quite similar. We nevertheless applied a T-test to the seemingly different variability in frequency ranges between the English and Spanish sample, but this calculation reveals no significant difference at all ($p = .29$; two-tailed).

In sum, the quantitative results suggest that, overall, figurative idioms are used just as often in Spanish as in English. So, at least as far as the narrow concept of idiomaticity is concerned (i.e. idiomaticity measured in terms of the density of occurrence of figurative idioms), we have found no evidence whatsoever to support popular wisdom which holds that English

is an exceptionally idiomatic language. If English idioms are deemed worthy objects of explicit instruction (a position which applied cognitive linguists are wont to hold), then there seems to be no reason why idioms should not be given similar attention in the teaching of other target languages.

3. The presence of congruent source domains in English and Spanish idiom repertoires

Our first use of the above-mentioned samples of 1,500 English and 1,100 Spanish idioms was in an investigation of the relative prevalence of various source domains across the two idiom repertoires. A detailed report of that comparative study is to appear in Boers and Stengers (Forthcoming).

In the present section, we present a part summary of that work which focuses only on the following relatively well-represented source domains:

–   clothes and adornment (e.g. try something on for size; estar de capa caída)
–   entertainment and public performance (e.g. play to the gallery; estar en la cuerda floja)
–   fauna and flora (e.g. put out feelers; traer cola)
–   food and cooking (e.g. on the back burner; echar toda la carne en el asador)
–   games and sports (e.g. keep your eye on the ball; saltarse a la torera)
–   religion and superstition (e.g. fall from grace; para más inri)
–   vehicles and transport (e.g. *miss the boat*; *perder el tren*)
–   war and aggression (e.g. *break ranks*; *agotar el ultimo cartucho*).[6]

Deciding which source domain a given idiom "belongs to" is not always self-evident, and we have had to categorise quite a few idioms under two or even three likely source domains. For example, *a shot across somebody's bow* can be traced to War and Aggression as well as Vehicles and Transport (specifically Ships and Sailing).

Table 2 shows the relative contribution by these source domains to the English and Spanish idiom repertoires, as estimated on the basis of our hand counts in the dictionaries.

Perhaps the most striking difference at this level of comparison is the greater proportion of English idioms that are derived from Games / Sports and Vehicles / Transport, and the much greater proportion of Spanish idioms that are derived from Religion / Superstition.[7]

Table 2. Contribution by salient source domains to both idiom repertoires

	English	Spanish
Games & sports	17.45%	13.55%
Fauna & flora	17.45%	14.18%
War & aggression	11.00%	9.18%
Vehicles & transport	9.29%	4.27%
Food & cooking	7.16%	8.91%
Religion & superstition	7.16%	17.73%
Entertainment & public performance	4.89%	5.73%
Clothes & adornment	4.61%	3.27%

Other marked contrasts only appear if we look at the distribution of idioms at the level of more specific source domains than the above-mentioned general ones that we have used for Table 2. The most pronounced examples are the following:

– A greater proportion of English idioms can be related to the general source domain of games and sports is partly due to a higher number of English idioms derived from ball games (45 as compared to only eight in Spanish), 21 of which are baseball and cricket expressions (e.g. *knock someone for six*), and higher numbers of hunting (e.g. *a red herring*) and horse-racing (e.g. *a one-horse race*) idioms. By contrast, a considerable fraction of the Spanish games-and-sports idioms consists of no fewer than 42 bullfighting expressions, while the stock of English bullfighting, or possibly bull-baiting, idioms seems confined to *a red rag to a bull, take the bull by the horns* and *see red*).

– English appears to have the most idioms derived from the general source domain of fauna and flora is partly due to its comparatively high number of "dog" expressions (33 as compared to 18 in Spanish).

– English appears to have more idioms derived from vehicles and transport is partly due to its high number of boats-and-sailing expressions (77 as compared to 34 in Spanish).

This dictionary-based comparison does seem to corroborate the thesis that experiential domains that have been relatively salient in a given community are especially likely to contribute to the composition of that community's idiom repertoire. As communities differ with regard to the degree in which they are (or used to be) preoccupied with certain source domains (e.g. with

their own national sports), the composition of their idiom repertoires is likely to differ too.

However, as mentioned above, a dictionary-based comparison does not give much insight into the extent to which available clusters of idioms derived from various source domains are used in present-day discourse. A frequency-based comparison may present a different picture. If we confine the categorization by source domains to a sub-set of approximately 560 English idioms that are signalled in *Collins Cobuild* as "frequently used", then it appears, for example, that the source domain of fauna and flora may be much less reflected in present-day English language use than is suggested by Table 2. On the other hand, the domain of vehicles and transport seems even more often drawn from in present-day English discourse than Table 2 suggests. Table 3 shows the relative contribution by the selected source domains when we confine the count to frequently used idioms only.

Table 3. Contribution by salient source domains to the English repertoire of frequently used idioms

	"all idioms"	"frequent idioms"
Games & sports	17.45%	22.88%
Fauna & flora	17.45%	10.68%
War & aggression	11.00%	15.59%
Vehicles & transport	9.29%	13.56%
Food & cooking	7.16%	6.27%
Religion & superstition	7.16%	4.07%
Entertainment & public performance	4.89%	6.27%
Clothes & adornment	4.61%	2.71%

Unfortunately, neither of the Spanish idiom dictionaries signals which idioms are frequently used (unlike *Collins Cobuild*). To make a cross-lingual comparison of the relative frequency of occurrence of given idiom clusters, we therefore needed to undertake a corpus-based investigation ourselves.

4. Frequency counts of idiom clusters

Recall from section 2 that we looked up the frequency of occurrence in *The Collins Cobuild Wordbanks* of a sample of 500 English and 500 Spanish idioms. The frequency data obtained from that search were also used for the present investigation. In each sample we again categorized the idioms by (likely) source domain, and we calculated the overall frequency of occurrence for each idiom cluster (i.e. for each set of idioms derived from the same source domain). Also recall from section 2 that some idioms were categorized twice; that is, traced to two different source domains.

For reliability's sake (considering the high standard deviations), we shall (in principle) only report mean frequencies of occurrence of clusters represented by at least twenty idioms in either sample. These correspond to the source domains mentioned in section 3 (see Tables 2 and 3).

The clusters of idioms related to two general experiential domains that were shown to be especially well reflected in the idiom repertoire that is available to (idealised) native speakers of English (see above) also turn out to occur exceptionally frequently in the corpus: idioms traceable to Vehicles / Transport and idioms traceable to Games / Sports occur in the corpus on average 39.83 times and 34.89 times, respectively. Recall that the mean for the English sample as a whole was (only) 24.56. Application of a T-test reveals that idioms derived from Vehicles / Transport and those derived from Games / Sports are significantly more likely (at $p = 0.004$ and at $p = 0.03$, respectively) to occur more frequently than idioms derived from the collection of other source domains. The cluster of idioms that are traceable to War / Aggression takes up third position in the frequency league (but here the T-test does not yield statistical significance).

At the level of more specific source domains that are subsumed under the above general ones, it is interesting to note that the overall high frequency of idioms related to Vehicles / Transport is due to the exceptionally high means of "Boats and Sailing" idioms. Our sample contained 25 of these, and they occur on average 62.6 times in the corpus. We may safely assume that few native speakers of English would consider ships to be the primary means of transport now (if indeed they ever were), and yet they seem still to be making strikingly frequent use of originally nautical expressions. Whether they do so consciously is doubtful, but what is of interest to us here is that learners of English may be coached to approximate a native speaker's use of language by helping them to acquire clusters of expressions that are especially common in the native speaker's phraseology.

As far as the more specific sub-domains of Games / Sports are concerned, our sample did not contain sufficient numbers of idioms derived from any of those (card games, gambling, horse racing, ball games, running contests, archery, etc.) for us to be able to make any claims about their overall frequencies. in the corpus. Still, spurs to further investigations are the high mean frequency of occurrence (46) we found for ten boxing and wrestling idioms, and the high mean frequency (52.14) found for seven hunting idioms.

Let us now turn to the frequency data for the clusters of Spanish idioms. These have been converted from the 73 million word Spanish corpus to match the 56 million word English corpus again. Whereas in the English sample we found some very marked variation in the relative frequencies of occurrence of certain clusters of idioms, few of the clusters of Spanish idioms seem to be used exceptionally frequently in comparison to the others. Application of the T-test shows that only the idioms derived from the source domain of Games / Sports are significantly more likely to occur more frequently in the corpus than the collection of other idioms ($p = 0.042$). For English-speaking learners of Spanish and for Spanish-speaking learners of English, the shared overall high frequency of games and sports idioms in both languages might be exploited first as common ground, and subsequently as a springboard for cross-lingual and cross-cultural comparison at the level of the kinds of games and sports that are reflected in this segment of both idiom repertoires.

Our hand counts in idiom dictionaries had suggested that idioms derived from religion and superstition made up an especially large segment of the Spanish idiom repertoire. The results of our corpus count, however, suggest that, overall, this segment is not at all used especially frequently in present-day Spanish. In other words, the prevalence of Spanish religion and superstition idioms apparent in the composition of the Spanish idiom repertoire is not corroborated by the frequency data. It is therefore not at all certain that learners of Spanish are bound to be confronted more often with religion idioms than with, for example, sports idioms.

Table 4 sums up the comparison between the mean frequencies of the idiom clusters in English and in Spanish. The idiom clusters associated with the four source domains that appeared from the dictionary-based exercise (cf. section 3, Tables 2 and 3) to be most reflected in the English idiom repertoire (i.e. Vehicles / Transport, Games / Sports, War / Aggression, and Fauna / Flora) are also on the whole *used* more frequently than their counterparts in Spanish. On the other hand, the frequency data for the clusters related to Food / Cooking and Clothes / Adornment illustrate that a greater variety of idioms in a given cluster does not

necessarily result in a proportionally greater density of that cluster in actual present-day discourse. It must be noted, however, that although some of the mean frequencies in Table 4 suggest substantial differences across the two samples, *none* of the T-tests we ran actually yielded any statistical significance.

Table 4. Mean frequencies of English and Spanish idiom clusters

Source domain	Mean frequency English idioms			Mean frequency Spanish idioms		
Vehicles / Transport	39.83	(N 47)	(SD 91.85)	29.48	(N 14)	(SD 24.82)
Games / Sports	34.89	(N 71)	(SD 39.60)	29.48	(N 74)	(SD 31.95)
War / Aggression	27.77	(N 60)	(SD 31.31)	18.92	(N 45)	(SD 20.14)
Entertain / Perform	24.81	(N 26)	(SD 24.30)	23.90	(N 26)	(SD 28.92)
Fauna / Flora	19.76	(N 81)	(SD 28.89)	16.14	(N 59)	(SD 19.67)
Food / Cooking	16.86	(N 35)	(SD 13.68)	14.05	(N 41)	(SD 17.06)
Clothes / Adornment	11.85	(N 20)	(SD 12.09)	18.51	(N 24)	(SD 22.12)
Religion / Superstition	19.85	(N 13)	(SD 12.3)	20.25	(N 59)	(SD 26.15)

5. Conclusion

In this chapter we have first compared the overall frequency of occurrence of English and Spanish figurative idioms in equivalent corpora. The result of that comparison falsifies the popular claim that English might be an exceptionally idiomatic language. If idioms are considered sufficiently important to merit explicit treatment in ESL/EFL classrooms and self-study materials, then there seems to be no reason why the same amount of time and space should not be devoted to idioms in other target languages.

Elsewhere, experiments have shown that organising figurative idioms by metaphor themes or source domains is helpful for language learners. However, in considering the size of a language's idiom repertoire and the issue of time management in FLT, the question arises as to which clusters of idioms (i.e. related to which metaphor themes or source domains) in a given target language actually merit explicit treatment (or should be given priority). The well-established criteria for vocabulary selection in FLT are (1) frequency and (2) relevance (see the introductory chapter to this volume, section 1.4.), to which Boers and Lindstromberg (2005; this volume, following West 1953) stress the addition of (3) ease of learning.

The frequency criterion is usually applied to individual lexical items (rather than clusters of items). "Relevance" typically refers to the usefulness of acquiring certain lexis for the accomplishment of a task at hand or for specific communicative purposes within a given domain. When it comes to selecting *idioms* for pedagogical treatment, however, we would like to stretch the frequency and relevance criteria by taking the *overall* frequency of *clusters* of idioms (including both frequent and less expressions) into account as well.

There are at least five arguments for doing so:

1. In order to be able to present idioms in a grouped fashion which demonstrates to learners that idiomatic language is indeed non-arbitrary and non-random; including only high-frequency idioms may simply not suffice because of their relatively low numbers.

2. Comparative analyses (such as the analysis we have presented in this chapter) may point to clusters of idioms with a high overall frequency that can be expected to pose special challenges to the learners (because of their culture-specific grounding).

3. Idiom clusters in the L2 that are exceptionally prevalent in the L2 in contrast with the L1 can be exploited for purposes of cross-cultural awareness-raising (even if only from a diachronic / historical perspective).

4. Sooner or later students are likely to be confronted with pieces of discourse (e.g. in the more playful genres of journalese) in which clusters of figurative idioms are exploited as a means of lexical cohesion or textual coherence (and for puns, especially in headlines), and such pieces of discourse are bound to make use of the less frequent members of the cluster as well.

5. Coaching learners to actively use idioms belonging to clusters that are especially prevalent in native speakers' discourse may help these learners approximate a native speaker's language use (at least at the level of phraseology).

Dictionary-based comparisons can give insight into similarities and variations in the composition of idiom repertoires in terms of the extent to which congruent source domains are reflected in them. However, we hope our analysis has demonstrated that it can be useful to check dictionary-based observations against corpus-based frequency counts that show how commonly (or, in some cases, how rarely) idioms derived from a given source domain are actually used in present-day discourse. In our own case study, for example, the corpus-based frequency counts confirm the relative importance in English of idiom clusters derived from the source domains of Games / Sports and Vehicles / Transport (in the latter case especially from

the sub-domain of Ships / Sailing). The combination of dictionary and corpus data thus points to these clusters of idioms as inviting targets for teaching in ESL/EFL. On the other hand, the corpus counts of Spanish expressions belonging to the remarkably wide range of Spanish idioms that are traceable to the source domain of Religion / Superstition reveal a mean frequency that is actually below average, which reduces the apparent urgency for targeting this cluster of Spanish idioms in particular.

Notes

1. It is striking how often a piece on idioms in a popular TESOL/TEFL publication is introduced by statements along the lines of "English is heavily idiomatic" or "Idiomatic expressions are extremely common in English". A good example is a piece written by Linda Correli at: http://www.abctusalud.com/learn-english/jazz-up-your-english-with-fresh-and-lively-idioms.html
2. While the processes of conceptual metaphor and conceptual metonymy are universal, it seems that languages may vary in the degree to which they resort to one rather than the other (Charteris-Black 2003).
3. We are not making any claims about the extent to which native speakers are (still) aware of the origin (or even the figurative nature) of the idioms they use. That interesting debate is beyond the scope of this chapter (but see, for example, Katz 1998, for a review). Our motivation for tracing idioms to their historical-cultural-etymological origins lies first and foremost in the finding that raising learners' awareness of the origins of idioms offers pathways for deep processing and especially dual coding.
4. The inclusion of cultural-awareness objectives in second and foreign language instruction has been advocated in recent years by several scholars, including Byram (1997) and Kramsch (1993). The connection between language and culture has attracted considerable attention in CL as well (e.g. Kövecses 2005; Niemeier and Dirven 2000; Palmer 1996; Pütz and Verspoor 2000).
5. Although these are characterised as "wide-coverage" corpora, it is well-known that a disproportionate part of them are journalistic in register; that is, they draw extensively from articles in newspapers and magazines. As the English and Spanish corpora of the *Cobuild Collins Wordbanks* are similar in composition; however, this bias towards the journalese genre need not be an obstacle for our quantitative comparison. Furthermore, language teachers who want to use authentic L2 samples in their pedagogical practice will often turn to this genre anyhow, since articles from newspapers and magazines tend to be (a) easily available (in print and/or on-line) and (b) attractive to learners because of their news value.
6. The dissection of concrete reality into these particular categories is not at all meant as an epistemological statement. After all, it is far from clear what

qualifies as an experiential domain, still less what the boundaries of a domain might be and what interconnections it might have with other such domains. The categories used in this comparison are merely the pragmatic outcome of an earlier pedagogical project in which students were given the task of categorising idioms by source domain in the hope that this might help them to both comprehend and remember the expressions (see, e.g. Boers, Demecheleer, and Eyckmans 2004).

7.   We acknowledge that we cannot know for certain whether the Spanish and the English dictionary makers used the same criteria for including figurative phrases in their dictionaries. For example, the Spanish dictionaries seemed to have more entries for expressions that in English lexicology would be classified as proverbs rather than idioms. This may have contributed to the disproportionate size of the Spanish cluster of phrases that are traceable to the domain of religion and superstition.

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Closing chapter

From empirical findings to pedagogical practice

Frank Boers and Seth Lindstromberg

Abstract
In this chapter we propose a series of classroom activities that implement and integrate several cognitive linguistic research findings regarding the teaching and learning of figurative idioms. Some of the activities are meant to help students remember the meaning of idioms (through semantic elaboration) while others draw students' attention to the precise lexical composition of the targeted expressions (stimulating structural elaboration). The activities are designed with a view to maximizing the mnemonic benefits of deep processing, grouping, and dual coding of lexis, while also catering for positive affect. The presentation of the actual classroom activities and the rationale behind them is preceded by a brief discussion regarding the selection of idioms that may merit explicit teaching.

Keywords: idioms; classroom activities; semantic and structural elaboration; deep processing; grouping; dual coding; affect.

1. Introduction

In this chapter, we present a series of classroom activities meant to help students comprehend and remember considerable numbers of idiomatic expressions.[1] They implement several of the research findings reported by the various contributors to the present book, and we will mention those relevant findings again as we describe the activities.

Some of the proposed activities are meant first and foremost to help students remember the meaning of the expressions. This is a worthwhile objective since idioms are likely to create comprehension problems. For example, if a native speaker proposes to *show you the ropes* and you are not yet familiar with this expression, then you might not immediately understand that he or she is offering to teach you how to do a certain job.

Other activities we describe below aim to help students remember the form (i.e. the lexical composition) of the idioms when given meaningful and sometimes also formal prompts. This is useful for the purpose of helping learners use the expressions themselves. Productive knowledge of multiword units (including idioms) helps learners come across as fluent and native-like (cf. Boers *et al.* 2006).

A standard English idiom dictionary contains about 5,000 idioms. It goes without saying that we do not advocate explicit treatment of all of these in the classroom. There is more to language than idioms, after all, and – as with vocabulary in general (see section 1.4 of the introductory chapter to this volume) – one needs criteria to prioritise some segments for explicit instruction over others.

2. A selection of figurative idioms

The idioms we have selected for targeting in the activities below meet the following criteria:

– They are signalled in the *Collins Cobuild Dictionary of Idioms* (Sinclair and Moon 2002 ed.) as "frequently used" and should therefore (according to the dictionary editors) get priority in TEFL. When working with advanced students, many more idioms could in principle be tackled with the classroom procedures outlined below. In fact, our own entry-by-entry hand counts in standard idiom dictionaries suggest that over 1,000 English idioms could be taught along the same lines.

– They can be related to general source domains that have been found to be quite productive for the English repertoire of idioms (cf. Boers and Stengers, forthcoming and this volume), and are thus useful in order to give students a feel of the relative salience these domains of experience in the culture (albeit of the past) of the target language. In these activities we focus on the three most represented general source domains in the set of frequently used English idioms, i.e. (a) games and sports, (b) war and aggression, and (c) transport and travelling. However, it is especially when the more specific domains (e.g. horse racing and sailing) which are subsumed under the general ones (e.g., games/sports and travelling, respectively) are brought into the picture (see Activity Two below), that students may become aware of cross-cultural variation in idiom repertoires (cf. Boers 2003).

- The historical/cultural/etymological origin of these idioms can easily be found by teachers in some of the widely available idiom dictionaries, notably in *The Oxford Dictionary of Idioms* (Speake 1999) and *The Collins Cobuild Dictionary of Idioms* (Sinclair and Moon 2002).[2]

- The transfer from the original use or literal meaning to the actual figurative use is pretty straightforward. Once students realise what the original, literal meaning of a given idiom was, they stand a good chance of correctly inferring the idiomatic, figurative meaning of that expression. On the other hand, experiments suggest that if longwinded explanations are required about the original context of use of an expression and how that meaning got blurred over time to yield the present-day figurative idiom (as is the case in, e.g. *Give someone the cold shoulder*), then there is a risk that students will perceive this background information as far-fetched and irrelevant for their comprehension of the actual figurative meaning (cf. Boers, Demecheleer, and Eyckmans 2004).

- The selected idioms do not contain words that would make the task of identifying their source domains (which is part of the activities proposed below) too easy and thus superfluous. For example, although asking students to hypothesise about the likely source domain of *blow the whistle on someone* may set in motion a bit of thinking and perhaps a bit of discussion, asking students to decide whether the likely source domain of *play the game* might be games would fairly certainly be perceived as a task without much face validity. Similarly, revealing to students that the original source domain of *showing someone the ropes* is sailing may be perceived by them as useful, but telling students that this also applies to *We're all in the same boat* risks coming across as stating the obvious.

The idioms that we have used ourselves in the classroom activities described below are listed in Appendix 1, grouped by their source domains. Because experiential domains are not clearly delineated, some idioms are listed twice, as possibly being derived from a combination of source domains. This possibility will also be taken into account in the actual activities.

3. Classroom activities

3.1. Activity one: "In the frame"

3.1.1. Preparation

a. Select idioms derived from three general source domains, for example idioms derived from games and sports, transport and travelling, and war and aggression. The number of idioms will depend on your students' prior knowledge and on how many you think it is feasible for them to acquire in just one class.

b. Put each of the idioms on a separate card, also providing a brief context in which the idiom could be used. For example: *Although we had agreed not to tell anyone about my pregnancy yet, my husband JUMPED THE GUN and told his parents straightaway.*

c. For each of the idioms, make sure you know about its original or literal meaning from which its actual figurative meaning is derived. For example, the origin of *jump the gun* is the scenario of an athlete in a running contest setting off before the starting pistol has been fired.

3.1.2. Procedure

Draw three partially overlapping diagrams on the board and label them as the general source domains, for example:

Games & sports   War & aggression

Transport & travelling
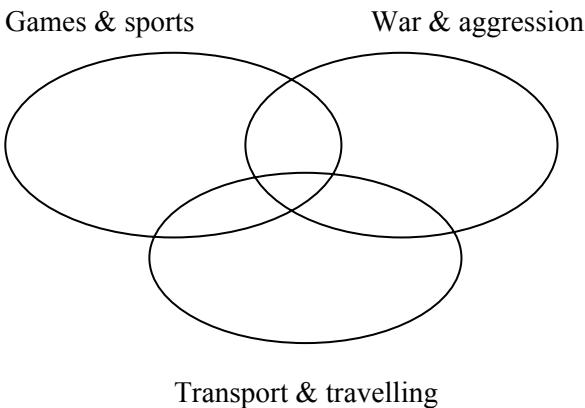
a. Hand out the cards with idioms to pairs of students. Tell students the diagrams represent three possible domains of experience that the idioms were originally used in (in their literal senses). Ask students to (a) read the context in which the idiom is used, (b) stick their cards to the board in the domain they believe to be the source of their idioms, and (c) explain to their classmates what they think the origin of the idiom is, and (d) what they think the idiom means. The overlapping parts of the diagrams provide the possibility to relate an idiom to two (or three) source domains at the same time, or simply to avoid committing oneself to any definite choice at all.

b. Corroborate or falsify the students' hypotheses. Give additional information if need be about the precise origin and/or about the figurative meaning of the idiom. If the choice of source domain was wrong, ask (a member of) the pair to adjust the place of the given idiom in the diagram. For example, if the card with *jump the gun* was previously put in the domain of war and aggression (which sometimes happens, despite the contextual clues on the card), it will now be moved to games and sports.

c. After all the cards have been used, ask students (a) to individually choose an idiom they have *not* presented themselves and (b) to invent a new verbal context in which they could use the expression. Ask volunteers to present their work.

d. Remove all the cards from the board and quiz the students (playfully) on their recollection of some of the expressions and their meanings.

3.1.3. Rationale

– We know that categorising idioms under metaphor themes (or source domains, in our case) is beneficial for retention (Beréndi, Csábi, and Kövecses, this volume). However, we also know that such categories need to be pretty concrete and recognisable to have a significant mnemonic effect (Condon, this volume). In explaining that a given idiom can be categorised under this or that source domain, the student in the above activity is likely to trace it to a concrete scene (e.g. tracing *being on the ropes* to a vivid scene in boxing when one of the fighters is in trouble).

– We know that getting students actively involved in working out the meanings of idioms, for example by means of a guessing task, adds to the mnemonic benefits of grouping them (Skoufaki, this

volume). However, we also know that students tend to need considerable guidance (and corrective feedback) to carry out such a task successfully (Beréndi, Csábi, and Kövecses, this volume; MacArthur and Littlemore, this volume) and that it is important for students to arrive at correct interpretations (Skoufaki, this volume)[3]. In the above activity, we therefore try to increase the chances of correct meaning-guessing by (a) giving students a context in which the idiom is used and (b) by limiting the number of possible source domains. We acknowledge the suggestion of MacArthur and Littlemore (this volume) that students may need extra training in combining the semantic clues present in the lexical item itself and those provided by the context – for example, extra training in checking whether their hypothesis based on the lexical make-up of the idiom itself matches the contextual clues. By restricting the number of possible source domains, in the above activity, students may be more likely to guess the source domain right, in which case they are very likely to correctly infer the figurative meaning of the idiom (cf. Boers, Eyckmans, and Stengers 2007). In addition, we encourage the students to collaborate (in pairs), since this too appears to increase the chances of reaching a correct interpretation (MacArthur and Littlemore, this volume).

3.2. Activity Two: "Zooming in"

3.2.1. Preparation

This is a follow-up to Activity One, which could be added on in the same class or postponed until the next. Some of the idiom cards used in Activity One (for example, those that seemed difficult for the students) can be re-used, but a number of additional ones are needed.

3.2.2. Procedure

Take one of the general source domains used in Activity One and draw three partially overlapping diagrams on the board to represent three of its more specific sub-domains. For example, zoom in on the general source domain games and sports, and draw a diagram representing the specific sub-domains of gambling and horse-racing, a second diagram representing

ball games and running contests, and a third diagram representing boxing and wrestling. Alternatively or subsequently, you may want to zoom in on transport and travelling, and distinguish between the specific sub-domains sailing, horse-riding, and trains / cars. Then proceed as in Activity One.

3.2.3. Rationale

– By zooming in on more specific source domains, the chances of eliciting vivid images of concrete scenes are enhanced. This, in turn, heightens the likelihood of dual coding, and is thus likely to be beneficial for long-term retention. The rationale for choosing a categorisation at a more general level first in Activity One is (a) to make students familiar with three very productive general source domains for English idioms instead of just one, and (b) to give the possibility of touching upon idioms whose specific source domains will not be focused on in Activity Two.
– By recycling some of the cards already used in Activity One in addition to the new set of idioms not yet targeted in Activity One, the zooming-in activity serves both the purpose of deepening and broadening knowledge. Familiarity with a proportion of the input is also likely to instil self-confidence as students will be in a position to evaluate for themselves how well these classroom activities help them remember.

3.3. Activity Three: "What's missing?"

3.3.1. Preparation

This activity recycles idioms targeted in the previous activities but it also adds a number of new ones. As such, the activity aims to consolidate as well as broaden knowledge of idioms. While the previous activities were meant first and foremost to help students remember the meaning of the expressions (through semantic elaboration, and more specifically through dual coding), the present activity will help them remember the form (i.e. the lexical composition) of the expressions (through structural elaboration, and more specifically through noticing phonological motivation).

a. Select from previously targeted idioms a fair number of expressions that show alliteration or assonance. Such sound patterns are signalled in the list in Appendix 1. Add a number of alliterative or rhyming idioms that have not yet been covered in the previous activities. A potentially useful list is offered in Appendix 2. These are idioms that are also signalled in the *Collins Cobuild Dictionary of Idioms* as frequently used ones, but they are derived from other source domains than those focused on so far in the activities. Make sure you know about their literal origins as well as their actual idiomatic meaning.

b. Incorporate each phrase into a sentence or mini-text which hints at its meaning, but delete a keyword. Some examples:

In some cultures, it is not men but women who rule the _____

Whatever happens, I'm going to keep on supporting him through _____ and thin.

We would have liked to start our new project, but due to financial problems we've had to put it on the back _____ for a while.

Few pedagogues _____ what they preach, when it comes to bringing up their own children.

Put these on separate cards or slips of paper. Create two versions per sentence or mini-text so that different versions target different keywords — for example:

In some cultures, it is not men but women who rule the _____.

In some cultures, it is not men but women who _____ the roost.

Depending on your expectation about your students' performance, you may wish to make the gap-fill exercise either easier by adding the first letter of the missing word or more challenging by deleting two words instead of just one per phrase.

3.3.2. Procedure

a. (Optional) In a previous lesson or much earlier in the same lesson (to benefit from the effect of distributed input) give each student a set of *un*-gapped illustrative examples of the target phrases. Discuss and clarify as necessary. This list should not be visible during the next step of the procedure.

b. Students will be working in pairs. Each gets a complete set of cards, which they put upside down on their desk. Students take turns in turning over their cards and together try to complete each phrase as they go along. In case of doubt, the card is turned face down again. Cases of doubt will be resolved in due course when the corresponding version (with the other keyword missing) is turned over.

c. The teacher walks around and quizzes the pairs of students to see if they understand the phrases. Once the idiomatic meaning is established, students also guess what the literal origin of the new phrases might be. The teacher gives corrective feedback.

d. After the pair work, in plenary, the teacher asks students whether they have noticed anything special about the phrases targeted in the gap-fill exercises which may have facilitated their task. This should result in raising students' awareness of catchy sound patterns as a motivation behind the lexical composition of a fair number of fixed phrases.

e. (Optional) In class or at home, students each write a 6-7 sentence story which includes (a) one or two of the expressions and (b) three characters – e.g. a princess, a pirate and a parrot. In class, in groups of seven or so, they take turns reading their stories out.

3.3.3. Rationale

– We know that alliteration and rhyme increase the likelihood of form retention (cf. Boers and Lindstromberg 2005; Lindstromberg and Boers, forthcoming), especially so after awareness-raising (which may be helpful for students whose cognitive style inclines more towards imagery than the noticing of linguistic form). Form retention is obviously a prerequisite for productive knowledge.

– The gap-fill exercise partly aims at recollection of previously encountered idioms. The high success rate (which is inherent in the design of the exercise) contributes to positive affect.

  – The exercise also includes hitherto untargeted imageable idioms. The objectives of including these are (a) adding to the challenge of the task and (b) showing students how the strategy employed in Activities One and Two (i.e. the mnemonic of dual coding via resuscitation of the original, literal meaning of the idioms) can be transferred to their processing of other phrases encountered more incidentally in future.

3.4. Activity Four: "Picture this" and "Goes to show"

3.4.1. Preparation

This activity is meant as playful consolidation of the knowledge of idioms that students have learned in the previous activities. We will present two versions. Under the first version, no preparation is needed. Under the second version, preparation only involves making a choice of previously learned idioms whose imagery can easily be depicted by means of a drawing and/or by means of mime. For example, *in the wake of something* can be depicted by drawing a boat with waves behind it. *Getting into gear* can be mimed by manipulating an imaginary gear stick.

3.4.2. Procedure

  – Version A: Give students a couple of minutes to list for themselves a number of idioms they remember from the previous activities, and to select from those a couple whose literal meaning they could either elucidate by means of a drawing or by means of mime. Then ask volunteers to take turns at either making a drawing on the board or miming an idiom for their classmates to guess which idiom the presenter has in mind.
  – Version B: Hand out cards with previously encountered idioms. Tell students to keep their cards to themselves. Give each student at least two cards (to minimise the chances of students finding themselves unable to carry out the subsequent task). Ask students to choose an idiom, tell their fellow-students "You're looking for an expression that means […]", and make a drawing on the board that will help classmates identify the expression. As an alternative, two teams could take turns to try and identify the idiom being drawn or mimed by one of their team members.

3.4.3. Rationale

- We know that pictorial elucidation aids retention of meaning (Boers *et al.*, this volume) – and this also holds for mime (Lindstromberg and Boers 2005).
- At the level of the individual student, the cognitive effort he or she invests in producing a suitable drawing or mime is especially likely to be beneficial for retention (Lindstromberg and Boers 2005).
- This explicit use of pictorial elucidation will stimulate dual coding in those individuals whose cognitive-style profile has not inclined them to make sufficiently precise mental images spontaneously in the previous activities (Boers *et al.*, this volume).
- The task involves recollection of the form (i.e. the lexical make-up) of the idioms, which is a prerequisite for active, productive knowledge.

4. Going beyond what is in the idiom dictionary

In this final section, we present a classroom activity that targets standardised phrases that are figurative but that tend to escape the attention of idiom-dictionary makers, and a classroom activity that targets phraseology that need not be figurative at all.

4.1. Activity Five: "What could it mean?"

4.4.1. Preparation

a. Make class sets of a dozen or so concrete nouns that are also used (as a noun or verb) in a figurative sense; for example, include the noun *rake* because it is also used as a verb, both literally and figuratively, in *rake in the cash*. (We will refer to this list as worksheet A; it is not given below). The reason for selecting a given set of words may be their occurrence in a reading or listening text that students have just dealt with or will be dealing with.

b. Compose or find (in a corpus or corpus-based dictionary) meaning-revealing examples of usage of the words such that some of the examples show literal while other examples show the figurative usage. Then produce a class set of the list (Worksheet B; not given below). For example:

Literal: *In late autumn we often see people **<u>raking</u> leaves** into heaps for burning*
Figurative: *Has Bill Gates **<u>raked</u> in the cash***? *Is the Pope Catholic?*

Perhaps include some sentences that could by some stretch of the imagination be construed literally as well as figuratively. For example:

*Any halfway intelligent casino owner will almost certainly be **<u>raking in the cash</u>***. [I.e. maybe the owner also works as a croupier and has a small croupier's rake.]

4.1.2. *Procedure*

a. Form pairs and hand out copies of Worksheet A (the list of *nouns*). Make sure that everyone immediately folds their sheet of paper so that they see only one half of these words and their partner only sees the other half.
b. Distribute dictionaries or ask students to use their own. Everyone looks up the meaning of every word on their list that they do not know well.
c. In each pair partners take turns trying to guess each other's words by asking Yes/No questions (e.g. *Is it living or not? Is it a tool? Does it have a wooden handle? Is it long?* Etc.) When guessers think they know what is denoted by the mystery word, they confirm this by miming its use, sketching it, saying what its function is, or saying the L1 equivalent. Eventually, everyone unfolds their worksheet so they can see all the words. Everyone asks their partner to clarify any words that have remained un-guessed.
d. Form pairs, hand out copies of Worksheet B (the illustrative sentences), and ask partners to read the example sentences and try to agree about (a) whether the (underlined) target words are used literally or figuratively and (b) what each means in the example in question.
e. In plenary, elicit students' thoughts about each sentence, making sure for each figurative expression that the likely relation of literal meaning to figurative usage is made clear.

4.1.3. Rationale

This activity aims to raise learners' awareness of the kind of figurative expressions (i.e. figurative usage of verbs that are derived from concrete nouns) that were the target in the experiment reported by MacArthur and Littlemore (this volume). That experiment, however, has shown that students tend to need a lot of guidance in order to appreciate the semantic link between the concrete noun and the figurative verb and to subsequently arrive at an appropriate interpretation of the latter. In the above activity a higher success rate is meant to be obtained through a step-wise progression from (a) the concrete nouns, (b) via the literal usage of the corresponding verbs (serving to clarify the semantic link between the noun and the verb form) to (b) the figurative usage of the verbs.

4.2. Activity Six: "What comes next?"

4.2.1. Preparation

a. Obtain an electronic version of a text (e.g. a newspaper article or concise version of a tale such as Andersen's *The Princess and the Pea*).
b. Edit it down to a maximum of 700 words or so and adjust its difficulty (e.g. in respect of lexis) so that it does not over-challenge the least proficient of your students.
c. Introduce into it a number of rhyming, alliterative and assonant expressions knowledge of which you wish to consolidate – e.g., (for 'The Princess and the Pea') "In that castle, the Queen *ruled the roost*. The Prince was usually happy just to *go with the flow*."
d. Insert slashes before the final word of each such phrase – e.g. "In that castle the Queen ruled the / roost" – and before many other additional words more or less predictable from preceding co-text – e.g. "Once upon a / time…", "The princess said that she had hardly slept a / wink because there had been a huge lump in the middle of her / bed."
e. Divide the story so that half is on one sheet and half is on the other and produce a class set of each sheet.

4.2.2.   Procedure

a. Form the class into pairs and give each person in a pair a different half of the story. (If you have one threesome, student A folds sheet one so s/he can only see the first third of the story, student B folds sheets one and two so s/he can only see the middle of the story, and so on.)

b. Students each read their part of the story and then exchange papers with their partner(s).

c. In each pair (or trio) the person with the beginning of the story reads it out, pausing at each slash. When the reader pauses in this way, the other student(s) try to say (only!) the word that comes immediately after the slash. The reader should mime and give verbal hints as necessary but if the listener(s) cannot remember the word after the slash, the reader says it and reads the story out as far as the next slash where s/he pauses again. Importantly with respect to phrases showing euphonic repetition (especially rhyme, alliteration and assonance), students should be encouraged to give hints such as, "The /r/ sound is repeated" and "It rhymes with *go*".

4.2.3. Rationale

The overall rationale for this activity is multifarious; for example, in monolingual groups it strongly encourages students to use L2 (Lindstromberg 2004: 114–17). With respect to phrases generally (e.g. *Once upon a / time*), it involves narrative-contextual prompted recall of the final word (a step on the way to recall of the entire form). This is a kind of "rehearsal" known to entrench memory traces. For the generality of phrases, this activity hinges neither on semantic nor formal motivation. With respect, however, to phrases showing euphonic patterning, the activity offers promise of exploiting the mnemonic potential of form-form motivation, particularly when speakers produce and listeners attend to hints about sound patterning. Last but not least, the typically high success rate at which students manage to complete the phrases is likely to contribute to positive affect. The realisation that they are capable of predicting segments of L2 discourse may help instil self-confidence in learners.

Appendix 1: Idioms belonging to highly 'productive' source domains, and that have been found to lend themselves well to the proposed activities[4]

General source domain of GAMES and SPORTS

More specific source domains: gambling and horse racing

Up the ante / Raise the ante	**B**re**a**k the **b**ank	A safe bet
H*e*dge your b*e*ts	Draw a blank	Across the board
G*o* for br*o*ke	When the chips are down	T*oo* **c**lose t*o* **c**all
The numbers game	Win hands down	A dark horse
Hit the jackpot	*Neck* and *neck*	Pay over the odds
Off the rails	**R**ussian **r**oulette	In the running

More specific source domains: card games and board games

Call someone's bluff	A**b**ove **b**oard	The buck stops here
Pass the buck	Get it off your chest	Get a raw deal
Force someone's hand	Sth up your sleeve	Back to square one
Follow suit	**T**urn the **t**ables	Not m*i*ss a tr*i*ck
T*u*rn *u*p **tr***u*mps	Make n*o* b*o*nes about it	Get out of jail

More specific source domains: various ball games

The ball is in your court	Set the ball rolling	Off base
Get an even break	An *o*wn g*o*al	There's the rub
Play into someone's hands	Below par	Par for the course
Blow the whistle on …	H*i*t someone for s*i*x	A level playing field

More specific source domain: hunting

In the bag /A mixed bag	A lame / sitting duck	A r*e*d h*e*rring
Th*i*ck and **th***i*n	It's open season on …	**R**un **r**iot

More specific source domains: boxing, wrestling, etc.

Throw someone off balance	A **b**ody **b**low	Take it on the chin
Be in a (tight) corner	Go the (full) distance	At the drop of a hat
Catch someone off guard	Lower your guard	*Head*-to-*head*
Dig in your heels	N*o*-h*o*lds-barred	Be on the ropes
Draw the line / Cross the line	Flex your muscles	Sti**ck** your ne**ck** out
Not **p**ull your **p**unches	Not (come) up to scratch	Throw in the towel

More specific source domains: running contests

J*u*mp the g*u*n	**H**ot on your **h**eels	Toe the line
Quick / Slow off the mark	**H**ome an*d* d*r*y / **h**o*s*ed	From scratch
Streets ahead	The inside track	A track record

More specific source domains: archery and shooting contests

Set your **s**ights on something	H*i*t and m*i*ss	Wide off the mark
Have something in your sights	Give it your best shot	A long shot

General source domain: TRANSPORT and TRAVELLING

More specific source domain: boats / sailing

A clean bill of health	Take sth on board	A **c**lose **c**all
A loose cannon	St*eer* c*lear* of sth	Stay the course
Show your true colours	With flying colours	Dead in the water
Clear the deck(s)	In the doldrums	On an even keel
Leave someone h*igh* and dr*y*	Break the ice	Pass muster
A **l**eading **l**ight	Show s/one the ropes	(All) At sea
A shot across someone's bows	The tip of the iceberg	In the wake of …

More specific source domain: horses / horse-riding

Give someone a leg up	**R**ide **r**oughshod over …	R*i*de h*i*gh
Keep a tight rein on someone	**P**ut s/ through his **p**aces	Give one free rein

More specific source domains: trains, cars, etc.

M*a*ke the gr*a*de	**G**et into **g**ear	In the fast lane
Give the **g**reen light	Middle-of-the-road	Go into overdrive
On automatic pilot	A free ride	A **r**ough **r**ide
In the driving seat	Take a back seat	On the skids

General source domain: WAR and AGGRESSION

Be up in arms	A baptism of fire	Drop a bombshell
In the front line	Come under fire	In the l*i*ne of f*i*re
Fight a rearguard action	A last ditch attempt	Stick to your guns
Burn your **b**ridges / **b**oats	The c*u*t and thr*u*st	Steal a march
Give l*ock*, st*ock*, and barrel	The standard bearer	**G**ain **g**round
Stand ***shoulder*** to ***shoulder***	Break ranks	Close ranks

Step out of line

Catch someone off guard

A **b**ody **b**low

Cloak an**d** **d**agger

To the hilt

Show your true colours

A shot across someone's bows

Ride roughshod over someone

Fight your corner

At the drop of a hat

Not (come) up to scratch

On someone's watch

Keep your head down

Put the boot in

Throw down the gauntlet

A h*i*t l*i*st

With flying colours

Be at loggerheads

Lower your guard

Not **p**ull your **p**unches

No-holds-barred

Be on the ropes

Be on your guard

A Trojan horse

Bite the dust

Rattle your sabre

H*i*t and m*i*ss

A loose cannon

Head*-to-*head

Take it on the chin

A slap in the face

Stick your neck out

Throw in the towel

Appendix 2: A few more idioms showing phonological motivation, from various source domains[5]

P**o**ke your n**o**se into something

A **f**eeding **f**renzy

F*i*t the b*i*ll

The **c**urtain **c**omes down

A new **l**ease of **l**ife

Bring one to **b**ook

Prime the **p**ump

It **g**oes a**g**ainst the **g**rain

Back to the drawing **b**oard

Ru**ff**le s/one's **f**eathers

Rule the **r**oost

Be **c**entre **s**tage

Be **w**aiting in the **w**ings

Hanging over your **h**ead

On the **b**ack **b**urner

Practise what you **pr**each

Sow the **s**eeds of …

Pull the **p**lug on something

Run **r**iot

Set the **s**tage

Count the **c**ost

Chop and **ch**ange

Get **sh**ort **sh**rift

Carry the **c**an

Sell your **s**oul

Cut an**d** **d**ried

Notes

1. Some of these activities were first proposed in Boers and Lindstromberg (2006) and Lindstromberg and Boers (2005a).
2. The 1995 edition of the *Collins Cobuild Dictionary of Idioms* does not yet provide information about the origins of the expressions.
3. It is of course important to distinguish between a correct basic interpretation (e.g. *learn the ropes* means 'learn the details of a new job or situation') and a historically accurate story of origin (e.g. the expression *learn the ropes* comes from the domain of sailing in which it referred to the newcomer's task of learning the names, functions, and manipulation of all the ropes on a new ship). Malt and Eiter (2004), who replicated with *non*-native speakers the findings of Keysar and Bly (1995), found that the words of certain idioms under-constrain basic construal to such an extent that subjects may reject both correct construals and correct stories in favour of contextually plausible but quite false ones taught earlier. The importance for FL learners of acquiring the correct basic construal of any expression is uncontroversial.

However, with respect to figurative idioms of various degrees of opacity/transparency, the importance of teaching *historically accurate* stories of origin is a matter which merits further investigation. It seems safe to say, however, that teaching historically false stories is (a) unlikely to bring any surplus benefits and (b) may introduce semantic dissonance when target idioms are encountered in a range of contexts (the experiments conducted by Keysar and Bly (1995) and Malt and Eiter (2004) did not provide multiple co-texts for the their target idioms).

4. A longer list of suitable imageable idioms, belonging to several additional (but slightly less productive) source domains, can be found in Boers and Lindstromberg (2006).
5. A list of about 1,000 alliterative multiword units can be found in Lindstromberg and Boers (2005b). That (non-exhaustive) list includes idioms, strong collocations, compounds and proverbs.

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