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Visualisation and conceptual metaphor as tools for the teaching of abstract motion in German

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Abstract

In the wider context of verb-framed and satellite-framed languages (Talmy 1985, Slobin 1996, 2000), the case study explores German examples of metaphorical motion events as in (1) *einen Text ins Deutsche übersetzen* (*to translate a text into German*) or (2) *Er war bei uns über die Feiertage* (*He was with us over (during) the holidays*). Starting from a general description of the components of motion events (Talmy 1985) the examples will help illustrate the German preferences in the lexicalization of such motion events and will also concretize the challenges for the learning tasks of foreign language learners related to the German case-marking. Traditionally, German case-marking constitutes one of the major difficulties for foreign learners, especially in expressions of motion events in which so-called *“two-way prepositions”* (Smith 1995) can be used: (3) *Er geht auf die Straße* (*He goes on(to) the street*) vs (4) *Er geht auf der Straße* (*He goes up and down the street*). The learner has to make a decision of whether to use an accusative (for the expression of a dynamic motion event with a path and a goal) or a dative (for the expression of a location) according to the meaning conveyed. But even more problematic for foreigners than the prototypical examples here above is the case-marking in expressions of abstract or metaphorical motion events as in (1) or of blends (Coulson 2006) of location (expressed by the verb *war*, ‘was’) with motion (only expressed by the prepositional satellite *über*, ‘over’ and the accusative case) in (2).

The empirical study conducted with intermediate French-speaking students of German will show that the teaching of German motion events with their case-alternation can be facilitated by a methodology which deals with language-specific concepts, visualisation and metaphor. The visual representation of concrete motion events and its exploitation for non-prototypical motion events can make the whole learning task of German far more transparent and thus may help motivate (Boers and Lindstromberg 2008) the application of the correct case-marking to metaphorical motion events. Psychologically, this visual approach is based on Paivio’s (2001) ‘dual coding’ hypothesis, which maintains that verbal and visual learning strategies are strongly intertwined. The assumption underlying this research is that visual support may reinforce the intake and the explanation for the use of the accusative in abstract motion expressions. In order to show the underlying motion the
teacher of German can invite the learner to visualise how the motion is taking place.

The visual support may also offer the basis for a potential link with underlying conceptual metaphors (Lakoff and Johnson 1980), e.g. ABSTRACT IS CONCRETE or KNOWING IS SEEING. Spatial distinctions such as those between containers and surfaces are extended to more abstract areas of experience, especially in the context of situations describing abstract changes. Here one of the main issues for the learner is to find out whether the abstract goal is conceptualized as a container, a surface or still another basic spatial relation.

**Keywords:** language typology; morpho-syntax; foreign language learners; motion event; case alternation; dative/accusative; metaphor; visualisation; dual coding; German; French

### 1. Introduction

With their bestselling book "Metaphors We Live By" (1980), in which they claim that our thinking is metaphorical, that metaphor and figurative language are already present at the level of conceptualization and that metaphor is pervasive, Lakoff and Johnson triggered a small revolution in philosophy and linguistics. These powerful claims became central scientific issues which led to numerous research studies – as attested by the three major bibliographies on metaphor and figurative language (van Noppen et al. 1985, van Noppen and Hols 1990, and De Knop et al. 2008) – not only in philosophy and theoretical linguistics but also in other scientific domains like psychology (Gibbs 2008a and 2008b; Glucksberg 1998; Johnson 2007; Ortony 2003; Schmitt 2001), psycholinguistics (Bamberg 2005; Gibbs 1990; Gibbs and Perlman 2006; Glucksberg 2003; Katz 1996), translation studies (Buchowski 1996; Newmark 1985; Schäffner 2004; Zelinski-Wibbelt 2003) and more recently teaching and learning methodology (Berendt et al. 2007; Cameron 2003; Danesi 2007; Deignan 1997; Holme 2003; Woodward 2001), to name just a few.

In this latter domain metaphor has been recognized to be an important tool in the teaching and learning of foreign languages (Boers 2003; Low 2003; Juchem 2006; Cortazzi and Jin 1999). Most studies though have been dedicated to the teaching and learning of vocabulary (Boers/Lindstromberg 2008; Boers and Demecheleer 1998; Deignan et al. 1997; Danesi 2008; MacLennan 1994) or to the acquisition of L2 figurative expressions (Boers 2003: 231); they have shown that the teaching and learning of a foreign language can be facilitated if one makes a detour with
conceptual metaphors, identifying e.g. "the target domains typically structured by motion in space […] and the types of metaphorical mappings for each of the target domains" (Ozçaliskan 2003: 192). The assumption underlying this claim is that conceptual metaphor allows for a generalization and a simplification in the teaching methodology and that explanations based on conceptual metaphor are more effective (See numerous contributions in De Knop/Boers/De Rycker forthc. 2009) than traditional rules presented in teaching materials.

The pedagogical and teaching/learning potential of metaphor and figurative language has not been applied so much to grammar issues, let alone to morpho-syntax. My paper aims at making up for this gap; it will look more closely at the case alternation between dative and accusative in German expressions of abstract motion, one of the great challenges for foreign learners of German. The case study explores German examples of metaphorical motion events as in (1) einen Text ins Deutsche übersetzen ("to translate a text into German") or (2) Er war bei uns über die Feiertage ("He was with us over (during) the holidays"). My study will illustrate the acquisition problems encountered by French-speaking learners when confronted with this case alternation. It will look for more adequate teaching methods and will show that the teaching and the acquisition of this alternation can be facilitated for foreign language learners (FLL) with an explanation in terms of conceptual metaphor and with an appropriate visualisation.

The paper is divided into the following sections: Section 2 will describe the differences in lexicalization patterns between German as a Germanic language and French as a Romance language. Section 3 will go into the case alternation in expressions of motion events in German and will illustrate the underlying conceptualizations and the problems related to this case alternation for foreign learners. It will also present the hypotheses about metaphor and visualisation as being possible tools for the facilitation of teaching and learning this case alternation. Section 4 will present the case study and the conclusions will be drawn in section 5.

2. Lexicalization of motion events in German and French

The examples under discussion are expressions of motion events. According to Talmy (1985 and 1991) a motion event contains the following components: a figure, being the "thing/object" moving (er/he), a source (aus dem Schlafzimmer/out of the bedroom), a path (durch den Eingang/through the hall) and a goal of motion (bis zur Gartentür/up to the garden door).
Sometimes the manner of motion is also expressed as in rannte/ran as instantiated in the following example:

(3) a.  *Er rannte aus dem Schlafzimmer durch den Eingang bis zur GartenTür.*

b.  *He ran out of the bedroom through the hall up to the garden door.*

The translation of this example into French leads to a different structure:

(3) c.  *Il sortit de la chambre, traversa l’entrée pour aller à la porte du jardin.*

If one compares the three variations of example (3) it becomes obvious that French uses a series of full verbs (*sortit, traversa, aller*) whereas German or English use prepositions (*aus/out of, durch/through, bis zur/up to*) – so-called 'satellites' (Talmy 1991: 486) – for the expression of the path of motion (Compare also Carroll 1997, Kopecka 2006, Pourcel in press). Starting from the lexicalisation preferences of a particular language for the expression of the path of motion Talmy (1985) distinguishes between verb-framed and satellite-framed languages. Germanic languages are satellite-framed, which means that they prefer to express the source, the path and the goal (all representing the 'ground of motion') with satellites, Romance languages on the other hand are verb-framed as example (3c) illustrates.

But this is not the only difference between expressions of motion events in Romance and Germanic languages. A closer look at the contrastive examples also makes clear that French does not express the manner of motion which is expressed in the German *rannte* or English *ran*. *Sortit* simply expresses the exiting without specifying the manner in which this takes place. For a comparison between French and English in that matter, see Pourcel (2005 and in press) and Pourcel and Kopecka (2005).

These differences between Romance and Germanic languages constitute one of the causes for the difficulties encountered by French-speaking learners of German as testified by an empirical study with intermediate French-speaking students of German. They all had the proficiency level B2-C1 on the scale of the Council of Europe. But when asked to translate French sentences of motion (e.g., *Cet été ma tante ira aux Etats-Unis*, 'This summer my aunt will go to the US,' or *En été nous allons à la mer du Nord*, 'In the summer we will go to the North Sea') into German most of them
underused the compulsory differentiation between German *gehen* 'to go (on foot)', *fahren* 'to drive' and *fliegen* 'to fly' (see also Lemmens and Perrez 2009 forthcoming with the concept of 'coding obligation' for the obligatory use of motion and position verbs in the Germanic language Dutch). As a consequence, it is a mistake to say *Meine Tante geht kommenden Sommer in Urlaub in die USA* while living in Europe. French does not make this distinction and can – just like English - use *aller/go* for all sorts of motion. Out of 33 participants 23 (i.e. about 70 percent) selected *gehen* in cases where *fahren* or *fliegen* would have been compulsory.

The characterization of French as being a verb-framed language can help explain why French-speaking students would rather opt for a full verb for the translation of the ground into German which prefers satellites, e.g. *Er kommt aus dem Zimmer heraus* 'He comes out of the room', *Er geht rüber* 'He goes over (to the other side of the street)'). Again, a translation test with the same group of French-speaking students revealed their preference for a full verb. The French sentence *Les enfants traversent la rue*, 'The children cross the street', was translated with the German unseparable verb *überqueren* expressing the crossing: *Die Kinder überqueren die Straße*. Although this sentence is grammatically correct it is a rather formal way of expressing this in German which favours a satellite construction: *Die Kinder gehen rüber/lauf die andere (Straßen)seite*, 'The children go over/to the other (street)side'. Out of 33 students, 24 used a full verb, this corresponds to 73 percent. If we take into account that 3 students could not propose a translation for this rather easy sentence - as they had been looking for one single verb in German (as they said) which they did not remember/know - we then get a percentage of 82. This rather high percentage shows that French-speaking learners preferably transpose their verb-framed patterns into the satellite-framed language German.

But the lexicalization patterns, i.e. the word choice and the preferred structures for the expression of motion events, are not the only challenge for French speakers learning German. This leads us to the following section.

### 3. Morpho-syntactic realisation of motion events in German

Unlike French or English, German has a case-system which marks the functions of words and their interrelationship in sentences at the level of the articles and adjectives accompanying the noun. In a ditransitive sentence like *Der Vater gibt seinem Sohn ein Buch*, 'The father gives his son a
book', *Der Vater* has the marker of the nominative, *seinem Sohn* corresponds to the dative and *das Buch* has the accusative case. Specific cases are also used after German prepositions: *mit* (‘with’) requires a dative case, e.g. *Das Kind saß mit seiner Mutter auf einer Bank*, 'The child sat with his mother on a bench'; *für* (‘for’) on the other hand must be used with an accusative, e.g. *Ich habe die Zutaten für den Kuchen gekauft*, 'I have bought the ingredients for the cake'. Some prepositions – the so-called "two-way prepositions" (Smith 1995) – can be used either with the accusative or with the dative, e.g. *in* 'in', *an* 'at', *auf* 'on', *über* 'over', *unter* 'under', *vor* 'in front of/ before', *hinter* 'behind', *neben* 'next to', and *zwischen* 'between'. The selection of the accusative or the dative depends either on the verb valency¹ - in which case no choice between the dative or the accusative is allowed - or on the meaning the German speaker wants to convey. The difficulty for foreign language learners resides in this latter possibility, so we will have a closer look at this.

The German speech community makes a distinction between motion at a fixed location and motion to a goal (with a path and sometimes also with a source). This different way of seeing is simultaneously to be associated with the morpho-syntactic alternation between dative (= motion at location) and accusative (= motion to a goal). This helps explain the difference between the following two sentences:

(4) a. *Peter geht auf die Straße*. [ACCUSATIVE]
   ‘He walks into the street.’

b. *Peter geht auf der Straße*. [DATIVE]
   ‘He is walking in the street.’

In (4a) Peter is not in the street yet, whereas in (4b) he is already in the street and he starts walking up and down there. To express it in Talmy's terminology, in (4a) a path and a goal (‘into the street’) are expressed, (4b) simply expresses a location (see also the studies on the dative/accusative alternation by Leys 1989 and 1995, Di Meola 1998, Draye 1996, Meex 2002 and 2004, Meex and Mortelmans 2002, Serra-Borneto 1997, Smith 1987, 1993 and 1995). They all propose different explanation frames, referring among others to the notions of trajector and landmark. Leys (1995: 40) simply claims that

Diese auf räumlichen Verhältnissen basierenden Kasusregeln lassen sich allerdings ebenfalls auf nichträumliche Verhältnisse übertragen, insoweit diese als
räumliche gedacht werden, etwa auf temporale wie in (3), aber auch auf andere, wie in (4):

    b. Die Arbeiten zogen sich bis in den Herbst hin.

(4) a. Es geschah in der besten Ordnung.
    b. Er verwandelte sich in einen Käfer.

These few examples do not have any explanation power. None of the researchers quoted above - except Meex (2002) - offers an explanation of the alternation with reference to event schemas as will be done in this paper.

The examples we have just discussed (4a and 4b) are prototypical ones. In the following sections we will discuss examples of fictive motion and abstract or metaphorical motion and look for some way of motivation for the selection of a specific case in these examples.

3.1. Fictive motion

Fictive motion is the scanning motion we make in the mind when speaking about trajectories in the topological environment: “Human experience with motion goes beyond actual movement and perceived movement – it also includes mentally simulated or imagined motion.” (Matlock 2004b: 235).

Here we can quote the following example:

(5) *Der Rhein fließt von der Schweiz durch drei Bundesländer bis in die Niederlande [ACC.].*

‘The Rhine flows from Switzerland through three federal states up to the Netherlands’.

Talmy (1991), Langacker (1987) and Matlock (2004a and 2004b) dealt quite in detail with this type of examples. What interests us is the fact that German uses the accusative case for the expression of a fictive path and goal as if there were real motion. In his description of the example *Das Wasser reicht ihm bis über die Schenkel*, 'The water is above his thighs', Serra-Borneto (1997: 192) justifies the use of the accusative with "you can imagine the eyes of the speaker following a trajectory from the ground up to the thighs and beyond them" (1997: 192).

A fictive motion also characterizes more particular examples where no motion event seems to be involved as no motion verb is used; more extremely, a static verb like *sein* 'to be' can be used in such constructions. In
these cases the motion is simply expressed by a satellite, which contradicts the meaning of the static verb, e.g.,

(2) *Er war bei uns über die Feiertage*
    ‘He was with us over (during) the holiday’
(6) *Ich werde dich lieben bis in den Tod*
    ‘I will love you till I die’.

The difficulty for foreigners lies in the use of a static verb, *sein* 'to be' or *lieben* 'to love', although a dynamic motion event is being expressed which is marked by the accusative case. In her study of "The German *über*" Bellavia (1996: 87) claims for similar examples as the ones discussed here that

[t]he fact that beyond metaphors share both features (static and dynamic) of the corresponding schemata is signalled at the sentence level by a static locative verb (*sein* 'to be') and the morphological feature of case (ACC, typical for motion). This combination (static verb + motion ACC) is not allowed in basic spatial sentences, but appears only in metaphors.

In a similar example, *Er ist über seine besten Jahre hinweg*, ‘He is over his best years (He has left behind the best years of his life)’, Serra-Borneto (1997: 192) assumes that "the situation (and the verb) is static but dynamism is subjectively added to the configuration". This happens at the level of the satellite. With Talmy (2000: 278) we can talk of a 'framing satellite':

A framing satellite determines most or all of the complement structure of its clause as well as the semantic character of the arguments represented in these complements.

The framing satellite also determines the case-marking in our examples.

3.2. Abstract or metaphorical motion

My experience with foreign learners of German has shown that they will encounter most difficulties in their decision about the case-marking in the following examples e.g.,

(7) *Peter hat sich in seine Mitarbeiterin verliebt*
    ‘Peter has fallen in love with his colleague’
(8) *in eine andere Sprache übersetzen*
‘to translate into another language’

9) *auf ein altes Problem eingehen*
‘to enter into, i.e., to deal with, an old problem’

10) *sich an eine Entscheidung halten*
‘to hold to, i.e., to stick to a decision’

Why do Germans use an accusative in such examples as if there were a dynamic motion with a path and goal? In order to be able to explain this use, we have to postulate an extension of the concept of motion into abstract domains: Spatial distinctions such as those between containers and surfaces are extended to more abstract areas of experience, i.e. the goal of the motion event can be (metaphorically) (i) a container, e.g. in example (8), (ii) a horizontal surface, like in (9), or (iii) a vertical surface, e.g. in example (10). This extension of concrete spatial domains to more abstract areas of experience finds its origin in the underlying conceptual metaphor *ABSTRACT MENTAL ACTIVITY IS MOTION* as advocated by Conceptual Metaphor Theory defined by Lakoff and Johnson (1980).

4. Pedagogical issues

Teachers of German know too well that case-marking after two-way prepositions in examples of fictive or metaphorical motion are a real challenge for foreign learners. How can the learning of this German way of viewing things and the morpho-syntactic realization (with an accusative) be facilitated? Several explanation attempts have been proposed in scientific literature, like in Smith (1995), Meex (2004), Bellavia (1996), Di Meola (1998), to name just a few. But either the explanations are too complex (e.g. Meex 2004) and would take hours of teaching – which is not possible in the tight school or university schedule –, or they highlight just one aspect (Carroll 1997 or Serra-Borneto 1997) or deal with a single preposition (Bellavia 1996, Di Meola 1998 or Meex 2002). My study suggests a simpler, more general and more accessible teaching approach. Difficulties for FLL with German expressions of motion events and their case-marking can be reduced if FL teachers attempt an explanation

1) by trying to visualise the abstract motion;

2) by taking into account the underlying conceptual metaphor as defined in 3.2.
Early psychological studies (Vester 1978 and Paivi 2001) have shown that learning is the more successful if it takes place through several channels. So, when learning a foreign language it can be recommended to do so not only in a verbal form but also with drawings, gestures, or graphic representations:

[...][G]raphic representations provide visual rubrics that may be useful presentational tools for the language teacher and useful aids for the second language learner. (Evans and Tyler 2005: 15)

With the 'dual coding hypothesis' (2001) Paivio claims that verbal and visual learning strategies are strongly intertwined and that multi-channel learning also fosters memorization/retention.

It is on the other hand worthwhile making a detour via conceptual metaphors underlying the examples of abstract motion. But let us see how conceptual metaphor and visualisation can be concretely used as tools for a better teaching and learning of examples of fictive and abstract motion.

4.1. Visualisation of the motion with gestures

Gestures can be used for more concrete representations of motion but also for some more abstract examples of metaphorical motion. In my own teaching practice with intermediate students I often use a bow-gesture for examples like

(8) *in eine andere Sprache übersetzen*
    ‘to translate into another language’

(9) *auf ein altes Problem eingehen*
    ‘to enter into, i.e., to deal with, an old problem’.

This gesture illustrates a path, a bridge from one language to the other (8) or the movement of the brain to a particular problem (9).

4.2. Visualisation of the motion with a drawing

As already mentioned in Section 3.2., spatial distinctions such as those between containers and surfaces can be extended to more abstract areas of
experience like in examples of abstract motion. This can be represented with a drawing as in the following examples:

THE GOAL IS A CONTAINER (with the preposition *in*)

\[ \text{Diagram of a container symbol with an arrow pointing to its interior.} \]

(8) *in eine andere Sprache übersetzen*

(11) *Er fügt sich in die Gruppe.*
Litr. “He joins (himself) in the group”, i.e.,
‘He becomes a member of the group.’

The language or the group can be seen as containers.

THE GOAL IS A VERTICAL OR HORIZONTAL SURFACE (with the preposition *an/auf*)

\[ \text{Diagram of a rectangular surface with an arrow pointing at it.} \]

(9) *auf ein altes Problem eingehen*

(10) *sich an eine Entscheidung halten*

‘Problem’ or ‘decision’ are seen as surfaces, respectively horizontal (9) or vertical (10); the horizontal vs. vertical meaning is expressed by the preposition accompanying the noun.

4.3. Underlying conceptual metaphor

Boers (2003: 232) and Bellavia (2007: 211) claim that metaphor carries a strong explanatory power which can be exploited in foreign language teaching (FLT). In her comparison of conceptual metaphors in Turkish and English, Özçaliskan (2003) proposes lists of metaphorical mappings (among others ABSTRACT CONCEPTS ARE MOVING ENTITIES/LOCATIONS) which can be exploited by Turkish learners for the learning of English. Boers and Demecheleer (1998) claim that learning can
be facilitated if metaphorical senses are presented in a motivated way. One of the conceptual metaphors they discuss is SEEING IS KNOWING (1998: 201) which plays a role in the German (12) _hinter etwas schauen_ (metaphorically), literally 'to look behind something', meaning 'to look for an explanation'.

As we saw in Section 3.2., the conceptual metaphor which characterizes our examples of abstract motion is: ABSTRACT MENTAL ACTIVITY IS MOTION. One of the main issues for the learner is then to find out whether the abstract goal is conceptualized as a container, a surface or still another basic spatial relation. Once the conceptual metaphor has been recognized, the learner will have to be told by the teacher that such examples of metaphorical motion are used with the accusative.

5. Empirical study

5.1. Aim of the study

The empirical study conducted with intermediate French-speaking students of German aimed at showing that the teaching and learning of expressions of motion events with their case-alternation can be facilitated by a methodology which deals with language-specific concepts, visualization and metaphor as described in the previous sections. The study is based on the assumption that the visual representation of motion events and the recognition of the underlying metaphor for non-prototypical motion events can make the whole learning task of German far more transparent and thus may help 'motivate' (Boers and Lindstromberg 2008) the application of the correct case-marking to fictive and metaphorical motion events. This new methodology will be compared with a more traditional methodology as presented in two teaching manuals used in Belgian universities and schools. The traditional manuals are the _Grammaire Pratique de l'Allemand_ by Bouillon (2001) and _Allemand: Grammaire Progressive Avec Exercices_ by Aldenhoff (1994). Bouillon's (2001: 182) and Aldenhoff's (1994: 159) grammar books deal with the selection of the right case in the chapter about prepositions and more specifically about prepositions with variable cases.

Bouillon (2001: 182) explains the difference in use between the accusative and the dative simply by saying that the accusative is used when a direction to a place is expressed. In all the other uses the dative has to be selected:
Elles [les prépositions an, auf, in, hinter, über, unter, vor, neben, zwischen] se construisent avec l'accusatif quand le sens implique une direction vers le lieu indiqué par le complément, sinon elles se construisent avec le datif.

‘They [The prepositions an, auf, in, hinter, über, unter, vor, neben, zwischen] are used with the accusative when the meaning implies a direction to a place as indicated by the complement, otherwise they are used with the dative.’ [my translation]

He illustrates this claim with a prototypical example which is of little help for the selection of the right case in examples of fictive or abstract motion:

\[\begin{align*}
\text{Er wohnt in einem kleinen Dorf.} &= \text{situation + dat} \\
\text{Morgen fahren wir in die Stadt.} &= \text{direction + acc} \\
\text{(Bouillon 2001: 183)}
\end{align*}\]

‘He lives in a small village. = situation + dat
Tomorrow we drive to town. = direction + acc’ [my translation]

Before he starts to enumerate every single preposition in particular and deals with its meaning and use he describes some further general uses of prepositions like the temporal use (for further details see page 184).

Aldenhoff’s explanations (1994: 159ff) are a bit more specific, but not detailed enough to include all the examples under discussion in this paper. He claims that the dative is used for the expression of location when the relation expressed by the preposition is already existing; the accusative expresses an emerging relation:

\[\begin{align*}
\text{Die Vase steht auf dem Tisch. Ich stelle die Vase auf den Tisch.} (\text{Dans le premier exemple, le rapport “vase sur la table” existe, dans le deuxième il se crée.}). \text{ (Aldenhoff 1994: 159)}
\end{align*}\]

‘The vase is on the table. I put the vase on the table (In the first example, the relation “vase on the table” exists, in the second example it is being created.).’ [my translation]

Aldenhoff goes on saying that the dative "expresses where something is or happens, whereas the accusative expresses where something goes to, or what is reached" (1994: 159; my translation). Aldenhoff further claims that no motion verb is needed to have the expression of a motion which he illustrates with the following examples:

\[\begin{align*}
\text{Der Zweig hing ins Wasser.}
\end{align*}\]
It is obvious that these short explanations are very approximate.

5.2. Participants

The new methodology was tested with a group of 15 French-speaking intermediate university students who all studied German as a foreign language in their second year and had the B2/C1-level on the proficiency scale of the Common European Framework of Reference. The control group consisted of 19 students from another Belgian university but who fulfilled the same conditions as the test group (i.e. level, study year, amount of German lessons identical) and who were presented with the same test. The answers of two students in the control group were discarded as their mother tongue was German and not French; so the control group size was n=17.

5.3. The pretest and the post-test

Both groups received a pre-test with 18 German sentences and they were asked to fill in the article in the correct case before the noun expressing a motion or a location, e.g. Der Übersetzer hat viele Stunden gebraucht, um das Buch in d….. Arabische(n) (das) zu übersetzen, 'The translator needed many hours to translate the book into Arabic'. The grammatical gender of the noun was given between brackets to make sure that a wrong gender would not interfere with the selection of the case form. Twelve out of the 18 sentences expressed a fictive or abstract location or motion, six sentences were distractors expressing a concrete motion or another action (e.g., Das kleine Kind ist in d……….. Wasser (das) gefallen, 'The young child has fallen into the water'; Der Sanitäter (ambulancier) setzte die kranke Frau auf d……….. Bank (die), 'The ambulance man placed the ill woman on the bench').

Immediately after the pre-test the test group was taught according to the method described above. The control group received some explanations based on the chapters in the teaching manuals by Bouillon (2001) and Aldenhoff (1994).
After the explanations and during the same session, both groups received a new test different from the pre-test but including similar tasks with twelve fictive or abstract motion sentences and five distractors.

5.4. Results of the pre-test

With the pretest it became clear that both groups had most difficulties in the choice of the right case with examples of abstract motion, e.g.

(12) hinter etwas schauen (metaphorically)
    'to look behind something'.
(13) Die Lehrerin hat die Gruppe in drei weiter… Untergruppen eingeteilt.
    'The teacher has split up the group into three further sub-groups'.
(14) Er hat sich an d… letzte Hoffnung geklammert.
    'He has clung to the last hope'.
(15) Er hat die Fahrt bis in d… kleinste(n) Detail geplant.
    'He has planned the journey up to the smallest detail'.

About half of the students in the test group (47.77 %) and 29.90 % of the students in the control group selected the wrong case (the dative and not the accusative). The pretest also revealed a difference in the proficiency level of the test group and the control group in spite of the same study conditions.

One example was very problematic for both groups: (16) Das Raumschiff ist wieder auf … Erde gelandet, 'The spaceship has landed back on … earth'. For French speakers landing expresses a motion with a path and a goal (i.e. the earth in this case). For Germans, the landing action stresses the contact with the earth and does not express a motion with a path and goal – which justifies the use of the dative for the expression of a non-motion.

5.5. Results of the post-test

The test group and the control group were tested again immediately after they had been taught according to the specific method. Table 1 summarizes the results:
Table 1. Results of the pre-test and post-test

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<tr>
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<th>Test group</th>
<th>Control group</th>
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<td></td>
<td>15 students</td>
<td>17 students</td>
</tr>
<tr>
<td>Pre-test: Correct</td>
<td>94/180</td>
<td>143/204</td>
</tr>
<tr>
<td>answers</td>
<td>52.22 %</td>
<td>70.09 %</td>
</tr>
<tr>
<td>Post-test: Correct</td>
<td>119/180</td>
<td>131/204</td>
</tr>
<tr>
<td>answers</td>
<td>66.11 %</td>
<td>64.21 %</td>
</tr>
</tbody>
</table>

In the post-test, 66.11 % of the participants in the test group were successful in the selection of the right case, in the control group 64.21 % made the right choice. The difference between the test group and the control group does not seem to be very large but the results can be relativized if we take into account the starting situation of both groups: only 52.22 % of the participants in the test group managed to choose the correct case in the pre-test which means that the teaching methodology for examples of fictive and abstract motion brought an improvement of 13.89 %. The starting position in the control group was different as already 70.09 % of the participants were successful in their selection of the correct case in the pre-test. Surprisingly, the results of the post-test with the control group were not so good as only 64.21 % of the participants gave correct answers. This means that there was a regressive development. This is difficult to understand as the post-test was conceived according to the same format as the pre-test but with slightly different sentences containing expressions of motion. The degree of difficulty of the sentences was supposed to be the same in both tests. But this regressive result can perhaps show that the traditional teaching methods on expressions of motion are problematic and even seem to disturb a more intuitive case selection. Traditional teaching of motion and location expressions is either non-existent or if it takes place it remains very general and does not deal with metaphorical or abstract motion.

5.7. Statistical evaluation and discussion

The statistical analyses confirm our expectations:
(i) The mean score of the pre-test by the control group (mean 8.41; sd= 2.87) is better than that of the test group (mean 6.27; sd = 3.06). This difference is significant (t = 2.04; df = 30; p =0.02).
(ii) For the post-test the mean differences between both groups are hardly significant. Here are the results for the test group: mean 7.93; sd = 1.58 as against mean 7.71; sd = 2.23 for the control group. This leads to t = - 0.33; df = 30 and p = 0.37. This means that with the new teaching method the test group reached the same level as the control group – which was better from the start.
(iii) The progress of the test group between the pre- and post-test for the test group (mean = 1.67; sd = 2.87) is much higher than that of the control group (mean -0.71; sd = 1.90).

Application of a paired samples t-test to the scores obtained for the pre- and the post-test by the two groups allows to conclude that the new method in which visualisation and conceptual metaphor are used for the teaching of abstract and metaphorical motion is clearly much more effective (t = -2.79; df = 30; p = 0.004).

6. Conclusions

It looks as if the German spatial prepositional system and its case-marking system may find a natural explanation in terms of the event schemas for motion and location. The study illustrates that numerous differences between French and German can be systematically explained by taking into account the way in which these languages have realized their conceptualizations. This is particularly relevant for the teaching of expressions of fictive and abstract motion events. Traditional teaching manuals do not offer the necessary frame for the description – let alone for the teaching methodology – of such expressions. The new methodology described in this paper is based on the description and use of conceptual metaphor and of visualisation. The results of the empirical tests are promising.

It seems important to anticipate the teaching of examples of abstract motion by awareness-raising tasks in which the conceptualization differences between the verb-framed language French and the satellite-framed language German become apparent: "Awareness on an intellectual level is desirable; while students may learn to use some frequent metaphors without reflection, they are likely to achieve more if they are encouraged to consciously reflect on the metaphorical nature of language" (Deignan et al. 1997: 353). German expressions of abstract motion as discussed in this
paper are often conventionalized expressions and so students might not necessarily recognize the underlying metaphor at first sight. In these cases the teacher will have to help students 'remotivate' some of the conventionalized motion expressions.

The new methodology offers the advantage of fostering motivated learning among students: "the notion of conceptual metaphor carries such explanatory power (e.g., motivating segments of natural language that used to be viewed as purely arbitrary)." (Boers 2003: 232) But visualisation has proved to be very efficient as well. Motivated learning also offers the advantage of facilitating retention (Boers and Lindstromberg 2008).

This metalinguistic work of recognizing and understanding a metaphor in conventionalized expressions is "demanding and might not be suitable for less motivated students, or students below mid-intermediate level who might not be equipped with the necessary metalanguage for discussion" (Deignan et al. 1997: 358). The new method described in this paper – though visual and gesture-oriented – is not suitable for beginners either but for intermediate level students. It presupposes a certain knowledge of the German language for the development and use of a metalanguage which in its turn encourages the use of German as L2.

Notes

* I would like to thank Abdelghafour Ayadi, statistician and computer scientist at the Facultés universitaires Saint-Louis in Brussels, who helped me with the necessary statistical analyses for my research; I am also indebted to my colleague Julien Perrez who helped me with the interpretation of the data and some insightful comments and to my colleague Françoise Gallez who did the pre- and post-test at the Facultés Universitaires Notre-Dame de la Paix in Namur (Belgium).

1. Here are some examples of case selection determined by the valency of the verb: Er zweifelt an seiner Schuld, 'He has doubts about his guilt' (dative), but Er erinnert sich an ihren Brief, 'He remembers [to] her letter' (accusative).

2. For very concrete suggestions in the teaching methodology see Brüning and Saum (2007), Jüttner (2003), Shires Golon (2008), and Zachara (2004).

3. In the test group were students of German language and linguistics at the Université Catholique de Louvain (UCL), the students of the control group did the same studies but at the Facultés Universitaires Notre-Dame de la Paix in Namur (Belgium).
4. One could criticize that the test can have been falsified because of the duality of the possible answers: dative or accusative. However, that is the reason why the question was formulated like this: "Please fill in the right case" (not specifying dative or accusative).

5. Because of a lack of time the efficiency of the methodology in a long-term perspective could not be tested; this would have implied to organize a second post-test after a few months.

6. To gain absolute certainty about the equal difficulty level of the pre- and post-test one should have perhaps done a Cronbach's alpha test of reliability – which was not done here.

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Appendix

Pretest

a) Date :

b) Ma date de naissance (AA/MM/JJ) :

c) Ma langue maternelle :

d) Mes études :

e) Année d’études :

f) J’apprends l’allemand depuis ???????? années, à raison de ????????? heures par semaine.

g) L’allemand est la 1*/2*/3*/4*/5* langue étrangère que j’apprends.

h) Avant l’allemand, j’ai appris…………………………………………………………………………………………………

(autres langues).

i) Je connais le néerlandais pas du tout/un peu/moyennement/très bien.

Ajouter l’article ou la terminaison (le genre du nom est entre parenthèses)

1. Er hat die Fahrt bis in d........... kleinste(n) Detail (das) geplant.

2. Der Sanitäter (ambulancier) setzte die kranke Frau auf d........... Bank (die).

3. Es macht keinen Spaß, mit dir zu reden, du fällst mir ständig in d........... Wort (das).

4. Der Übersetzer hatte viele Stunden gebraucht, um das Buch in d........... Arabische(n) (das) zu übersetzen.

5. Peter hat sich in sein........... Mitarbeiterin (die) verliebt.

6. Er hatte großen Hunger und biss in d........... Apfel (der).

7. Das kleine Kind ist in d........... Wasser (das) gefallen.

8. Er sagte mir in d........... Gesicht (das), dass er mich nicht mochte.


10. Du sollst Dir das in d........... Schädel (der) hämmern.

11. Er klopfte laut an d........... Tür (die).

12. Das Raumschiff ist wieder auf d........... Erde (die) gelandet.

13. Kannst Du bitte diesen Wein in d........... Glas (das) gießen.
Die Lehrerin hat die Gruppe in 3 weitere Untergruppen eingeteilt.
Er hat sich an die letzte Hoffnung geklammert.
Hinter ein Maske schauen.
Er ist verliebt bis über die Ohren.
Ab in das Bett.

Post-test

a) Date
b) Ma date de naissance (AA/MM/JJ)
c) Ma langue maternelle
d) Mes études:
e) Année d'études:
f) J'apprends l'allemand depuis années, à raison de heures par semaine.
g) L'allemand est la langue étrangère que j'apprends.
h) Avant l'allemand, j'ai appris (autres langues).
i) Je connais le néerlandais pas du tout/un peu/moyennement/très bien.

Ajouter l'article ou la terminaison (le genre du nom est entre parenthèses)

1. Wir sind endlich über den Berg (der).
2. Er war so krank, dass er an den Bett (das) gefesselt war.
3. Er wohnt um die Ecke (die).
4. Mit den Händen in der Rücken (der) schaute er mir in die Augen (die).
5. Sein Blick ruhte auf mir (= sur moi).
6. Sein Geburtstag fällt auf den Sonntag (der).
7. Er hat ein Theaterstück aus dem Englischen in das Deutsche(n) (das) übersetzt.
8. Ihre Kinder besuchen sie beide über die Feiertage(n) (die).
9. Der Kleine lief neben seinen Vater (der).
10. Das Gemälde ist in das Museum (das) gestohlen worden. Gestern hing es noch an die Wand (die).
11. Ist die Hochzeit gut geplant? Ja, bis in die Detail (das)!
13. Gieß mir bitte noch Sekt in das Glas (das). Danke!
14. Ich will wissen, was tatsächlich passiert ist! Schaue doch mal hinter die Fassade (die)!
15. Das Gedicht haben die Kinder bis auf die letzte Strophe auswendig gelernt.
17. Er versteckte sich hinter ein Baum (der).
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