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Metaphor Awareness and Vocabulary Retention

FRANK BOERS

Free University of Brussels and University of Antwerp

Various figurative expressions can often be traced back to a common metaphoric theme or source domain. The present article reports three EFL experiments which indicate that a lexical organization along such metaphoric themes or source domains can facilitate retention of unfamiliar figurative expressions. In view of these findings, the article proposes classroom activities aimed at enhancing language learners' metaphor awareness and at turning this into an additional channel for vocabulary acquisition.

INTRODUCTION

Since the publication of Lakoff and Johnson's *Metaphors We Live By* (1980) and their subsequent books outlining the paradigm of Cognitive Semantics (Johnson 1987, Lakoff 1987), the prevalence of figurative language in everyday conventional discourse has gained wide recognition. If metaphor is so omnipresent in everyday language, then language learners are bound to be confronted with figurative discourse at various stages of the learning process. Therefore, mastering conventional figurative language must be an inherent part of the language learning process too, especially since metaphors vary across cultures (Kövecses 1995). Moreover, many polysemous lexical items occur more frequently in their derived figurative senses than in their original literal senses (Low 1988). In economic discourse, for example, words like *prescription* and *remedy* are not likely to refer to real medicine. Nevertheless, the figurative usage of such expressions is derived from their literal senses and exploits their imagery. Drawing learners' attention to those literal senses can enhance in-depth comprehension (Boers 2000).

Fortunately for the language learner, a lot of figurative language can be 'motivated'. A wide range of figurative expressions can often systematically be traced back to a limited number of source domains or metaphoric themes. These recurring metaphoric themes can be employed as an alternative type of lexical field, revealing structure and organization in a world of figurative language which may at first sight seem to be largely arbitrary (Kövecses and Szabo 1996, Lazar 1996). The present article reports three language learning experiments that were set up to measure the potential benefits of organizing figurative expressions according to their underlying metaphoric themes. In view of their results I propose a few classroom activities aimed at raising learners' metaphor awareness and at turning this into a channel for

vocabulary acquisition. It should be clear from the start, however, that this approach is not meant as a substitute for any established vocabulary learning methods (cf. Carter and McCarthy 1988, Hatch and Brown 1995, Huckin *et al.* 1993, McCarthy 1990, Schmitt and McCarthy 1997), but rather as a complementary technique. It does not constitute a separate programme, but should be conceived as being integrated with various other approaches to language teaching and learning. As an awareness-raising technique it may fit in the broader pedagogical movement of Language Awareness (Donmall 1985, James and Garrett 1991), where language learners are encouraged not only to perform in a language, but also to reflect upon its use and characteristics. Since the great bulk of figurative language comes in multi-word expressions (idioms, proverbs, collocations, etc.), the language focus suggested here also answers recent calls to abandon the grammar/vocabulary dichotomy (Lennon 1998), to give due attention to chunk-based language (Lewis 1993), and to recognize the importance of formulaic language learning (Skehan 1998: 29–41).

THE EXPERIMENTS

The three experiments described in the following sections were set up with the participation of intermediate learners of English in Belgium. Their first language was either Dutch or French, i.e. languages that are rather closely related to English. While each of the experiments had a distinct language focus, the results consistently corroborate the hypothesis that a lexical organization along metaphoric themes or source domains can facilitate retention of unfamiliar figurative expressions. At the same time, however, the experiments point up the inevitable limitations of the approach.

Experiment 1

Participants in the first experiment were 118 pupils at a Flemish secondary school, aged 16–17. Their first language was Dutch, and their level of English was intermediate. Two parallel groups of pupils (taking the same course, with the same teacher) were asked to read a text, *Managing the Emotions*, reproduced here as Sample Text 1.

> **Sample Text 1:**
> Managing the Emotions
> People manage their emotions in different ways, depending on their personality and the culture they live in. In western culture, for instance, crying is usually seen as a sign of weakness, especially for men. Research has shown, however, that *crying it out* makes people feel better. So perhaps we should encourage our children to wear their hearts on their sleeves more often. It has become a widely accepted idea that, instead of *bottling up* the emotions, one should *ventilate* one's emotions once in a while. One should *blow off steam* in order to avoid sudden *explosions*. However, one emotion may prove to be an

> exception: anger. In fact, ventilating anger is one of the worst ways to *cool down*: *outbursts* of rage typically *pump up* the arousal, leaving people feeling more angry, not less. When people *blow up* at the person who has provoked their anger, their rage not only peaks during the outburst, but the angry mood is also prolonged. After reaching their *boiling point*, these people keep *fuming* much longer. A far more effective way of managing anger is to *simmer down* first, and then, in a more constructive manner, confront the person to settle a dispute. Imagine that someone pushes you aside in a crowd. Your first thought may be 'How rude !' That reflex may then be followed by more negative thoughts: 'He could have hurt me! I can't let him get away with that!' Then, should someone else behind you bump into you because you have slowed down, you are apt to *erupt* in rage at that person too. Now imagine a more positive line of thought toward the man who pushed you aside: 'Maybe he had a good reason, such as an emergency'.

This text (contrived for teaching purposes) was inspired by Goleman's *Emotional Intelligence: why it can matter more than IQ* (1995: 62–72). It exemplifies the metaphoric themes THE BODY IS A CONTAINER FOR EMOTIONS and, more specifically, ANGER IS A HOT FLUID IN A CONTAINER. After reading the text, the experimental group (24 girls and 34 boys) received vocabulary notes organized along various metaphoric themes (as identified by Kövecses 1986, 1990), reproduced here under Sample Lexis 1a. The control group (28 girls and 32 boys) received the same vocabulary input organized along different (*pragmatic* or *functional*) lines, reproduced here under Sample Lexis 1b.

> **Sample Lexis 1a:**
> English has a lot of expressions to describe anger. Some of these are very common: *She's angry. He's mad at you.* To make your language more varied, other expressions can be used to specify the kind of anger:
> *anger as a hot fluid in a container*
> anger welled up inside me — simmer down!
> I was boiling with anger — she flipped her lid
> she was all steamed up — I was fuming
> she erupted — she blew up at me
> *anger as fire*
> an inflammatory remark — she was breathing fire
> adding fuel to the fire — she exploded
> he kept smouldering for days — he's hot under the collar
> *angry people as dangerous animals*
> he has a ferocious temper — he unleashed his anger
> don't snap at me! — don't bite my head off!

> **Sample Lexis 1b:**
> English has a lot of expressions to describe anger. Some of these are very common: *She's angry. He's mad at you.* To make your language more varied, other expressions can be used to specify the kind of anger:

to describe acute and sudden anger	
she exploded	she erupted
he unleashed his anger	she flipped her lid
to describe anger as a process	
anger welled up inside me	simmer down!
I was boiling with anger	she was all steamed up
He was fuming	an inflammatory remark
I kept smouldering for days	adding fuel to the fire
to describe angry personalities	
he's hot under the collar	he has a ferocious temper
to describe the way angry people speak	
she blew up at me	don't snap at me!
don't bite my head off!	she was breathing fire

The participants were given 10 minutes to look over the vocabulary and to ask for any further clarification. Subsequently they engaged in a guided class discussion (15 minutes) about anger and conflicts. The vocabulary notes were removed and finally the participants were given a cloze test (reproduced here as Sample Text 2), with ten items meant to elicit the lexis studied.

Sample Text 2:
Fill in the gaps with one word each. Sometimes there may be more than one option. In that case, try to come up with as many possibilities as you can.

Last month was my parents' wedding anniversary. A week before the anniversary my mother already suspected that my father had forgotten about it, since he hadn't asked her if she wanted to do anything special for the occasion. After all those years my father should really have known better, because he had learned from experience what a _____ (1) temper my mother has. But I felt that he deserved another lesson and I decided not to remind him of the anniversary. Days before that fatal day I could already notice my mother's anger _____ (2) up inside her. I tried to tell her to _____ (3) down, because my father might still remember after all. But he didn't, and as the day of the anniversary approached, mother was getting all _____ (4) up. On the morning of the day itself, my father left for work as usual without mentioning the wedding anniversary. Mother almost _____ (5) her lid. She had clearly reached her _____ (6) point and she kept fuming all day. To make matters even worse, father was late that evening. By the time he got home, mother was ready to explode. And when he finally got home at 8 pm without as much as a present for her, she _____ (7) her anger. 'You inconsiderate, selfish oaf!' she _____ (8) at him. My father looked baffled. 'I know I'm a bit late, but that's no reason to bite my head off,' he mumbled. I felt this was the perfect time to make my contribution to their marital bliss. I took the expensive bottle of champagne that I had bought and offered it to them, congratulating them on their wedding anniversary. For my mother this, of course, added _____ (9) to the fire. My

> father, who looked absolutely embarrassed now, made a desperate attempt to make up by taking her out for dinner at her favourite restaurant, but even so she kept breathing fire all night. He ended up buying several uninspired presents and a bouquet of roses the next day to make her cool down, but she kept_____(10) for weeks.

The pupils were encouraged to list several possibilities per gap if they could. Appropriate responses for the third item, for example, included *calm down* and *cool down* as well as the targeted expression *simmer down*. Since the aim of the experiment was to measure the effect of metaphor awareness on learners' retention of novel vocabulary, the answer sheets were screened primarily for the reproduction of the lexis that the pupils had previously been asked to look over.

Results

The participants who had received the vocabulary notes organized along metaphoric themes were more likely than the control group to reproduce the lexis studied ($p < .05$). On average they responded to 4.41 of the 10 gaps with the targeted words. The average score of the control group was 3.67. The results of this first experiment suggest that, for the domain of emotions at least, an awareness of the metaphoric themes behind novel vocabulary can facilitate retention.

We should bear in mind, however, that the metaphoric themes along which the vocabulary input was organized in the experiment also existed in the participants' L1. This may have helped the experimental group's learning process, because transfer from L1 to the target language can speed up the learning process (at least when the two languages share many features). However, a transfer strategy inevitably involves the risk of erroneous L1 interference as well (Swan 1997). According to Kellerman (1987), the use of transfer strategies is most likely when the language learner perceives the two languages to be 'close'. While this may facilitate the acquisition of idioms through association with a metaphoric theme that is shared by the two languages, it also raises the risk of erroneous 'direct' translations (Cornell 1999). After all, the instantiations of shared metaphoric themes vary across languages. The Dutch equivalent of *Biting someone's head off*, for example, is '*Biting someone's nose off*'. The ninth item of the cloze test was meant to elicit the expression *To add fuel to the fire*. The equivalent expression in Dutch is '*To add oil to the fire*'. Probably due to L1 interference, nine pupils in the experimental group and three pupils in the control group responded with *oil*.

Experiment 2

A cloze test like the one used in the first experiment is by definition pretty much controlled and the respondent's role is fairly passive. Therefore a second experiment was set up to measure the effect of metaphor awareness on the

reproduction of novel vocabulary in more active usage. Participants in this experiment were 73 university students of business and economics, aged 19–20. Their first language was French and their level of English was intermediate. As part of their common English course, the participants were given a list of vocabulary (reproduced here under Sample Lexis 2) to enable them to describe upward and downward economic trends.

Sample Lexis 2:

UPWARD TRENDS		DOWNWARD TRENDS	
(*t* = transitive; *i* = intransitive <in this context>)			
Verbs	*Nouns*	*Verbs*	*Nouns*
increase (t/i)	increase	decrease (t/i)	decrease
rise (i)	rise	fall (i)	fall
grow (i)	growth	shrink (i)	
raise (t)		drop (i)	drop
put up (t)		put down (t)	
push up (t)		push down (t)	
soar (i)		decline (i)	decline
surge (i)	surge	cut (t)	cut
		plunge (i)	plunge
peak (i)	peak	dive (i)	dive
perk up (i)		go downhill (i)	
mount (i)		drive down (t)	
creep up (i)		plummet (i)	
		slide (i)	slide
		crash (i)	crash

All participants also received the following introductory lines with their vocabulary list:

> Instead of resorting to simple and rather vague expressions like go up and go down, you can make your descriptions of upward and downward trends more varied by using verbs and expressions that offer a more precise picture.

For the experimental group (13 female and 27 male students) the introduction continued as follows:

> Some expressions call up a specific image, such as
> rockets or airplanes: ‘soar’, ‘skyrocket’, ‘crash’;
> diving: ‘plunge’, ‘dive’;
> mountain climbing: ‘mount’, ‘creep up’, ‘go downhill’, ‘slide’, ‘peak’.

By drawing the students’ attention to the source domains of the given expressions, it was hoped that they would be encouraged to apply imagery in their processing of the word list. For the control group (15 female and 18 male students), on the other hand, the second part of the introductory note read as follows:

> Some expressions indicate the speed of change, such as
> fast change: ‘soar’, ‘skyrocket’, ‘plunge’, ‘dive’;

gradual change: 'creep up', 'mount', 'slide', 'go downhill';
or reaching a limit: 'peak', 'crash'.

The participants were given 10 minutes to go over the word list and to ask for any clarification. Then they were shown a couple of graphs depicting various countries' economic growth and unemployment figures. The vocabulary notes were removed and the participants were given about 30 minutes to write a short essay describing the graphs on display. The task was introduced to the students as a revision exercise on the tenses (the graphs represented past, present, and future trends), but the students were also invited to vary their up–down lexis. Afterwards the written descriptions were collected and scanned for the items included in the wordlist. Verb-noun equivalents (e.g. *a dive—to dive*) were counted as a single occurrence. Incorrect uses of the given expressions were excluded. Such inaccuracies included mixing up transitive and intransitive verbs (e.g. *rise* instead of *raise*), wrong morphology (e.g. s*kyrocked* instead of *skyrocketed*), and semantic incoherence (e.g. *gradual plunge*; s*lightly soaring*; s*liding from 5% to 10%*).

Results

The average number of targeted expressions used by the experimental group was 7.1 compared to 4.9 for the control group. The participants who had been encouraged to process the figurative items in association with their source domains were much more likely ($p < .001$) to reproduce them in active usage. This finding holds for the lexical items that were merely listed in the table (without explicit imagery) as well as those highlighted in the introductory paragraph.

With respect to the overall number of inaccurate uses of the targeted expressions, both groups were on a par. Still, it may be interesting to note that five essays produced by the control group contained a case of semantic incoherence, compared to only one in the experimental group.

Experiment 3

The expressions that were the language focus of the second experiment all instantiate the general orientational metaphor MORE IS UP; LESS IS DOWN. Orientational metaphors underlie many prepositional and phrasal verbs (multi-word verbs), which are often considered to be a major obstacle on the road to English proficiency. In this journal, Kövecses and Szabo (1996) reported an EFL experiment about the possible merits of a cognitive semantic approach to teaching and learning phrasal verbs, i.e. an approach which raises learners' awareness of the conceptual metaphors behind figurative language. The results of their study were promising, but unfortunately the scale of the experiment was too limited for statistical analysis. In order to collect more conclusive data I set up a similar experiment with the collaboration of a greater number of participants.

This third experiment involved 74 university students, aged 19–20. Their first language was French and their level of English was intermediate. As part of their common English course, the students were presented with a set of prepositional and phrasal verbs, selected from the list provided in *A Practical English Grammar* (Thomson and Martinet 1980: 295–339). The control group (13 female and 22 male students) received explanatory notes on the multi-word verbs as presented in *A Practical English Grammar*, i.e. listed alphabetically. The experimental group (19 female and 20 male students) received the same input, with the exception that here the multi-word verbs were categorized under the headings of their underlying orientational metaphors. This presentation (reproduced here as Sample Lexis 3) was based on lexico-semantic analyses of prepositions and phrasal verbs by Boers (1996), Lindner (1981) and Lindstromberg (1997).

Sample Lexis 3

MORE IS UP; LESS IS DOWN
* blow up = inflate, pump up, exaggerate
* cut down (prices, expenses, taxes, etc.)
* turn up/down (the radio, the central heating, etc.)

ACTIVE IS UP; INACTIVE IS DOWN
* set up (a business, an experiment, etc.) = create
* break down = collapse, stop functioning
  → emotional breakdown
* close down/shut down (a factory or business)

GOOD IS UP; BAD IS DOWN
* be down/feel down = be unhappy
  cheer up = become happy
* feel up to a certain task = feel strong enough

VISIBLE IS OUT and UP; INVISIBLE IS IN and DOWN
* come up with an idea, a solution = propose, mention.
* find out something = discover.
* figure out/work out a problem = solve a problem
* look up something in a dictionary, etc.
* point out something = indicate, show
* show up/turn up = arrive, appear
* turn out products = produce
  turn out = develop, appear, conclude (e.g. *The initiative turned out to be a big success*)

IMAGERY OF MANIPULATING OBJECTS
* give up something = abandon an attempt, stop a habit.
* put forward a proposal = suggest.
* take over = take control or responsibility.
* take up (a hobby, profession or study) = start it.

Both groups of participants were given 10 minutes to study the set of multi-word verbs and to ask for any further clarification. Subsequently the vocabulary notes were removed and the participants were asked to do a

cloze test. This gapfill exercise (reproduced here under Sample Text 3) was inspired by Goleman's *Emotional Intelligence* (1995: 91–4) again.

Sample Text 3
The marshmallow test
Just imagine you're four years old, and an adult makes the following proposal: If you wait until after he runs an errand, you can have two marshmallows for a treat. If you can't wait until then, you can only have one—but you can have it right now. This is a dilemma: to (1) _____ to impulsive desire or to delay gratification. This remarkable experiment was (2) _____ by psychologists in the 1960s. Some of the four-year-olds were able to wait what must surely have seemed an endless fifteen to twenty minutes for the experimenter to return. These children got the two-marshmallow reward. But others, more impulsive, grabbed the one marshmallow, almost always within seconds of the experimenter's leaving the room. The diagnostic power of the test became clear some twelve to fourteen years later, when these same children were (3) _____ as adolescents. The emotional and social difference between the grab-the-marshmallow children and the gratification-delaying ones (4) _____ to be dramatic. The researchers (5) _____ that those who had resisted temptation were, as adolescents, better able to (6) _____ frustrations. They were less likely to (7) _____ under stress. They (8) _____ challenging activities and pursued them instead of (9) _____ in the face of difficulties. And, more than a decade later, they were still able to delay gratification in pursuit of their goals. Those who almost immediately grabbed for the marshmallow, however, tended to have fewer of these qualities. In adolescence they found it harder to (10) _____ their minds about difficult choices. They were more easily upset by frustrations. They lacked confidence and did not (11) _____ challenging tasks. They were more likely to be jealous and consequently, they were typically difficult to (12) _____. And, after all those years, they were still unable to (13) _____ gratification. What (14) _____ in a small way early in life blossoms into a wide range of abilities as life (15) _____. The capacity to impose a delay on impulse is at the root of a plethora of efforts, from staying on a diet to pursuing a university degree. Some children had already mastered the basics at the age of four: they (16) _____ that in the given situation delay was beneficial and they had the necessary perseverance toward their goal—the two marshmallows. Even more surprising, when the tested children were evaluated again as they were finishing high school, those who had waited patiently at four were far superior as students to those who had acted on whim. According to their parents' evaluations, they were more academically competent and better able to (17) _____ their plans and studies. Those who had given in to impulse at four were more likely to (18) _____ school and to (19) _____. The results of the study (20) _____ that the marshmallow test is twice as powerful a predictor of academic achievements as an IQ test.

The participants were given 20 minutes to choose from the following list of multi-word verbs to complete 20 gaps in the text:

> put off; cope with; giving up; drop out; shows up; feel up to; took up; goes on; be fed up with; set up; break down; make up; figured out; get on with; give in; point out; follow through with; turned out; tracked down; found out.

The appropriate morphology of the verbs was provided to facilitate the task. Half of the multi-word verbs to be chosen from were included in the previously studied vocabulary notes, while the other half were not. The latter were incorporated into the exercise to investigate the possibility of successful transfer of the strategy of spatial imagery (see below).

Results

Let us first consider the results pertaining to the ten items explained in the participants' vocabulary notes. The average score of the experimental group on these was 5.65, compared to 4.23 for the control group. The participants who had studied the multi-word verbs categorized under orientational metaphors proved more likely ($p < .01$) to correctly fill in the gaps meant to elicit these items. This result confirms the basic trend noted by Kövecses and Szabo (1996: 349–50). The results of their experiment also suggested successful transfer of the cognitive semantic approach when language learners try to tackle novel phrasal verbs (Kövecses and Szabo 1996: 351). The present experiment, however, offers no support to that suggestion. The experimental group did not perform any better than the control group on the ten gaps meant to elicit the multi-word verbs that had not been included in their vocabulary notes. The average scores on these were 4.07 and 4.2, respectively. This result shows that the experimental group did not benefit much from their enhanced awareness of certain orientational metaphors in their dealings with novel multi-word verbs. These may instantiate metaphors (or clusters of metaphors) that were absent from the initial vocabulary list (e.g. PATH metaphors in *go on* and *follow through with*). Furthermore, phrasal and prepositional verbs vary in their degrees of semantic transparency. While some are fairly easily imageable and guessable (Lindstromberg 1997: 17–20), many others may turn out to be too opaque to lend themselves to straightforward imagery processing.

DISCUSSION

The three learning experiments reported above suggest that language learners' lexical resources benefit from an enhanced metaphor awareness. In each of the experiments the experimental group, which had been presented with figurative expressions organized along their underlying metaphoric themes, revealed superior retention.

Several conditions may jointly have contributed to these superior results (cf. Ellis 1994; Sökmen 1997):

1 Learning vocabulary through imagery processing (in addition to verbal processing) paves an extra pathway for later recall.
2 Employing cognitive effort to identify source domains and to make categorization judgements promotes deep-level cognitive processing, which in turn promotes memory storage.
3 Applying metaphoric themes as categories provides a framework for lexical organization, and organized vocabulary is known to be easier to learn than random lists.

The generally encouraging findings still need to be interpreted within the confines of the study, of course.

First, most of the figurative expressions focused on in the experiments were semantically rather transparent or imageable. Metaphor awareness will most probably be less fruitful when the learner is faced with opaque idioms. The degree of semantic transparency of a figurative expression is determined by the interplay of various factors (cf. Flores d'Arcais 1993, Gibbs 1993). One of those factors seems to be its association with an established metaphoric theme. Expressions which reflect such a metaphoric theme tend to be more transparent than more 'isolated' cases. For example, *To let off steam* (which, along with *She was fuming*, *He got all steamed up*, *She erupted*, etc., reflects the metaphoric theme ANGER IS HEAT) may be more transparent than *To sell someone down the river* (which does not seem to belong to a cluster of expressions reflecting a metaphoric theme). Furthermore, expressions that are closely associated with a given metaphoric theme tend to be more transparent than more 'peripheral' ones. For example, *She was fuming* is a more 'central' instance of ANGER IS HEAT than *She flipped her lid* or *He hit the ceiling* (Lakoff 1987: 384–5).

Secondly, the first language of the participants (Dutch or French) in the three experiments was rather closely related to the target language (English). The metaphoric themes behind the given figurative expressions were also common in the learners' L1. This may have facilitated comprehension. Learners of a 'distant' language, however, may face comprehension problems due to cross-cultural differences in conventionalized metaphoric themes. For example, *She broke my heart* may be semantically quite opaque to members of a community whose culture does not conceive of the heart as the seat of the emotions (cf. Chitra 1996: 124–35). On the other hand, a perceived 'closeness' of the L1 and the target language may prompt learners to (over-)use transfer strategies, which may then result in erroneous direct translations.

Thirdly, the results of the experiments pertain to participants whose level of English was intermediate. Beginners' comprehension of many figurative expressions would clearly be impeded by a lack of lexical resources. For example, in order to recognize *She was fuming* and *He hit the ceiling* as figurative expressions that reflect ANGER IS HEAT, one obviously needs to comprehend

the words *fuming* and *ceiling.* Advanced learners, on the other hand, are less likely to face such obstacles and would hence be in a position to benefit most from their enhanced awareness of metaphor. Moreover, as advanced learners tend to be hesitant about the transferability of L1 idioms to the target language (Kellerman 1978), they may also be more cautious about direct translations.

Although two linguistic cultures may share an established metaphoric theme, the way this theme is instantiated through conventional linguistic expressions may vary considerably. It may be feasible to relate a set of idiomatic expressions to a common metaphoric theme or source domain, but it remains impossible to predict exactly what the idioms belonging to that metaphoric theme will look like in a particular language. As a result, metaphor awareness is not meant to be used by the learner as a 'generator' of the conventional figurative expressions of the target language. Instead, its primary use proposed here is as a channelling device for learners to organize the steady stream of figurative language they are exposed to.

Finally, it should be mentioned that the three reported experiments provide no information as to what psychological profiles benefit most from raising metaphor awareness. Individual learners may respond to the treatment in different ways, depending on their particular cognitive styles. Neither were the experiments controlled for any potential gender differences in metaphor processing.

In the three EFL experiments, the participants were presented with pre-packaged lexical input, already categorized under identified metaphoric themes. Metaphor awareness can only be fruitful in the long term, however, if learners are capable of identifying metaphoric themes and of categorizing idioms independently. To test this ability in learners I carried out the following small-scale experiment.

The participants were 64 university students, once again of business and economics (27 female and 37 male students, aged 19–20, with French as L1, and with an intermediate level of English). To my knowledge the participants had not received any metaphor instruction before and, in addition, on this occasion it was kept minimal and simple. The participants were given a questionnaire with the following introduction:

> Economic processes are described by means of a variety of metaphoric expressions: tariffs are 'trade barriers', money transfers are 'cashflow', employees are 'human capital', starting firms are 'infant companies', stockmarkets may 'crash', demand for a product may be 'elastic', and so on. Quite often, various figurative expressions relate to a single source of inspiration: 'The exchange rate mechanism' and 'Using the right monetary tools' are both inspired by MACHINERY. 'Healthy firms' and 'Sickly companies' are both inspired by HEALTH. 'A takeover battle' and 'Protectionist measures' are both inspired by WAR. And so on.

Subsequently, the participants were given 5 minutes to categorize fifteen expressions under MACHINERY, HEALTH, WAR, or a fourth category which

they would have to identify themselves. The expressions (which were listed in random order) were:

1 as instances of the MACHINERY metaphor:
To tighten the screws on the economy; The economy is overheating; To fine-tune inflation; The monetary lever has rusted;
2 as instances of the HEALTH metaphor:
A chronic budget deficit; Symptoms of an arthritic labour market; To prescribe the right economic remedy; The company will have to slim down; The economy is slowly recovering;
3 as instances of the WAR metaphor:
To invade weaker markets; The right strategy to penetrate the Russian market; To conquer market share;
4 the fourth category, which could come under the heading of GARDENING, was represented by:
To get to the roots of a thorny problem; A flourishing company; The company will prune some of its branches.

The expressions and the proposed categorization were borrowed from analyses of economic discourse by Henderson (1986) and Boers and Demecheleer (1997). The participants were asked to underline any words they did not understand. After all, they could not be expected to recognize the metaphoric theme behind an expression (e.g. MACHINERY), if they did not comprehend the key words that constituted the expression (e.g. *Tighten the screws*). Overall, 16.5 per cent of the responses were blocked by a lack of such lexical knowledge. This left us with a total of 801 categorization judgements.

Results

In all, 89.5 per cent of the respondents' categorization judgements corresponded to our own analysis. This suggests that learners are indeed capable of grouping sufficiently transparent figurative expressions under given metaphoric themes. The three expressions included in the questionnaire as instances of the GARDENING metaphor were meant to measure the learners' ability to identify a metaphoric theme independently. Again, the results were encouraging: 75.4 per cent of the responses on these three items proposed GARDENING, VEGETATION or NATURE as the 'source of inspiration'. Several judgements that differed from our own categorization reflected the respondents' recognition of additional 'potential' source domains. *The economy is overheating*, for example, was associated by some participants with COOKING. *To fine-tune inflation* was associated by some respondents with MUSIC. *The right strategy to penetrate the Russian market* was associated by some with SEX. Some confusion may have occurred due to L1 interference. A few respondents appeared to have mistaken the verb *prune* in *The company has to prune some of its branches* for the equivalent of the French noun *prune* (which means 'plum') and hence assumed the 'source of inspiration' was FOOD. In

addition, twelve participants may have been led to categorize *A flourishing company* under the HEALTH metaphor because of the French idiom *Une santé florissante* ('a flourishing health'). Identifying metaphoric themes in actual discourse and categorizing figurative expressions along those themes raises many methodological problems and is clearly not a matter of clear-cut choices (Boers 1997, 1999). Different metaphoric themes intersect, so that different ones may be at play simultaneously (e.g. HEALTH, FITNESS and SPORTS metaphors). In addition, rather specific metaphoric themes (e.g. GARDENING) can be subsumed under more generic ones (e.g. NATURE). Consequently, a fair degree of variation in language users' interpretation of figurative language is to be expected (and perhaps even to be encouraged for pollination and awareness-raising purposes).

ENHANCING METAPHOR AWARENESS IN THE CLASSROOM

The general aim of raising language learners' awareness of metaphor can be broken down into the following more specific objectives: (i) recognition of metaphor as a common ingredient of everyday language; (ii) recognition of metaphoric themes behind many figurative expressions; (iii) recognition of the non-arbitrary nature of many figurative expressions; (iv) recognition of possible cross-cultural differences in metaphoric themes; and (v) recognition of cross-linguistic variety in figurative expressions. In the present section I shall proceed by describing a couple of awareness-raising activities and the way these have been successfully piloted in classroom practice.

One way of making learners aware that metaphor is a very common ingredient of everyday language is to ask them to consider their own language about an abstract phenomenon. A sample activity that has proved its worth in classroom practice is to have students define the difference between friendship and love. As these are abstract concepts, most of the proposed definitions will have a metaphoric underpinning. Love and friendship will be likened to concrete source domains, each of which defines a metaphoric theme. The metaphoric themes that are often generated by this activity include spatial metaphors (e.g. *Love is deeper than friendship, while friendship is more shallow*), business metaphors (e.g. *Love is an exclusive deal, while you can share many friends*), architectural metaphors (e.g. *Love is based on affection, while the cornerstone of friendship is trust*), body-part metaphors (e.g. *Love is a matter of the heart, while friendship is a matter of the mind*), and so on. By drawing students' attention to the figurative nature of their own definitions, they will realize that metaphor is not just an ornamental device confined to poetry, but rather a typical aspect of language (and thought) in general.

The 'love versus friendship' exercise can easily be integrated, for example as part of a wider thematic project around gender differences. Men and women may have different perspectives on emotion concepts, and such differences may be reflected in their discourse. This turned out to be the case when I gave 42 female and 31 male university students 10 minutes to write down their

definitions of love and friendship. Their short essays were then screened for figurative expressions reflecting different metaphoric themes (i.e. building on different source domains). On average, the female students used a wider variety of metaphoric themes, while the male students typically stuck to one metaphoric theme to explain their views: 40.5 per cent of the female students used at least three different metaphoric themes in their short essays, while only 22.5 per cent of the male students did so.

For now, this quantitative gender difference in metaphor production should be interpreted solely in connection with this particular task and the emotion concepts at hand. Although it must be said that they were set up without any control for such potential differences, none of the other experiments reported in this article revealed any gender differences in metaphor processing: the female and male participants were on a par in the three vocabulary retention tests as well as the categorization exercise.

The 'love versus friendship' essays also showed different preferences regarding metaphoric themes. While 26 per cent of the girls described love/friendship in terms of 'sharing' feelings and secrets, only 13 per cent of the boys did so. Conversely, 42 per cent of the male students used architectural imagery (love/friendship as a construction that has to be built or can be demolished), compared to only 19 per cent of the female population. Rather surprisingly, no fewer than 26 per cent of the girls mentioned physical 'attraction' as characteristic of love, whereas only 6 per cent of the male population did so. These observations were subsequently recycled to fuel a debate around gender differences. The exercise illustrates how focusing on the figurative language produced by language learners themselves may serve as a means of enhancing their metaphor awareness while still being integrated in wider thematic projects and communicative activities.

A second aim of enhancing metaphor awareness is for the learner to recognize that the wide variety of figurative expressions she or he is confronted with need not be tackled as random lists. Instead, many idioms can be grouped under more general metaphoric themes (or their source domains), as was illustrated by the experiments.

The existence of these metaphoric themes can then be 'explained' through reference to their experiential basis. As a pre-reading activity to Sample Text 1 (*Managing the Emotions*), for instance, students could be asked to list the symptoms of anger. When angry, people typically become red in the face, they become irrational, etc. Each of these symptoms feeds into a different metaphoric conception of the emotion of anger (ANGER IS HEAT, ANGER IS INSANITY, etc.), as reflected in figurative language. 'Motivating' the use of a given metaphoric theme by referring to its correlate in physical experience may also improve language learners' in-depth comprehension of its linguistic instances. Because of the 'logic' of the imagery of heating up a fluid in a container, *stewing* or *simmering* express a different stage in the process than *bursting* or *erupting*, for example. As a result, one would not describe a mildly irritated person as being on the point of *bursting*. In other words, the 'logic' of

the metaphor helps the language user choose its appropriate instantiations to fit a given context (cf. Gibbs 1993).

In addition to explaining general metaphoric themes, language learners may also be asked to try to explain individual idiomatic expressions that have a sufficient degree of semantic transparency. *To keep something under one's hat*, for instance, exploits the metaphors KNOWING IS SEEING and THE MIND IS A CONTAINER. The hat covers the skull (i.e. the top of the container) and hence hides its contents from view. This exercise may seem challenging, but it appears not to be beyond language learners' competence. When I asked 78 French-speaking students to guess the meaning of *keeping something under one's hat* without any contextual clues, 47 per cent of the participants gave a correct response, despite their claim that they had never encountered the expression before and despite the absence of a close equivalent in their native tongue. Learners can be encouraged to first try to decode figurative expressions independently, i.e. as a problem-solving task requiring a deeper level of cognitive processing, before resorting to the teacher or the dictionary for corroboration or falsification (Lennon 1998). Moreover, in normal learning conditions idioms are encountered in context, which facilitates comprehension considerably (Cooper 1999). The lower the degree of semantic transparency of the expression, the more the learner will have to rely on contextual clues to figure out its meaning. Imagery processing and employing contextual clues can nevertheless be mutually supportive strategies to guess the meaning of unfamiliar words. When a metaphoric theme is spread over a stretch of discourse as a cohesive device, the activation of the source domain through a known word may help the learner guess the meaning of an unfamiliar word in its proximity. For example, if the known word *medicine* calls up the source domain of HEALTH, then the learner may find it easier to guess the meaning of *prescribe* in *A good economist should prescribe the right economic medicine*. Similarly, if the known word *branches* activates the source domain of GARDENING, then the learner might be in a better position to work out the meaning of *prune* in *The company will have to prune several of its branches*.

Idioms can sometimes be taken as a reflection of historical-cultural backgrounds. The frequently used imagery of the hat in various English idioms (e.g. *Pass the hat round*, *Talk through one's hat*, *Hang up one's hat*), for example, may reflect part of the national stereotype of the English gentleman with his bowler hat and walking-stick. Similarly, the high frequency and variety of SHIP metaphors in English may be anchored in Britain's geography and history. This historical-cultural perspective can further be exploited by having language learners compare the figurative discourse of the target language with their L1 (e.g. Boers and Demecheleer 1998; Deignan, Gabrys, and Solska 1997). On a conceptual level, such an enterprise may reveal cross-cultural differences in conventionalized metaphoric themes. On a linguistic level, it may lay bare the risk of L1 interference and erroneous direct translations.

CONCLUSION

In this article I have reported three learning experiments which corroborate the thesis that an enhanced metaphor awareness on the part of the language learner can facilitate her or his retention of novel figurative expressions. In view of these findings, I have then described a small number of classroom activities aimed at enhancing learners' metaphor awareness and at turning this into an additional channel for vocabulary acquisition. In this proposal, the metaphoric themes or source domains behind multiple figurative expressions constitute a useful framework for lexical organization.

At the same time, however, we have had to acknowledge a number of limitations along two dimensions:

1 Not all figurative language lends itself equally well to the approach. Certain idioms may be too opaque and thus not imageable enough. Other idioms may be hard to capture under any identified metaphoric theme.
2 Knowledge of the conventional metaphoric themes of a given language does not guarantee mastery of its conventional linguistic instantiations. As it is impossible to predict exactly how a particular language will instantiate identified metaphoric themes, learners cannot employ their awareness of those metaphoric themes to 'generate' figurative expressions in the target language—unless they wish to produce original or poetic language.

Further research would be indispensable to determine whether these limits can be stretched.

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