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Editors
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Applied Cognitive Linguistics II: Language Pedagogy

Edited by
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Susanne Niemeier
René Dirven

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Applied Cognitive Linguistics. Vol. I. Theory and Language Acquisition

Applied Cognitive Linguistics. Vol. II. Language Pedagogy

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The Editors
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Introduction

René Dirven, Susanne Niemeier and Martin Pütz

As a usage-based language theory, cognitive linguistics is predestined to have an impact on applied research in a number of areas such as language in society, language and ideology, language acquisition, foreign language learning, and language pedagogy. Still, although cognitive linguistics is a rapidly expanding linguistic paradigm, the impact of this new linguistic theory on various branches of applied research and on their pedagogical implications is only now beginning to be more generally felt[1]. Thus the present volume and its twin volume *Applied Cognitive Linguistics. Volume 1: Theory and Acquisition* are the first longer publications concentrating on the links between the theoretical views of CL and their relevance for applications in the areas of language acquisition, learning, and pedagogy. These fields can now be dealt with in one coherent framework, which – as the book title shows - we have called *Applied Cognitive Linguistics*.

The editors are convinced that CL has much to offer for these research areas and therefore we more than welcome the burgeoning interest in these fields. While the other volume deals with theoretical issues and approaches to the area of first language acquisition, the present volume focuses on second or foreign language learning and its pedagogy. The editors see the phenomena of "second language acquisition" and "foreign language learning" as complementary processes and thus reject Krashen's classical division into, and artificial opposition between, acquisition and learning (see also the discussions by McLaughlin 1978 and Taylor 1993). In its view of language as being based on and rooted in cognition, CL can only accept that both processes – unconscious acquisition and awareness in learning – go hand in hand and are always both present in language instruction scenarios, albeit in widely varying degrees.

The contributions in this volume approach language pedagogy in various ways, each of which highlights different aspects in which CL theory may be useful when applied to foreign language instruction. It is striking that various papers deal with some of the most intractable problems in foreign language learning, such as phrasal verbs, idiomatic expressions, phraseology, metaphor and word derivation. Almost all the papers in the present volume deal with idiomatic layers in the language. As said before, this applies to topics such as phrasal verbs, idiomatic expressions and conventional phrases, as well as metaphorical extensions in lexis, morphology, syntax and text structure. The mastering of these areas of the foreign language has traditionally been reserved for advanced stages in FLL. But the learning materials discussed in the papers by Dirven and by Kurtyka are aimed at both intermediate and advanced learners, and must therefore present the insights of CL in a relatively easily accessible way. Thanks to CL insights, the area of idiomaticity in language has become far less opaque than was hitherto assumed in both linguistics and language pedagogy. The distinction between a rule-based syntax and a rule-insensitive area of idiomatic units has been shown to be less rigid and far more fuzzy than was believed before (see especially Taylor forthcoming). Both areas exhibit many cases of transition, vagueness, and overlap. Rule-governed morpho-syntax contains a lot of irregularities, and many conventionalized constructions have a highly idiomatic character. Also the reverse is true: idiomaticity contains a great deal of regularity. By showing the systematic elements in phrasal verbs, idiomatic expressions, phraseology, and especially metaphorical avenues in language, the learning materials may trigger off new impulses for the acquisition of a more sophisticated level of competence in FL.

Not only intermediate and advanced learners can be better catered for in CL-inspired learning materials; also absolute beginners and the group from beginners to intermediate learners can profit from CL findings about language. Thus the whole problem of basic vocabulary, which was mainly based on frequency counts, can to a large extent be redefined and rethought, as Ungerer's contribution shows, in terms of the distinction between basic-level terms and superordi-

nate and subordinate levels of conceptual and linguistic categorization.

Our aim in editing this volume has thus been to make ongoing research and recent findings available to a larger audience, which – we hope – will have an impact at grassroots level, both on actual language teaching, and on the learning and acquisition going on in foreign language classes inside and outside schools. We firmly believe that CL offers ways and means to facilitate foreign language learning because it enables us to point out the motivation behind every aspect of language. Language thus becomes explainable, and once learners see the way or ways a language works, they may start constructing and reconstructing their own hypotheses about the language they are learning. As has been shown often enough, learning by insight is much more effective than mere rote learning. (See the studies by Plunkett et al. 1993 and by Riding et al. 1993, 1996). Getting the learners to (re-)discover the motivated structures and principles that govern a foreign language may also lead to a greater degree of learner autonomy. Furthermore, this perspective is in line with current constructivist learning theories, which claim that learners do not learn what the teacher teaches but that each of them constructs their own realms of knowledge, choosing certain bits of information offered by the teacher and fitting these building blocks into their own constructions of knowledge (see Wendt 1996).

We are not claiming that in traditional foreign language instruction such connections never appear and are never focused upon or explained, but rather, if it happens, it does not happen in any systematic way. Therefore we would like to suggest that teachers at least take the possibility of a different and more holistic approach to language analysis and learning into account, so as not to miss this chance of facilitating the learning processes. All of the papers in this volume suggest ways in which current research in CL may usefully be applied to foreign language instruction.

The contribution by **René Dirven** (Duisburg, Germany), "English phrasal verbs: theory and didactic application" makes two major points: (1) applied work must be based upon the best possible descriptive work, and (2) the applied linguist must approach descriptive

work with a strong critical mind. For these purposes the author selects one approach amongst the many recent CL analyses of phrasal verbs, i.e. Gries. Dirven shows that this thorough analysis of particle verbs is not yet sufficiently metaphorically oriented and therefore cannot account for native speakers' intuitions, but only for corpus phenomena. In the second part of his paper Dirven evaluates the link between descriptive linguistics and applied linguistics while evaluating the late Brygida Rudzka's didactic grammar of phrasal verbs. Research, both in CL circles and elsewhere, develops very quickly, and Rudzka's materials, which were written some five years ago, reflect the state of the art at that moment. This temporal lacuna shows that applied linguists must have at their disposal reliable surveys of high-quality descriptive work or else set it up themselves. This is what Rudzka did in her time, and she was one of the first to embark upon an applied or didactic grammar. Another positive aspect is that she manages to exploit the potential of radial network representations as learning aids. In fact the author might have used this type of representation for all the particles discussed in her applied grammar. Radial networks can also serve the heuristic function of checking the completeness of the presentation, its internal coherence, and its gradual build-up from the concrete to the abstract. By using the descriptive analysis of Tyler and Evans and the corresponding radial networks, it is shown that Rudzka did not manage to program all the prototypical senses of the particle *out* nor the internal clusters of senses. These reservations concerning Rudzka's presentation are not meant as negative criticism, but only as a reminder of the fact that descriptive CL work is highly relevant in each step of producing learning grammars. All in all, Rudzka-Ostyn's work remains a unique milestone on the road to a fully-fledged Pedagogical Grammar of English.

The contribution of **Andrzej Kurtyka** (Kraków, Poland), "Teaching English phrasal verbs: a cognitive approach", complements Dirven's paper very well insofar as it deals with the same topic in English grammar and also focuses on Rudzka-Ostyn's work. Whereas Dirven concentrates on the link between descriptive and applied work, Kurtyka takes the learner's perspective and concentrates on the

didactic link between learning materials and the learner in his learning situation. First, the contribution discusses various traditional common ways of teaching phrasal verbs as found in a variety of ELT books. The author provides psychological evidence to show that these non-semantic approaches may not be sufficient to clarify the complex character of phrasal verbs, and introduces the alternative semantic-conceptual approach developed by Rudzka-Ostyn. This is a didactic application of CL, largely based on the concepts of trajector and landmark, and the extension of prototypical literal senses into metaphorized, more abstract senses, all kept together in radial networks. Earlier approaches tended to list many different particles with one and the same verb to show their different uses. But this type of presentation only presents facts, not the motivation behind these fact, and can only lead to rote learning. Rudzka-Ostyn proceeds the other way round; she takes different verbs, all with the same preposition or particle, and shows how all the senses of the particle start from a prototype as center and gradually branch in several directions. Since this procedure also exhibits the motivations for the extensions from the prototypical center to the many different senses, learners can embark on the insightful learning of the semantics of phrasal verbs. Rudzka-Ostyn introduces a teaching method which makes use not only of the natural tendency of our memory to respond more actively to visual imagery, but first and foremost of the memory's ability to make mental generalizations on the basis of the rich linguistic input presented in the syllabus. Here rule formulation is almost entirely absent, but the grammar of phrasal verbs is visual, repeatable in many different forms, and generalization-inducing.

A further contribution on phraseology is provided by **Kurt Queller** (Idaho, USA) in his paper "A usage-based approach to modeling and teaching the phrasal lexicon". The paper deals with the question, or rather "the puzzle", of why native speakers of a language so frequently select conventional phrasal patterns (ranging from collocations to conversational routines), whereas non-native speakers do not seem to have that ability. The author suggests an approach aimed at helping L2-learners grasp the schematic structuring of countless individual items which, for native speakers, lends coherence and motiva-

tion to the phrasal lexicon. Again, Langacker's usage-based model is considered to be eminently suited to exploring pedagogical applications of a new, usage-based analysis of an English syntactic category, the prepositional/adverbial particle *over*. Queller speaks about 'the chaotic character of dispersal events', as these are usually embodied in human experience and as they find expression in a prototype 'chaotic dispersal' schema for the category '(all) over'. Queller suggests that only the more fully specified prototype can account coherently for many usage facts such as (a) the preferred collocation of '(all) over' with verbs connoting messy dispersal, (b) a preferred reference within the phrasal pattern, (c) the negative judgement implied in certain expressions, and (d) the nuance of random motion generally recognized for expressions like e.g. 'running all over the yard'. The paper sketches an HTML-style format for presenting this category to non-native learners in a way that does equal justice both to basic-level, lexically entrenched phrasal units and to the prototype-centered network structure that organizes them within the mental lexicon. Queller concludes by discussing contributions that a pedagogical emphasis on phrasal-lexical units and on the low-level prototype schemata that organize them can make toward refining cognitive linguistics theories of lexical network structure.

With the contribution by **Zoltán Kövecses** (Budapest, Hungary), "A cognitive linguistic view of learning idioms in an FLT context", the problems of phrasal verbs and phraseological expressions are widened to include the more general level of idiomaticity. The paper deals with the question of how a cognitive linguistic view enhances the learning and teaching of idioms in the foreign language classroom. Most idiomatic expressions are based on metaphors. One of the most frequent sources for metaphorical idioms is the human body (as many as one sixth of 12,000 idiomatic expressions in a dictionary of idioms are body-based). The interesting fact is that a given source domain, e.g. FIRE (as in *a house on fire*) can be mapped to a wide range of target domains such as anger, love, imagination, conflict, energy, enthusiasm, and many more. By combining idiomatic expressions with their underlying source domains, they may become more transparent to the learner, who now sees the motivation behind the

idiomatic meaning. This even holds for dead idioms such as *a wet blanket,* which is used to quench a fire and as an idiom denotes a person or act damping the feelings of enthusiasm in an individual or group. Although these links are no longer felt by the native speaker, they are valid for the foreign language learner, who discovers in every idiomatic expression something of its original mapping process. Kövecses further suggests that idiom dictionaries be built up along such metaphorical source domains. Also in the FL classroom this may be an ideal learning strategy. In a small-scale experiment with two groups of 15 learners it turned out that the group that was introduced to the underlying metaphorical source domains performed much better than the other group, both on the expressions dealt with before (82% retention vs. 73%) and on novel expressions not dealt with before (77% vs. 52%). The author comes to the conclusion that CL indeed has much to offer to FLL and that CL insights can provide a useful general strategy for achieving this objective.

While Kövecses's paper deals with metaphors as core elements in idioms, the contribution by **Antonio Barcelona** (Murcia, Spain), "On the systematic contrastive analysis of conceptual metaphors. Case studies and proposed methodology", focuses on the contrasts and commonalties between basic metaphors in English and in Spanish. As such it is a study continuing the older tradition of (applied) contrastive analysis, which had its heyday in the sixties and seventies, but since then lost much of its impetus and impact on language pedagogy. CL is certainly called upon to revive contrastive analysis, as already signaled by Soffritti's 1998 contribution to the *Cognitive Exploration of Language and Linguistics.*[2] Barcelona's contrastive analysis sets the pace for the type of contrastive analysis that CL can contribute to language pedagogy and foreign language learning. Contrastive analysis can provide the fine-grained comparison between the ways a conceptual metaphor is linguistically realized in two languages. Whereas a coarse-grained comparison only highlights the many correspondences in two languages, a fine-grained analysis can unveil the many idiomatic differences and ultimately predict a number of errors learners can be helped to avoid. The author illustrates this, by way of introduction to a larger project, for the emo-

tional domains of sadness/happiness, anger, and romantic love. In English the conceptual metaphors for emotional states tend to invoke the CONTAINER image, as in *He flew into a range* or *The news threw him into a terrible rage.* Spanish is not container-oriented here: *Su conducta me puso furioso* 'His behavior me put furious', i.e., *His behavior made me furious.* It is these many different lexical/idiomatic and grammatical realizations of metaphors in both languages that must be found out and programmed into learning materials. The author also stipulates a number of methodological principles or strategies at phrasal and clausal level that may be applied in the contrastive analysis. He concludes by pointing out the relevance such contrastive work may have for applied linguistics in the areas of language learning, translation, and interlinguistic lexicography.

The contribution by **Friedrich Ungerer** (Rostock, Germany), "Basicness and conceptual hierarchies in foreign language learning: a corpus-based study", widens the scope of topics once again. The paper sets out to discuss Rosch's prototype theory and its application to first language acquisition in the sense that the primacy of the basic level implies that, for example, superordinate and subordinate concepts are acquired later than basic ones. It is hypothesized that this sequence is also followed in the foreign language teaching context. Formerly, FL vocabulary learning was strongly based upon frequency counts and the many improvements made to it on the basis of availability needs or other principles. But there was not any semantic principle underlying the composition of basic vocabulary lists, nor was there any systematic link to the rest of the vocabulary. The strong hierarchical relationship of basic-level terms both to the superordinate categories they belong to and to the subordinate categories they dominate and keep together makes a systematic ordering of vocabulary learning possible. Moreover, basic-level terms have a high frequency range and in fact enable a semantic principle to account for the frequency of certain words. Ungerer has set up his own list of basic-level terms on the basis of a corpus. His corpus study comprises German textbooks of English plus two popular newspapers (*The Sun* and *The Daily Mirror*) and one quality paper (*The Guardian*). With reference to language teaching, the analysis shows that, for

example, basic level items are to be preferred as entry points where the superordinate concepts involve "less tangible taxonomic notions". Metonymic superordinates are often as easily accessed as basic level terms and should therefore be introduced early and without the support of the respective basic level items.

The contribution by **Klaus-Uwe Panther and Linda Thornburg** (Hamburg, Germany), "A conceptual analysis of English *-er* nominals", is the volume's best illustration of what we can understand by the notion of "the best possible description" of a given area of syntax. Although Ryder (1991, 1999) had already dealt with the theme of *-er* nominals along cognitive lines, the authors show that a more unified account for all phenomena, especially one accounting for the noun-derived ones such as *back-hander*, is necessary: "Our findings considerably weaken the traditional assumption that the non-verb based *-er* nominals constitute an erratic if not "chaotic" category. And to the degree we can reduce chaos, our findings will have relevance to the teaching and learning of this extremely productive derivational pattern in English". The authors therefore focus on English morphology, presenting a non-rule-based account of *-er* nominals in English. They argue that a contrast between verb-based and non-verb-based *-er* nominals claimed by other authors does not hold up, as the *-er* nominals can be accounted for by a general conceptual schema independent of the syntactic category of their bases. They show that *-er* nominals do not constitute a conceptual category in the classic sense of the word, but that they form a complex conceptual category with a prototypical center and a network of other senses. So here again, just as in the approaches by Rudzka and by Tyler and Evans, discussed in Dirven's contribution, the notion of (radial) network also plays a central role. The authors see five major sub-categories of *-er* nominals, four of them being object nominals, and the fifth being an event nominal. The prototypical category is the human agent nominal as in *baker*. Next to it are the non-human animate nominals such as types of dogs like *retriever, biter, pointer.* Also close to the prototype are metaphorical inanimate nominals such as *skyscraper*. A huge subcategory is constituted by instrument nominals such as *three-wheeler*; many, if not most of them are noun-based, but share the general char-

acteristic of all object nominals, i.e. some (implied) entity does something to some other entity, which metonymically or metaphorically involves a whole action. Event nominals such as *backhander* differ from object nominals in that their referents are events. Thus a *backhander* is not a person, but an event, i.e. a stroke in tennis given from a backhand position. Again metonymy is ubiquitous here too. All this is illustrated and visualized by many figures and tables, so that the whole analysis and presentation can serve as a rich linguistic quarry and input for the applied linguist who wants to program and to construct teaching materials on the basis of this solid framework. The authors themselves also discuss the implications that their findings have for foreign language instruction and conclude: "...the rich conceptual motivations of grammatical phenomena is much more promising as a methodological tool in language pedagogy" than chaos. The motivations they have offered are precisely the five categories of meaningful types of *-er* nominals with their many motivated subcategories. Here is a lot of food for thought for the applied linguist.

The last contribution shifts the perspective again, both geographically and culturally. It is by **Hans-Georg Wolf** (Berlin, Germany) **and Augustin Simo Bobda** (Yaoundé, Cameroon), and is entitled "The African cultural model of community in English language instruction in Cameroon: The need for more systematicity." The paper shows the importance of the cognitive and cultural context in the field of language teaching for ESL varieties of English in the anglophone part of Cameroon. The authors point out that the main problem in terms of the organization and design of textbooks lies in the ethnocentric bias that represents a Western life-style and Western values, thereby alienating the students from their own indigenous culture. 'Indigenization' here is understood in a far broader sense than just being the inclusion of local lexical items; above all it encompasses a realization of the underlying culture-specific models of thought. The authors suspect that educators and authors of textbooks are seemingly unaware of the systematic nature of the cultural knowledge they utilize and that they only intuitively make use of various facets of African culture. Based on an analysis of Longman's textbook of English, the *Secondary English Project for Cameroon* (Book 5), the authors

introduce the basic structure of the African model of community and provide instances of its realization in language teaching materials. The authors suggest that the African model of community is particularly suited to the introduction of the methodological concept of 'cultural model' developed within cognitive anthropology (Holland and Quinn, eds., 1987). The African model is different from the Western conception of the individual or the 'self' in the sense that in African, Latin-American and many Southern European cultures individuals see themselves as part of an encompassing social relationship. Wolf and Simo Bobda cite numerous examples of conceptual metaphors and linguistic expressions which lie at the heart of African spirituality: the sanctity of life, the role of spirits and ancestors and the relation between illness, misfortune, and sin. The authors conclude by raising the question of whether or not the application of the cultural models expressed in L2 varieties jeopardize intelligibility. The assertion is clearly negated.

Notes

1. For a few earlier papers, see the Reference section: for cognitive research on lexicon and grammar learning see Dirven (1989), Dirven and Taylor (1994), Rudzka s.a., Rudzka et al. (1991), Taylor (1987, 1993), and for cognitive learning style research see Heidemann (1996), McLaughlin (1978), Plunkett and Marchman (1993), and Riding et al. (1993, 1996).
2. This is part of the unsigned chapter 10 "Language comparison: Sociology of language, language typology and contrastive linguistics" in Dirven and Verspoor (1998).

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Section 1

Bottom-up approaches: Phrasal verbs and phraseological expressions

English phrasal verbs: theory and didactic application*

René Dirven

1. Introduction

The purpose of this paper is to emphasize one very essential aspect of didactic applications of linguistic descriptions. It is not sufficient to use some or other descriptive analysis of a grammar segment, but the applied linguist must be informed about the continued evolutions in the field and base his programming of learning problems on the best, even if they are the latest, descriptive proposals. As the discussion will show, these cannot even be taken for granted, but must be approached critically and cautiously. The theoretical part of this paper is the continuation of a discussion started in a twin paper "Recent cognitive approaches to English phrasal verbs" (Dirven forthcoming) and explores the status of the two elements in phrasal verbs and of the construction as a whole (Sections 2 and 3). The didactic application in Section 4 concentrates on a pedagogical grammar of English phrasal verbs by the late Brygida Rudzka-Ostyn and takes up various elements from that twin paper.

2. Status of the particle within phrasal verbs

Gries (1997, 1999) investigates the alternation between the two structural possibilities of particle placement with transitive phrasal verbs: the post-verb position (construction 1) as in (1a) and the post-DO (direct object) position (construction 2), as in (1b).

(1) a. He *picked up* a pencil. Construction 1: post-verb position
b. He *picked* the pencil *up*. Construction 2: post-DO position

The deeper principle which Gries proposes as the underlying principle for the various factors adduced in the literature, and which he empirically explores in a corpus, is the consciousness principle, manifesting itself in the degree of attention needed to set up mental contact with the NP's referent in the direct object.

He formulates his consciousness hypothesis as follows: "construction 1 will be preferred with objects requiring a high amount of consciousness and construction 2 will be preferred with objects requiring none or only a limited amount of consciousness for their processing" (Gries 1997: 64). The degree of consciousness is in its turn determined by two sub-principles, in the order of importance as given here (which is not emphasized by Gries): the discourse context and the entrenchment of the linguistic form denoting a referent. Objects that are new in the discourse context like *a pencil* in (1a) prefer construction 1, whereas objects that are accessible or active via the discourse context preferably occur in construction 2 as in (1b). Similarly, according to Gries (1997: 64), poorly entrenched objects such as abstract entities prefer construction 1, but fairly well entrenched objects such as human persons are more frequent and therefore more acceptable in construction 2. Whereas the principle of the discourse context explains the obligatory use of construction 2 in (2a), the entrenchment principle would necessitate construction 1 in (2b):

(2) a. He has got malaria. He *picked* it *up* in Kenya.
b. He has got malaria. He *picked up* that disease in Kenya.
c. He has got malaria. He *picked* THAT disease *up* in Kenya.

But for 9 out of 10 informants[1] also construction 2 as in (2c) is acceptable with abstract nouns, for 8 without any reservation, for one under the condition of a stressed form, indicated by upper case. It is further to be expected that not only the nature of the direct object, but also the degree of metaphorization of each single element of a particle verb or of the whole construction plays a major role.

Expressions such as *pick up a disease/an accent/a habit*, etc. contain the notion 'by chance', which seems to have arisen by implicature. Normally what you pick up, becomes your possession. It is the metonymic principle ACTION STANDS FOR EFFECT OF ACTION that leads to *pick up*'s new sense of 'acquire'. Since negative possessions or properties are not desirable, you did not pick them up intentionally; so you can only have acquired them by chance or bad luck. It is not unlikely that each figurative phrasal verb has a story of its own and is, consequently, to be situated at a different point on the continuum from purely literal to purely idiomatic meanings. This hypothesis would also explain the variability in the judgments of native speakers. In this discussion two things seem to be of great importance: the literal vs. figurative meaning of the phrasal verb and the status of the adverb or particle. I will, therefore, first try to follow the possible evolution in the rise of particle verbs.

I would like to defend the thesis that a *particle verb* is a subcategory of a *phrasal verb*. Phrasal verbs are combinations of verbs and prepositions, adverbs, or particles with a certain degree of idiomaticity, which means that the whole of the phrasal verb has a meaning which is more than the sum of its parts. Let's start from the important observation that most particles in phrasal verbs can also function as prepositions, but not vice versa. That is, most prepositions are monofunctional, not multifunctional. In order to clarify the difference between these monofunctional and multifunctional items, they are first of all enlisted.

(3) a. Monofunctional items (prepositions only):
- *at, to*[2]*, from, into, onto, out of, between, amongst*
- *above, below, under, beneath, underneath*
- *against, beside, near, next to, with*

b. Multifunctional items (preposition, adverb, or particle):
- *on, in, out, off, up, down, by, over*
- *along, through, about, around, across*

An important generalization is that monofunctional prepositions mainly denote zero-dimensional points in space, whereas the multi-

functional ones denote one- or more-dimensional space(s) such as lines, surfaces, and containers, including paths and the verticality orientation. The common conceptual ground for multifunctional prepositions is then the possibility of developing the notion of physical or abstract motion (in the sense of Langacker 1986), which in turn is the source domain for the target domain of change. The structural difference between the two subcategories of prepositions in (3) and the different potential for meaning extensions in phrasal verbs thus has a conceptual basis. This also means that in their purely prepositional use there must be some factor that allows us to impose a different construal of the same experiential scene. More particularly, we may wonder what the possible difference is between multifunctional *off* and monofunctional *from* in (4).

(4) a. She *brushed* the crumbs *off* the table.
b. She *brushed* the crumbs *from* the table.

The visual scene in (4a) implies a trajectory between two points in space: one point (A) is the surface of the table, the other (B) is some unspecified place away from the table. The preposition *off* evokes the trajectory AB and profiles the second point B. With the preposition *from,* only one point is chosen, which is profiled as the point of departure. The trajectory AB as such is not part of the meaning of *from*, in terms of Tyler and Evans[3], but is rather only implied. For instance, if we say "She is from London", we only state her provenance, not her actual abode. But if we say *off stage*, we also invoke a trajectory to another possible position, i.e. *on stage.* Because there is a built-in trajectory with *off,* the objects moved in (4a) can also be seen as located at the end of the trajectory, i.e. they are *off* the table now. But *from* only denotes the point of origin, not a path so that one cannot say **They are from the table now* in the sense that they have been removed from the table.

The next point concerning the differentiation of *from* and *off* is the adverbial status of *off,* which is but one step further in the process of re-interpretation. It is instantiated in phrases such as *They are off,* which no longer implies the starting point of the trajectory, but only

denotes the resultant state. In (5) we witness a case of blending. In (5a) *brush* NP *off* we can see an intermediate phase in the development of phrasal verbs and in the form *brush off* NP in (5b) we have the last step in the extension of the uses of *off*.

(5) a. She brushed the crumbs off.
b. She brushed off the crumbs.

The two scenes blended in (5a) are the scene denoted by the action of brushing and the resultant state after the action of brushing: the crumbs are gone (see Fauconnier and Turner 1996). In (5b) this blending process has become lexicalized into one integrated form, i.e. *brush off*. This structural possibility, labeled construction 1 by Gries (1997), is also the end-point of a gradual abstracting process. The fundamental difference between the two constructions in (5) appears from the different possibilities of combining them with the expression indicating the source or origin, i.e. *from the table*.

(6) a. *She brushed the crumbs off from the table.
b. She brushed off the crumbs from the table.

Whereas mentioning the source with *from* in (6a) is totally ruled out, it is acceptable in (6b). The conflict in (6a) may be due to the incompatibility between stressing the resultant state (*off*) while simultaneously stressing the point of origin (*from the table*). But that's not the whole story. As Gries (personal communication) points out, the combination *brush off from* is very well possible, as his examples from the NBC corpus show: *cut her off from the people, shut himself off from the high offices, taking time off from the campaign, split the Zulus off from the ANC*. The idiomatic element that has crept into these expressions is that they presuppose a former structural whole from which an integral part is separated. This is equally possible with non-figurative expressions such as *cut a slice off from the cheese, shut the annex off from the main building, split a broken branch off from the trunk*. What we see then in the ungrammatical case of **brush crumbs off from the table* (6a) is that here there is no inte-

grated whole from which an intrinsic part is removed. This has the important corollary that the construction '(motion) verb NP *off from*' acquires some idiomatic surplus of its own, which cannot be explained by mere assembly principles. When we remove crumbs from the table, we do not separate any integral part from the table so that here mere assembly leads to the ungrammatical result of (6a). The ultimate basis of the special character of the combination *off from* is the meaning of '(strong) contact', which is the main feature of the preposition *on*, and consequently also of its complementary antipode *off*. The constructional effect of the combination *off from* is that the meaning of '(strong) contact' is kept intact.

As the grammatical sentence (6b) with *brush off the crumbs from the table* shows, the phrasal verb construction *brush off* (or construction 1) must then be interpreted as fundamentally different from the verb-DO-particle construction (or construction 2). Here the constraint of "the integral part of a structural whole", which is a result of the juxtaposition of *off* and *from,* cannot work, and any combination of phrasal verb and direct object is possible. We can conclude that the integration of the adverb *off* into the phrasal verb *brush off* in (5b, 6b) reflects a conceptual integration into a complex motion verb so that expressing the point of origin of the motion is no longer excluded. Although in many, perhaps even most, cases the difference between construction 1 and construction 2 is leveled out, it is present especially in less prototypical cases as in (6). They strongly suggest that the two constructions cannot be seen as pure alternations.

The new possibilities and constraints of construction 1 also become manifest when the focus is not on the primary landmark *snow* as in (7a), but on the secondary landmark *shoulders of her coat* as in (7b). With the new phrasal verb *brush off* it is possible to incorporate the secondary landmark as the direct object. Compare:

(7) a. She *brushed* the snow *off* the shoulders of her coat.
b. She *brushed off* the shoulders of her coat.
c. *She *brushed* the shoulders of her coat *off*.

In *brush off* in (7a) we have a verb + prepositional phrase construction whereas in (7b) we have a transitive verb (*brush off*) + direct object. The example in (7b) differs both from (7a), where *off* is purely prepositional, and from the ungrammatical (7c), which contains a secondary landmark and an adverb denoting a resultant state, implying that the shoulders of the coat have been removed. The blending construction in (7c) is not possible because there is a clash between the secondary landmark and construction 2, which seems to require a movable primary landmark, but excludes the unmovable secondary landmark. The fact that the secondary landmark is possible in construction 1 *brush off the shoulders of your coat* (7b) is another indication that here a new step in the semantic extension of the more complex particle verb *brush off* has been taken. Conceptually, when you have brushed off all the snow from the shoulders of your coat, you have cleaned these shoulders or, by metonymical extension, you have cleaned the coat. The snow is the affected object that is brushed off, the clean shoulders of the coat are the effected object of the same complex phrasal verb. By metonymical extension, the active zone, i.e. the part of the table where the crumbs had been or the part of the coat where the snow had been, is not needed, so that we find the more current constructions of (8).

(8) a. She brushed off the table.
b. She brushed off her coat.

In conclusion, it may have become clear that the three categories of preposition, adverb and particle form a continuum with many borderline cases within each major stretch of the continuum. As a summary, let's illustrate the many subtle different cases, the dividing line being situated in (9e, f).

(9)	a. He jumped *from* the roof.	PREPOSITION (group 3a)
	b. He jumped *over* the wall	PREPOSITION (group 3b)
	c. The little boy *cried over* his broken toy	PREPOSITION (figurative)

d. The rain caused the river to *flow over* (its banks)	PREPOSITION with PP or ADVERB without PP
e. She *brushed* the crumbs *off.*	ADVERBIAL PARTICLE
f. He *ran* the flag *up*	ADVERBIAL PARTICLE
BORDERLINE	*PARTICLE INTEGRATION*
g. He *ran up* (and folded) the flag.	VERB LIT; PARTICLE LIT.
h. I *looked over* the manuscript carefully.	VERB LIT; PARTICLE FIG.
i. They *picked out* a name for the baby.	VERB FIG; PARTICLE FIG.
j. We are *facing up to* a huge problem.	VERB FIG; PARTICLE FIG; PREP.

I propose to consider any idiomatic, that is non-composite, meaning of the combination of a verb and a preposition, adverb or particle as a phrasal verb. On this basis, we can call the combinations in (9c-j) *phrasal verbs.* The first two instances in (9) are ordinary prepositional phrases with no idiomatic constraints. The combination *cry over* in (9c) is a phrasal verb, since *cry* is combined with *over* rather than with *about.* The cases in (9d-j) are a major subcategory of phrasal verbs, i.e. particle verbs. From now I will be using this label. In (9d) we witness the double possibility of an alternation between preposition and adverb. In (9e, f), the particle has a purely adverbial function to be compared with the intransitive phrasal verb in *The wall fell over*, or even with a transitive case such as in *They started the race over (again).* These examples instantiate what Gries calls 'construction 2'. In (9e, f) the items *off* and *up* function as adverbial particles, not yet as integrated wholes with the verb. As already hinted at before, my interpretation of construction 2, except in the case of pronouns as in (2a), is that it focuses on a resultant state so that the particle retains an adverbial status. Consequently, construction 2 is not only processually, but also conceptually different from construction 1, which reflects a strong integration of the particle with the verb. Such constructions (9g-h) then constitute real particle verbs. This is shown by (9g), where *run up* has equal syntactic status with a simple verb such as *fold,* which explains why it can be used as a verb

phrase conjunct on an equal footing with *fold.* This is even clearer in *brush off,* which can incorporate a secondary landmark as shown in (8). An important consequence of this interpretation is that the alternation which is possible with concrete transitive phrasal verbs expresses two different construals of the same scene: a sequential one, making a distinction between the action of the verb and the resultant state, and another holistic one, not making that distinction explicitly, and not focusing on, but only implying the result. If any element, either the verb or the particle or both, is used figuratively as in (9h-j), only construction 1 tends to be possible. Both items of such a 'particle verb' are so strongly integrated that they express one single concept. In fact, this interpretation is not new, but was, of course independently, posited by other authors, as Gries pointed out to me.[4] This high degree of integration is reflected in the fact that many particle verbs have one-word synonyms. Thus *look over a manuscript* (9h) has the unitary meaning of 'inspect', *pick out a name* can be paraphrased with 'select' or 'choose' and *face up to huge problems* is a synonym of 'tackle' or more neutrally of 'be confronted with'.

3. Global metaphorizations of particle verbs

When considering the meaning extension of *brush off* from primary landmarks (*brush off the snow*) to secondary landmarks (*brush off a coat*), we can wonder whether two really distinct senses are involved. Tyler and Evans (in preparation: 76) use the criterion of "additional information" as their guiding line for the delimitation of new senses in a lexical item:

> A fundamental criterion for identifying a distinct, conventionalized sense is that the linguistic form must occur in utterances in which its interpretation involves some additional information (meaning) which is not directly derivable from the proto-image.

The additional meaning which *to brush off* in *to brush off a coat* acquires – in comparison with its basic sense – is that of "cleaning". This additional meaning first operates as a conversational implicature

of *brush off the crumbs/brush off the snow*, but by metonymical extension becomes a conventional implicature in *brush off a coat.*[5]

As was shown in (7b, c), this meaning extension of *brush off* does not allow construction 2 to be used. Therefore the example also constitutes a serious problem for the otherwise solid approach by Gries. There is, first of all, no distinction in his approach between direct objects in terms of primary and secondary landmarks, and secondly and more fundamentally, it is not clear how these distinctions can be accounted for if one mainly focuses on the direct object and not on the whole configuration of the particle verb, the specific particle, the nature of the noun used in the direct object, and the contextual embedding of this structural whole.

This problem also manifests itself in purely figuratively used particle verbs. Namely, it is possible to add a fifth category to the four types of particle verbs in (9g-j). We have a number of cases where the literal particle verb, e.g. *to brush off,* serves as the input for a metaphorical mapping which does not result from the metaphorization of either the verb, or the particle, or each of the two, but which is a "global metaphorization" of the whole expression and can only take an abstract human-action direct object such as *accusations* or a concrete human object such as *neighbors*.

(10) a. He brushed off the accusations.
b. He brushed the accusations off.

(11) a. We can't brush off the neighbors again.
b. ??We can't brush the neighbors off again.

That we have to do with a category of its own appears from the fact that we find a very great variation in grammaticality judgments. Both construction 1 and construction 2 are deemed possible with abstract direct objects as in (10) by most, though not all, judges; but with concrete, human direct objects as in (11) informants either find construction 2 better than in (10), or hesitate, or reject it (see fn. 1).

It seems that these global metaphorizations are in the process of becoming dead metaphors. For speakers who feel them to be dead

metaphors, only construction 1 is acceptable. For speakers who feel them to keep the image of a sweeping motion, both constructions are possible. Since this is difficult to imagine with people (11b), it does not surprise us that we find uncertainty in the grammaticality judgments here.

So it does not suffice to state that abstract words such as *accusations*, or other abstract lexical items denoting adversary action such as *allegations, complaints, protests, objections* only take construction 1, but it is equally essential – and as the examples with human actions or human persons in (10) and (11) show, perhaps even more so – to state that by using them as direct objects with a number of metaphorized particle verbs such as *brush off*, the nature of this verb is in the process of changing or it has changed completely so that it is synonymous with more abstract verbs such as *reject, repudiate, dismiss,* etc. In fact, the semantic change in particle verbs such as *brush off* is double: on the one hand, its meaning switches from concrete motion to some abstract action, and hence from a literal meaning to a figurative meaning, and on the other hand, the meaning of the particle *off* is loosing its status as an autonomous element leading to a composite, but idiomatic meaning. It is the case, then, that *off* in (10, 11) has lost most, though not all, of its original spatial meaning, and now forms one integrated abstract concept with the verb *brush*, which can be paraphrased, as already said, by one-word synonyms such as *reject, repudiate,* and *dismiss*, but which for many speakers also retains something of its imagistic origin.

The conclusion that imposes itself from this discussion is clear. With the various uses of particle verbs such as *to brush off* there is not just variation of two structural possibilities, but there are two really different constructions in metaphorical particle verbs. They tend to take construction 1, if there is a global process of abstraction involving the direct object, the nature of the verb, and the nature of the particle as in (11); but they can take both constructions, if some image of the metaphor is still alive as in (10).

Another point to be noted is that with this particular verb *brush off* the image of removing objects that stick to a landmark, the picture is somehow reversed into the image of keeping off or sending back

undesirable actions or persons before they reach their target landmark. In fact, the paraphrases *reject* and *repudiate* are loan words from Latin and both contain the prefix *re-* 'back'. Indeed, in metaphorical expressions like *brush off accusations* or *brush off people* we use a different type of trajectory than in *brush off a coat*, i.e. an upcoming (physical or abstract) motion is turned back from EGO, whereas in the literal sense, *brush off* denotes motion away of things sticking to EGO or to an object in EGO's proximity.

Surveying and summarizing the polysemy structure of the item *brush off* we now see that two more senses must be added to the extensions of its basic sense of "reject" as in *brush off accusations* and the sense of "turn down" as in *brush off somebody.* These two senses are also related to each other so that the following semantic network can be proposed as the result of the preceding discussion.

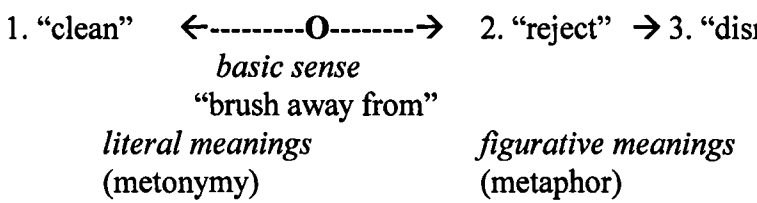

Figure 1. Semantic network of the particle verb *brush off*

Finally, it may be useful to round off the discussion by the analysis of two highly illustrative examples (taken from the didactic corpus in Section 4) with the figurative particle verbs *to put across* (12a) and *to get across* (12b). Compare:

(12) a. Marketing is about *putting across* to the consumers the best qualities of a product.
b. He does not know how to *get* his ideas *across* to his pupils.

Whereas in (12a) the general trend for construction 1 to be used with figurative meanings of particle verbs is confirmed, this is not the case in (12b), which follows the general pattern for literal particle verbs, which with definite NPs is construction 2. The question is: is there

any motivation for the expression *to get one's ideas across to one's pupils* in (12b) to follow the more general preference pattern for literal particle verbs, i. e. construction 2, instead of using construction 1, which in general is preferred with figurative particle verbs? In other words, is there any conceptual motivation for the choice of construction 2 in (12b)? In traditional accounts it was assumed that the influence of a longer NP versus a shorter NP is an important factor in the choice of the two constructions and reflects the greater difficulty or ease of processing the construction. However, such matters cannot be a question of mere phonological length, but rather one of accessibility as Gries (1997) puts it. Accessibility is a result involving several factors, amongst others, the definiteness of the NP, but here the NPs in (12a) and (12b) are both definite. Still, there is a qualitative difference with respect to this definiteness: *the best qualities of a product* is only definite because it is triggered by a superlative, whereas *his ideas* is not only definite, but also provides an extra reference point, which is referentially identical with the subject. In other words, there is not just one, but several reasons why *his ideas* is far easier to access than *the best qualities of a product*. Last but not least, the nature of the lexical item also plays its role. In its figurative meaning, *to get something across* can only apply to mental objects. The most general type of mental object is "an idea" or "a thought". In fact, this is the most predictable choice with figurative *get across*. In this respect, *qualities* is much more specific and, hence, much less entrenched than *ideas*, which suggests that also inside the class of abstract entities provision has to be made for different degrees of entrenchment. Moreover, the difficulty of the phrase *the best qualities* is increased in that it is used metonymically: what one must put across are not the qualities themselves, but the awareness or the realization of the existence of these qualities. One must make the customers 'understand' what the best qualities of the product are, but the teacher cannot be pleased with making the pupils understand what his ideas are, he must get the pupils to 'accept' his ideas so that these ideas also become their own ideas. The image of the transfer of reified objects, here *ideas,* is still strongly felt in (12b): in line with the conduit metaphor for human communication (see Reddy 1979), these

ideas are seen to be transferred from the teacher's head into the heads of his pupils. Therefore in *to get your ideas across,* the particle *across* still keeps something of its adverbial value and denotes a resultant state: the teacher's ideas are with his pupils if he is successful and the image schema is still much closer to the concrete notion of transfer as in the corpus example *to see pupils across the road.*

As an overall conclusion from the previous discussion, we can support Gries's thesis that the alternation between the two structural possibilities (construction 1 and construction 2) applies unproblematically to the prototypical, literal meanings of the particle verb. But the fact remains that this distribution is far more complex with the extended, figurative meanings of these verbs. Gries (1999: 128, 130) argues that in the case of idiomatic constructions such as *to lay down the law* one will find construction 1 only, except with pronominal objects. This is obviously not the full picture. It does not even apply fully to the extreme cases of fully idiomatic, petrified, dead metaphorical particle verbs as in ??*He laid the law down* (see fn.1). Alongside these petrified, purely idiomatic particle verbs, we have a whole range of partly or globally metaphorized particle verbs, which explains the oscillations in speakers' grammaticality judgments. The further-reaching conclusion is therefore the hypothesis, already hinted at before, that the two constructions are not just alternations, but independent templates. But this is food for thought in further research.[6] Another important conclusion following from the variation in grammaticality judgments is that a clear distinction has to be worked out between fully idiomatic, less idiomatic, and newly metaphorized particle verbs. Here a very refined approach to grammaticality judgments may be a most valuable source and tool for the further and deeper understanding of grammatical constructions, which may simultaneously be seen as the indispensable complementary tool of corpus-based data.

4. Didactic application

4.0. A cognitive exercise book as a pedagogical grammar

This section is intended as a tribute to one of the pioneers of Cognitive Linguistics in Europe, Brygida Rudzka-Ostyn, who died a few years ago in 1998. She can count as one of the first cognitive linguists who tried to integrate into her teaching practice all her sound theoretical insights in the cognitive processes underlying and determining language in use. She developed, together with her husband Paul Ostyn, several learning materials, the best known amongst them being *The Words you Need* and *More Words you Need.*

Another but unfinished exercise book is *English Phrasal Verbs: A Cognitive Approach*, here referred to as EPV. This work is being finalized by Brygida's husband Paul Ostyn, tested in various classes and individually, and hopefully soon available.

The purpose of this section is not so much to present this work,[7] but rather to reflect upon the problems posed by phrasal verbs from didactic viewpoints, viz. (1) how can the applied linguist and language teacher get a reasonable hold of the progress in descriptive linguistics, that is, how can we best describe the various key points of grammar and lexis, and (2) how can these descriptions be used in learning materials so that the key points get learned and become part of the learner's foreign language command?

In this section I will first concentrate on some principles of pedagogic grammar and their general application in Brygida Rudzka's *English Phrasal Verbs* (EPV), and then, in a second part, I will explore to what extent theoretical constructs such as semantic networks can be exploited as learning aids and how they are reflected in the overall presentation and concrete illustrations of EPV.

4.1. Requirements on a pedagogical grammar (PG)

Some of the principles of pedagogical grammar (PG) have been discussed in Dirven (1989) and will be briefly summarized here, based on Dirven (1989: 58–59). A pedagogical grammar (PG) is here understood as the learning materials containing the best possible illustration, presentation and gradation of the learning problems in a given area of foreign language learning.

(13) Principles for a pedagogical grammar (PG)

i. PG is based on descriptive grammar (DG), but the statements of DG must be critically evaluated, and, if reliable, the insights (not the wordings) of DG must be presented in a learner-accessible way.
ii. The insights of DG must be rethought and reformulated in terms of learning difficulties and learning problems for the L2 or the FL learner.
iii. Therefore, a PG is to be based on an – at least implicitly – contrastive approach, evaluating the similarities and differences between L1 and L2 in a given area such as phrasal verbs.
iv. In areas where L2 is far more fine-grained in its categorizations than L1, PG has to develop rule elaboration; rule reduction applies where L1 is far more elaborated than L2.
v. In PG the presentation of the new formulated rules and rule systems exploits a multi-channel transfer system favoring the best possible internalization: visual schemas, texts and/or examples, stimulating intuitive learning, rule formulations or schemas, synthesizing exercises, transfer exercises, etc.

Let's now tackle some of the problems of the interface between a descriptive and a pedagogical grammar. I will limit the discussion mainly to the first point[8] in (13), the input of DG's insights in the programming of the various senses of an item. For this purpose I will take EPV's presentation of *across* as a test case. EPV presents *across*

in the following contexts (some were used in previous discussions). Their meanings are presented in Figure 2.

(14) The polysemy of *across* in Rudzka-Ostyn's EPV
a. The children ran across the road without looking.
b. He's the first man to have walked across the mountains.
c. She was sitting across the table from me.
d. There will soon be a bridge across the river.
e. The teachers always see their pupils across the busy street.
f. He does not know how to get his ideas across to his pupils.
g. Marketing is about putting across to the customers the qualities of a product.
h. She came across as a very intelligent person.
i. I came across an old friend during my holiday.

This set of examples is a very clear illustration of the transposition of theoretical insights in linguistic structure into a didactic application since it offers an almost perfect semantic gradation on the continuum from literal to figurative meanings of phrasal verbs. Just as in (9), also here in (14) the borderline is at the fifth meaning out of the nine meanings quoted: (14a–d) being literal meanings, (14e) being a transitional case, and (14f–i) being purely figurative meanings. But also within each of the two subsets and in the transition between the two sets separated by (14e) there is very clear progression.

4.2. Semantic networks as learning instruments

In a certain way, the ordering and presentation of the *across*-illustrations by EPV in the preceding section contained a kind of implicit semantic network in the extensions of across in *walk/get/put/come across*, which can be represented as in Figure 2. This network is a clear reflection of the meaning extensions from the concrete to the abstract senses of *across*. But whereas the list of examples in (14) is an implicit ordering of these extensions, the semantic network in Figure 2 is an explicit representation appealing to conscious insight.

Whereas it is certainly not admissible in a PG to present such semantic networks in a technical way, they can still be made profitable, as is convincingly shown by EPV's (p. 85) survey of a semantic network for *up*. As that example shows the use of networks could still be extended to all or at least to most EPV's particles in phrasal verbs.

In such a didactic application the following advantages can be expected. First, the network can serve as a guarantee for the designer of a pedagogical grammar that the major senses of a polysemous form are all incorporated in the learning materials. Secondly, some very simplified but explicit presentation of the links between the various senses of any item may facilitate overcoming the learning problems connected with the transitions between the various senses.

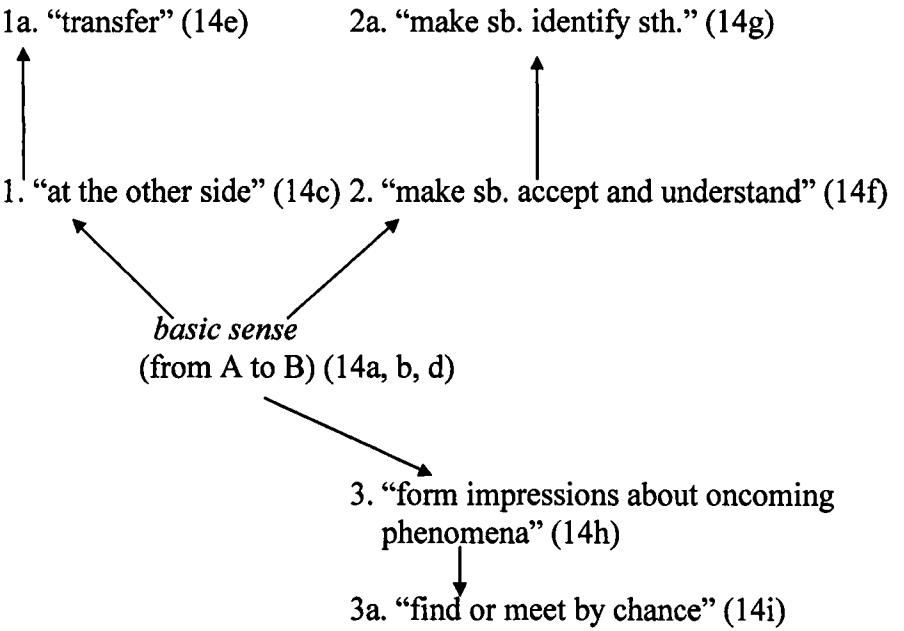

Figure 2. Semantic network of (*walk/get/put/come*) *across*

As a further step in the discussion, we will make an explicit comparison between the meanings of *over* as described in the DG by Tyler and Evans (T/E), as summarized in Dirven (forthcoming), and the PG by Rudzka-Ostyn. Table 1 lists the various senses of *over* in both

works. In order to understand the comparison, it is important to know two facts. Tyler and Evans start from a basic sense (or proto-image) of an item, which in the case of *over* is static, i.e. "higher than and proximate to". In the context of dynamic verbs, this basic sense is extended into dynamic senses, presupposing a motion from A to a higher point B and ending in a terminal point C (see Dirven forthcoming).

In both approaches there is a striking correspondence as to the limited number of main senses. If we add *over*'s basic sense of "higher than and proximate to" to the Tyler and Evans list, both approaches list six main senses. Up to a point these also correspond to each other. In order to visualize these correspondences, the order of EPV's senses has been mapped on to that of Tyler and Evans.

Where the approaches differ most, however, is (1) in their conception of the static/dynamic nature of prepositions/particles, and (2) in the systematic links between these senses.

Table 1. over's senses compared in T/E and EPV (p. 130–136)

T/E	EPV
0. Basic sense "higher than" and "proximate to"	1. "moving above other entity" "from one side to the other" 3. "completely"
1. ABC trajectory a. "on the other side" b. "completion" c. "transfer from A to C"	1. "moving above other entity" "from one side to the other" 3. "completely"
2. "covering"	2. "covering a certain distance to get closer"
3. "higher than and proximate to" a. "examining" b. "focus of attention"	5. "examining"
4. UP cluster a. "more" aa. "excess" b. "control" c. "preference"	4. "beyond or short of the norm"
5. a. "reflexive" b. "repetitive"	6. "positioned at angle to the ground"

Already in EVP's characterization of the basic sense of *over,* the static/dynamic issue is resolved in the advantage of the dynamic sense and examples such as Tyler and Evans' (15a) below with the paraphrase of "higher than and proximate to" are absent in EPV's illustrations. The first definition in EPV (p. 132) of *over* is: "an object moves above another one, and/or from one side to the other" as in (15b, c).

(15) a. The picture is over the chimney.
b. Around 10pm the plane flew over London.
c. As the weather was fine, we walked over the hill.

Of the 11 example sentences, which EPV offers for this first use of *over*, 10 are combined with verbs of motion, and only one is static, but offered in a non-predication context i.e. *The sky over us was pitch-black.* The notion of "higher than and proximate to" is not very pregnant in this example, although, of course, our world knowledge tells us that such dark clouds tend to be very low and hence psychologically close. In a somewhat more pregnant context this could be remedied as *The heavy clouds over us were pitch-black.* One of the senses pointed out by Tyler and Evans, i.e. (1a) "on the other side" as in *He is over the mountains now* is not considered in EPV. Tyler and Evans' sense (1c) "transfer from A to C" is limited in EPV to the spatial dimension towards EGO or to some other deictic center, respectively; these two orientations are illustrated in *Please, send a taxi over to the Grand Hotel* and *Help the lady over to the other side of the street.* In both these examples the notion of transfer is purely spatial, whereas in Tyler and Evans' example *She turned the keys over to the janitor* there is also a change of ownership or a real transfer.

This detailed comparison may show one thing very clearly. At the back of her head, the EPV author was still working with a type of analysis as proposed by Lindner (1981), Brugman (1982, 1988), and Lakoff (1987), mainly pointing out all possible differences in the represented real world as distinctions also lexicalized in *over* whereas the really new sub-senses of *over* such as "at the other side of", or

"transfer" are much less or not yet fully made into consciously activated learning problems.

As to the second point, i.e. the link between the various senses of an item such as *over*, we can also state a great discrepancy between the two approaches. This shows up immediately in the case of sense (1b) "completion" (Tyler and Evans) in Table 1, which in EPV is quite isolated and turns up as sense (3) "completely".

The notion of "completely" is also very vague since it presupposes some other concept which it then modifies. In contrast, the notion of "completion" as in *the lecture is over* is only dependent on the notion of event (which Tyler and Evans do not seem to realize). In fact, this notion of "completion" is present in two examples (16g, h) of EPV's list (p. 131–132), which is quoted below. At the same time I am adding the many other senses as distinguished by Tyler/Evans between brackets.

(16) a. The police swarmed all over the place. ("*partial covering*")[9]
b. The valley was covered over with a thick layer of snow. ("*full covering*")
c. He has traveled all over the world. ("*partial covering*")
d. We stayed in Morocco over the (whole) summer. ("*temporal covering*")
e. Every year we go over to France to spend a holiday. ("*ABC traject*")
f. Shouldn't we cut this tree hanging over (the driveway)? ("*full covering*")
g. In 1945 World War II was finally over. ("*completion*")
h. At the end of June school is over. ("*completion*")
i. She must be over forty now. ("*more than*")
j. The lecture lasted over two hours, longer than announced. ("*excess*")
k. Over the next few weeks we'll have to... ("*temporal covering*")
l. The car skidded and rolled over and over ending up in the ditch. ("*reflexive and repetition*")

On the one hand, the great variety of senses in these examples shows, on the positive side, that the learning materials offered in EPV are very rich and may strongly stimulate the intuitive heuristics of the learner. But, on the other hand, the EVP examples concentrate too strongly on the sense of "*covering*" (in its various sub-senses), but does not do justice to the whole variety of the senses of *over*.

I conclude that PGs can gain a lot if more strongly based on DG's findings. It also turns out that critical reliance on the latest research data is an absolute necessity. Only with the help of semantic/linguistic analyses such as those offered by recent studies, e.g. Tyler and Evans, can one begin to program the learning difficulties in a more systematic way. These learning problems are situated at three levels at least: they are contained in each single sense of a preposition or particle verb, in the coherent links between the various sub-senses in each cluster of an item's senses, and finally in the link between the various clusters and in their links with the basic sense or proto-image of a given item.

Seeing these lacunae in the framework of the totality of the valuable learning materials offered by Rudzka-Ostyn's EPV, we may conclude that the first of our list of 5 requirements on a PG in (13) must be taken very seriously. It also shows that applied linguistics and especially FL pedagogy must have solid foundations which can hopefully be offered by theoretical and descriptive linguistics in ever better analyses, both qualitatively and quantitatively. The new insights offered by Tyler and Evans may constitute a strong impetus in this respect.

Notes

* I wish to thank Stefan Gries for his many valuable suggestions and criticisms of an earlier draft of this paper, and John Taylor for his insightful comments on a pre-final version.

1. The presentation by Gries, who marks this example as ungrammatical (*), needs further precision. Since so many examples following from his proposed rules or preferences should be ungrammatical, but were judged correct by my routine in-

formant, I decided to have a quick test with 10 linguists. Their judgments for 4 sentences are presented below.

Sentences	Judgments: Correct	Uncertain	Incorrect
1. ???*They laid the law down*	4	3	3
2. *He picked that disease up in Kenya*	9	-	1
3. *She brushed the accusations off*	9	-	1
4. ??*We can't brush the neighbours off again*	5	4	1

On the basis of this mini-test, it seems that we cannot star sentence 1, but should rather give it three question marks (???), representing highest dubitability. Sentence 4 receives two question marks (??), and one question mark (?) is not represented. If 9 out of 10 informants accept a sentence, it would be unfair to give it one question mark (?). It is clear from these variations in grammaticality judgments that corpus data, however important they are, cannot tell the whole story.

2. John Taylor points out that *to* may be a particle in the particle verb *come to* 'regain consciousness', but there is no general pattern of such *to*-particle verbs.
3. For a characterization of Tyler and Evans, see Dirven (forthcoming).
4. Bolinger (1971) claims that in construction 1 the particles are integrated into the verb so much that the particle behaves just like a verbal affix. Yeagle (1983) says that construction 1 emphasizes a unified view of the action and its end as continuous (i.e. no denotation of the resultant state).
5. The metonymical extension can also go further and encompass the whole person, e.g. with the particle verb *brush down* as in *Let me brush you down*, i.e. "Let me remove the dust from your coat". This metonymical extension is possible in *brush down*, but not in *brush off* for two reasons. In *brush down* the verticality orientation is involved through the erect posture of the person addressed, and *brush off somebody* is a metaphorical extension (see [12]) and leaves no room for a parallel metonymical extension.
6. Gries (personal communication) confirms that his present research tends to go in this direction.
7. This is done in the paper by Kurtyka (2000) and Kurtyka (this volume).
8. Some of the other criteria, especially the fifth one, are discussed by Kurtyka (2000) and Kurtyka (this volume).
9. The distinction between "partial covering" and "full covering" is not made by Tyler/Evans, but seems to be desirable.

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Teaching English phrasal verbs: a cognitive approach*

Andrzej Kurtyka

1. Introduction

In English there are several areas of vocabulary and grammar that are extremely difficult for learners of English as a foreign language to master. Phrasal verbs are undoubtedly one of the perennial sources of confusion and frustration. Polish learners, for instance, have difficulty in understanding how they function due to the simple fact that in Polish the role of particles is played by prefixes. General reasons, common to many learners irrespective of their mother tongue, include first and foremost (after Sinclair 1989: iv):

- the existence of more than one meaning attached to an individual phrasal verb (e.g. *put down*),
- the complexity of grammar (e.g. the transitive/intransitive division, or tense requirements, as in *Are you having me on?*, which demands the present continuous tense rather than any other tense or aspect),
- collocational associations with other words (as in *map out plans*, but not **map out people*),
- the changing semantic status of phrasal verbs (they undergo constant changes in meaning and form as the language develops).

Since phrasal verbs are very common in everyday language they are important to learn so that speakers might be able to use them and be understood, if not merely to understand others.

This paper discusses various common ways of teaching phrasal verbs found in a variety of ELT (English Language Teaching) publi-

cations, provides some psychological evidence to show that these approaches may not be sufficient to clarify their complex character, and presents an alternative approach, which is a didactic application of cognitive linguistics, largely based on complementary concepts of trajector and landmark, and applied to the semantics of phrasal verbs by the late Brygida Rudzka-Ostyn.

2. Theoretical discussion

2.1. Approaches to the teaching of phrasal verbs

Approaches to teaching phrasal verbs can be tentatively divided into two categories: those that concentrate on the formal (syntactic) aspects of usage, and those in which the semantic contents of verbs are stressed. Many authors of ELT publications frequently use both in an attempt to introduce variety in exercise types.

2.1.1. Emphasis on syntactic elements

These approaches take the verb or the particle itself as the starting point. For instance Allsop (1990) offers exercises which concentrate on such common verbs as *come* (followed by *about*, *into*, *out*, *round*, etc.), *take* (*after*, *down*, *over*, *up*, etc.), *get* (*across*, *over*, *round*, *down*, etc.), *go* (*into*, *over*, *through*, *by*, etc.) and *be* (*into*, *around*, *through*, *up*, etc.). The prepositions which are the focus of attention for Allsop include *away* (as in *break away*, *tow away*), *down* (as in *settle down*, *wear down*), *in* (as in *bring in*, *stay in*), *off* (as in *cut off*, *put off*) and *out* (as in *drop out*, *rub out*). A similar approach is quite common in course books designed to prepare candidates for Cambridge Examinations in English (First Certificate, Advanced, Proficiency). For instance, Acklam and Burgess offer an exercise on *take* (1996: 40), which tells the learner to match sentences containing phrasal verbs (referring to various contexts, e.g. *You need to* take *a*

few days off *work, I am thinking of* taking up *golf to get some exercise*) with their semantically equivalent definitions or synonyms, albeit related to one another merely by the verb *take* and several particles following it.

An approach which centers on the verb is also offered by Seidl, who explains the syntactic intricacies of phrasal verbs by distinguishing between six patterns. She divides all the multi-word verbs into transitive and intransitive ones (1990: 8):

i. intransitive + particle, e.g. *slow down*;
ii. intransitive + preposition, e.g. *count on someone/something*;
iii. intransitive + particle + preposition, e.g. *put up with someone/something*;
iv. transitive + particle, e.g. *take someone off*;
v. transitive + preposition, e.g. *talk someone into something*;
vi. transitive + particle + preposition, e.g. *put something down to something*.

2.1.2. Emphasis on semantic elements

This approach seems to provide an even greater variety of exercise types. For instance, Acklam (1992) organizes common phrasal verbs around themes such as "relationship problems" (the chapter entitled *Getting On*), "illness" (the chapter *Pulling Through*) or "family relationships" (*Taking After*), and the learners are supposed to do a number of exercises which first present the verbs and then practise them in either controlled or free ways in a variety of related contexts. In another book, by Acklam and Burgess (1996 – note its double orientation in exercise types: cf. 2.1.1.), the context of "family" involves a number of phrasal verbs such as *grow up*, *bring up*, *get on*, etc., which are brought together in one sentence-based exercise (cf. 1996: 27).

Apart from individual sentences that illustrate the meanings of verbs, Workman (1993) suggests a variety of texts followed by exercises in meaning recognition and the contextual use of verbs. A se-

mantically organized, contextualized input is offered by Seidl (1990 – an otherwise syntactically organized book, as mentioned above), who presents all the verbs through short and long texts of various sorts (from letters and newspaper articles to horoscopes and puzzles), preceded by lists of phrasal verbs and their meanings. Dainty (1991) advocates a similar context-based approach in presenting all the phrasal verbs in a storyline format throughout the book, which is divided into chapters like a novel.

2.1.3. Emphasis on both syntactic and semantic elements

This combination is offered by Flower (1993) and Heaton (1995). Flower not only provides a number of exercises which are classified by particle, by verb and by topic, but he starts with a section on the semantic analysis of the most common particles. For instance, *up* refers to:

- an upward movement – e.g. *The sun is coming up*,
- an increase or improvement – e.g. *Sales have gone up in the past year*,
- completing or ending – e.g. *We used up all the eggs*,
- approaching – e.g. *A taxi drew up* (Flower 1993: 10).

This analysis is clearly made on a rather *ad hoc* basis. Similarly, Heaton, who also classifies his tasks by particle and topic, gives general semantic analyses of a number of particles. In the two sections on *up* (1995: 28–9, 41) its meanings are explained as follows (note the lack of coherence between the meanings given):

- not in bed – e.g. *get up*,
- into smaller pieces – e.g. *tear up*,
- towards, as far as – e.g. *run up to someone*,
- firmly, securely – e.g. *fasten up*,
- generally connected with imagining and inventing – e.g. *make up*.

A major weakness of such analyses is that the authors hardly ever discuss openly the difference between the literal meanings of phrasal verbs and the non-literal, metaphorical ones, and if they do, their analysis is not conducive to better understanding. This is extremely important, especially in the case of idiomatic, non-literal meanings, which are very common but not given proper attention or explanation. For instance, Workman outlines the difference between the prototype and its extension using the phrasal verb *look up* (1993: 7):

literal meaning (intransitive – AK) –	*He looked up and saw a plane.*
non-literal meaning (transitive – AK) –	*He looked up the word in the dictionary.*

Concluding this overview, one needs to add that the techniques mentioned above are predominantly verbal, i.e. they present vocabulary through lists of meanings, a variety of explanations, a number of contexts, etc., which may at times provide a very simplified, if not simplistic, picture of the problem. The retention of verbs may be decreased due to the fact that their presentation frequently lacks imagery.[1] If a visual element is indeed present (e.g. a drawing), it mostly refers to one or two verbs at a time and may be insufficient for the necessary generalizations to be made by the learner. It seems that what one needs to have is strong and well-organized sensory, e.g. visual, support which would put an end to "incidental imagery" that results in poor retention and instead promote the development of visualization skills.

2.2. Conditions for learning: visualization and semiotics

Visualization, i.e. the ability to form mental representations of verbal and non-verbal input, seems to be indispensable in learning. Of all kinds of mental images – be they visual, auditory, olfactory, tactile, kinesthetic, etc. – that can be created in the human mind, visual ones

are the most important ones as they are said to constitute the majority: from 80% to 97% (after Shone 1984: 15).

In his largely speculative but sensible guide for teachers, Grinder (1991) distinguishes between four ways of visual processing apparently characteristic of all learners in various types of schools (after Grinder 1991: 94–95):

i. The most common style is shown by the student who attends lectures, takes notes and learns from the notes by forming pictures in his mind (hears a lecture – auditory channel, A; takes notes – kinesthetic channel, K; learns through pictures in his mind – visual channel, V).
ii. The second most widespread style is shown by the student who reads the book (V), takes notes (K), and learns from them (V).
iii. The third type of visual processing is shown by the student who prefers external visual input (reading) without kinesthetic assistance (writing) to learn from (i.e. to form pictures in his mind).
iv. Lastly, the fourth type of student can store input visually without seeing information externally. They learn by hearing (A) without reading or writing (V or K) and they are sometimes considered to be "talented" or "gifted".[2]

In order to further corroborate the case for visualization in education, one should refer to Stevick, who has long been in favor of facilitating the learning process via rich imagery (cf. 1986 and 1996). Stevick claims that a number of studies of mental imagery, although conducted among native speakers of various languages, may have considerable relevance to foreign language teaching as well. For instance, Paivio (1971, also discussed in Stevick 1996: 48–49) suggested a dual-code theory, which assumes the existence of two interconnected memory systems: verbal and visual. A concrete word, such as *table*, evokes both verbal and visual images (cf. the prototype category TABLE); an abstract word, however, such as *agreement*, suggests verbal storage, and the quality of the accompanying visual support may be different for different people. As Bransford (1979) claims, the presence of two codes, verbal and visual, rather than one,

enhances storage and retention (Bransford 1979: 90, in Stevick 1996: 49). In another study, Ahsen (1984) holds that the distinction between images, which are created in the mind, and percepts, which enter the mind through the senses, is extremely difficult to make (Ahsen 1984: 34, in Stevick 1996: 50). This view seems to be elaborated by Gehring and Toglia (1989), who conclude that the retention of images is enhanced if these images are actually perceived, rather than merely created in the mind. Furthermore, if they are formed in a vivid and detailed way, they are remembered better than verbal input accompanied by "incidental imagery" (Gehring and Toglia 1989: 95, in Stevick 1996: 50).

The character of mental imagery seems to have an obvious connection with the neurological and cultural conditioning that man has been subject to for thousands of years. Kordys (1991) quotes several research studies in neurosemiotics and anthropology (including, indirectly, Carl Gustav Jung and his theory of archetypes – elements of the so-called collective unconscious that refer to human perception and behavior), and maintains that a number of dichotomies (such as up–down, front–back, left–right) used by people in their orientation in space can be depicted as a set of connected points. The resulting three-dimensional figure (cf. *Figure 1*, after Kordys 1991: 94) unifies these basic opposites, which are commonly used to describe and refer to the surrounding world. This figure is also an abstract representation of one of the fundamental archetypes: the *arbor mundi*, or "the tree of the world". This is the most general model of the cosmos, present in the traditions of the majority of cultures, and a reflection of mental organization in semiotic material. It seems that the origins of spatial, temporal, numerical, genealogical or etiological relations can all be traced back to *arbor mundi* (after Kordys 1991: 94–5). This view to some extent seems to be in accordance with the cognitive understanding of locative relations in terms of kinesthetic image schemas (mental generalizations of a great many concepts and experiences), which reflect the assumption that human bodily experience is highly structured (Lakoff 1987: 267, cf. also Johnson 1987).

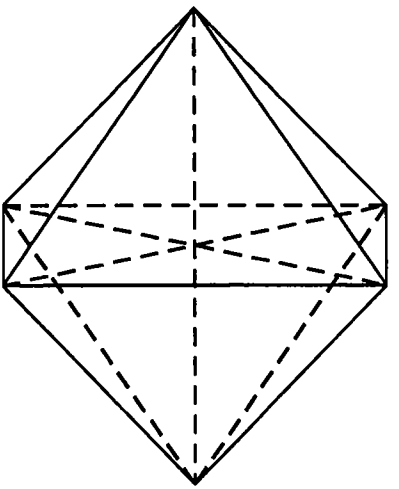


Figure 1. Arbor mundi – 'the tree of the world'.

The above discussion seems to suggest that in order to enhance comprehension and retention, the teacher would be well advised to combine the verbal and the visual in the presentation of phrasal verbs. The visual might include all sorts of elements – from pictures, drawings and diagrams, through guided visualization activities, to coordinated miming exercises, done by the teacher and learners in the presentation stage along with the strictly linguistic verbal input. One might argue that in this way the teacher's input is bound to become the learners' intake.

2.3. The cognitive linguistic view of phrasal verbs

This section briefly summarizes some basic earlier research into prepositions and particles.[3] The presentation is necessarily limited to the most relevant issues and it is done in order to introduce Rudzka-Ostyn's didactic treatment of the semantics of phrasal verbs (*English Phrasal Verbs: A Cognitive Approach*, ms), whose target readership is essentially the learner of English as a foreign or second language, in the broadest sense of the term.

Lakoff (1987), who looks at language from the cognitive perspective, enumerates (after Johnson 1987) a number of kinesthetic image schemata. One particular image schema which is helpful for the discussion of phrasal verbs and adverbial particles is the CONTAINER schema. It is based on the assumption that our everyday bodily experience allows us to consider our bodies not only as containers but also as things inside containers (e.g. beds, rooms, buildings). Consequently, the three structural elements of the CONTAINER schema – INTERIOR, BOUNDARY, EXTERIOR – provide a sufficient framework to, for instance, make a basic distinction between *in* and *out* or define the meaning of *into* (after Lakoff 1987: 271–272).

In order to show how particles/prepositions assume their apparently multiple meanings, one needs to mention the two notions related to the container metaphor, that is the trajector – TR, and the landmark – LM (Langacker 1987). The relation between them can be twofold: static or dynamic (see also Taylor 1995: 110).[4] This brings us to another dichotomy regarding the character of the preposition, i.e. the locative predicate and the directional predicate (see e.g. Hawkins 1986), which assumes a number of features to define the relationship between the TR and the LM in more detail, e.g. (also after Taylor 1995: 110): proximity (contact) or distance between them; their horizontal or vertical orientation; their location (if the relationship is static) or movement/destination (if the relationship is dynamic); movement of the TR itself – whether the relation refers to the start of the movement (source), the trajectory (path), or its end (goal), which in fact reflects the SOURCE-PATH-GOAL schema (Lakoff 1987: 275). The nature of this relationship is expressed by the prepositional predicate, which is motivated by the semantics of the preceding verb.

Regarding phrasal verbs themselves, Rudzka-Ostyn (1988) provides a semantic analysis of a number of verbs (from the domain of verbal communication) on the basis of several types of LM as profiled by a range of prepositions. Following Hawkins (1984), she distinguishes between MEDIUM, SURFACE, CHANNEL and POINT landmarks (see also Hawkins 1988). The three-dimensional MEDIUM landmark is for the most part associated with such prepositions as *out*, *into*, *in* and *through*. Compare the following examples which

highlight the mouth of the speaker and the recipient of the action/ message respectively as containers:

> She shouted *out* words of abuse.
> The teacher tried to hammer the grammar rule *into* the children, but in vain.

The two-dimensional SURFACE landmark is profiled by *on*, *off* and *over*, and refers to the message itself or its recipient. For example:

> The lecture lacked direction as the teacher wandered *off* the subject all the time.
> When the man came out, people rounded *on* him demanding explanation.

The CHANNEL landmark, in turn, refers to vertical space as its basic domain and is profiled by *up* and *down*. For instance:

> I think I'll bring *up* this problem at the next meeting.
> When will they finally get *down* to discussing the project?

Last but not least, the essentially zero-dimensional POINT landmark is profiled by *at*, *to*, *away* and *around*. It refers to the recipient of the action or message, e.g.:

> Stop getting *at* me!
> Politicians usually talk *around* problems because they have no solutions to offer.

3. Rudzka-Ostyn's application of cognitive linguistics to teaching phrasal verbs

Brygida Rudzka-Ostyn's approach seems to be an alternative to the various ways mentioned elsewhere in this paper in that it not only combines the syntactic and the semantic approaches but also makes

use of visualization in the presentation stage. The cardinal difference, however, is in the frequent reference to metaphor.

The first step that she takes is the recognition of the existence of both literal meanings of verbs (along with prepositions/particles that follow them) and their metaphorical extensions, as in the following examples with *run* (after Rudzka-Ostyn, p.10):

PHYSICAL SPATIAL MOVEMENT (literal)	ABSTRACT MOVEMENT (metaphorical)
(1) a. *to run **up** the hill*	(1) b. *to run **up** expenses*
(2) a. *to run **out** of a building on fire*	(2) b. *to run **out** of money*
(3) a. *to run **off** the edge of the crevasse*	(3) b. *to run **off** 100 copies of an ad*

Rudzka-Ostyn also takes into consideration the basic and the extended meanings of particles and prepositions. Consider these comparisons (after Rudzka-Ostyn, p. 11):

SPATIAL, PROTOTYPICAL OR BASIC MEANINGS	METAPHORICAL OR EXTENDED MEANINGS
(4) a. *Do you know there is petrol leaking **out** of your tank?*	(4) b. *In the Middle Ages epidemics wiped **out** whole cities.*
(5) a. *The children ran **up** the hill to attack the enemy.*	(5) b. *It is **up** to you to decide.*
(6) a. *Wipe the dirt **off** your face.*	(6) b. *His initial enthusiasm wore **off** fast.*

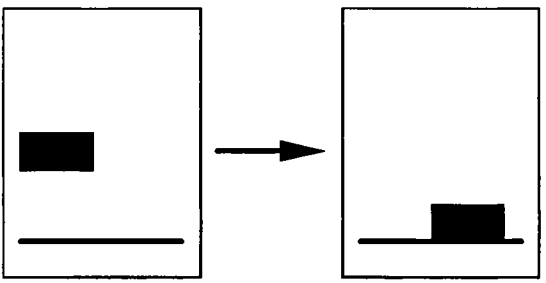
In order to elucidate the semantics of phrasal verbs, Rudzka-Ostyn makes use of the container metaphor along with the TR and the LM. For instance:

	TR	LM
(7) *Peter got **on** the bus.*	*Peter*	*the bus*
(8) *Mother sent the boy **out** to buy something to eat.*	*the boy*	*Mother*
(9) *After years of discipline and hard work he turned **into** a capable manager.*	*He*	*a capable manager*

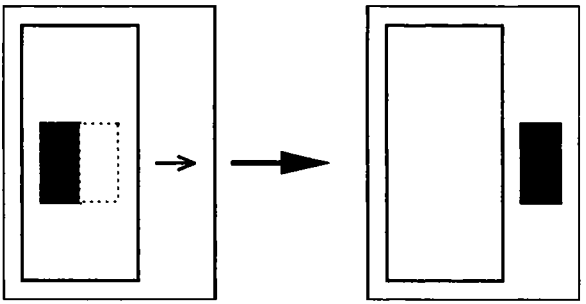
(based on Rudzka-Ostyn, pp. 14–5, 19, 60)

Visually, the mental processes that take place in (7–9) can be presented by the following diagrams (based on Rudzka-Ostyn, pp. 14, 19, 59 respectively):

(7) a.



(8) a.



(9) a.

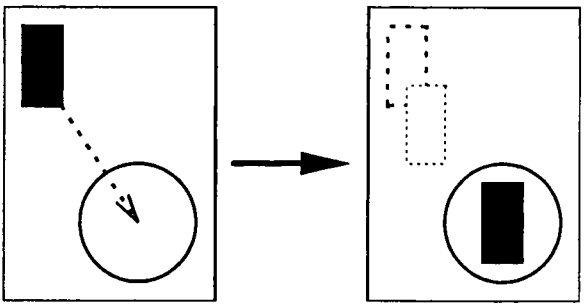


Figure 2. The schematic representation of *on*, *out* and *into*.

As can be seen from the above, the container metaphor serves to illustrate the meanings of particles/prepositions and phrasal verbs vertically (along a scale, as in [1a–b] and [5b]) and horizontally (over an area, as in [4b] and [6b]). The sentences (1)–(9) and diagrams (7a)–(9a) merely demonstrate a diversity of phrasal verbs. How they are bound semantically is displayed more adequately by Rudzka-Ostyn in her general arrangement of particles/prepositions (presented as preceding or following one another): *out* next to *in* and *into*, *up* next to *down*, and *off* and *away* next to *on* and *over*.

3.1. Prepositions and adverbial particles – a taxonomy of semantic relationships

The taxonomy presented below includes literal dictionary meanings of a number of particles and prepositions as well as their metaphorical extensions. Bearing in mind that the descriptions may not be complete, note that:

i. the static or dynamic character of phrasal/prepositional verbs refers to states and actions, spatial and temporal dimensions, and mental activities (thinking, decision-making, etc.);
ii. there are numerous possible combinations of particles and prepositions with other parts of speech – particularly verbs (phrasal/prepositional verbs) and their forms (e.g. with past participles), but also with nouns and adjectives; they may also function as prefixes;
iii. the meanings of a number of particles/prepositions which are opposites, like *in* and *out*, seem to be in complementary distribution and they are presented under one label; in other cases where the correspondence is not so easy to establish, they are placed next to each other for comparison;
iv. wherever possible the examples given in brackets serve to illustrate the complementary nature of particles/prepositions – in many cases verbs (and other parts of speech mentioned) are the same

and only the particles paired up to accompany one verb suggest semantic complementation;

v. although various phrases and expressions with one common stem-word (e.g. a verb with two related particles) are placed within one semantic category (of several mentioned e.g. with reference to one particle/preposition), their meanings in the majority of cases are obviously not always antonymous (e.g. *get up/down*);

vi. many phrasal/prepositional verbs and other expressions given here may have several semantic extensions and as such they may fit in with a number of categories within a given particle/preposition (e.g. *get out*). This seems to be in accordance with the idea that particles/prepositions and verbs (the latter in conjunction with particles/prepositions or otherwise), when described in terms of semantic networks, demonstrate the presence of not only prototypical, literal meanings, but also a number of extended, peripheral ones, some of which may at times be conceptually difficult or even impossible for a given individual to understand if they do not correspond to the cognitive models familiar to him, but they may obviously be a result of, for example, a poet's creative mind (cf. *fall upstairs*?, **fall up*???).

Prepositions and adverbial particles – a taxonomy of semantic relationships (based on Rudzka-Ostyn, ms; examples in brackets BRO and AK)

IN/OUT – basic meanings:

1. bodies, minds and mouths viewed as containers (e.g. *hand in/out, move in/out, turn in/out*)
2. sets or groups viewed as containers (e.g. *come in/out, stick in with, in pairs*)
3. states and situations viewed as containers (e.g. *run in/out of, rub in/out, check in/out, in one's right mind, tune in/out*)
4. non-existence, ignorance and invisibility functioning as containers (e.g. *fill in/out, work in/out*)

5. containers increasing to maximal [decreasing to minimal] boundaries (e.g. *spread out, burn out, pack in, fit in, jam in*)
6. entities moving into or out of containers (e.g. *get in/out, pour in/out*)
7. activities at or away from home which is viewed as a container (e.g. *ask in/out, eat in/out, invite in/out*)
8. atmospheric circumstances viewed as containers (e.g. *in/out of the rain, in the cold*)
9. time viewed as a container (e.g. *in spring, in one's forties, in/out of time*)

INTO:

1. movement into a container (e.g. *bump into, go into, marry into, get into*)
2. change from one state into another (e.g. *convert into, burst into, turn into, talk into*)

UP/DOWN – basic meanings:

1. movement from a lower [higher] to a higher [lower] place (e.g. *go up/down, sit up/down, get up/down, run up/down, upstairs/downstairs, hold up/put down*)
2. reference to reaching the goal, the end, the [highest] limit [reaching the extreme limit down the scale], often suggesting completion (e.g. *split up, clean up, cut up/down, eat up, give up, burn down, close down, live up/down, wash up/down*)
3. increase [decrease] in intensity, quality, quantity, size, degree, value, activity, status, strength (e.g. *cheer up, grow up, brush up, speak up, keep up* [*with the Joneses*], *run up* [*debts*], *turn up/down, die down, ups and downs, upgrade/ downgrade*
4. orientation in time and space (e.g. *up to now, go down* [*in history*], *up north/ down south, up front/down payment*)
5. indication of visibility/accessibility [upwards] (e.g. *come up, bring up, show up, hold up*)
6. movement referring to eating and writing [downwards] (e.g. *write down, jot down, gobble down, wolf down*)

ON:	OFF:
1. contact [next to, above, touching, in] (e.g. *on board, on TV, on the bus, try on, put on, get on*)	1. loss of spatial contact or reference to separation (e.g. *come off, fall off, get off, take off, shake off*)
2. emphasis on contact or spatial closeness [also suggesting inclusion] (e.g. *on the coast, on the left, on the committee*)	2. loss of contact with surfaces (e.g. *carry off, be off, close off, dust off*)
3. duration/continuation of an action/state (e.g. *be on one's way, talk on, come on, go on, get on [with sb]*)	3. movement away from former condition or state [also a place] (e.g. *better off, worse off, call off, lay off, write off, wear off*)
4. cause and effect viewed as two objects in contact (e.g. *act on, embark on, egg on, switch on, turn on* [cf. OFF-5.])	4. separation from the point of reference (e.g. *take [a day] off, show off, ring off, off colour*)
5. time viewed as a surface (e.g. *on Sunday, later on, on arrival, on and off* [cf. OFF])	5. interruption/stoppage of flow/supply (e.g. *block off, cut off, switch off, turn off* [cf. ON-4.])

OVER (sometimes in opposition to UNDER – AK):

1. movement above [below] an object and/or from one side to the other (e.g. *climb over [the wall], jump over [the fence], run over, walk under [the bridge], go over/under*)
2. emphasis on covering a certain distance to get closer (e.g. *come over, go over, stop over*)
3. reference to covering completely or going beyond the limits (e.g. *all over, be over, go overboard, overjoyed, roll over and over*)
4. implication of going beyond or being short of the norm [hence pejorative meanings possible] (e.g. *overdone/underdone, overstaffed/understaffed, overestimate/underestimate*)
5. reference to thorough examination from all sides (e.g. *think over, talk over, look over, argue over*)
6. position at an angle to the ground or being completely bent (e.g. *kick over, fall over, tip over, lean over*)

AWAY:

1. reference to leaving the place [causing to leave the place] (e.g. *run away*, *take away*, *put away*, *go away*)
2. reference to gradual or continuously growing distance (e.g. *fade away*, *idle away*, *wash away*, *burn away*)
3. implication of leaving completely (e.g. *melt away*, *pass away*, *get carried away*, *give away*)

BACK:

1. return to an earlier location (e.g. *bring back*, *take back*, *go back*)
2. return to an earlier state, time, situation (e.g. *bring back*, *turn back*, *answer back*, *win back*, *trace back*)

ABOUT/(A)ROUND:

1. movement in no particular direction (e.g. *travel about*, *run about*, *grope about*)
2. movement along a circular path [sometimes emphasis on location nearby] (e.g. *gather round*, *look* [*a*]*round*, *travel around*, *run around*, *grope around*, *shop* [*a*]*round*, *turn* [*a*]*round*, *spread about*, *splash about*, *hang around*, *snoop about/around*)
3. movement on a surface (e.g. *pry about*, *worry about*, *beat about/around the bush*)
4. metaphorical or extended circular paths [continued or repetitive activity] (e.g. *fool about/around*, *ask around*, *boss around*, *throw one's weight about/around*)
5. activities other than movement (e.g. *send* [*a*]*round*, *come round* [*come to*], *come about*)
6. proximity in size, time, measure (e.g. *cost about*, *be about*, *be about to*)

ACROSS:

1. movement from one side of a surface to another (e.g. *live across*, *run across*, *walk across*)
2. movement crossing a surface [which is a metaphorical representation of the mind] (e.g. *come across*, *get across*, *put across*)

THROUGH:

1. movement of one object into another from end to end (e.g. *drive through*, *let through*)
2. reference to activities or experiences [completion or passing a threshold] (e.g. *be through*, *wet through*, *work through*)

BY:

1. reference to an object near or at the side of another (e.g. *come by, drive by, live by, pass by, drop by*)
2. indication of time and measurement limits (e.g. *by Tuesday, by 10%, by the hour*)
3. cause and effect viewed as two close objects (e.g. *by the police, by gas, by working, by Keats*)

ALONG:

1. movement towards the end of something long (e.g. *be along, bring along, drive along, stand along, rattle along, come along*)
2. feelings viewed as accompanying objects [also referring to progress] (e.g. *get along* [*with*], *go along* [*with*], *come along, drag along*)

When provided with such explanations and visual representations of meaning, there is a chance that the learners may better understand the semantics of particles/prepositions and, consequently, phrasal verbs. This approach promotes visual processing along with verbal associations and follows the principle that iconicity increases memorability. The cognitive perspective seems to bring order and clarity to the diversified domain of semantic extensions of particles. The learners are instructed how to visualize the meanings of verbs and thus they do not rely so much on the "incidental imagery" mentioned earlier.

One additional comment concerning techniques of instruction has to be added at this point. In the process of instruction the teacher needs to make an important distinction between teaching techniques and testing techniques. Some activities may serve as both, some other only as the former or the latter. Rudzka-Ostyn makes an attempt to challenge this distinction in that, apart from ordinary tests, she offers *exetests*, that is exercises and tests in one. They enable the learner to practise the material by testing his understanding of a given particle. For instance, an exetest on *out* includes a list of phrasal verbs which the learner is to put into appropriate gaps in a number of sentences. Glosses with brief explanations of context and/or unknown vocabulary underneath the exercise aid comprehension. The gaps should remain empty and the verbs are written next to the sentences to enable revision and testing at a later stage, when the learner only has to cover the right-hand column and do the exercise again. Consider the examples selected (after Rudzka-Ostyn, p. 21):

lock out – sneak out of – grow out of
1. Our daughter is rapidly *gr*.... .... her clothes,
2. How did he manage to *sn*.... .... the hall?
3. I left the key in the house and *l*.... myself .... .

Glosses: 1. is becoming too big for – 2. how was he able to leave without being noticed – 3. I could not open the door.

3.2. Informal feedback from the field

What follows is a brief account of an 'experiment' in teaching phrasal verbs with Rudzka-Ostyn's *English Phrasal Verbs: A Cognitive Approach* in accordance with the principles of cognitive linguistics. As suggested by the inverted commas used above, it does not merit the label of a systematic experimental design. The material was trialled informally and was not bound by any of the rigorous conditions necessary for a serious research project to take place.

Rudzka-Ostyn's manuscript was used as supplementary teaching material by eight secondary school teachers in Kraków, Poland, between September 1999 and June 2000 (though none of the teachers actually used the material throughout the whole period stated). Their students were 16–19 years of age and the level of advancement in English as a foreign language that they represented ranged from pre-intermediate to advanced (as judged, *inter alia*, by the teachers on the basis of coursebooks they used). The teachers[5] themselves decided not to use the material with less advanced students because phrasal verbs belong to that part of the foreign language learner's vocabulary repertoire which he develops only after reaching a certain conceptual threshold: in terms of the language at his disposal (*viz.* the spectrum of idiomaticity[6] as represented by verbs and particles/prepositions) and with regard to his intellectual readiness to do abstract thinking (cf. diagrams and image schemata). Indeed, one could contend that such presentation of the language material as offered by Rudzka-Ostyn should be restricted only to those learners who have achieved a certain level of mental maturity, which is possible at puberty at the

earliest. On the other hand, however, one is tempted to wonder whether the same material, if presented in less abstract terms, would not appeal to a child still capable of thinking merely at the level of concrete operations.

The teachers worked mostly on the particles/prepositions *in* and *out*. Since they had first-hand knowledge of their learners, they were given full freedom as to the extent of the presented material in one class period as well as the frequency of lessons devoted to phrasal verbs (one lesson per week was advised). The material was used mostly in class and homework was assigned only occasionally. It is obvious that with the knowledge of English at their disposal, the learners were already familiar with many popular phrasal verbs (*wake up*, *put up*, *go out*, etc.). However, as the teachers admitted, this had in no way deterred them from learning a great variety of phrasal verbs in a period of time considerably shorter than they would otherwise have had to devote to the task. Some of them also observed that this approach bore a striking resemblance to what they had 'actually been doing to help students understand the problem of English phrasal verbs' (as one teacher put it), that is attempts at visualization and selection of a particle/preposition as a starting point for presentation.

The learners' reaction to the material was rather positive as long as the teachers' instructions included practical, 'tangible' application of the theory presented. Understandably, only a few learners became interested in the theoretical background presented in the introduction to the material; for the majority, explanations provided by the teacher were sufficient. The learners were on the whole interested in the language presentation, which seemed novel to them, and which made them aware of yet another language domain unexplored by them. The teachers themselves claim that in the tests (formal and graded ones as well as informal quizzes) that followed their practical demonstrations and class work, the learners on the whole showed improvement in their knowledge and comprehension of phrasal verbs, although admittedly (and understandably) the improvement was not the same in all cases due to the learners' different cognitive abilities.

As was stated above, the 'experiment' was rather informal and for this reason one cannot draw definite conclusions from it. Nevertheless, it does show that cognitive linguistics has considerable insights to offer foreign language methodology: the exploitation of image schemata and cognitive models, diagrams to accompany language presentation, reference to metaphor and metonymy, etc. Another important contribution is the 'theoretical support' of the cognitive approach to teaching vocabulary and grammar (Ungerer and Schmid 1996: 267), notably the already mentioned combination of syntactic and semantic approaches in the analysis of language and its presentation to the learner (also pointed out by Ungerer and Schmid 1996: 273).[7] It seems that with such an array of techniques, learners might acquire a foreign language more effectively regardless of their cultural background since they would concentrate on the linguistic input with its corresponding schemata as contrasted with their own native language. How relevant this claim is for foreign language methodology in general still remains to be examined. Regrettably, ELT materials and course books that follow the principles of cognitive linguistics are rather rare.

4. Conclusions

The cognitive approach to phrasal verbs as propounded by Brygida Rudzka-Ostyn is a combination of tradition and novelty in foreign language teaching. Traditional or partly traditional are the techniques used in the practising and testing of phrasal verbs. The novelty lies in the presentation – in the fact that it makes use of not only the natural tendency of memory to respond more actively to visual imagery, but first and foremost of its ability to make mental generalizations based on the presented linguistic input. In view of what has been said about other approaches, this one seems to be an improvement which may have a more general effect on teaching English in the future. Yet, regardless of how positive this effect may be, the quality of foreign language instruction and the way in which this cognitive approach is

implemented depends – as always – largely on the teacher and his/her willingness to experiment with new approaches.

Notes

* This is a revised and extended version of the paper first presented at the 28th LAUD Symposium (First International Landau Symposium) in Landau, March 28-30, 2000. I would like to express my deepest gratitude to Professor Elżbieta Tabakowska for introducing me to Brygida Rudzka-Ostyn's manuscript as well as for very helpful comments which enabled me to improve this paper. I also owe a debt of gratitude to Paul Ostyn for sharing Brygida Rudzka-Ostyn's manuscript with me and for warm encouragement throughout the whole period of working on this paper. Last but not least, I wish to thank anonymous reviewers for valuable comments and suggestions. Responsibility for any flaws is, of course, entirely my own.

1. Here and in Section 2.2. this term is used in its very general sense and refers to mental pictures formed in the mind by means of language.
2. This division derives from pedagogical applications of Neuro-Linguistic Programming. For details on this approach to human communication, perception and information processing and its therapeutic, educational etc. uses, see e.g. Bandler and Grinder (1979) and O'Connor and Seymour (1990). On NLP application in English Language Teaching see a popular guide by Revell and Norman (1997).
3. Numerous research projects which will not be presented in detail here (if only due to lack of space or of direct relevance to this rather general paper, which aims to present primary issues most significant for the foreign language learner) include e.g. Brugman (1981); Hawkins (1984, 1986, 1988); Lindner (1981); Radden (1985); Vandeloise (1984). For an overview of early research into prepositions see also Ungerer and Schmid (1996: 156–170). See also a paper by Dirven (this volume).
4. This distinction directly reflects another one, that of (respectively) position and destination (Quirk et al. 1972: 307–308) and the resulting three types of relationship between – in cognitive terms – the TR and the dimensional property attributed to the LM:
   1. dimension-type O: point – e.g. characteristic of such prepositions of place as *to, at, away [from]*; cf. *I go* to *school* and *I am* at *school*;
   2. dimension-type 1/2: line or surface – e.g. typical of *on[to]*, *off*; cf. *It is on the table* and *It fell on the table*;
   3. dimension-type 2/3: area or volume – e.g. *in[to]*, *out of*; cf. *He is in the room* and *He walked out of the room.* (after Quirk et al. 1972: 307).

For comparison, see also Quirk et al. (1972: 315-316) for a non-cognitive (or rather pre-cognitive?) presentation of metaphorical extensions of place prepositions (also see Quirk et al. for references to other early research into prepositions).

5. At this point I wish to thank all those teachers willing to experiment with the new material and to share their opinions concerning the teaching of phrasal verbs.
6. I am using the term after Lewis (1993: 98).
7. For further details concerning the application of cognitive linguistics in foreign language teaching see Taylor (1993).

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A usage-based approach to modeling and teaching the phrasal lexicon

Kurt Queller

0. Introduction

Among the enduring problems confronting both language pedagogy and linguistic theory is what Pawley and Syder (1983) have called 'the puzzle of native-like selection'. The puzzle is this: out of all the many grammatically possible ways of expressing a given conceptualization, why do native speakers of a language so frequently select a particular conventional phrasing – to the extent that others, though apparently quite well-formed, will sound distinctly non-native? Pawley and Syder's answer – since developed further by first-language acquisitionists like Peters (1983) and L2 acquisitionists like Nattinger and DeCarrico (1992) – is that native-like selection depends on access to a vast repertoire of conventional phrasal patterns, ranging from collocations to conversational routines. But while usage dictionaries are affording L2 learners ever better access to the countless individual items that comprise the phrasal lexicon, little is yet being done to help them grasp the schematic structuring which, to native speakers, renders it coherent and well-motivated.

Langacker's (1988) usage-based model is ideally suited to this purpose. In this paper, I want first to illustrate how usage-based networks, grounded in clusters of lexically entrenched phrasal patterns that instantiate highly specific prototype schemas, can profitably be adapted for the use of L2 learners. Second, I want to suggest some contributions that such applied models can make to current discussions within cognitive linguistics (CL) about the sorts of mental representation that might be associated with polysemous network models. For concreteness, I will explore some pedagogical applications of

an entirely new, usage-based analysis of selected parts of the network for the English prepositional/adverbial particle *over*.

1. The CHAOTIC DISPERSAL uses

1.1. CHAOTIC DISPERSAL proper

Let's start with some *over* usages that CL analyses generally assign to a category of MULTIPLEX COVERAGE, but which I suggest instantiate a quite distinct prototype involving CHAOTIC DISPERSAL.[1] Learners working from the premise that these expressions synchronically reflect a subschema of COVERING will often have difficulty understanding the relevant nuances and constraints. Consider first what is involved in acquiring the phrasal lexical item in (1a), [have {guilt} written all over {one's} face]. Under its entry for *written*, the *Cambridge International Dictionary of English* (Proctor 1995, henceforth *CIDE*) treats this item as in (1b):

(1) a. [have {guilt} written all over {one's} face]
b. "If an emotion is **written** *all over* someone's **face**, it is clear what they are feeling: *Guilt was written all over her face.*" [*CIDE,* entry for *written*]

This is a reasonably useful treatment. But how is the learner to know, for example, that (2a) and (b) are typical instantiations, while (c) and (d) would be distinctly odd?[2]

(2) a. Though he was trying to act casual, Fred *had guilt written all over his face.*
b. I was there when Pam got the rejection letter. She was trying to accept the news with equanimity, but you could see *the disappointment written all over her face.*
c. You could tell that Alice was angry; ??she *had rage written all over her face.* [Cf. ...if looks could kill, Harvey would be dead.]

d. Look how happy Marvin is; *??pleasure is written all over his face.* [Cf. ...he is positively beaming with pleasure.]

Neither the definition nor the usage example in (1b) will help the learner understand the relevant usage conventions. These are, I submit, encoded by the prototype schema in (3).[3]

(3)

[SOMEONE'S ATTEMPT TO PRESENT A 'FRONT' OF COMPOSURE OR NONCHALANCE IS BEING 'MESSED UP' BY AN UNCONSCIOUS OR REFLEXIVE DISPERSAL OF EMOTION OVER HIS/HER FACE]	[have {guilt} written all over {one's} face] / [{guilt} is written all over {so.'s} face]

This formulation of the schema's semantic pole makes it clear why (2c, d) are less-than-ideal instantiations, while (2a, b) are very good fits. Someone who is truly enraged (c) is usually no longer trying to present a composed front; nor are we used to thinking of pleasure (d) as an emotion that needs to be hidden behind a façade of nonchalance. But disappointment – especially when contextualized as in (2b) – makes for a pretty good fit, and a sense of guilt over our own transgressions is perhaps most characteristically the emotion that we try to conceal, hoping not to give ourselves away through any 'messy dispersal' of affect that might mar our outward front of composure.

Now, the entrenched phrasal pattern in (3) may be idiomatic, but it is hardly isolated. The sense of a trajector (TR) entity being dispersed over a landmark (LM) in a manner that is subjectively perceived as messy, unwanted, or out of place is in fact part of the prototype sense of *all over*. Consider first the kinds of verbs that habitually collocate with *all over*. A number of these are listed in (4a).

(4) a. *intransitive/middle:* [scatter / smear / spatter / spill / splash / splatter / spray / swarm (all) over {LM}]

transitive/active: [daub / dump / pour / scatter / smear / spatter / spill / splash / splatter / spray / sprinkle {TR} (all) over {LM}]

b. He dropped a bag of sugar and it spilt all over the floor. [*CIDE* p.1391 *(spill)*]

The usage example for *spill* in (4b) suggests that *all over,* far from implying coverage of the LM, actually connotes that the TR has gotten out of control and has dispersed chaotically across some portion of the LM surface (and possibly elsewhere) in a manner subjectively perceived as messy. One might suppose that this connotation derives solely from the semantics of a messy dispersal verb like *spill* – but this does not seem to be the case. Consider the usages in (5), which for me (and I suspect for many others raised from childhood in an English-speaking milieu) represent lexically entrenched items that are routinely accessed as formulaic speech-act units in the relevant situations.

(5) a.

[CHIDING A CHILD FOR HAVING GOTTEN SELF OR CLOTHING DIRTY]	/	[(Just look at you!) You've got {chocolate} all over you / your {shirt}!]

b.

[WARNING {A CHILD} NOT TO WALK ON A FLOOR / ONE HAS JUST CLEANED]		[(Take off your boots! / Stay out of here!) I don't want you getting (all that) {mud} all over my nice (clean) floor!]

Get and *(have) got* are not messy dispersal verbs, and yet the connotation remains. Compare further the sentences in (6):

(6) a. (??)This tablecloth has got red squares all over it. (*Cf.* This is a red-and-white-checked tablecloth.)

b. This tablecloth has got bloodstains all over it.

If *all over* essentially implied multiplex coverage of every sector of a LM, then (6a) should be a good way to refer to the standard sort of checkered tablecloth pattern; but in fact, it's quite odd. The situation described in (6b) is far less routine, but this utterance represents a perfectly conventional way of describing such a situation – even in cases involving much less than total sectoral coverage, e.g., a tablecloth that shows only smallish bloodstains in two or three places, distributed over perhaps only a quarter of the visible surface.

Thus, even in the absence of particular dispersal verbs like those in (4), conventional usages of *all over* within the domain of so-called "multiplex coverage" tend to instantiate a rather specific, lower-level prototype schema in which the focus is more on messy, chaotic dispersal of a TR than on anything approaching actual coverage of a LM surface. It is not that the more abstract sectoral coverage understanding of *all over* does not exist – only that it represents an aspect of the (CHAOTIC) DISPERSAL network that is not strongly entrenched in conventional usage. Within a usage-based model, it can still be accommodated, albeit peripherally and at a higher level of schematicity. Figure 1 provides a sketch of how this might work.

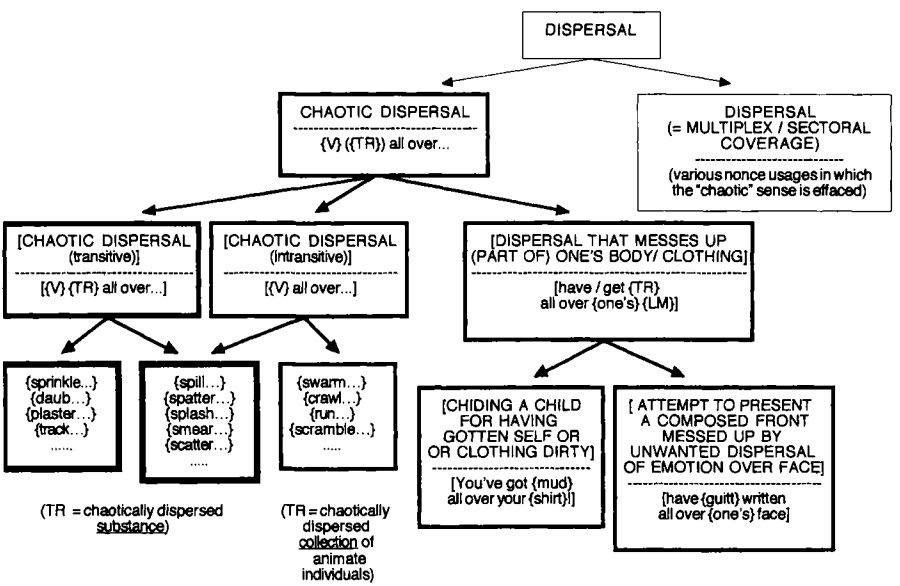


Figure 1. Network for CHAOTIC DISPERSAL usages of *(all) over*

Now, a usage-based (sub)network display of this sort has clear pedagogical potential. Imagine Figure 1 as a page of computer hypertext. Certain of the verbal collocates at the lower left, for example, would be highlighted in blue, and by clicking on these, a learner could access additional pages with usage examples. Such a format would allow the learner to explore selected usages at a depth that begins to approximate the kind of input on the basis of which native speakers have built up the schematic networks that organize and lend coherence to their own phrasal lexicons.

These advantages are particularly clear when it comes to items like [have {guilt} written all over {one's} face]. By clicking on this item on the display in Figure 1, one would call up a page like that in Appendix 1, containing the schema in (3) with a more colloquial prose formulation and a number of sample usages, like those in (2a and b). The adversative and concessive constructions in these examples are chosen intentionally. They contextualize the usage, rendering explicit the contrast between someone's attempt to present a front of composure and the betrayal of their true feelings through a messy dispersal of emotion that cannot entirely be contained. Returning to the cover page (Figure 1), the learner can then explore other linkages. One notes, for example, that [have {guilt} written all over {one's} face] instantiates the still rather low-level schema [have {TR} all over {one's} {LM}]. Tracing the lines down from this schema to its other instantiations, one could click on these and explore closely cognate usages like [You've got {mud} all over your {shirt}]. It is presumably through having constructed such low-level networks of linkages that native speakers implicitly understand, for example, that (2a) and (b) function as prototypical instantiations of the relevant schema, while (2c) and (d) have far less sanction.[4] The hypertext format offers a simplified replication of this first-language acquisitional process of bottom-up network construction, and it gives second-language learners comparable opportunity to acquire the appropriate usage constraints, even without exposure to negative evidence (i.e., starred examples). This is essentially a function of the bottom-up nature of the usage-based model, together with Langacker's prin-

ciple of minimal decontextualization, whereby a schema retains all the contextual peculiarities shared by the usages that it schematizes.

1.2. CHAOTICALLY DISPERSED PATH uses

The same principles, in conjunction with the fine-grained, prototype-centered usage-based network posited for CHAOTIC DISPERSAL, help explain a phenomenon that CL treatments of *over* have long acknowledged but never adequately accounted for – namely, the random or chaotic trajectory that characterizes the so-called "multiplex path" schema (as in "Sheila was running all over town"). If it were truly a subschema of COVERING, as generally supposed, then surely this path usage would be schematized most ideally as in Figure (2a).

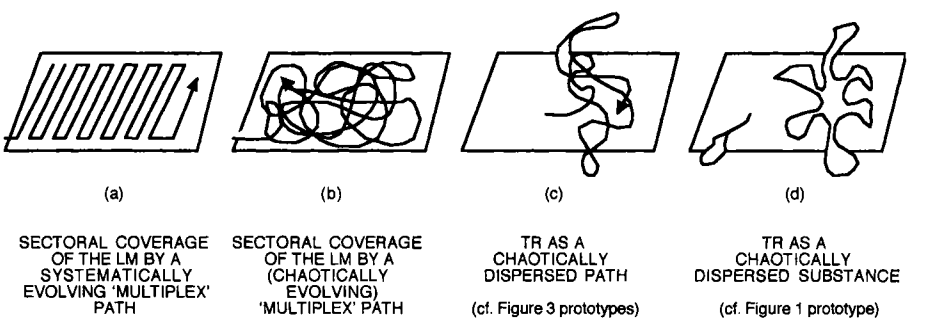


Figure 2. Image schema options for 'multiplex path' *(all) over*

Instead, since Brugman's classic study we have always assumed the more chaotic schema in (b). And though this schema is essentially on target, I would propose the modification shown in (c), which reflects not the notion of "coverage by a multiplex path", but rather that of a "chaotically dispersed path". Note that Figure (2c) does not attempt to encode anything approaching total sectoral coverage of the LM; nor is the chaotically evolving path necessarily contained within the boundaries of the LM. In these respects, it is simply a path version of CHAOTIC DISPERSAL, as represented in (d). As an extension of

the latter, it prototypically retains the chaotic element. That element simply has not been decontexualized out of the prototype path schema.

A particularly interesting entrenched instantiation of CHAOTICALLY DISPERSED PATH, familiar to teachers, students and writing professionals (at least in the U.S.) is shown in (7):

(7)

[CRITICAL COMMENT ON A CHAOTIC OR UNFOCUSED PIECE OF WRITING]	/ [This {paper} is (just) all over the place]

A non-native learner who had been taught that *all over* schematically involves 'multiplex coverage' might infer, upon hearing that his paper is 'all over the place', that he is being complimented for thorough coverage of a range of topics, rather than criticized for a lack of focus and organization. In fact, this usage instantiates the schema in Figure 2(c). The writer's argument is treated as an evolving path that is summarily scanned by the reader. This summarily scanned path is measured against an implicit standard (viz., that essay writing requires orderly exposition of a thesis) and is judged 'chaotically dispersed' by comparison.

Within the English phrasal lexicon, these are again not isolated or unmotivated facts. Compare the related usages in (8) [with emphasis added]:

(8) a. *(Report of an experience while driving on the interstate freeway:)* Heading south on I-71, I heard on the CB [citizens' band radio] that there was a gold Lexus with Michigan plates that was driving all over the road. Someone had already called the police. Then I saw him approaching in my mirror. He wasn't hard to spot, because *he truly was all over the road.* [http://home.sprynet.com/sprynet/gadget1/journal2.htm]

b. *(Post to an internet list devoted to geneticist Richard Dawkins' notion of "memetics":)* In any event it's obvious

> that people on this list have rather different concepts of memes. As long as we talk of "the X meme" or "the Y meme" we seem to be OK. *But when it comes to defining the buggers, we're all over the map.* [http://www.cpm.mmu.ac.uk/~majordom/memetics/0530.html]

The entrenched colloquial expression [be all over the road] in (8a) likewise invites summary scanning of a vehicle's overall trajectory. The scanned trajectory is implicitly measured against a baseline expectation for trajectories of the same type (viz., that drivers normally stay within designated lanes), and is profiled as chaotic by comparison. Similarly, in (8b) there is a clear background expectation that rational discussion should proceed on the basis of clearly agreed upon definitions of basic concepts. The expression [when it comes to {X}, {we are} all over the map] signals summary scanning of the list discussion's trajectory, profiling it as chaotic by comparison to this implicit standard.

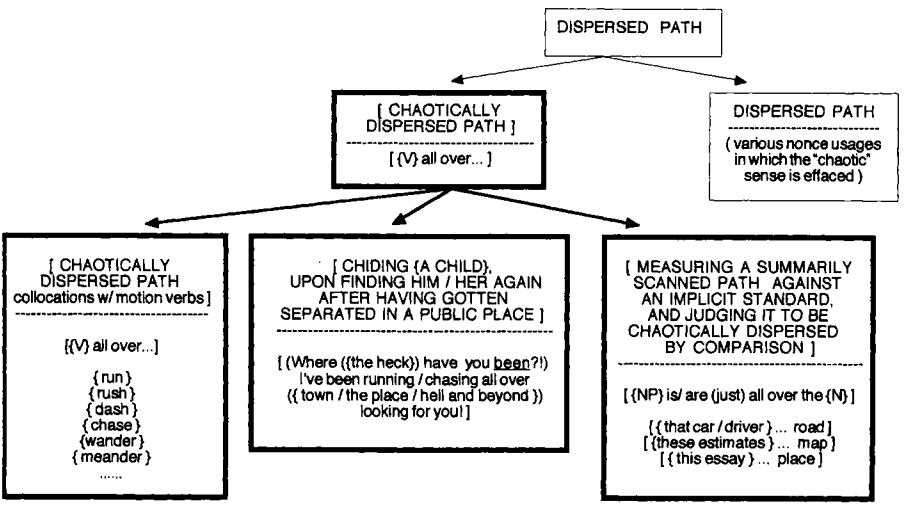


Figure 3. CHAOTICALLY DISPERSED PATH usages of *(all) over*

These and other lexical instantiations of the CHAOTICALLY DISPERSED PATH schema for *all over* can be represented in net-

work form as in Figure 3. Again, a hypertext implementation would permit learners to click on nodes that interest them for further explanation and exemplification. (Appendix 2 shows a sample page for the expression [be all over the map].) The graphic presentation itself, meanwhile, would allow them to internalize something of the prototype-based network structuring that lends coherence to these usages within the native speaker's mental lexicon.

2. The SOURCE OF AGITATED STATE uses

An entirely different usage of *over* is illustrated in the entry from the *CIDE* shown in (9):

(9) *over* [CONNECTED WITH] *prep* (used esp. to refer to something or someone that is a cause of interest, worry, discussion, etc.) connected with or about • *There's no point arguing over something that's as unimportant as that.* • *She was reading a newspaper and puzzling over (= trying to understand) the political cartoon.* • *The legal battle was over who should have custody of the child.* [*CIDE*, p. 1006]

Again, the usage examples are well selected and useful; nonetheless, neither they nor the definition really help the foreign learner grasp the relevant nuances and constraints. Consider the sentences in (10):

(10) a. They had a *legal battle* over that issue.
b. ??They had a *discussion* over that issue.
c. *They had a *chat* over that issue.

About (or an equivalent expression like *concerning* or *regarding*) is preferred in (b) and especially (c). Clearly, however, this is not a simple matter of lexical compatibility; otherwise, *over* should be equally good (or bad) in (11a and b):

(11) a. They got into a heated discussion over that issue.
b. ??They had a friendly discussion over that issue.

In fact, people routinely "get into heated discussions over" things, but one almost never hears of anyone "having a friendly discussion over" a topic.[5] This restriction is peculiar to English; German and Dutch, for example, would use the cognate prepositions (*über / over*) in all such instances. The relevant nuances and constraints, I submit, are summarized in the schema in (12):

(12)

[LM = SOURCE OF A STATE OF AGITATION (THAT ONE HAS GOTTEN LOCKED INTO)]	/	[{N'/V'} over {LM}]

An utterance like (11a) derives very strong sanction from this schema, both because a heated discussion implies a state of agitation and because getting into one implies becoming locked into a situation from which there is no easy egress. Having a friendly discussion or a chat would normally imply neither, so *over* receives very little sanction in cases like (11b).

When two (or more) parties are crucially involved, as here, the agitation typically has an antagonistic component. This subtype is instantiated by a wide range of conventional collocations, including those shown in (13a), all drawn from the entries for phraseology related to ARGUING and DISAGREEING in the *Longman Language Activator* (Summers 1993). The strength of this pattern suggests a prototype schema roughly of the form shown in (13b), constituting a network node just below that shown in (12):

(13) a. *verbal expressions:* [fight / argue / quarrel / squabble / quibble / bicker / clash / be at each other's throats / be in conflict / be in disagreement / be at loggerheads / be at odds / be divided / be split / differ / fall out (with so.) over sth.]

nominal expressions: [an argument / disagreement / quibble / spat / split / continuing row / deep division (with so./within a group) over sth.]

b.

[LM = SOURCE OF A STATE OF CONFLICT (THAT ONE HAS GOTTEN LOCKED INTO)]	/	[{fight$_{n/v}$} over {LM}]

A second sub-prototype, typically involving one party, is instantiated by usages like those shown in (14a). It can be schematized roughly as in (14b):

(14) a. *nouns:* [grief / mourning / despair... over {LM}]
verbs: [grieve / mourn... over {LM}]
idiom: [(It's no use) crying over spilled milk]

b.

[LM = SOURCE OF A STATE OF {GRIEF} (THAT ONE HAS GOTTEN LOCKED INTO)]	/	[{grief/grieve} over {LM}]

One might think that the verb *cry* as such would belong here, but although one who cries probably feels agitation and grief, the verb itself typically denotes an action or activity more than an internal state. *Cry* more typically collocates with *about*. Compare the lexically entrenched construction in (15):

(15)

[CHIDING SO. FOR LOUDLY OVERREACTING TO AN (ADMITTEDLY) UNFORTUNATE EVENT]	/	[(OK, I'm sorry (that) {S}, but) you don't have to (go and) {cry} about it]

Besides *cry,* the following expressions may conventionally occur in the final slot of (15): *shout / whine / bitch and moan / tell the whole world / put up such a fuss.* The focus is not so much on the addressee's internal state of agitation, but rather on the outward venting of emotion and how this affects other people. *Over* is thus unsuitable for this construction – and rather atypical for *cry* in general, since this verb usually connotes activity more than an internal state. The proverbial saying that "It's no use crying over spilled milk" is, however, strongly sanctioned by the schemas in (14b) and (12). Its typical function, after all, is to admonish someone not to get locked into a state of regretful agitation over something that has already happened and that cannot be undone.

A third sub-pattern is exemplified by expressions like those in (16). Ranged in a rough continuum from weakest to strongest, these may all be thought of as instantiating the schema in (17).

(16) a. [hesitate / linger / puzzle / pore / moon over {LM}]
b. [fume / stew / lose sleep / tear {one's} hair out over {LM}]
c. [get all worked up / all steamed up / all bent out of shape over {LM}]
d. [have a cow / a (shit) fit / a heart attack over {LM}]
e. [go ballistic / postal over {LM}]

(17)

[LM = SOURCE OF STATE OF VEXATION (THAT ONE HAS GOTTEN LOCKED INTO)]	/	[{V'} over {LM}]

The stronger end of the continuum is continually getting reinforced by new coinages. The [go ballistic...] usage in (16e) has its origin in cold-war rocket imagery (to go off like an intercontinental ballistic missile); [go postal...] is even more recent, being grounded in the U.S. cultural stereotype of the "disgruntled postal worker" who goes to work one day with a gun and settles old grievances by indiscriminately massacring colleagues. In current American usage, these and other expressions (like [have a (shit) fit...]) tend to function as color-

ful colloquial synonyms for "getting angry" about something. *Angry*, however, collocates far better with *about* than with *over*. Arguably, what *angry* lacks is the specific nuance of being locked into a state of oscillatory agitation prior to eruption (compare the series of twitches that may precede a full-blown seizure, or the shuddering of a missile on the launchpad in the moments before takeoff).

A final bit of evidence for the [SOURCE OF AGITATED STATE] prototype involves the expression [be in / get into a state over {LM}], as instantiated in the two plot summary excerpts in (18):

(18) a. ...Unfortunately Tito is *in a state over* his marital tiffs with Maria, his hot-tempered wife.... To calm Tito's nerves, several parties independently plot to sedate him for the afternoon, landing him in a veritable coma which Max mistakes for death. ... [Blurb for London production of "Lend Me a Tenor" – http://www.lakes.net/~heather/tenor.html]

b. ...But Felicity was already *in a state over* Neville, and she only needed one more push to take her over the edge. At that point Neville's phone call comes and she snaps. She grabs some pills from the shelf and tries to swallow them. ... [Plot summary for Season 2, Episode 5 of the British TV melodrama *Jonathan Creek* – http://ourworld.compuserve.com/homepages/liane_broadley/jcs2ep05.htm]

Even with no overt specification of the type of emotional state, collocation with *over* implies that the experiencer is locked into a state of extreme agitation which allows for no easy egress – and which (in both these cases) results in near-death from an overdose of sedatives!

Once again, a graphic display of the sub-network for this SOURCE OF AGITATED STATE usage can be of great pedagogical value.

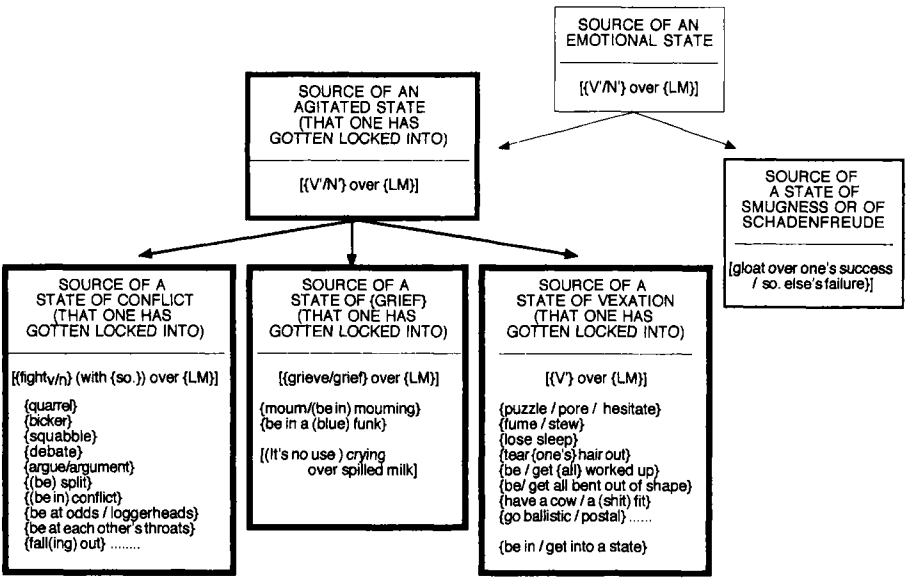


Figure 4. SOURCE OF AGITATED STATE usages of *over*

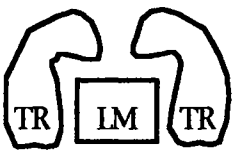
As always, the network is grounded in a series of lexically entrenched usages. By clicking on these (again assuming a hypertext format), the learner can access individual phrasal lexical units, with contextualized explanation and exemplification beyond what is possible in hardcopy dictionaries. (See the sample page for [go postal over...] in Appendix 3.) Some entrenched usages, such as [gloat over {one's victory / someone else's misfortune}] – that is, to express *Schadenfreude* – do not fully fit the prototype schema. These too can be accessed, but their place in the schema hierarchy shows that they are relatively isolated outliers. The prototype schemas, meanwhile, serve to organize the more central usages in a way that allows the learner (a) to perceive the common motivation behind them, and (b) to discern why certain instantiations are sanctioned as conventional, while others would be odd. The non-native learner thus easily gathers why one speaks, for example, of "having a debate over" something, but hardly "a friendly conversation" or "a chat".

3. Implications for the modeling of polysemy

Finally, a few programmatic reflections: Those familiar with current debates within cognitive linguistics over the granularity and the relational structure of polysemous networks will note that the present approach implicitly stakes out a particular position on these twin issues.[6] Against the new minimalism embodied for example in Kreitzer's (1997) largely derivational analysis of the English *over* complex, I would maintain that the networks underlying native-like selectional ability must distinguish schemas at a quite fine-grained level. A proposal that tries to derive all the above-discussed *over* usages from a single, abstract COVERING schema, without positing distinct, lexically entrenched schemas for CHAOTIC DISPERSAL and for SOURCE OF AGITATED STATE, simply cannot account for the conventional usage patterns we have noted here. As Croft (1998) observes, such usage evidence alone is sufficient to rule out any purely derivational account in favor of one involving multiple, independently specified schemas.[7]

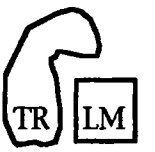
This established, the question of "relational structure" arises: in the mental lexicons of actual language users, are we dealing with something more like a polysemous network of schemas extending radially outward from a central, prototype schema, or with something more like a series of essentially independent entries? I'd like to sketch the bare outlines of a new argument for the position that radial extension is in many cases a diachronic process that finds no isomorphic reflection within synchronic mental representation. (The argument is developed more fully in Queller [forthcoming].)

The emergence of the SOURCE OF AGITATED STATE schema for *over* may serve as illustration. The standard CL account, hinted at already by Brugman (1981) but most fully elaborated by Dewell (1994), is that these usages are ultimately based upon a spatial schema in which one, two or more bodies form a full or partial arc over a LM, roughly as in Figure 5:



(a)

The children are fighting over the toy.



(b)

George is grieving over his son, Pat is puzzling over the cartoon.

Figure 5. Image-schematic basis for SOURCE OF AGITATED STATE usages

This much is I think clear. The question is: how does one get from usages like (19a), said with reference to a concrete spatial configuration in which the antagonists are literally inclined "over" the LM, to ones like in (19b), where the LM is clearly not a spatial entity?

(19) a. The children are fighting over a toy.
b. The children are fighting over who gets to go first.

The standard answer would be "by metaphorical extension"; speakers conceptualize the situation *as if* the abstract LM were a concrete entity over which the parties are inclined. But on such an account, how can we explain the differences in acceptability illustrated in (20)?

(20)

(a)	They had a debate over that issue.	← [[SOURCE OF STATE OF CONFLICT] / {fight/argue} over{LM}]]
(b)	?*They had a chat over that issue.	← [????]
(c)	They had a chat over tea.	← [[TALK DURING SHARED CONSUMPTION RITUAL] / [{discuss} over {lunch}]]

If, as in Brugman's analysis, (20a and c) were synchronically derivable as metaphorical extensions of a spatially based schema, with the words exchanged between the parties being construed as forming the

top of an arc and their bodies the sides, then (20b) ought to receive equal sanction via the same process. In fact, each of the good usages is fully sanctioned by a distinct, highly specific schema of its own, while (20b) does not receive enough sanction from any schema to count as conventional or native-like. The lack of sanction for (20b) thus constitutes evidence for the splitting off of low-level schemas like TALK DURING SHARED CONSUMPTION RITUAL and SOURCE OF AGITATED STATE, now no longer essentially grounded in spatial imagery.

Then how have such schemas arisen, if not through spatially based conceptualization on the part of speakers? I submit that they emerge as a by-product of the interpretive contribution that hearers make to the communication process. (A more detailed treatment of this abductive approach to issues of relational structure within polysemous networks is found in Queller [forthcoming].) Consider the abductive reanalysis scenario outlined in Figure 6.

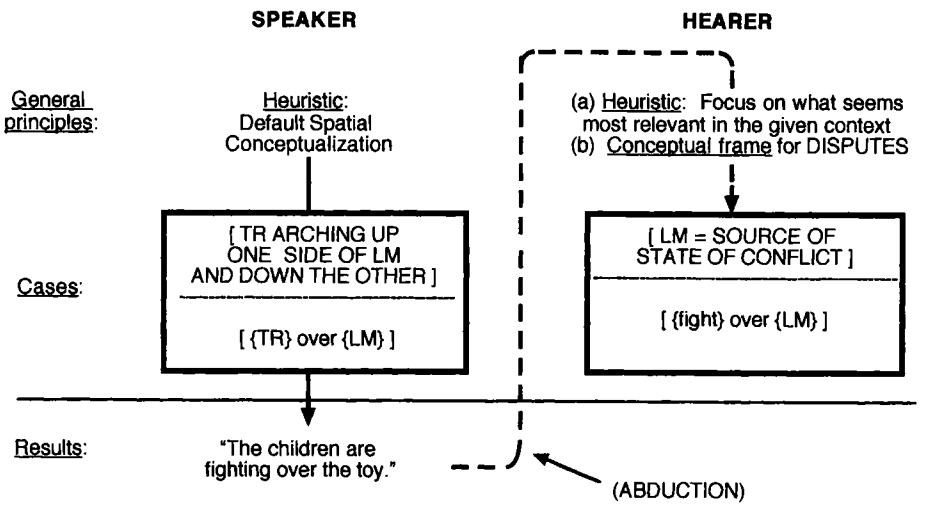


Figure 6. Abductive origins of non-spatial SOURCE OF AGITATED STATE usages

Speakers initially say things like "The children are fighting over the toy" in situations where the utterance receives full sanction from the spatial schema in Figure 5(a) – that is, where the children really are

inclined over the toy. In contexts of conflict, however, hearers are typically less concerned with the precise spatial locations of the antagonists than with questions about the nature of the conflict itself, including "what is the bone of contention?". This contextually salient question appears to find its answer in the *over* phrase. In the context of such usage events, the interpretive preoccupations of hearers will thus encourage them to abduce the situationally specific schema [LM (object of *over*) = SOURCE OF STATE OF CONFLICT]. Those who have done so will subsequently, as speakers, apply this schema to cases of conflict where the antagonists are *not* literally inclined over the object. The new schema will in fact apply with equally *full* sanction to conflict situations where there is no physical LM at all (as in [19b]). Utterances like (20b), in contrast, have virtually no sanction from the new schema, since chatting is not usually associated with situations of conflict.

Now, such an abductive reanalysis scenario has an interesting consequence that bears on the issue of relational structure within polysemous networks. The usage in terms of which the older and newer schema are linked within the abduction process is fully sanctioned for both speaker and hearer – but by different schemas. Within the usage event, neither speaker nor hearer has direct access to the schema that the other presumes to be sanctioning the utterance. Extension by abduction thus involves an essential discontinuity. The link between older and newer schema is real enough, but it is mediated by the usage event as a whole; *it is not a link that is ever established in its entirety within the mind of either speaker or hearer.* To the extent that abductive reanalysis provides the best account of the relevant usage facts, this can count as another kind of evidence for the claim – hinted at already by Sandra and Rice (1995) on the basis of experimental findings – that much of the relational structure of polysemous networks is not synchronically represented as such in the minds of untutored native speakers.

Such essentially negative findings might seem to bode ill for the claim that CL network models have substantial contributions to make in the realms of psycholinguistic modeling and language pedagogy. In fact, they have much to offer, as numerous papers in this volume

attest. I would suggest in conclusion, however, that we will do well to focus primarily on bottom-up, usage-based modeling of fine-grained *local* network structures. Within these, we should in turn focus on the clustering of particular entrenched usage patterns around highly specific, low-level prototype schemas. In proceeding thus, we would be following the lead of the best usage dictionaries designed for learners of English, such as the CIDE and COBUILD. The entry for '*over* [CONNECTED WITH]', cited in (9) above, for example, is one of no fewer than ten separate lemmas under which the CIDE treats the various senses of *over*. But by supplementing such fine-grained lexical treatment with the tools of cognitive linguistics – especially of Langacker's usage-based model – we can do much more than anyone has ever done before to assist L2 learners in the difficult task of acquiring the schematic structures that allow native-like access to a language's phrasal lexicon. And to the extent that we succeed in this, I think we will have gotten that much closer to modeling how native speakers mentally represent the phrasal lexicon – and how they select, among all the theoretically possible ways of expressing a given idea, just those that other native speakers will intuitively recognize as "the way you say it".

APPENDIX 1

(Sample page for [have {guilt} written all over {one's} face])

[SOMEONE'S ATTEMPT TO PRESENT A 'FRONT' OF COMPOSURE OR NONCHALANCE IS BEING 'MESSED UP' BY AN UNCONSCIOUS OR REFLEXIVE DISPERSAL OF EMOTION OVER HIS/HER FACE]	/	[have {guilt} written all over {one's} face] [{guilt} is written all over {so.'s} face]

Sometimes a person is in a situation that makes her feel very uncomfortable, but she does not want other people to know how she really feels about it. She is trying to hide her feelings behind a "front" of indifference – as if nothing were bothering her at all. Still, she may not be able to keep her face from showing how she really feels. The

feeling may spread out over her face and "mess up" her attempt to appear carefree and untroubled. Anyone who really looks at her will understand what she is really feeling.

In such a situation, we often say that this person has that particular feeling *written all over her face*. Often, that feeling is one of "guilt", because the person is aware of having done something wrong. Other feelings are, however, also possible.

Examples:

(a) Someone tripped the teacher while she wasn't looking, and I think I know who it was. Fred is obviously trying to act casual, but he *has guilt written all over his face.*

(b) I was there when Pam got the rejection letter. Although she was trying to accept the news with equanimity, you could see *the disappointment written all over her face.*

(c) [A conversation between two colleagues at work:]
A: Did you hear who finally got that supervisor job?
B: Yeah – Sue did.
A: Boy, I'll bet George is really ticked off. I think he believed he had a right to that position, after all the years he's worked here.
B: Yeah, I know what you mean. I was at the meeting where they first announced Sue's appointment – and you should have seen George! He tried to put a good face on it – even went through the motions of congratulating her – but I don't think anyone was fooled. There was *anger and resentment written all over his face.*

APPENDIX 2
(Sample page for [be (just) all over the map])

[COMMENT ON THE FAILURE OF A SET OF DATA TO CONFORM TO ANY TIDY OR EASILY INTERPRETABLE PATTERN]	/	[These {data] are all over the map]

Scientists like to make systematic observations about the way things are in the world. Often, they collect their observations and organize them into graphs, charts or tables. Usually, they hope that the result will be a pattern that they can then interpret in some interesting or meaningful way.

Sometimes, though, the results do not answer our hopes for a clearly interpretable pattern. They may be "chaotically dispersed" over a whole range of possible places on the chart, yielding no particular pattern at all. In such cases, we often say that the data are simply "all over the map".

Example 1: Epidemiology is a branch of medical science that looks for correlations between types of illness and various factors that may promote or hinder their spread. One example that has been much in the news involves a type of skin cancer called "melanoma". In recent years, such skin cancers have increased; at the same time, people have been making more and more use of sunscreen lotions to avoid sunburn. Is there any significant correlation?

In 1998, epidemiologist Marianne Berwick evaluated the results of studies to date. In an article entitled "Melanoma Madness: The Scientific Flap Over Sunscreens and Skin Cancer", the on-line service of *Science News* reported part of her findings as follows:

> ...In five of the studies, people who used sunscreen were more likely than nonusers to develop melanoma. In three studies..., no association appeared between sunscreen use and melanoma. In two studies, people who used sunscreen seemed to be protected. *The epidemiological data are **all over the map***. The question is, how does one interpret these back-and-forth findings?

By saying that the data are "all over the map", the author implies that they are chaotically spread out, so that they fail to fit into any easily interpretable pattern.

Example 2: What follows is part of a comment submitted to an internet discussion group devoted to "memetics" – geneticist Richard Dawkins' controversial model of how ideas and cultural practices get spread through human populations. The commenter is clearly dis-

tressed by the lack of agreement among discussion participants concerning what a "meme" actually is:

> In any event it's obvious that people on this list have rather different concepts of memes. As long as we talk of "the X meme" or "the Y meme" we seem to be OK. *But when it comes to defining the buggers, we're* ***all over the map.***

Example 3: If you compare the prices that different people charge for similar products or services, you probably expect to find some kind of pattern that will help you choose among them. But sometimes it's not so easy. Note how "all over the map" is used in the following excerpt from a "FAQ" webpage. This webpage answers "frequently asked questions" about "distance learning" – an arrangement by which people study at home for an academic degree, without physically being at a university, using such media as mail or the internet.

> Q: What are costs like?
> A: About the same as college anywhere – which means ***all over the map,*** from incredibly inexpensive to very expensive. The MBA from Duke University costs $83,000! There are many schools though that are very reasonable and we offer a comparison guide for each school so you can see at a glance which are the best bargains and which are most expensive.

Note how "all over the map" here implies a chaotic situation that is difficult to sort out and interpret. The offer of help – "a comparison guide for each school" – comes as a response to this difficulty.

Example 4: We have seen that "all over the map" is basically used to talk about a situation in which data are so "chaotically spread out" that it becomes hard to interpret them or to say anything sensible about them. Once in a while, though, people may use the expression in ways that move away from this basic meaning, and toward a meaning of "widespread geographical coverage". This can be seen in the following excerpt from an advertisement. The ad is directed at people who might be looking for a convenient and inexpensive way to publish their data on the internet:

> *Want to spread your data **all over the map**?* Try Instant Web Publishing. Provide direct access to FileMaker databases via a Web browser – without the need for separate Web server software.

This use plays on the more usual, geographical meaning of the word "map" to suggest something like "make...available all over the world". But in fact, our ad writer is playing a rather dangerous game here. While achieving an eye-catching play on words, he also risks raising in readers' minds the negative connotations of "data that are difficult to interpret". Such uses are not typical, but they do occur.

Example 5: A more typical use is found in the following excerpt from another internet ad. This ad, too, is for a firm that offers to help people put information up on the web:

> If you have been doing research, you'll know that *costs for creating and maintaining a website are **all over the map***. We offer a straight-forward cost structure with no hidden costs, no extra fees for disk usage or bandwidth.

Notice that this use is closely parallel to the one in Example 3 above. The "research" data have to do with the costs charged for a particular kind of service. Again, the data about costs are portrayed as being chaotic and difficult to interpret – and the advertiser offers to help the reader out of this difficulty by providing an easy, clear-cut alternative.

APPENDIX 3
(Sample page for [going postal (over something)])

[BECOME EXTREMELY AND UNREASONABLY AGITATED (BECAUSE OF SOMETHING)]	/	[go postal (over something)]

workers indiscriminately. One or two of the most widely reported incidents happened at post offices. Soon, the psychological condition of pent-up anger and frustration that suddenly explodes in a violent overreaction came to be known as "Disgruntled Postal Worker Syndrome". It also became popular to refer to this extreme behavior itself (whether it occurred in a post office or not) as "going postal". (Compare [go insane] / [go mad] (Brit.) / [go crazy] (Amer.) / [go nuts] / [go berserk] / [go off one's rocker] / [go ballistic]....)

Someone who "goes postal" thus shows an extremely agitated and unreasonably violent reaction to a fairly minor provocation. Americans now use this term jokingly for any angry or agitated reaction that seems extreme, unreasonable, and out of proportion to the matter at hand – even if no violence at all is involved.

Example 1: To adolescents, the reactions of other people often seem excessive and unreasonable. They may become upset if anyone shows any sign of concern or disapproval that goes beyond what they themselves judge to be "cool" or appropriate to the situation. In such cases, American teenagers may use the expression "going postal (over something)" to voice their displeasure at the other person's "overreaction". Note its use in the following dialogue between two teenage friends:

A: Remember that "D" I got in algebra?
B: Yeah.....
A: Well, I told my mother last night, and *she like* ***went totally postal over it.***
B: Really? Like, what did she do?
A: She said I couldn't watch any TV at all, until the next algebra quiz! And that's like two whole weeks away!

Example 2: In 1997, Martin Chavez, the mayor of Tucson, Arizona, wrote a letter to the U.S. federal government. He was protesting a plan that had been proposed for the management of the nearby Petroglyph National Monument (a park that contains cliffs where the ancient inhabitants of the area had carved pictures and symbols into the

rock). An article reporting the disagreement carried the headline: *GOIN' POSTAL OVER PETROGLYPHS* [= 'rock carvings']. Here, it is not quite clear whether the journalists really meant to say that the mayor's reaction was excessively agitated. The phrase "going postal" suggests this. But it's possible that they just couldn't resist the opportunity to write a catchy headline. (Note the recurring P-T-L sequence in the words POSTAL and PETROGLYPH!)

Notes

1. The so-called MULTIPLEX COVERING schema for *over* (as in "There are flies all over the wall") is generally conceived as a minimal variant of basic COVERING (as in "A poster was taped over the crack in the wall"), in which (a) the trajector consists not of a single, continuous entity (like a poster), but of many individual entities (like flies), and in which (b) the landmark is conceived as made up of "numerous small regions which jointly cover its surface (or most of it)"; the multiplex TR is distributed over the LM in such a way that "there is at least one trajector in each region" (Lakoff 1987: 428). The latter nuance can be captured by the designation MULTIPLEX SECTORAL COVERAGE.
2. I would not claim that instantiations like (2c) and (2d) never occur, only that they are not standard or prototypical. An internet search for phrases like *pleasure (was) written all over his face* will yield exceptions to the generalizations outlined here. Yet most native speakers of English will recognize usages like (2a) and (2b), which closely fit the prototype semantics for this construction, as much better instances than ones like (2c) and (2d), which do not. (Given the observation of Adegbija (p.c.) that these and numerous other usages marked below as questionable would be perfectly unexceptionable in West African English and probably in other areas where English is officially used as a post-colonial lingua franca, the above claim might be further qualified to read: "native speakers of metropolitan varieties of English".) Some empirical support for the prototypicality claim comes from the fact that dictionary usage examples of this construction (like the one in 1b) generally conform to the proposed prototype – even when the entry itself provides no indication of the prototypical constraints.
3. The notational conventions are those established in Langacker (1987). Square brackets [ ] enclose chunks (of whatever size) that are presumed to be entrenched in the mental lexicon. Symbolic units consist of a functional (semantic-pragmatic) specification, written in capital letters, and a formal (phonological-morphosyntactic) specification, noted in lower-case letters; when written horizontally in running text, the two are separated by a backslash (/). Within a given

expression, parentheses () enclose elements that occur optionally, while curly brackets {} enclose a variable slot, in which more than one paradigmatic option may occur. Thus the unit [{guilt} is written all over {his} face], commonly instantiated with the word 'guilt' in the first slot, also allows conventional instantiations like 'disappointment was written all over her face' but not, for example, 'guilt was written all over her cheeks'. (No attempt is made to treat automatic morphological alternations like verb tense in variable fashion.)

4. Apparently cognate constructions in other languages tend not to share the connotation of an attempt at maintaining a composed front that is messed up by an unwanted dispersal of emotion. Compare e.g. German *[{Verwunderung} stand ihm ins Gesicht geschrieben]* (lit.: "{amazement} stood written into his face"), or, with a preposition cognate to English *over,* the set phrase *[über das ganze Gesicht strahlen]* (lit.: "to beam over one's whole face"). Kövecses (p.c.) informs me that similar expressions exist in Hungarian, likewise without the special connotations that typify the English construction. On the present analysis, these connotations are not just an arbitrary quirk of English usage, but are instead a function of the prototype semantics of CHAOTIC DISPERSAL that typify a whole cluster of *all over* usages, of which this expression is just one member.
5. One can, of course, have a friendly discussion or a chat over lunch, a cup of tea, or a glass of beer. Such usages, however, instantiate a different schema, which I call TALK DURING SHARED CONSUMPTION RITUAL. (See section 3 below.)
6. For insightful discussion of the problems of "granularity" and "relational structure" in network analyses of polysemous lexical items, see Sandra and Rice (1995). For "granularity" – essentially, the issue of how fine-grained a network must be – Sandra and Rice also use the term "discrimination capacity".
7. The arguments made here in favor of a highly granular (fine-grained) schema network for *over* are thus like those made within the framework of construction grammar for positing constructions as distinct, lexically entrenched entities, alongside the more general syntactic schemas that they instantiate (Fillmore et al. 1988, Goldberg 1995). That is, conventional usage of the pattern in question is shown to involve pragmatic and semantic idiosyncrasies that cannot be derived compositionally on the basis of more general syntactic schemas or lexical-semantic specifications. Sandra and Rice (1995) rightly question the tendency within some CL analyses toward unconstrained proliferation of polysemous subschemas – a problem which Sandra (1999) dubs the "polysemy fallacy". Such reservations are relevant vis à vis a top-down, feature-based model like that of Lakoff (1987, Appendix 2), which indeed adds layers of relatively unmotivated subschemas by specifying ever finer abstract featural distinctions. They do not, however, affect a bottom-up, usage-based model whose lower-

level schemas are posited because of corresponding idiosyncrasies in conventional usage.

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Section 2

Top-down approaches: Metaphor and idiom study

A cognitive linguistic view of learning idioms in an FLT context

Zoltán Kövecses

My general assumption in this paper is that the theory of cognitive linguistics and the many descriptions of various aspects of language that it has provided so far are potentially useful in foreign language teaching (FLT). Both the theory and the specific descriptions of cognitive linguistics operate with the notion of "motivated meaning" (in the form of bodily and/or conceptual motivation). The assumption concerning the potential usefulness of cognitive linguistics is predicated on the commonsensical belief that motivation always facilitates learning (as opposed to lack of motivation, which hinders learning – though does not prevent it). The particular linguistic phenomenon that I want to investigate in light of this assumption is that of idioms.

If the cognitive linguistic view of idioms is indeed helpful in the teaching and learning of idioms, it should be capable of providing non-trivial answers to at least the following specific questions that bear on the issue:

i. What are the most common idioms?
ii. How should we arrange idioms in an "ideal" idiom dictionary?
iii. What kinds of meaning do idioms have and how should we represent these different kinds of meaning?
iv. How should we teach idioms in the classroom?
v. What role do universality and cross-linguistic variation in metaphor play in idiom-learning?

In other words, if the cognitive linguistic view of idioms has positive pedagogical implications for idiom teaching/learning, then we should be able to determine what specific and positive answers can be given

to each of these questions. In this paper, I will formulate such specific and positive answers, but I do not claim that these are the only answers that could be provided given a cognitive linguistic framework. Others within the cognitive linguistic community might want to respond differently to the same issues. For this reason, this paper should be taken as a call for debate in our search for solutions, and not as one that attempts to offer final solutions.

1. What are the most common idioms?

In the cognitive linguistic view, most idiomatic expressions are based on conceptual metaphors and metonymies (see Lakoff 1987, Gibbs 1990, 1994); that is, they are claimed to be "conceptually motivated" by the underlying metaphors and metonymies. Furthermore, the idiomatic expressions and the metaphors are "bodily motivated" in both the sense that the connection between a source and a target is based on direct sensorimotor experience of the world (e.g. correlations in sensorimotor experience) and that the source domains of the metaphors are concepts that emerge from direct sensorimotor experiences (Lakoff 1987, Johnson 1987, Lakoff and Johnson 1999).

The issue is important because it is obviously the most common idioms that have to be taught in an FLT context. The notion of comonness in relation to idioms can mean at least two things. It can mean (1) that certain source domains are more productive of metaphor-based idioms than others and (2) that certain idiomatic expressions are more frequently used than others. Both notions are relevant to foreign language teaching.

What does the cognitive linguistic view say about the issue of which idioms are the most common ones in language? The cognitive linguistic view can make an interesting prediction: Those idioms will be most common (maybe in both senses of common) that are based on the most directly experienced source domain. This source domain is the *human body*. If this prediction turns out to be correct, it is idioms that have to do with the human body that should be taught first and predominantly in an FLT context.

There is some evidence that this is indeed the case. Starting out from the hypothesis that body-based idioms outnumber idioms related to other source domains, Réka Hajdú, a student of mine, did a frequency count of idioms relating to the human body in a recent English idiom dictionary. The dictionary, *Figurative Idioms* by George Nagy (1999, manuscript), contains roughly 12.000 English idioms. The frequency count showed that more than 2000 of these were idioms that are related to the human body. In other words, roughly one-sixth of all the idioms in the dictionary were body-related, which clearly shows that this source domain is extremely productive of metaphor- and metonymy-based idiomatic expressions. For example, it turned out that the most productive body part was the human hand, accounting for nearly 100 idioms. More than sixty of these were analyzed by Kövecses and Szabó (1996).

Further evidence is provided by a comment by Jean Aitchison (1987: 148–49), who writes: "Certain areas permanently attract a large number of metaphors. An analysis of figurative language between 1675 and 1975 showed that the human body had consistently been the highest source of metaphor for these 300 years, and that the subject of the metaphor was most often a human's psychological processes, as when W. Irving, in *Legend of Sleepy Hollow*, spoke of 'In his devouring mind's eye' (Smith et al. 1981)."

This evidence pertains to the first sense of idioms being common. More important to the teaching and learning of idioms in FLT may be the second sense, namely, that some idiomatic expressions are more frequently used in everyday discourse than others. At this point, I can't report on any evidence concerning this issue, but it would be surprising if frequency counts disproved the prediction made by cognitive linguistics.

2. How should we arrange idioms in an "ideal" idiom dictionary?

In this regard, the challenge for cognitive linguistics is whether it can say anything important about what the arrangement of idioms should

be like in a dictionary if our aim is to provide an arrangement that reflects a presumed conceptual structuring (that is, a structuring that is more or less iconic with what we could possibly find in the conceptual system). As noted above, in the cognitive linguistic view most idiomatic expressions are motivated by "underlying" conceptual metaphors and metonymies. Thus, the presumed conceptual organization related to idioms would consist of a source domain and a target domain on which the idiomatic expressions are conceptually based (in the case of metaphor-based idioms) and a single domain structured by an ICM with a variety of elements (in the case of metonymy-based idioms). Given this presumed conceptual structure (for psychogical evidence, see Gibbs 1994), we are now in a position to evaluate attempts to arrange idioms in dictionaries. If we take this conceptual arrangement as an ideal (given our best present knowledge), we can check which type of actual dictionary arrangement approximates this ideal most closely. To do this, I will use idiomatic expressions that are related to the phenomenon of fire.

2.1. Alphabetical listing of idiomatic expressions

Several idiom dictionaries merely list idiomatic expressions in alphabetical order. Let us just take one example: *The Oxford Dictionary of Current Idiomatic English*:

B
burn the candle at both ends

C
catch fire

F
fan the flames (of sg)
fire sy's imagination

W
wet blanket

Obviously, this kind of arrangement reflects no conceptual structure. It is unlikely that the idiomatic expressions listed above appear in the conceptual structure of speakers of English in alphabetical order. In this kind of arrangement there is no indication whatever that idioms are based on conceptual metaphors and metonymies that are structured by domains.

2.2. Key word-based arrangement

Another type of arrangement gives the idioms according to certain key words – "important" words that occur in idioms. Key words around which fire-related idioms are grouped include *candle, fire, flame, flames,* etc. These are actual words under which the *Longman Dictionary of English Idioms* has several fire-related idiomatic expressions:

CANDLE
burn the candle at both ends

FIRE
play with fire

FLAME
an old flame

FLAMES
fan (*or* add fuel to) the flames/fire

This type of arrangement does not fare much better than the previous one. It reflects very little about presumed conceptual structure. All it does is that a certain word is selected from each idiom, and these words (the key words) are again placed in alphabetical order. How-

ever, by selecting key words that have to do with fire (*candle, fire, flame*), this dictionary arrangement takes one step in the right direction; it foregrounds or brings into focus a source domain that motivates many idioms – FIRE (although it does not make this source explicit).

2.3. Thesaurus-like arrangement

A third way in which idioms are arranged is the "thesaurus-like arrangement." This follows the format of *Roget's Thesaurus*. We find the following fire-related idioms arranged in a "thesaurus-like" manner in *Roget's International Thesaurus*:

952. resentment, anger
.1 ...
.2 ...
.3 slow burn [informal] ...
.4 ...
.5 more heat than light [informal] ...
.9 flare-up [informal], blaze of temper ...
.10 burning rage ...
.15 breathe fire and fury ...
.17 do a slow burn ...
.18 flare up, blaze up ...
.21 burn one up [slang] ...
.29 in a fume ...
.30 in the heat of passion ...

This type of arrangement still falls short of the "ideal" that would seem to follow from the cognitive linguistic view of idioms. Here, the problem is that no source domains are specified in any way. On the other hand, the target domain of several idioms is clearly indicated in the thesaurus, which represents a distinct advantage over alphabetical arrangement. In this case, however, unlike the key word-based organization (where the source domain is foregrounded), it is

the target domain that is foregrounded. It is a clear advantage of thesauri that they list idioms according to target domains. In the present example, it is the target domain of RESENTMENT, ANGER.

2.4. Metaphor-based arrangement

I outlined the main ideas of the cognitive linguistic view of idioms at the beginning of the present section. Now it is time to spell out some of the details. To begin, let us briefly examine the issue of the relationship between metaphors (as linguistic expressions), on the one hand, and idioms (also as linguistic expressions), on the other. Consider the well known metaphor ANGER IS FIRE:

Source: FIRE
Target: ANGER

ANGER IS FIRE
(1) After the row, he was *spitting fire.*
(2) *Smoke was coming out of* his ears.
(3) He's *smoldering* with anger.
(4) He was *doing a slow burn.*
(5) She was *fuming.*
(6) Boy, am I *burned up!*
(7) That *kindled* my ire!

It may be observed that some of the examples demonstrating the conceptual metaphor above consist of only one word (e.g. *smolder, fume, kindle*), and given that idioms are multi-word expressions by definition, they do not count as idioms at all. Thus, we can say that not all fire-related metaphors are idioms of anger. More generally, I have listed these examples under the conceptual metaphor to be able to make the point that the number of metaphorical linguistic expressions generated by conceptual metaphors is larger than that of metaphorical idioms. Nevertheless, the number of metaphorical idioms produced by conceptual metaphors is quite large.

But, more relevantly to the discussion of the issue of conceptual organization, the presentation of the ANGER IS FIRE metaphor shows that, in it, the source and target domains come together, they are foregrounded, and they are made explicit. Moreover, the idiomatic expressions are presented together with the source and target, indicating that they belong together, that is, that the idiomatic expressions are based on the conceptual metaphor.

However, there is more to the conceptual organization of idioms and the kind of "ideal" arrangement in which they can be presented in a dictionary. It should be noticed that the source domain of FIRE applies not just to anger but to several other target domains. This is the phenomenon that I called "the scope of metaphor" elsewhere (Kövecses 1995, 2000a, n.d.). The scope of metaphor is simply the range of target domains to which a source domain can apply. Below is a selection of target domains that, in addition to anger, take FIRE as their source:

LOVE IS FIRE

(8) The *fire* between them finally *went out.*
(9) I'm *burning* with love.
(10) She *carries a torch* for him.
(11) The *flames are gone* from their relationship.

IMAGINATION IS FIRE

(12) The painting *set fire to* the composer's imagination.
(13) His imagination *caught fire.*
(14) Her imagination is *on fire.*
(15) The story *kindled* the boy's imagination.

CONFLICT IS FIRE

(16) The killing *sparked off* the riot.
(17) The *flames* of war *spread* quickly.
(18) The country was *consumed* by the *inferno* of war.
(19) They *extinguished the last sparks* of the uprising.

ENERGY IS FUEL FOR THE FIRE

(20) Don't *burn the candle at both ends.*
(21) I'm *burned out.*
(21) I need someone *to stoke my fire.*

ENTHUSIASM IS FIRE

(22) The speaker *fanned the flames* of the crowd's enthusiasm.
(23) The team played so well that the crowd *caught fire.*
(24) He was *burning* with excitement.
(25) Don't be a *wet blanket.*
(26) Her enthusiasm was *ignited* by the new teacher.

This kind of presumed conceptual organization would give us considerable economy and simplification in the way we can imagine the structure of our conceptual system. It would mean that certain aspects of abstract concepts could be seen as directly representable as mapped versions of certain concrete source concepts, such as FIRE. This can be shown diagrammatically in Figure 1:

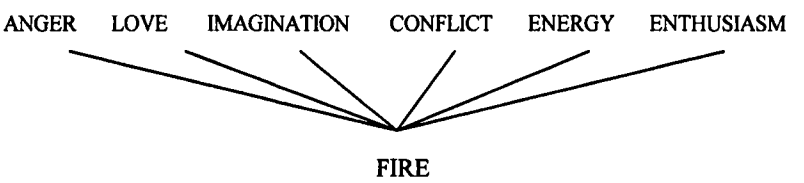

Figure 1. Several targets with a single shared source

This would be a source-dependent kind of organization of conceptual metaphors that would replace the usual organization in cognitive linguistics in which source domains are listed separately with each target domain that characterizes them. In other words, in the new view shared sources across targets would appear only once – with all the targets to which they apply.

Can we make a generalization about these target domains? It appears that fire-metaphors have a wide scope; they apply to a wide variety of situations or states of affairs (many kinds of events and

states), such as anger, love, imagination, conflict, and many others (like life, pain, argument, economic activity) that have not been demonstrated above. This wide scope of the fire-source seems to warrant the setting up of a very general metaphor: A SITUATION IS FIRE, where the term "situation" refers to all the events and states mentioned above. What this metaphor tells us is that we conceptualize certain aspects of situations in terms of fire.

But this characterization of the metaphorical part of the conceptual system is only worth anything if the specific aspects that a given source (such as FIRE) structures for a general target (such as SITUATION) can be made clear. This is a topic that I will discuss in the next section (see 3.2.).

3. What kinds of meaning do idioms have?

I want to suggest that metaphor-based idioms can be characterized by at least three distinct kinds of meaning: general meaning (3.1.), specific meaning (3.2.), and connotative meaning (3.3.). (Some of the material presented in this section appeared in Kövecses and Szabó 1996.)

3.1. General meaning

The conceptual metaphors we dealt with in the previous section can be seen as conceptually motivating the use of words such as *spark off, fire, go out, burn the candle, fan the flames,* etc. in the idioms in which they occur. Given these conceptual metaphors, we can see why the idioms have the general meaning that they do; that is, why they have to do with anger, love, imagination, etc., respectively. The reason is that these conceptual metaphors exist and they serve as links between two otherwise independently existing conceptual domains. Because of the connections they make in our conceptual system, the conceptual metaphors allow us to use terms from one domain (e.g. FIRE) to talk about another (e.g. ANGER and LOVE). Given any meta-

phor-based idiomatic expression (i.e. one that reflects a particular source) and given our knowledge of the range of target domains to which the source domain of this expression applies, we will have a limited range of potential general meanings for the idiom in question. If we know nothing else in connection with an idiom but its source domain and the range of targets to which that source applies, we will know that the idiom will be about one (or several of these) target(s), but not about targets outside the scope of the source. This is the knowledge that I call the "general meaning" of an idiom.

3.2. Specific meaning

In addition to their general meaning, idioms also have a more specific meaning. This more precise meaning of idioms has to do with the structure of the source domain and the corresponding structure of the target domain. Most of the fire-metaphors we have seen above, such as ANGER IS FIRE, LOVE IS FIRE, etc., are constituted by the following mappings:

A SITUATION IS FIRE
the thing burning → the person in a state/event
the fire → the state/event (like anger, love, imagination)
the cause of the fire → the cause of the state/event
the beginning of the fire → the beginning of the state/event
the existence of the fire → the existence of the state/event
the intensity of the (heat of) fire → the intensity of the state/event
the end of the fire → the end of the state/event

This set of mappings goes a long way in explaining the more precise meaning of a large number of idioms based on the domain of fire. It will explain why, for example, "*setting fire to* one's imagination" means 'causing one's imagination to function'; why "*extinguishing the last sparks* of the uprising" means 'ending the uprising'; why *spitting fire* and *smoke coming out of one's ears* mean 'more intense anger' than merely "*burning with* anger"; and why *to carry a torch*

for someone has as a large part of its meaning 'for love to exist for someone', or more simply, 'to love someone'.

However, this last example also reminds us that the mappings do not explain the complete meaning of an idiom in every case. The fuller meaning of *to carry a torch for someone* is something like 'to have unrequited love for someone'. The 'unrequited' part of the meaning of this idiom does not seem to be explained or motivated by any of the mappings above. Thus, this additional meaning would have to be learned independently and on top of the mappings that characterize the "fire system".

The mappings that constitute the fire-metaphor (i.e. fire as source) apply uniformly to all of the targets within the scope of this source. In other words, the particular mappings equally characterize the ANGER IS FIRE, LOVE IS FIRE, IMAGINATION IS FIRE, etc. conceptual metaphors, thereby making sure that any two expressions (in one or several conceptual metaphors) that are characterized by the same mapping will have the same meaning. This explains why, for example, *spark off, kindle*, and *ignite* all mean the causation of a state or event (due to the mapping 'cause of fire → cause of state or event') and why *extinguish the last sparks* will share much of its meaning with that of the expression *wet blanket* (the reason being that the mapping 'end of fire → end of state/event' applies to both).

Some native speakers of English disagree with this analysis of the meaning of the idiom *wet blanket*, saying that they do not have a fire-related image connected with it. Their objection raises an important question: If native speakers do not have a particular metaphorical source domain (in this case, the image of fire) associated with an idiom, can we still describe the idiom's meaning relative to that source? I would suggest that we can do this for the purposes of foreign language teaching if the idiom was once motivated by the source in question. The obvious advantage is that students could learn such idioms in a motivated way and as part of a larger system. The alternative would be to say that since the expression is not motivated any longer for all native speakers, it should be treated independently of the system and should be taught as an individual idiom. In a foreign language teaching context this is not an attractive choice, since it is

our assumption that motivation and systematicity facilitate learning. (In the same way, we wouldn't want to say that just because for most speakers the verb *to comprehend* is not motivated any longer by the metaphor UNDERSTANDING IS GRASPING as shown by Sweetser 1990, the verb did not emerge systematically from this source.) So we are now faced with the new question: Did the idiom *wet blanket* indeed emerge from the fire domain as a source? Several dictionaries of the English language indicate that this is the case. For example, *Webster's Third New International Dictionary* defines it as follows:

> 1: a blanket soaked in water (as for quenching a fire) 2: someone or something that quenches or dampens enthusiasm

The second sense is an obvious metaphorical extension of the first. My suggestion then is that the meaning of idioms such as *wet blanket* can and should be accounted for within the overall pattern of mappings that apply within a certain scope described above.

Thus, the notion of ontological mappings in relation to the specific meaning of idiomatic expressions enriches the conceptual organization and thus the dictionary arrangement of idioms. This can be represented in Figure 2:

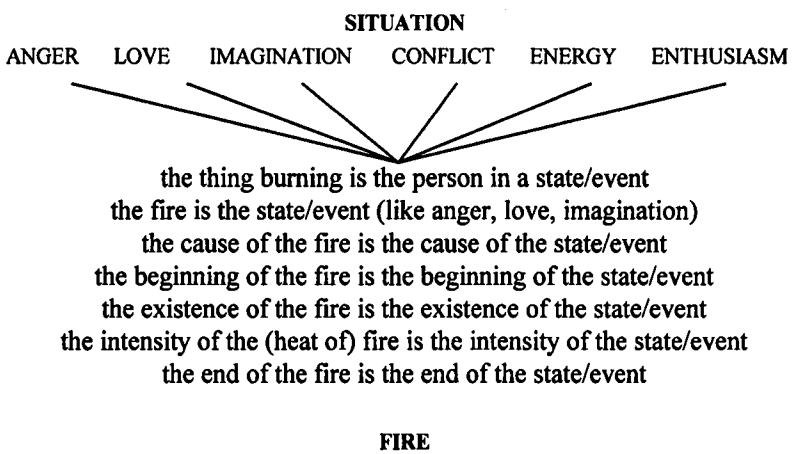

Figure 2. The general and specific meanings of many fire-related idioms

These mappings account for the majority of linguistic expressions above. Among the mappings, it is 'the heat of fire → the intensity of a situation (state/event)' that is central. (On the notion of central mapping, see Kövecses 2000a, n.d.) This mapping gives us the "simple" or, in Grady's terminology, "primary" metaphor INTENSITY (OF A SITUATION) IS HEAT (OF FIRE), or INTENSITY IS HEAT for short (see Kövecses 1997 and Grady 1998). There are many such simple or primary metaphors including DEVELOPMENT IS PHYSICAL GROWTH, ABSTRACT FUNCTIONING IS PHYSICAL FUNCTIONING, CREATION IS BUILDING, STABILITY IS PHYSICAL STRENGTH, ABSTRACT STRUCTURE IS PHYSICAL STRUCTURE, etc. These simple metaphors structure different aspects of target concepts. The INTENSITY IS HEAT metaphor structures the intensity aspect of many states and events.

In the figure above, particular fire-related idiomatic expressions could be listed above the appropriate specific target domains. The figure shows how the general and specific meanings of many idioms can be accounted for by using this simple arrangement.

3.3. Connotative meaning

But there is even more to the meaning of idioms. In addition to the general meaning and the more specific meaning identified so far, we should also discuss an aspect of idiomatic meaning that many scholars would describe under the heading of "connotation". Although, together with Bolinger (1965), I disagree with claims about the usefulness of the "denotation vs. connotation" distinction in general (see also Haiman 1980 and Kövecses 1993), the semantic phenomena the term "connotation" covers are nevertheless real and have to be accounted for.

Let us take the example of the metaphorical idiom *to spit fire*. (According to some native speakers of English, this idiom is somewhat dated and reflects chiefly American usage.) Obviously, the special idiomatic meaning of *to spit fire* is more than 'to be very angry'. To account for the additional meaning by means of the apparatus of cognitive semantics, we have to introduce a distinction between two

kinds of metaphoric mapping: "ontological" and "epistemic" (see Lakoff and Kövecses 1987; Lakoff 1993). Ontological mappings are correspondences between basic constituent elements in the source domain and constituent elements in the target. The mappings that have been considered so far were all of this kind. Epistemic mappings, on the other hand, carry over knowledge about elements in the source domain onto elements in the target domain. In other words, speakers using particular conceptual metaphors will apply inferences from one domain to another. One specific piece of knowledge that speakers of English have about the domain of fire is that when the fire is intense and it is not under control, it is dangerous – both for the thing burning and other objects nearby. This is a piece of knowledge that is associated with the expression *spit fire*. Speakers habitually make the same inference about anger on the basis of fire: when anger is intense and out of control, it is dangerous both for the angry person and others (for more examples of this kind of metaphorical inference, see Lakoff 1993, Gibbs 1994, Kövecses 2000b). In this fashion, we can account for additional portions of the meaning of many idioms, like *spit fire* (e.g. such "connotative" aspects of its meaning as 'the anger being intense, being out of control, and dangerous to the angry person and others').

Actually, this analysis of the idiomatic expression *spit fire* is still not complete. More complexities in its meaning could be uncovered if we took into account the fact that in the source domain of fire there is no "spitting". The image of "spitting" is in all probability a blend in Fauconnier and Turner's sense (e.g. Fauconnier 1997, Turner 1996), just as *smoke coming out of one's ears* is a blend. A more complete analysis would have to reveal these additional complexities.

It is also this kind of metaphorical inference pattern that helps us explain subtle differences in the meanings of many idioms with similar "denotative" meaning. Thus, for example, the idioms *spit fire, smoke coming out of one's ears*, and *be burned up* share the meaning 'be very angry', which is based on the ANGER IS FIRE metaphor and its ontological correspondences (in this case, "intensity of the (heat of) fire → intensity of the anger"). These idioms, however, impose very different inferences (i.e. connotations) on speakers. As we have just

seen, in the case of *spit fire*, the inference is that the anger is intense but out of control and thus dangerous to the angry person and others; in the case of *smoke coming out of one's ears*, the inference is that the anger is intense but essentially under control, however, it is potentially dangerous; and in the case of *be burned up*, it is that the angry person has completely lost rational control.

In sum, the general meaning of many idioms seems to depend on which target domains a particular source domain applies to and in terms of which the idioms in question are framed (e.g. fire-related idioms receive part of their meaning from the several target domains to which the domain of fire applies, such as anger, love, imagination, conflict). The more specific ("denotative") meaning of many idioms seems to depend on the mapping that applies to an idiom (e.g. "intensity of fire → intensity of state" accounts for the meaning of 'be very angry' in the case of *spit fire*). Finally, the inferential ("connotative") meaning of many idioms seems to depend on the epistemic mappings that apply to an idiom (e.g. the epistemic mapping "out of control fire causes damage → out of control anger causes loss of rational control" accounts for the inferential meaning of the idiom *be burned up*).

4. How can we teach idioms in the classroom?

Can we actually facilitate the learning of idioms in the classroom if we use the cognitivist framework as described in this paper? The main hypothesis that I offer is that motivation (for the meaning of idioms) should produce better results than a lack of motivation in the learning of idioms. (This section appeared in Kövecses and Szabó 1996.) To see whether this commonsensical view is correct, an informal experiment was designed The major way in which it is informal is that we did not perform a rigorous statistical analysis, and, therefore, no claims can be made about statistical significance. Nevertheless, the results were interesting enough in trying to answer the question above.

The study dealt with some phrasal verbs in English. Phrasal verbs were selected because they are a notoriously difficult group of idioms

for both teachers and learners of English to handle. (A phrasal verb consists of a verbal stem and a detached adverb.) The number of phrasal verbs that have an idiomatic meaning is very large in English. Although several hundred phrasal verbs exist in English, we decided to deal with only those that have the adverbial particles *up* and *down* in them.

The subjects of the study were 30 Hungarian learners of English at the intermediate level. They were all adults. The subjects were divided into two groups: class A and class B, each with 15 students. The task involved filling in the missing adverbial particles of 20 phrasal verbs in the context of a sentence. The phrasal verbs were all unknown to both classes before the study was conducted. The phrasal verbs used in the study were:

> 1. Bow down 2. Cheer up 3. Bring up 4. Chew up 5. Run down 6. Use up 7. Hold up 8. Put down 9. Turn up (sense 1) 10. Look up 11. Cast down 12. Make up (sense 1) 13. Break down 14. Make up (sense 2) 15. Sell up 16. Set down 17. Keep down 18. Wind up 19. Pick up 20. Turn up (sense 2)

These 20 phrasal verbs were placed in the context of a sentence. The adverbial particles *up* and *down* were left out of the resulting 20 sentences. Following are the twenty sentences that were given to the students for completion (most of the sentences were taken from the *Longman Dictionary of Contemporary English* (1987); *Longman Dictionary of Phrasal Verbs* (1986); and the *Oxford Advanced Learner's Dictionary* (1989):

1. The people of Russia before 1917 were bowed ... by the cruelty of the ruling powers.
2. Cheer ..., all the troubles are over now.
3. I want to bring ... the question of abortion now.
4. The dog has chewed ... my new shoes, I cannot wear them any more.
5. The coal industry is running ... (6.) as coal supplies are used ...
6. (see above)

7. We were held ... on the road by a nasty traffic accident.
8. Make sure that you put ... every word she says.
9. Please turn ... the radio, I would like to hear the news.
10. Fortunately things are looking ... again.
11. Mary was cast ... by the bad news about her ill mother.
12. I couldn't remember a fairy-story to tell to the children, so I made one ... as I went along.
13. My car broke ... again – I will have to sell it I am afraid.
14. These 10 articles make ... the whole book.
15. I am thinking of selling ... and leaving the country – it is impossible to make a living here.
16. We had to set ... the rules for the members.
17. It was all I could do to keep my temper ... when I saw the boys treating the dog badly.
18. I think it's time to wind ... this meeting – we are all tired now.
19. Mother soon began picking ... after her operation.
20. It's no good waiting for something to turn ..., you have to take action.

In the case of class A, the procedure was as follows. Ten phrasal verbs with *up* and *down* (the ones in sentences 1 to 10) were written on the blackboard together with their Hungarian equivalents. The meanings of these 10 phrasal verbs were explained. Students were instructed to memorize the 10 phrasal verbs. The entire procedure including explanation by the teacher/researcher and memorization by students lasted 15 minutes. We then asked them to fill in the missing adverbial particles in all 20 sentences. Students were given 20 minutes to do so.

The phrasal verbs in sentences 11 to 20 were not taught to the students in class. The rationale for giving students sentences 11 to 20 was to see whether, and how, students can cope with a more creative task in which the adverbial particle of previously untaught phrasal verbs had to be provided.

In class B, the procedure was the same with one major exception. Many of the several hundred phrasal verbs we collected were grouped according to the conceptual metaphors that the phrasal verbs

manifest. As a result, more than 20 "orientational" metaphors were identified. For example, the concept of being finished, or COMPLETION, is commonly understood in English in terms of an upward orientation, that is, in terms of the concept UP. This gives us the orientational metaphor COMPLETION IS UP. The metaphor is exemplified by phrasal verbs such as *eat up, chew up, wind up, give up*, and many others. Another orientational metaphor is HAPPY IS UP. Phrasal verbs like *feel up, cheer up, buck up,* etc. are linguistic examples. A third and fourth orientational metaphor, frequently discussed in the work of Lakoff and Johnson, is MORE IS UP (e.g. *speak up, turn up, go up*, etc.), which has LESS IS DOWN as its counterpart (e.g. *run down, cut down, turn down, go down*). A fifth and sixth orientational metaphor is CONTROL IS UP and LACK OF CONTROL IS DOWN. These can be found in examples like *bow down, knock down,* etc. A seventh orientational metaphor is UNKNOWN IS UP. Examples *include bring up, crop up,* and *pop up*. An eighth orientational metaphor is OBSTRUCTION IS UP, as in *hold up, catch up,* and *tie up*. A ninth orientational metaphor is WRITTEN OR RECORDED IS DOWN with examples like *put down, run down, write down*. These are the nine orientational metaphors that seem to underlie the 10 phrasal verbs that occur in sentences 1 to 10. (Further metaphors will be given below.)

The nine orientational metaphors with illustrative examples were put on the blackboard and explained briefly to class B. The phrasal verbs presented and put on the blackboard included the ones that occur in sentences 1 to 10 (10 phrasal verbs altogether). None of the phrasal verbs that occur in sentences 11 to 20 were presented to class B either. The explanation and memorization procedure lasted 15 minutes. The same completion task that was given to class A was administered to class B. Students had 20 minutes to complete the 20 sentences.

We then measured the effectiveness with which the completion task was performed in terms of the number of correct responses to the 20 sentences in both classes A and B. Since the students' background knowledge to the task was different in the first ten and second ten sentences in both classes A and B (phrasal verbs taught in class as opposed to phrasal verbs not taught in class prior to completion),

sentences 1 to 10 and 11 to 20 were treated separately in evaluating the results. In other words, we distinguish the following two basic cases in our experiment:

Case 1: both classes A and B; sentences 1 to 10; learning of phrasal verbs *through memorization* prior to performing the completion task.

Case 2: both classes A and B; sentences 11 to 20; *no* learning through memorization prior to performing the completion task.

The following hypotheses were proposed:

Case 1: regarding sentences 1 to 10 (where there is learning through memorization for both classes A and B):

a. If *only* memorization plays a positive role in aiding the completion of sentences, then the effectiveness with which both class A and B participants complete the sentences *will be fairly high and roughly the same for both classes A and B.*
b. If, however, metaphorical motivation also plays a positive role, *class B will perform better than class A.*

Case 2: regarding sentences 11 to 20 (where the possibility of learning through memorization for both classes A and B is excluded):

a. If *only* memorization plays a positive role in aiding the completion of the sentences (and with these sentences memorization is excluded), then the effectiveness with which participants complete the sentences *will be low and near random for both classes A and B.*
b. If, however, metaphorical motivation also plays a role, *class B will perform better* (i.e. will score higher) *than class A.*

Table 1 shows the results obtained for Case 1. Out of the maximum number of 150 correct responses, class A produced 110, which is 73.33 per cent. Class B produced 123 correct responses, which is 82

per cent. Table 2 shows the results obtained for Case 2, in which the difference between classes A and B was much greater. Class A scored 79 correct responses, which is 52.66 per cent of the possible 150 correct responses. Class B produced 116 responses, which is 77.33 per cent. Table 3 gives a summary of the percentages.

Table 1. Case 1

Number of correct responses		
Sentence	Class A	Class B
1	10	12
2	15	15
3	11	13
4	12	10
5	8	9
6	7	13
7	12	14
8	8	11
9	14	15
10	13	11
Total:	110 (73.33%)	123 (82%)

Table 2. Case 2

Number of correct responses		
Sentence	Class A	Class B
11	8	12
12	10	14
13	7	13
14	6	10
15	9	8
16	4	10
17	10	10
18	7	13
19	8	12
20	10	14
Total:	79 (52.66%)	116 (77.33%)

Table 3. Summary

	Class A %	Class B %
Case 1:	73.33	82
Case 2:	52.66	77.33

Let us now look at the four hypotheses. Concerning the hypotheses pertaining to Case 1 (a) and (b), we may note that in a way neither is completely falsified. The 110 correct responses for class A is 73.33 per cent of all possible responses. This is considerably higher than chance. The 82 per cent we obtained for class B is also considerably higher than chance. However, the result for class B (82 per cent) is not much higher than that for class A (73.33 per cent). These results seem to confirm our hypothesis for Case (1a). Nevertheless, the score is higher by almost 10 per cent. This appears to support our hypothesis for Case (1b). In other words, given the limitations of this study, it

would be difficult to decide which of the two hypotheses pertaining to Case 1 was confirmed. This means that on the basis of sentences 1 to 10 we are not in a position to say with certainty whether metaphorical motivation aids or does not aid learners of English in tasks such as the completion task we described above.

However, if we look at the results obtained in connection with sentences 11 to 20, we get a much clearer picture. According to hypothesis Case (2a), if *only* memorization plays a positive role in aiding the completion of the sentences, then the effectiveness with which participants complete the sentences will be low and near random for both classes A and B. This was not borne out at all. Class A scored only 52.66 per cent – barely above chance. By contrast, class B achieved 77.33 per cent correct responses, which is considerably higher than chance. (The difference would have been even higher, had there not been some confusion about the meaning of sentence 15, as a result of which class A produced 9 and class B produced only 8 correct responses.) This gives us some evidence in favor of the view that metaphorical motivation also plays a role in the performance of the completion task. If memorization is not (because it cannot be) responsible for the great difference in the effectiveness with which subjects in class A and class B performed the task, it can only be metaphorical motivation. This was the only element that was not shared by classes A and B in the task of responding to sentences 11 to 20. Apparently, students in class B must have used metaphorical motivation not only in sentences 1 to 10 but also in sentences 11 to 20. The details are rather interesting.

It is tempting to think that in Case 2 class B did much better than class A because they made use of the same orientational metaphors that they were introduced to in Case 1 (sentences 1 to 10). This cannot by itself explain the superior performance of members of class B. The reason is that only three orientational metaphors that were used in Case 1 were also used in Case 2. These are LACK OF CONTROL IS DOWN, COMPLETION IS UP, and WRITTEN / RECORDED IS DOWN. They account for four of the sentences: sentences 15 and 18 (COMPLETION IS UP), sentence 16 (WRITTEN / RECORDED IS DOWN), and sentence 17 (LACK OF CONTROL IS DOWN). One orientational metaphor underlying

one of the sentences 11 to 20 was the opposite of one of the metaphors also found in sentences 1 to 10: HAPPY IS UP, whose opposite is SAD IS DOWN. This underlies sentence 11.

What is most interesting, however, is the fact that five of the sentences in 11 to 20 reflect orientational metaphors that were *not* used in sentences 1 to 10 at all. This raises the question of how class B participants could do as well as they did in the case of these sentences (sentences 12, 13, 14, 19, and 20). What is it that they drew on? It makes sense to suggest that, since they were not able to rely on already familiar orientational metaphors, they continued to use the *strategy* of thinking in terms of conceptual metaphors. They did not have specific orientational metaphors to bring to the task, but the strategy of employing metaphorical thought was available to them. The use of the strategy to employ metaphor seems to be an extension, or special case, of what we have called metaphorical motivation.

It is worth noting that most of the new orientational metaphors participants employed are fairly common and deeply entrenched in the conceptual system of English. They are: INVENTION / CREATION IS UP: sentence 12; DYSFUNCTIONAL IS DOWN: sentence 13; CONSTITUTION IS UP: sentence 14; HEALTH IS UP: sentence 19; and PRESENCE / OCCURRENCE / AVAILABILITY IS UP: sentence 20. Most of them also apply to Hungarian, like INVENTION IS UP, DYSFUNCTIONAL IS DOWN, and HEALTH IS UP. It could thus be suggested that transfer might explain the high performance of class B. But if this is so, then we are faced with the question of why class A did not make use of the transfer as well. The answer might be that people *need to be made aware* of the metaphor-approach before they can put it to use. The passive existence of metaphorical motivation, that is, the mere presence of conceptual metaphors in the mind, does not seem to be sufficient for their active use in the learning of a foreign language. Students might need to be taught about the notion of conceptual metaphors in an explicit way before they can use the strategy of employing metaphors and discovering new ones in the foreign language.

5. What role do universality and cross-linguistic variation in metaphor play in idiom-learning?

The issue in the last paragraph of the previous section naturally leads us to the question in the section title. Here again, a commonsensical answer could be suggested. Universality in metaphor aids idiom-learning, while cross-linguistic variation makes it more difficult. However, this answer should be further refined.

If two languages (e.g. English and Hungarian) have the same conceptual metaphor (such as ANGER IS FIRE), this situation obviously facilitates the learning of metaphor-based idioms (for, say, Hungarian learners of English). Given the cognitive linguistic view of metaphor, for two languages to have the same conceptual metaphor means that they both have the same set of mappings that characterize the connection between a source and a target (as between ANGER and FIRE).

Not only can the two languages have the same conceptual metaphor, but they can also have the same metaphorical expressions in the sense that corresponding to a metaphorical expression in one language that has, say, a fire-related primary sense, there is a metaphorical expression in another language that has the same fire-related primary sense (e.g. *smolder* corresponding to Hungarian *füstölög*). This can be commonly found with one-word metaphorical expressions, such as the one just mentioned or highly formulaic idioms, such as *burn the candle at both ends* (Hungarian: *két végén égeti a gyergyát* 'two end-on burns the candle') or *break the ice* (Hungarian: *megtörik a jég* 'particle-break-intr+the+ice'), which are often mirror translations of one another in several languages.

However, with most of the fire-related metaphor-based idioms we saw in section 2.(d) above we do not find this simple one-to-one correspondence of metaphorical expressions between English and Hungarian. What we find instead is that the idioms will make use of different words in the two languages: English *spit fire* (in relation to anger) corresponds to Hungarian *tüzet hány/okád* ('fire-obj.+vomit'), English *catch fire* (in relation to imagination) to Hungarian *lángra gyúl* ('flame-onto+be kindled'), and English *spark off something* (in relation to conflict) to the Hungarian syntactic construction *a szikra,*

amely kivált valamit ('the spark which elicits something'). How can Hungarian speakers of English learn the meaning of these English idioms? I suggest that they can rely on the ontological mappings that characterize the conceptual metaphors within the scope of FIRE as a source. That is, the same mappings that guarantee that two different idioms in one language will have much of the same meaning (such as *extinguish the last sparks, snuff out,* and *wet blanket* in English) will also guarantee that idioms that are based on the same mapping in *two* languages will share much of their meaning.

In still another type of case, a language can have an idiom with a certain meaning based on a particular metaphor, while another language can have an idiom with the same meaning but based on another conceptual metaphor. For example, the idiom *wet blanket* in English means something like 'someone who causes good spirits / enthusiasm to end' and it is based on the ENTHUSIASM IS FIRE conceptual metaphor, more specifically on the mapping 'causing fire to end → causing state to end'. The corresponding Hungarian expression, *ünneprontó* (festivity-breaker), is not based on the FIRE metaphor but on something like a STATES ARE FUNCTIONAL OBJECTS metaphor, hence they (the functional objects) can be caused to break down. (This seems to be different from the metaphor that underlies the English expression *spoil the fun*, where we have an ORGANIC SUBSTANCE as source.) However, in this type of case (as well as in the previous one), in the process of learning the English idiom it is the relevant mapping that may help out the language learner. All three of the metaphors mentioned above A(N ABSTRACT) STATE IS (THE CONCRETE PROCESS OF) FIRE, A STATE IS A FUNCTIONAL OBJECT, and A STATE IS AN ORGANIC SUBSTANCE share the abstract "half" of the mappings 'causing the process of fire to end → causing state to end' (FIRE), 'causing object not to function → causing state to end' (FUNCTIONAL OBJECT), and 'causing organic matter to spoil → causing state to end' (ORGANIC SUBSTANCE). In trying to learn and understand the meaning of *wet blanket*, the learner of a language that does not have the expression but has the underlying FIRE (PROCESS) metaphor with the appropriate concrete half of the mapping (like Hungarian) can conceptually link the, to him/her, familiar and used *abstract*

part of the mapping ('→ causing state to end') with the also familiar but (for this expression) unused concrete part of the mapping ('causing fire to end →'). By successfully linking the two, he/she will connect the idiom with the appropriate mapping in the FIRE metaphor. In this view, learning an idiomatic expression that does not exist in one's own language will be the successful linking of a used and an unused part of the appropriate mapping, where the used part of the mapping will serve as a trigger for the learner to identify the matching other half in an existing conceptual metaphor (in this case, the FIRE metaphor).

Keeping in mind that the word forms constituting idioms are necessarily different across languages and that the figurative meaning is (in this case) always the same, we can summarize the possibilities discussed above in Table 4:

Table 4. Possibilities for metaphor in two languages

	Forms	**Meaning of Forms**	**Metaphor**
Possibility 1	different forms	same literal meanings (and same overall figurative meaning)	same conceptual metaphor
Possibility 2	different forms	different literal meanings (but same overall figurative meaning)	same conceptual metaphor
Possibility 3	different forms	different literal meanings (but same overall figurative meaning)	different conceptual metaphors

What insures in all these cases that learners can acquire the overall figurative meanings of idioms in another language is the mappings on which idioms are based and with which learners are familiar, either from their first language or through the learning of new mappings. (This latter way of learning new mappings has not been demonstrated here.)

But this is sheer speculation. I have no idea how the view I have outlined can be tested experimentally. Until we have the relevant experimental results in an FLT context, these ideas should merely be

regarded as an attempt to account for what is potentially going on in the mind of the learner in a fashion that is coherent with one particular conception of what idioms are about.

6. Conclusions

In this paper I have suggested that the cognitive linguistic view of idioms can be potentially useful in understanding what the learning of idioms might involve in an FLT context. In particular, I suggested that

- the most common metaphor-based idioms (in both the productivity and frequency senses) are those that have to do with the human body, and hence these are the ones that should be primarily taught to learners of foreign languages;
- the "ideal" arrangement of idioms in a dictionary of idioms for learners of foreign languages should follow the presumed conceptual organization of idioms; it should indicate the target domain, the source domain, and the scope of the source domain for the idioms that are based on a particular metaphor source;
- the meaning of many idioms involves three aspects: general, specific, and connotative meaning, which should all be indicated in giving the meaning of these idioms; these meanings depend on the relevant mapping(s) between a source and a target;
- the view of idioms advocated here can considerably facilitate the actual learning of idioms in the classroom, in particular, it can provide a useful general strategy in the learning of idioms in FLT;
- given a shared conceptual metaphor in two languages, the general differences between idioms across languages can basically be of three kinds (same literal meanings, same metaphor; different literal meanings, same metaphor; different literal meanings, different metaphors), all with different potentials for the learning of idioms in FLT; however, it's been also emphasized that these different learning potentials should be considered as merely speculative until we have experimental evidence to support them.

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On the systematic contrastive analysis of conceptual metaphors: case studies and proposed methodology

Antonio Barcelona

0. Foreword

This paper is a sort of bridgehead on the complex topic of the contrastive analysis of the lexis and grammar of basic metaphors in English and Spanish.

I lead a research team at the University of Murcia in Spain (some of its other members are Dr. Javier Valenzuela, Dr. Ana Rojo and Mr José Antonio Mompeán). We have just begun work on a three-year long research project, which is being funded by the Spanish Government.[1] One of the two major goals of our project is the careful study of the conceptualization and lexicogrammatical symbolization in English (lexicon, idioms, morphosyntax), of four emotional domains, namely sadness, happiness, anger, and romantic love, again paying particular attention to the contrast with Spanish. The other goal is the study of the conceptualization and grammatical symbolization of space and movement in both languages by means of a selected set of lexical items and grammatical constructions (prepositions, certain verbs, etc.). As is well known, the semantic structure of emotions has been claimed to be metaphorically mapped, to a large extent, from other experientially more accessible domains like space, temperature, movement, etc.; see e.g. Apresjan (1997), Barcelona (1986), Kövecses (1986, 1990, 1995). Applications of the project include English and Spanish descriptive and contrastive grammar, language teaching, lexicography and translation, among others.

This contribution is just an initial exploration of the issue of the contrastive analysis of basic metaphors in English and Spanish. It

will be improved on the basis of the reactions I receive and on the basis of further research on this topic by our research team. In the first part, I will report and briefly comment on some of my earlier contrastive studies on the metaphor networks in certain emotional domains in English and Spanish. The second part, which consists of two brief case studies, addresses the main focus of the article, namely, the study of the extent to which the same conceptual metaphors are conventionalized in each of these two languages, and the different lexical/idiomatic and grammatical realizations of these metaphors in them. The third part is devoted to presenting some general conclusions, drawn from the first two sections, about the methodology to be followed in the contrastive study of metaphor and about its relevance for language learning, translation and interlinguistic lexicography.

1. Earlier English-Spanish contrastive studies on metaphor by the author

In the mid- and late 80s and in the early 90s, I carried out a series of brief contrastive studies on a number of emotion domains in the two languages (Barcelona 1989a, 1989b, 1992, 1996, 1997a). Most of them were fairly brief papers presented at applied linguistics meetings and at English studies conferences in Spain. They were simply concerned with the identification of the main contrasts between both languages in the lexical and idiomatic manifestation of the various metaphors and metonymies that organize the semantic structure of these domains. These papers had the limited goal of drawing the attention of their audience (hitherto totally unfamiliar with cognitive linguistics) to the fundamental role of conceptual metaphor and metonymy in the construction of emotion concepts and in the selection of their associated lexicon and phraseology. The papers were also intended as evidence of the usefulness of the study of conceptual metaphor for English language teaching and learning. Given these goals and their brevity, most of these papers (except for Barcelona 1992) did not include a minimally detailed comparison of the com-

plex prototypes for each emotion that emerged from the various metaphorical networks. Nor were grammatical aspects carefully analyzed in them, though I was fully aware of their importance. But the task seemed to be extremely complex, and since, at the time, contrastive metaphor analysis was not my major research interest, I did not extend this research into prototypes or into grammatical aspects. This is what my present team project is supposed to do.

Among the results obtained in these papers, the following can be singled out:

1.1. Depression, sadness (Barcelona 1989a)

This emotion domain seems, on the whole, to be constructed by virtually the same metonymies and metaphors in both languages. Yet there appear to be a large number of minor differences. For example, the physiological metonymy whereby GENERAL UNEASE stands for SADNESS appears to be more fully conventionalized in Spanish than in English:

(1) a. *Me* corroe *la pena*
Me corrodes the sorrow
'Sorrow is corroding me.'[2]

b. *Tengo* una espina clavada *desde que me hiciste aquello*
I-have a thorn stuck in since me you-did that
'I have a thorn stuck deep (into my chest) since you did that to me'

I found no English examples that evoke the physiological effects of sadness as forcefully as the above examples. Cases like *You will be* devoured *by your cares* might be good candidates, but they are too general (this example is rather an instance of EMOTIONS ARE DANGEROUS ANIMALS).

As for the metaphors, the dominant metaphor for sadness in both languages is SADNESS IS DOWN (as in *I am in* low *spirits* or *Tengo la moral* baja), but in Spanish, if one takes into account the number of conventionalized metaphorical expressions for sadness, there is another metaphor (a specialization of SADNESS IS AN OPPONENT) that claims almost equal status as the DOWN metaphor: SADNESS IS A TORMENTOR. See example (2):

(2) a. *Le* atenaza *la tristeza.*
Him tears-away-with a plier the sadness
'He is being tormented by sadness.'[3]
b. *Le* mortifica *la tristeza.*
Him mortifies the sadness
'He is being mortified / plagued by sadness.'
c. *Estoy* traspasado *de dolor.*
I-am pierced through of sorrow
'I am pierced through by sorrow.'

The corresponding English expressions of this metaphor are not as conventional as their Spanish counterparts. Of course, many other metaphors, apart from SADNESS IS DOWN, are *conventionally* used in English to structure the domain of sadness (see Barcelona 1986), but SADNESS IS A TORMENTOR is not among them.

1.2. Anger (Barcelona 1989b)

Again, a very similar set of metaphors and metonymies organizes this emotional domain in both languages, with some minor differences, the following among them.

The application to anger of the general metaphor EMOTION IS A NATURAL PHYSICAL FORCE (Kövecses 1990: 162–163), particularly if the natural force is a very strong blast of wind, does not seem to be as strongly conventionalized in English as in Spanish. The Spanish expressions of the metaphor seem, on the whole, more conventional, hence less "figurative", than the English ones:

(3) a. Se arrebató *y nos dio de voces.*
Himself sb[4]-blew away and us sb-gave of voices
'He was blown away (by anger) and started shouting angrily to us.'

b. *Esas personas* me sacan de quicio.
Those people me pull out-of hinge
'Those people drive me out of my hinges.'[5]

c. *Se dejó* llevar de *su ira.*
Himself sb-allowed to-carry away of/by his anger
'He allowed himself to be carried away by his anger.'

d. *Se dejó* arrastrar por *su mal genio.*
Himself sb-allowed to-drag by his bad temper
'He allowed himself to be dragged by his bad temper.'

e. *Le dio una* ventolera *y empezó a*
Him it-gave a strong-wind and started to
insultarnos.
insult-us
'A strong wind (of anger) came upon him and he started insulting us.'

A second difference concerns the basic metaphor, quite conventional in both languages, ANGER IS THE HEAT OF A FLUID IN A CONTAINER. One of its metaphorical entailments is WHEN THE PERSON-CONTAINER EXPLODES, PARTS OF HIM GO UP IN THE AIR (Lakoff and Kövecses as reported in Lakoff [1987: 385], Kövecses [1990: 55]). This entailment, amply represented by a certain number of American English conventional expressions like *I blew my stack*, *I blew my top*, *She flipped her lid*, *She flew off the handle*, etc. is represented in Spanish by very few conventional expressions, and even these are not restricted to anger:

(4) *Se le* voló *la olla.*
It to-him blew-up the kettle
'His kettle (i.e. his head) blew up.'[6]

1.3. Love (Barcelona 1992, 1996)

In the metaphor LOVE IS FOOD, love is conceptualized as food. In a common extension of the metaphor, this "food" is given by a lover to his/her loved one (cf. *She is* starved *for* his *love*, *Tengo* hambre *de* tu *amor*). A submetaphor within LOVE IS FOOD is LOVE IS SWEET, TENDER, OR APPETIZING FOOD, as in *He had some* tender *feelings for her*, *Her love* sweetened *my life*, *¡Qué* dulce *es tu amor!*, *Lo ama* tiernamente).[7] A related metaphor is THE OBJECT OF LOVE IS SWEET, TENDER, OR APPETIZING FOOD (Kövecses 1990: 129):

(5) a. *Hi,* sweetheart
b. *She's quite a* dish
c. Honey, *I love you*
d. *Eres muy* dulce
You-are very sweet
'You are very sweet'
e. *Está para* comérsela
Sb-is to eat-oneself-her
'I would eat her up' i.e. 'She's quite a dish.'

There are two differences between both languages with regard to these love metaphors with FOOD as source:

(1) In Spanish, the submetaphor, when the source is a *sweet* food item, is strongly biased towards the conceptualization of excessively, almost disgusting, behavior on the part of a person in love:

(6) a. *Se* acarameló *con ella*
Himself sb-made-caramel with her
'He got sugary with her' i.e. 'He was engrossed in her.'
b. *A María, su pretendiente le resultaba*
To Mary, her suitor her seemed
empalagoso
sickeningly-sweet
'Mary found her suitor sickeningly sugary.'

(2) Unlike English (cf. *Honey, I love you*), Spanish (standard European Spanish at least) has not conventionalized the use as vocatives of expressions instancing the conceptual metaphor THE OBJECT OF LOVE IS SWEET, TENDER, OR APPETIZING FOOD:

(7) ?Dulce, *eres* *maravillosa*
Sweet, you-are wonderful
'Sugar, you are wonderful.'

The metaphor LOVE IS HEAVEN (as in *You love me and I'm* in heaven, *Estoy* flotando *desde que se me declaró* 'I have been floating around ever since he proposed to me')[8] is related to the metaphor THE OBJECT OF LOVE IS HEAVEN. I have not found this second metaphor reflected in English conventional, non-creative expressions. On the other hand, the NPs invoking it can function quite easily as vocatives in Spanish, but not normally in English:

(8) a. *Eres* *mi* cielo
You-are my heaven
'You are my heaven.'
b. *Cielo,* *eres* maravillosa
Heaven, you-are wonderful
'(My) heaven, you are wonderful.'

Both languages reflect almost the same set of physiological and behavioral metonymies for love studied by Kövecses. There are three additional behavioral metonymies not studied by this linguist, probably because they seem to be losing force in contemporary Western societies. But they are still reflected in both languages. One of them is VERBAL FLATTERY STANDS FOR LOVE:

(9) a. L*a* piropea *sin* *cesar.*[9]
Her sb-pay -amorous compliments without cease
'He is incessantly paying amorous compliments to her.'

b. *Sus* requiebros *la* *ruborizan.*
His amorous-compliments her cause-to-blush
'His amorous compliments cause her to blush.'

I found no other conventional expressions of this metonymy in English, which is, however, represented by a certain number of lexical items and idioms in Spanish. The closest equivalent to this metonymy that I was able to find in English is COURTING STANDS FOR LOVE, which also exists in Spanish (although it is less and less socially accepted and used in both cultures). The corresponding expressions are probably more formal and old-fashioned in English than in Spanish:

(10) a. *He* has courted *her for two months.*
b. *He* wooed *her with no result.*
c. *La* *lleva* cortejando *algún* *tiempo.*
Her sb-carries courting some time
'He's courted her for some time.'
d. *La* pretende *desde* *hace* *tiempo.*
Her sb-woos since ago time
'He has wooed her for some time.'

In any case, these two metonymies have virtually disappeared from the prototypical *conceptual* model of romantic love in Western societies. Their sexist bias (it was typically the *male* lover that was supposed to flatter and court), the potential insincerity attributable to any flattery, and the improvement in the social status of women seem to account for the abandonment of the behavior that motivated them. But the corresponding linguistic expressions are still part of the two languages and have to be explained.

The third additional behavioral metonymy is SIGHING STANDS FOR LOVE, in which a type of behavior conventionally believed to be caused by love is mapped onto it. According to my British and American informants, the expressions of this metonymy are no longer conventional in English, although they would be understood. The metonymy is still quite conventional, but often used ironically, in Spanish:

(11) a. *She* sighed *for him.*
b. *Todas las chicas del lugar* suspiraban *por él*
All the girls of-the place sighed for him
'Every girl in the place sighed for him.'

The *prototypical scenario* of romantic love resulting from the network of metaphors and metonymies that construct it is basically the same in both languages. The only major difference occurs at the stage in which the lover, after attempting to resist the attraction exerted by the object of love, succumbs to it. This victory of love is expressed by a number of metaphors in both languages. One of them, LOVE IS A CONTAINER, is conventionally elaborated in English as the submetaphor LOVE IS A TRAP, into which the lover falls, perhaps "wounded" by the love-enemy (LOVE IS AN ENEMY is another major metaphor that constructs the concept of romantic love in both languages), and out of which he/she cannot escape easily. This submetaphor is felt in Spanish to be more creative, hence less conventional, than in English:

(12) a. *Romeo está* en*amorado*[10]
Romeo is in+love-past participle
'Romeo is in love.' (LOVE IS A CONTAINER; conventional)
b. *Romeo* fell in love *with Juliet* (LOVE IS A TRAP; conventional)

The Spanish literal translation of (12b) (*Romeo cayó en el amor*) would be quite unconventional, and would require special contexts.

1.4. General comment on this previous research

These are some of the relevant results of this earlier research, from the standpoint of contrastive metaphor analysis. However, the methodology of these papers (except for Barcelona 1992) was still too coarse-grained. A more fine-grained methodology for the contrastive study of metaphor is needed, one that takes into account a larger number of factors, particularly:

(a) As regards the detailed study of individual metaphors, the methodology should pay careful attention to the contrasts between the two languages in terms of the degree of conventionalization of the *submappings* of the metaphor and of their lexical and grammatical expression.

(b) As regards the contrastive study of highly metaphorical cognitive domains, like the emotions, the methodology should include a detailed systematic analysis of the contribution of each metaphor to the construction of the prototype for each domain in each language, and a corresponding analysis of the contrasts across both languages. Additionally, since there are normally also a large number of non-metaphorical lexical items in those domains which invoke fundamental aspects of language-specific prototypes or 'cognitive scenarios', a semantic metalanguage like the one proposed by Wierzbicka (particularly Wierzbicka 1999) may be highly useful, perhaps indispensable, for the precise identification of the many subtle contrasts in the meanings of lexemes invoking the same or similar domains in two languages. Thus both Wierzbicka's lexical approach and the study of the relevant networks of conceptual metaphors and metonymies should in principle be complementary in the contrastive study of cognitive domains across languages.

In the ensuing section I present two additional case studies. They are intended as an attempt to develop the methodology along the lines suggested in (a) above. In the first of these studies, attention is given to the consequences of cross-linguistic contrasts in the conventionalization and expression of the same metaphor for the learning and teaching of English and Spanish as foreign languages. The second case study is a more detailed investigation of this type of contrasts, which can often be quite subtle.

2. Case studies: Same metaphor, different conventionalization and expression

2.1. Change of (emotional) state

The submetaphor of the EVENT STRUCTURE METAPHOR (Lakoff 1993) that could be called CHANGE OF STATE IS CHANGE OF LOCATION appears to be combined systematically in English, and, to a more limited extent, in Spanish, with a basic metaphor that maps containers onto emotional states (see Barcelona 1986, Kövecses 1990):

(13) Her behavior *sent me* into *a fury.*
(14) *I* fell into *a depression*
(15) *Juan* ha caído *en una depresión.*
Juan has fallen in a depression
'Juan has fallen into a depression'

The combination between both metaphors seems to be more frequent and less constrained in English than in Spanish, especially when the change is *caused* by an agent or a cause external to the entity undergoing the change; this results in a causative clause, as in example (13), in which the resultant state-as-container metaphor is activated by the prepositional phrase. An approximate literal translation into Spanish of this example would yield ungrammatical or at any rate very odd sentences:

(16) a. ?**Su conducta me* envió dentro de *una furia.*
Her behavior me sent into a fury
'Her behavior sent me into a fury.'

b. ?*Su conducta me* metió en *una rabieta.*
Her behavior me put-in in a rage
'Her behavior sent me into a towering rage.'

These sentences, though sounding picturesque to native speakers of Spanish, would nonetheless be understood by them. Acceptable, idiomatic translations of (13) would be

(17) a. *Su conducta me* puso *furioso*
Her behavior me put furious
'Her behavior made me furious.'
b. *Su conducta me* en*fureció*
Her behavior me infuriated
'Her behavior infuriated me.'

The first translation expresses the causative version of the CHANGE OF STATE IS CHANGE OF LOCATION metaphor in Spanish, yet without combining it with STATES (EMOTIONS) ARE CONTAINERS. The second only activates STATES (EMOTIONS) ARE CONTAINERS, but not CHANGE OF STATE IS CHANGE OF LOCATION.[11]

The Spanish verb *poner* (normally equivalent to *put*) is also a spatial causative verb, but the resultant state is not (usually) conceptualized as a container. This conventional manifestation in Spanish of the metaphor CHANGE OF STATE IS CHANGE OF LOCATION may be transferred to English by beginning Spanish learners of English. The result of such a transfer would be:

(18) **That* put *me* furious

Conversely, the mechanical transfer to Spanish of the English conventional *causative* version of the composed change of location + container metaphor would lead English-speaking beginning learners of Spanish to produce such odd sentences as those in (16) above.

A further complicating factor is that this composite metaphor is strongly biased in English towards a very specific elaboration, both in its non-causative and in its causative versions. The change of location tends to be swift and sudden. That is we find a number of English conventional expressions of the composed metaphor in which the verb meaning highlights speed and suddenness. Note example (13) above with the verb *send* or

(19) *The news* threw him into *a terrible state of anxiety.*
(20) *He* flew into *a rage.*

If the same type of verbs is used in the Spanish expressions of the composite metaphor, the results are stylistically odd; cf. (16) above and

(21) a. ??*La noticia le* lanzó al interior de *un*
The news him threw to-the interior of a
terrible estado de ansiedad.
terrible state of anxiety
'The news threw him into a terrible state of anxiety.'

(22) b. ??*Voló* al interior de una rabieta.
Sb-flew to-the interior of a rage
'He flew into a rage.'

A simple pedagogical conclusion that can be drawn from these observations is the following: Beginning Spanish-speaking learners of English must be systematically exposed to examples that suggest that the basic verbs to be used for the expression of *caused* change (especially emotional change) are *make*, *turn* or *get* followed by (emotional) state adjectives like *angry*, *sad*, etc. They should be systematically exposed to expressions of the composite metaphor (with states treated as containers, and with change of state treated as a swift locational change) at a later stage of the learning process. Similar remarks apply to beginning English-speaking learners of Spanish: They should be taught to avoid using the combination between CHANGE OF STATE IS CHANGE OF LOCATION and STATES (EMOTIONS) ARE CONTAINERS in Spanish, and to use such verbs as *poner(se)* or *volver(se)* with an adjective phrase, instead of a prepositional phrase, to indicate the emotional state.

In any case, the existence and full conventionality in both languages of the two members of the composite metaphor is advantageous to the learner. It certainly facilitates the process of learning the conventional expressions of the composite metaphor in the target

language. It also helps successful communication in that language, because the shared metaphors allow the comprehension of unidiomatic, even ungrammatical expressions motivated by the unskillful combination of the two member metaphors. Yet the subtle differences in the degree of elaboration of the composite metaphor and in its conventional expression must be presented to the learner only at an intermediate or advanced level.

2.2. Gaudy colors in English and Spanish

There is a conventional synesthetic metaphor, both in English and Spanish, which may be termed A DEVIANT COLOR IS A DEVIANT SOUND (Barcelona 1998, 2000). A gaudy, obtrusive color is understood as a loud or a strident sound. Examples include:

(23) *Julia lleva* *unos* colores muy chillones *en la* *falda.*
Julia wears some colors very shrill on the skirt
'Julia is wearing a skirt with very shrill colors' i.e. 'Julia is wearing a flashy skirt.'

(24) *That's a* loud color *you're wearing.*
(25) *?I don't like such a* shrill color.

The metaphor is exploited in different ways in both languages. In English, there is a tendency to metaphorizing gaudy colors as kinds of sounds, that is, as excessively intense sounds ("a *loud* color"), or, less idiomatically, as excessively high-pitched sounds ("*?a shrill shade of red*"). It is also possible, in more creative uses of the metaphor, to conceptualize them (or the objects exhibiting them) as agents which utter attention-getting sounds; cf. this humorous example, drawn from a short story by Richmal Crompton:

(26) *She was wearing a red skirt that* cried aloud to heaven.

This extended version of the metaphor may have arisen via a metonymic extension *within* the source domain in the DEVIANT COLOR = DEVIANT SOUND metaphor; if sound is typically the result of a certain action (e.g. uttering sounds, clapping, thumping, etc.) perfomed by a certain agent, the agent (in this case an utterer) and the whole sound-producing action can be evoked metonymically by the sound. In Spanish, only the extended version of the metaphor is conventionally used, that is, a gaudy color is always treated as a metaphorical utterer, very often as an intentional caller. So we get examples such as

(27) *Es un color* chillón / llamativo.
It-is a color screaming / calling
'It's a screaming/calling color' i.e. 'It's a gaudy color.'

In the auditory domain, the normal Spanish equivalent for *loud* is *alto*[12], or *fuerte*[13]; however, it is not grammatical to say

(28) **La falda tiene un color* alto
The skirt has a color high/tall
'*The skirt has a high/tall color.'

One can say in Spanish *Es un color subido* (literally 'It's a raised color', that is 'a strong color', 'a bright color'), to refer to an intense color along some dimension (typically saturation or luminosity), but then the metaphor at work is not A DEVIANT COLOR IS A DEVIANT SOUND, but QUANTITY (of any sort, including "quantity" of intensity) IS SPATIAL HEIGHT, as in *The prices have gone up* (see footnote 12 for *alto*).

Therefore, in Spanish the metaphor seems to be used conventionally and automatically only under the extended version, and only "creatively" under the basic version. And in English, the metaphor is conventionally and automatically used in its basic version, and only creatively used in its extended version. Yet the contrast between both languages is more subtle than just this. There are basically two possible lexicogrammatical realizations of this synesthetic metaphor.

(a) Phrasal realization

The metaphor is invoked by means of an auditory adjective (such as *loud*, *shrill*, *chillón*, *llamativo*) modifying, or acting as the predicate of, an NP with a color noun as head, as in examples (23), (24), (25), and (27). These adjectives simultaneously denote three properties (related to each other in a condition-result chain) of the color-percept: intensity along some dimension, deviance from a social norm, and attention-getting force. So a *loud color* or a *color chillón* is a color which is very intense along some dimension (typically luminosity and saturation); as a result of its high intensity, it is deviant with respect to a (socially established) normal degree of intensity; and as a result of its deviance, it is a powerful yet obtrusive eye-catcher.

In Spanish, these are properties of the sound emitted by the metaphorical agent-utterer (the color itself) which are indirectly mapped onto a color percept. That is, a *color chillón/llamativo* is a color figuratively treated as an agent that emits a sound exhibiting these three properties. As I said above, this happens in the extended version of the metaphor. There are some differences between these two Spanish adjectives.

Chillón can be used both metaphorically and nonmetaphorically. You can say nonmetaphorically:

(29) *Juan es* muy chillón
Juan is very shrill
'Juan screams too often.'

It can also be used as a noun in the source domain

(30) *Juan es* un chillón
Juan is a shrill-person
(approximately) 'Juan is a loudmouth.'

though not in the target domain,

(31) **Ese color es* un chillón
That color is a shrill-person
(approximately) 'That color is a loudmouth.'

and bears strong negative overtones in the source and in the target domains, thus further specifying the deviance of the sound as deviance from good taste.

Llamativo can *only* be used in the target domain. It is not a *fully* transparent metaphorical expression, but an expression of a living metaphor whose source domain sense is not in use; however, since speakers are still aware of its connection to the verb *llamar* 'call', it still retains a measure of metaphorical transparence (i.e. its source domain sense is indirectly recoverable). On the other hand, it can only be used as an adjective, never as a noun,

(32) **Ese color es* un llamativo
That color is a calling-thing
'That color is something that calls you.'

and does not necessarily bear any negative overtones; its deviance simply consists of a rather marked departure from normality, so that the adjective is often almost equivalent to *unaccustomed, uncommon.* It is, furthermore, used in a variety of target domains, not only colors.

In English, such adjectives as *loud, shrill* (the latter perhaps less idiomatically), modifying or predicating an NP with a color noun as head, symbolize the same properties (intensity, deviance and attention-getting potential). These properties are predicated of the color percept, which is viewed as a sound, not as an agent that produces a sound.

(b) Clausal realization

The metaphor is invoked by means of an agentive clause whose subject NP contains a color noun as head, whose verb denotes the production of a certain sound (crying, shouting, jarring) and which often

includes a directional complement (a PP, or a personal pronoun in objective case). Examples include (26) above and

(33) *Francamente, esos colores* chirrían *entre sí.*
Frankly, those colors jar between them
'Frankly, those colors jar with each other.'
(34) *These colors* grate *on everyone.*
(35) *That color really* screams.

In these cases, only the extended version of the metaphor can be realized (i.e. the version in which the color is a metaphorical agent), not the basic version, as this type of clause symbolizes an agent-action-direction-endpoint semantic schema. The clausal expression of the extended version of the metaphor is less conventionalized in both languages, hence more creative, than the phrasal expression of either the basic or the extended version of the metaphor.

2.2.1. Summary of results

The *basic version* of the metaphor A DEVIANT COLOR IS A DEVIANT SOUND can only be expressed in English within an NP. This version is not used in Spanish.

The *extended version* of the metaphor can be phrasally expressed in Spanish, but not in English. And it can be expressed clausally in both languages, but then these clauses are somewhat stylistically marked as creative or colorful.

The following table presents these findings synoptically:

Table 1. Versions of A DEVIANT COLOR IS A DEVIANT SOUND in English and Spanish

	Basic version	Extended version (agentive)
English	Phrasal: √	Phrasal: -
	Clausal: -	Clausal: √ (marked)
Spanish	Phrasal: -	Phrasal: √
	Clausal: -	Clausal: √ (marked)

3. Conclusions

A number of conclusions can be drawn, in my view, from the earlier research reported at the beginning of this paper and from the two brief case studies presented in Section 2. They concern the criteria that should be applied to the systematic contrastive analysis of metaphor across two languages,[14] and the relevance of this kind of analysis for language learning and interlinguistic lexicography and translation.

3.1. Preliminary step: Setting goals and selecting metaphors

The first criterion to be followed is the *practical goal* sought through the analysis. If this is its application to research and practice in second or foreign language teaching and acquisition, the metaphors whose contrastive study should be given priority are those that appear to underlie the structures in the target language which are known to cause learning problems.

If the goal is more general, e.g. that of building a contrastive inventory of the basic metaphors in the two languages, then the analysis should select those metaphors that appear to be the most fundamental ones to the semantic and grammatical system of each language in terms of their conceptual, lexical and grammatical ramifications. This selection depends, in turn, on the existence of a careful map of the basic networks of metaphors in each of the two languages to be contrasted. Unfortunately, there do not yet exist any systematic maps of these networks in any language, though a large number of fundamental metaphors in the English language have been described, in greater or lesser detail, in the past twenty years. Therefore, at least with respect to these well-studied metaphors, the English networks can be compared with those of other languages. An important aid for contrastive research is the existence of rich corpora of contextualized metaphorical expressions in both languages. Some such corpora are now beginning to appear for English (Deignan 1995, 1999b).

Whichever the practical goal sought, the selection of metaphors depends on their identification as such. Thus, another fundamental prerequisite for successful contrastive analysis of metaphor is the use of a proper method of metaphor identification. Unfortunately, this issue cannot be discussed here for lack of space. Some useful methodological suggestions can be found in Barcelona (1997b), Cameron and Low (1999), Deignan (1999a) and Steen (1999).

3.2. Factors in the contrastive analysis of each metaphor

(a) Existence of metaphor X in language A and absence of it in language B

This is the maximum possible contrast. Examples: There are a great many mappings in the Spanish language of the BULLFIGHT domain onto many other domains. Since the source is absent from English-language culture, these metaphors do not exist in English. On the other hand, in American English BASEBALL and FOOTBALL are mapped onto a large number of domains; these mappings are not represented in (European) Spanish.
If the goal of the analysis is to provide guidance for foreign language learning, the analysis must be confined to the language possessing that metaphor, without looking for approximate equivalents for it in the other language. The aim is simply to help the learner grasp the basics of the metaphorical vehicle domain (i.e. bullfighting) in the target language so that (s)he can easily understand the metaphorical mappings coded by the language he is trying to learn. If the goal is to provide materials for translation systems or for bilingual lexicography (Barcelona 1997a), besides the description of metaphor X in language A, the analysis must also look for the metaphorical expressions (motivated by a different metaphor) and the nonmetaphorical expressions in language B that will approximately be paired to the various metaphorical meanings motivated by metaphor X in language A.

(b) Existence of the same metaphor in both languages

This situation is much more frequent. The same metaphor may be said to exist in both languages if approximately the same conceptual source and target can be metaphorically associated in the two languages, even though the elaboration, the specifications and corresponding linguistic expressions of the metaphor are not exactly the same, or equally conventionalized, in both of them. Since the same metaphor is seldom elaborated, specified and expressed in the same way in two languages, the possible resulting contrasts must be carefully identified and described, irrespective of the practical goal of the research. These possible contrasts are:

(b1) Differences between both languages with regard to the specification or elaboration of the source or the target. In other words, differences between both languages owing to the existence of a version of the metaphor in one language and its absence, or limited use, in the other. Examples: DEVIANT COLOR IS DEVIANT SOUND does not seem to exist in Spanish in its basic version (with gaudy colors as deviant sounds) but only in its extended version (with gaudy colors as utterers of deviant sounds). Spanish seems to resist the version of CHANGE OF STATE IS CHANGE OF LOCATION in which it is combined with STATES ARE CONTAINERS.

(b2) Differences between both languages with respect to the linguistic expressions (lexical items, clauses, etc.) motivated by or manifesting the metaphor. We are concerned here with the situation in which the metaphor is manifested in both languages by a number of linguistic expressions, which can be used in the source domain (i.e. nonmetaphorically) and in the target domain (i.e. metaphorically). In other words, the conceptual mapping is manifested in both languages by *living metaphorical expressions*. This concerns several parameters:

(b2-1) Same or different grammatical class of the metaphorical expression in both languages. Example: The extended version of A DEVIANT COLOR IS A DEVIANT SOUND can be realized by NPs in Spanish, but not in English, which requires a clause.

(b2-2) Differences between both languages with respect to the grammatical behavior of the metaphorical expression in the source domain and in the target. Examples: *Chillón* and *loud* are often treated by bilingual dictionaries (e.g. Smith 1988) as near-equivalent expressions in their metaphorical sense (although we will suggest some reservations later). But whereas *chillón* does not behave grammatically in the source domain as it does in the target, *loud* seems to behave exactly in the same manner in both domains. Cf. the following table:

Table 2. Behavior of CHILLÓN and LOUD in source and in target of A DEVIANT COLOR IS A DEVIANT SOUND

CHILLÓN	
Source	Target
Juan es muy chillón.	*Ese color es muy chillón.*
Juan es un chillón.	**Ese color es un chillón.*
LOUD	
Source	Target
That is a loud sound.	*That is a loud color.*
**That sound is a loud.*	**That color is a loud.*

(b-2-3) Differences in the *degree* of conventionalization of the metaphorical expression and in its degree of stylistic markedness (is it "creative", "colorful", fully conventional and automatic, or does it lie somewhere in between?). Examples: the expressions of ANGER IS A NATURAL PHYSICAL FORCE are more stylistically "colorful" in English than in Spanish. The extended version of A DEVIANT COLOR IS A DEVIANT SOUND is manifested by stylistically marked expressions in English, and by fully conventional ones in Spanish (in its phrasal realization).

(b-2-4) Differences in the scope of metaphor (Kövecses 2000). A metaphorical expression can also be used as a source expression in other basic (often related) metaphors in one language. Is this the case with its equivalent in the other language? How do they contrast in this respect? Example: The metaphorical scope of HEAT is very similar in English and Spanish. This domain can be mapped onto much

the same targets in both languages, in particular emotions and arguments. Kövecses (ibid.) offers two examples that show it can also be mapped onto certain events characterized by pressure. One of the examples is:

(36) *We kept going just that little bit better than our rivals when the* heat was on.

This mapping does not seem to be conventional in Spanish. Systematic contrastive analyses of the mapping potential of those domains that seem to have the widest scope in both languages may reveal interesting facts about both languages.

(b-3) Differences in terms of the metaphorical transparency of the linguistic expressions of a metaphor. Example: the Spanish adjective *llamativo* is a (relatively) *transparent* metaphorical expression of a living metaphor, as it can only be used in the target domain of A DEVIANT COLOR IS A DEVIANT SOUND.[15] All the English linguistic expressions activating the metaphor, i.e. *loud*, *shrill*, *grate*, etc. are transparent living metaphorical expressions, as they can be used in both the source and the target.

3.3. Relevance for language learning/teaching

If this is the primary goal of the contrastive study, the contrasts observable should help textbook writers and L2 teachers and pedagogues in their selection and arrangements of the teaching materials. Some examples have been offered above. The more useful kind of L2-related contrastive research is the one that studies those metaphors that, besides motivating linguistic structures which cause learning problems, are instrumental in a large number of cognitive domains. The contrastive study of such wide-ranging metaphors as CHANGE OF STATE IS CHANGE OF LOCATION, or, preferably, of the whole EVENT STRUCTURE metaphor, will certainly be more useful for foreign / second language (L2) teaching than the contrastive study of more restricted metaphors.

As was pointed out earlier, an important advantage for L2 learning is the existence of the same basic metaphor in both the target and the learner's language. Even though the metaphor is seldom exploited conceptually or expressed lexically and grammatically in the same way by both languages, the mere fact that it is shared by them facilitates the acquisition of the meanings and structures motivated by the metaphor and helps successful communication in a second or foreign language. However, the conventions affecting the use of the metaphor must be carefully mastered through instruction.

3.4. Relevance for interlinguistic lexicography and translation

If these are the primary goals of the investigation, the contrastive analysis of metaphor can provide useful guidance to bilingual lexicography and to translatology when choosing a recommended usual near-equivalent (or a range of them), in one language, of a metaphorical expression (a lexeme, an idiom, a phrase, a clause, etc.) in the other language. (Of course, co-textual and contextual factors may often override these equivalences.) The contrastive analysis will discover one or several of the contrasts discussed above. The contrast consisting in the existence of a metaphor in one of the two languages and its absence in the other (cf. 3.2.a above) is an indication that a *functional near-equivalent* must be found for it in the language with the metaphorical gap. The contrasts consisting of one or more differences in the functioning of the same metaphor in the two languages (3.2.b) constitute a negative measure of the degree of functional equivalence between the expressions of that metaphor in the two languages. In some cases of multiple contrasts, in which the measure of functional equivalence is very low, the crosslinguistic near-equivalents may have to be sought in the linguistic expressions of a different metaphor, or they may have to consist of a non-metaphorical expression.

As an example of multiple contrast, take the extended version of the metaphor DEVIANT COLOR = DEVIANT SOUND (i.e. the understanding of the color percept as an agent that performs an activity in order

to attract the attention of the perceiver). This version, as we saw above, cannot be expressed in English within an NP. It can be expressed in Spanish within an NP by means of such items as *chillón*, or *llamativo*. English can manifest this version of the metaphor clausally, but then it is stylistically marked. Are there any English expressions which are functional near-equivalents to *chillón* or *llamativo*? By 'functional near-equivalent' I mean expressions which contrast mini-mally with their counterparts in the other language. I think there are some such English expressions. The most important part of the metaphorical meaning of the Spanish phrasal expressions of the extended version of A DEVIANT COLOR IS A DEVIANT SOUND can be rendered within an English NP by means of such adjectives as *showy* or *flashy* (e.g. *That's a* showy *color*). These adjectives are used for colors on the basis of a different metaphor, which is nonetheless functionally equivalent to DEVIANT COLOR = DEVIANT SOUND, namely, A DEVIANT COLOR IS AN EXHIBITIONIST. The excessive color is presented as an agent that (proudly and impolitely) shows his possessions or emits a bright light to attract attention to them;[16] the same basic entities – the agent that attracts attention and the target of this action – are respectively mapped onto the color and the perceiver of the color.[17] On the other hand, the use of these adjectives with color nouns is not stylistically marked as creative or rhetorical.

Another possible functional near-equivalent for *chillón* or *llamativo* is *gaudy*. But this expression is not metaphorically alive, as it is only used synchronically for attention-drawing percepts (colors, jewels, etc), not for non-visual domains. This adjective probably came to be applied to these percepts on the basis of a CAUSE-FOR-EFFECT metonymic extension of the EXHIBITIONIST metaphor: The joy of an agent over his possessions (*gaudy* comes from Lat. *gaudium* 'joy') causes him to show them.[18] In this respect it is somewhat less appropriate than *showy* or *flashy*. However, its meaning is still understood in terms of the EXHIBITIONIST metaphor, which is one of the main metaphors that construct the domain of DEVIANT COLORS. Standard learner's dictionaries (e.g. Hornby 1974) describe this meaning like this: "too *bright* and *showy*; gay or *bright* in a tasteless way" [my italics].

On the other hand, a more fine-grained analysis ought to distinguish between the rather neutral position of *llamativo* on the axiological scale as compared with the extreme position of *chillón* on the negative pole of the scale: A *color chillón* is used of a vulgar color, a color revealing bad taste. A similar position on the scale is occupied by *showy, flashy* or *gaudy*. These adjectives therefore seem to be, more strictly, near-equivalents of *chillón* rather than of *llamativo*. A *color llamativo*, on the other hand, is simply a color that draws your attention, not necessarily because it deviates from good taste (it may deviate from other parameters of normality); in fact, the adjective can often be used of colors and other percepts that may pleasantly surprise the observer. Therefore, its English near-equivalents are not always *gaudy, showy, flashy*, as some standard bilingual dictionaries (e.g. Smith 1988) claim, but preferably other equally neutral expressions. I could not find any of these in English. Perhaps the solution is to include in the bilingual dictionary entry for *llamativo* an adjective like *eye-catching*, as a near-equivalent for the cases in which *llamativo* denotes a positive evaluation; *eye-catching* is semantically biased towards a positive evaluation of the percept (its meaning is described (Hornby 1974) as "easy to see and pleasant to look at; attractive").[19]

Notes

1. *Secretaría de Estado de Universidades, Investigación y Desarrollo* (State Secretary for Universities, Research and Development), Project no. PB-98-0375. I am also very grateful to René Dirven and Susanne Niemeier for their many helpful comments on the article.
2. I have preferred in most cases to provide English translations which reflect the meaning of the Spanish metaphorical terms as directly as possible, even though they may not sound quite idiomatic in English.
3. The non-emotional meaning of *atenazar* was originally 'to tear away pieces of flesh by using a pair of strong pliers'. Not all present-day speakers of Spanish are aware of this older physical meaning. However, the term is still felt as metaphorically transparent, thanks to its connection to the word *tenazas* 'pliers'.
4. sb= 3rd person singular grammatical subject morpheme. When the subject is not expressed by means of an NP, and only by a verb morpheme, its gender is es-

tablished contextually. I have omitted reference to subject morphemes in the interlinear glosses when the subject is overtly expressed, as in (2b).

5. An idiomatic translation would be 'Those people drive me out of my mind'.
6. This slang example may also be used to describe mental unbalance.
7. Most of the English examples of this and other metaphors for emotion have been borrowed from Zoltán Kövecses (1986, 1990).
8. This metaphor, is, in fact, a submetaphor of GOOD IS UP (Lakoff and Johnson 1980), since being in love is normally regarded as a positive state in most (probably all) cultures. Of course, there are other metaphors that account for the "negative" aspects of this emotion, like LOVE IS A DISEASE (*He is* lovesick).
9. Examples (9), (10) and (11) can be used metonymically in a context in which they unmistakably activate the domain of romantic love. The sentences in (9) and (10), with the necessary grammatical adjustments, could be answers to questions of the type *Do you think he is in love with her?* in either language. Those in (11) could be responses to questions like *Do you think she is in love with him?* (11a) or to statements like *I wonder if there is a woman in love with this man* (11b).
10. *Enamorar, enamorarse* ultimately originate in Latin *in* 'in' and *amor* 'love' via Low Latin *inamorari*.
11. Spanish prefixal verbs with *en-* and *a-* are a very frequent way of indicating change of state: *enrabiar, entontecer, entristecer(se), alocarse, adelgazar,* etc. It is a matter of debate whether they metaphorically present change of state as change of location; if they do, this metaphor is at any rate backgrounded by *en-* prefixal verbs, in whose meaning the state-as-container metaphor is prominent.
12. This term in turn evokes a different metaphor, since sound intensity, like many other quantifiable properties, is measured in Spanish by mapping spatial height onto it. *Alto*, as a non-metaphorical term, is a spatial term whose meaning is equivalent to *high* or (depending on context) *tall*.
13. It is possible to talk about *colores fuertes* 'strong colors', just as it is possible to talk about *sonidos fuertes* 'strong sounds'. But this coincidence is not due to a mapping of sound onto color or vice versa. Rather, it appears to be due to a general metaphor that conceptualizes the intensity of an experiences as a physical force (cf. *Me causó una impresión fuerte* 'He made a strong impression on me').
14. These conclusions concentrate on metaphor, but they can also be applied, with some minor changes, to the contrastive analysis of metonymy.
15. This case is different from cases like *He had a grave attitude*, in which *grave* (from Lat. *gravis* 'heavy') historically acquired the sense 'important, serious' on the basis of the metaphor IMPORTANT IS HEAVY (cf. Lewis 1996). This adjective is a dead metaphorical expression. The metaphor can be manifested by metaphorically living expressions such as *weighty*, as in *Those are weighty arguments*. *Grave* is a completely *opaque* dead metaphorical expression (at least to

the average speaker). *Llamativo*, on the other hand, is a relatively *transparent* dead metaphorical expression, as its morphological and semantic connection with the verb *llamar* 'call' is still obvious to native speakers, so that it can be related to the metaphorical use of this verb as in *Ese color me llamó la atención* 'That color called my attention'.

16. The use of the adjective *flashy* arises metonymically within this metaphor. The deviant color is an agent that uses flashy lights to attract attention towards his possessions. The metonymy is INSTRUMENT (the flashy light) for AGENT.
17. In fact, perhaps the extended version of DEVIANT COLORS = DEVIANT SOUNDS could be regarded as a metonymically induced submetaphor within DEVIANT COLORS = EXHIBITIONISTS, as there seems to be a cause-effect metonymic connection between the desire of displaying a possession and the act of attracting attention towards it by uttering sounds. This point is worthy of further study, but need not concern us now, as our goal here is to explore the contrasts between the linguistic expression of metaphors in English and Spanish. In any case, both the extended version of DEVIANT COLORS = DEVIANT SOUNDS and the metaphor DEVIANT COLORS = EXHIBITIONISTS may be grounded on the strong tendency to personify inert entities, events and properties, as when we say *Those colors she's wearing have* irritated *me*, *Esos colores* ofenden *la vista, The plight of the Third World keeps* interrogating *us, This chemical* exhibits *a number of basic features*, etc.
18. G*audy* is no longer used in the source domain of joy; this is why it is not synchronically a living metaphorical expression.
19. This adjective is grounded on the metaphor ATTENTION IS A MOVING ENTITY (that can be caught, attracted, or called) and the metonymy in which the eyes stand for attention.

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Section 3

Systematical order instead of chaos in morphology and lexis

A conceptual analysis of English *-er* nominals[1]

Klaus-Uwe Panther and Linda L. Thornburg

1. Introduction

We are not the first cognitive linguists to attempt a non-rule based account of *-er* nominals in English. Mary Ellen Ryder (1991a, 1991b, 1999) has analyzed these formations in the last decade and has recently published a cognitive model for *-er* nominals.[2] We have also been working on these formations in recent years and agree with Ryder on two important points, namely:

- that formal syntactic accounts like those of Levin and Rappaport (1988) and Rappaport and Levin (1992) should be dismissed as empirically inadequate;[3]
- that *-er* formations and their bases evoke conceptual schemas, though Ryder (1999) does not propose any specific schemas.

Following traditional analyses, Ryder treats verb-based and non-verb-based *-er* nominals separately. She argues that verb bases evoke fairly specific event schemas with a certain number of participants having certain roles, which facilitate the task of interpreting an *-er* word. In contrast to that, she notes that noun bases evoke an indefinite number of more idiosyncratic schemas, although world knowledge and context narrow down the possible range of readings.[4]

In our view the putative contrast between noun and verb schemas is not as significant for the problem at issue as Ryder and others assume. We have found that all *-er* nominals can be accounted for with the analytical tools available in cognitive linguistics, namely: (i) a general conceptual schema independent of the syntactic category of the *-er* base, (ii) two high-level conceptual metaphors, personification

and reification, acting at the level of *-er*, and (iii) conceptual metaphors and metonymies operating on the base of the *-er* formation. Our findings considerably weaken the traditional assumption that the non-verb based *-er* nominals constitute an erratic if not "chaotic" category. And to the degree we can reduce chaos, our findings will have relevance to the teaching and learning of this extremely productive derivational pattern in English.

2. Theoretical and methodological issues

2.1. Problems for an analysis of -er *nominals*

We list here a set of problems that a unified and coherent account of *-er* formations should consider.

i. *The orthographic problem.* Despite apparent semantic uniformity of agentive formations like *teacher, actor,* and *liar,* there are three different spellings: *-er, -or,* and *-ar.*[5]
ii. *The derivational rule problem.* Typically, students – English language learners as well as students of linguistics – are taught that a noun in English can be derived from an action verb by adding the nominalizing suffix *-er* and that this noun means 'one who performs the action denoted by the verb'.[6] For example, in their well-known introductory linguistics textbook, O'Grady, Dobrovolsky, and Aronoff (1993: 121) provide such a word-formation rule.[7] However, there are hundreds of *-er* words in English that are "exceptions" to this rule. Not only can non-action verbs be bases as in *receiver, undergoer, believer*, but also non-verbs, as in *foreigner, downer, New Yorker*. There are even many phrasal base types, as in *no-brainer, out-of-towner, fast-tracker, back-to-the-lander, up-and-comer, do-it-yourselfer,* and *fixer-upper.*[8]
iii. *The denotational problem.* Derived *-er* nouns can denote apparently anything: people, animals, plants, and objects (concrete and abstract) as well as events of all sorts including weather events

(e.g. *gully-washer*).[9] Moreover, the range of semantic roles these denotata can assume covers a wide spectrum including Agent, Causer, Patient, Instrument, Location, Time, etc.

iv. *The polysemy vs. homonymy problem.* Many *-er* formations have multiple senses. For example, *sleeper* denotes 'one who sleeps' in addition to 'a train car for sleeping' and '(a baby's) sleepwear'. Other less known and more opaque senses of *sleeper* include: 'sleeping pill', 'boring event', 'inactive spy', 'something or someone that has a delayed or unexpected success', and 'underground railroad tie'. Are all of these senses conceptually related or is homonymy involved?

v. *The "look-alike" problem.* There are many words in English that look like *-er* words but do not seem to be "derivations" in the conventional sense. These forms may have no identifiable base to which the *-er* suffix is attached, e.g. *miser* 'avaricious person' or *humdinger* 'someone or something excellent'. Or there may be what looks like an analyzable base but whose meaning is opaque to many speakers with regard to the derived noun, e.g. *corker* 'a lively person/event' and *plumber*.[10]

vi. *The "constraints" problem.* Although *-er* is undoubtedly one of the most productive derivational suffixes in English, it is not without limits: e.g. *happener* or *exister* seem to be unlikely formations.

The conceptual analysis proposed in this paper will focus on the problems defined above in 2 and 3 and is presented in Sections 3–6. We touch briefly on problems 4, 5 and 6 above in Section 7.

2.2. Some historical facts

The present-day productivity and use of *-er* nominals can be seen as a systematic outgrowth of its earlier productivity and use.[11] In Old English the *–er(e)* suffix was used productively "chiefly serving to designate persons according to their profession or occupation" (*OED,* s.v. *-er*). The Old English example accompanying this functional de-

finition is *bócere* – glossed in Clark Hall's *A Concise Anglo-Saxon Dictionary* as 'scholar, scribe, writer'. This example happens to be particularly illustrative for our purposes: its base, *bóc*, is not a verb but a noun denoting 'book'. *Bóc* is etymologically and metonymically related to *béc* 'beech-tree' – a likely material substance used in bookmaking. Thus the different senses of *bócere* are metonymically motivated: *bócere* denotes one who is occupied with (i) the study of books (themselves objects of beech-tree substance), with (ii) the production of the intellectual contents of books in orthographic form, or with (iii) the orthographic reproduction of the thoughts of others.

We note this example in some detail not only to point out the complex conceptual structure of an early *-er* word, but to highlight two additional facts. First, even in Old English *-er* words with noun bases were not uncommon; they constituted approximately 17 percent of the *–er(e)* formations.[12] Second, these noun bases were highly motivated with regard to the primary use of the *–er(e)* suffix – to designate a person in terms of that person's occupation.

As the referential functions and productivity of *-er* increased in Middle English, interestingly, the formal variants of *-er* – the suffixes *-yer* and *-ier* – were used almost exclusively with the primary function, i.e. designating a person with regard to profession or employment. Examples given in the *OED* are: *bowyer, lawyer, sawyer, brazier, clothier, collier, grazier, glazier, hosier*. It is evident that noun bases, though phonologically altered in some cases, continued to occur in *-er* formations and that the meaning of the base noun is related to the occupation of the human *-er* referent.

The use of *-er* to designate persons with regard to their professions and occupations is extremely common in present-day English. A few examples are: *housekeeper, bartender, hairdresser, fashion designer, (computer) programmer, Wall Streeter*; *driftnetter* and *long-liner* (the last two terms denoting fishermen with reference to the types of fishing equipment used); *spammer* 'one who engages in the practice of sending out *spam* (unsolicited junk email)'; *motor-noters* 'journalists who write about automobiles'. Moreover, innovations of this type spring readily to mind: it is entirely plausible that a movie char-

acter employed by the mob to shoot people in the knees would be designated as a *knee-capper*.

We have explicated some of the historical facts regarding the use of the *-er* suffix in English to note that a *particular use* (to designate a person with regard to profession/occupation), privileged in the oldest stages of the language, has persisted for over a thousand years and remains extremely productive even today. We believe that our diachronic observation regarding this particular function of the suffix has relevance for our synchronic analysis. Although *-er* formations in present-day English seem to constitute an unpredictable and chaotic collection because of their extreme formal and referential diversity, we propose that a coherent picture can be constructed within a cognitive linguistic framework that takes these diachronic facts into account.

2.3. A cognitive analysis

In this section we outline a cognitive approach to *-er* nominals in English.[13] Our analysis is "cognitive" in that it is based on conceptual and functional principles. We will argue that our cognitive analysis of *-er* nominals has several advantages over previous accounts. It allows us to:

- conceptually group together formations with verbal, non-verbal, and phrasal bases;
- account for the improbable occurrence of verbs like *happen, seem, exist* as bases;
- account for exceptions to the formal generalization proposed by Levin and Rappaport (1988) and Rappaport and Levin (1992) that only external arguments of a base verb may be referents of *-er* nominals;
- account for the range of referent types of *-er* nominals, i.e. from entities to events, e.g. (*heavy*) *breather* 'salacious person' vs. *breather* 'short period for catching one's breath';

– account for the range of semantic roles of *-er* designata in relation to their bases, e.g. *keeper* 'one (Agent) disposed to keeping things' vs. *keeper* 'something (Patient) that should be kept'.

2.3.1. The central sense of *-er*

We noted in Section 2.2. that the oldest, persistent, and common function of *-er* in English is to designate a person in terms of profession or occupation. It is even likely that the primacy of this function accounts for why the so-called agentive *-er* derivational "rule" is so difficult (for teachers and students and perhaps linguists) to abandon despite the huge number of counter-examples to both its "input" – an action verb – and its "output" – 'the human Agent who does the action of the Verb'. Since people are likely to conceptualize professions and occupations as involving actions and activities – hence the ritual inquiry in English: "What do you *do* (for a living)?" – the selection of an action verb for the input to the "rule" is motivated. This use of the *-er* suffix to designate humans by profession produces nominals that have both referential (*My teacher came to the party*) and predicational (*John is a teacher*) functions, and it is to this use that other senses and uses of *-er* nominals can be conceptually related. Thus we construct the central sense of *-er* to be the following:

– a human Agent who performs an action or engages in an activity to the degree that doing so defines a primary occupation.

Following Langacker's claim (1991: 16) that "grammatical morphemes, categories, and constructions all take the form of symbolic units", we propose that present-day *-er* nominals constitute a polysemous category with a systematic internal structure.

Because our definition of *-er* involves an idealized model of human actions and activities, we must incorporate into our analysis a model of transitivity, where transitivity is understood in a conceptual – not grammatical – sense.

2.3.2. A conceptual model of transitivity

Since conceptual transitivity is crucial to the central sense of *-er,* our analysis makes use of an idealized conceptual model (Lakoff 1987, Lakoff and Johnson 1999) that we call the *prototypical transitive scenario* having the general structure as represented in Figure 1.[14]

The Prototypical Transitive Scenario

- It has a *setting* (place, time).
- There are (at least) two distinct *participants* that are in an *asymmetrical* interaction.
- One participant is an *intentionally acting human.* The other is *directly affected/effected* by the action.

Figure 1. A conceptual model of transitivity

This complex conceptual model is scalar along various dimensions. As Taylor (1995: 53) rightly points out:

> Prototype categories have a flexibility, unknown to Aristotelian categories, in being able to accommodate new hitherto unfamiliar data ... [N]ew entities and new experiences can be readily associated, perhaps as peripheral members, to a prototype category, without necessarily causing any fundamental restructuring of the category system[.]

Thus, the transitive scenario is flexible in various ways: the number of participants can vary; the model can be elaborated to include other participants, e.g. an instrument; the participants themselves can vary in their degrees of agenthood and affectedness; and interactions may vary with degrees of dynamism, contact, telicity, modality, etc. For example, *exterminator* evokes a dynamic scenario having a potent Agent and Patients that are highly affected. In contrast: *owner* evokes a relatively non-dynamic scenario low in agentivity and affectedness; likewise *dreamer* is low in agentivity and lacks a second participant.

Given the central sense of the *-er* suffix together with our conceptual model of transitivity, we will be able to demonstrate in Sections 3–5 how the *object* referents of *-er* formations can be organized

into a coherent conceptual category. In Section 6 we will show that *event* referents of *-er* formations can be analyzed as metaphorical extensions from the object-level *-er* referent types.

3. *-er* nominals with human referents

As we have pointed out above, in their central sense *-er* formations designate human Agents with reference in the base to their primary occupations and can be used both referentially (specific and generic) and predicationally as in *I met my former teacher yesterday, Teachers/A teacher shouldn't say such a thing!,* and *Joan is a teacher.*[15] Below are representative examples; we note for each set what the base denotes in relation to the derived nominals.

3.1. 'Referent occupationally performs an action'

a. base: occupational action/activity
teacher, lecturer, professor, educator, recruiter, (computer) programmer, farmer, sharecropper, brewer, baker, sawyer, cobbler, waiter, server, bartender, lion tamer, dog trainer, (lounge) singer, dancer, conductor, supervisor, director, actor, manager, governor, driver, navigator, commander, advisor, reporter, translator, contractor, investigator, exterminator, writer, bookbinder, bookseller, housekeeper, bricklayer, paperhanger, lettercarrier, metalworker, steelworker, boxer ...

Formations like those in (3.1.a) evoke the Prototypical Transitive Scenario in which the human Agent acts on (or creates, e.g. *baker, brewer*) another participant in the scenario.[16] Often the affected entity (e.g. as in *housekeeper*) or location of the occupation (e.g. as in *lounge singer*) is incorporated into the base. Typically, however, the occupational activity named by the base is sufficient to evoke other participants identifiable in the occupational scenario, e.g. *teacher* readily evokes other participants: students, academic subjects taught,

setting for teaching, materials used in teaching, etc. Alternatively, one might be tempted to say that the base *teach* is a "reference point" (in the sense of Langacker 1993) that metonymically allows mental access to other components of the teaching scenario.[17] We are, however, reluctant to adopt the view that the verbal base in *-er* formations is metonymic for the simple reason that doing so would make the notion of metonymy too general and therefore border on vacuity. We will therefore say that the verbal base denotes the whole (occupational) scenario, including participants and setting. We will, however, argue below that non-verbal bases in *-er* formations are indeed metonyms (for the role of metonymy in conversion processes, see Dirven 1999).

Since our analysis is conceptually (not syntactically) based, it allows us to include as members of the category 'human who occupationally performs an action' those *-er* formations with non-verbal bases in which a nominal constitutes the base.

b. base: occupational metonym: Patient, Location, Instrument, Time
tinner, slater, whaler, slaver, furrier, hatter, philosopher, astronomer, choreographer, bursar, lawyer, miller, banker, Wall Streeter, submariner, market timer 'stock trader who operates according to time zones of world markets', *Senator, back bencher* 'lesser MP', *jailer, in/outfielder, spammer, footballer, long-liner, driftnetter* ...

The *-er* formations in (3.1.b) are present-day equivalents of OE *bócere* ('scholar, scribe, writer') in that they denote human Agents with regard to occupational activities though their respective bases do not name the action the Agent performs. Rather, in many cases what is named in the base is an object or a substance that is equivalent to the affected (or effected) participant in the occupational scenario. A *tinner, slater,* or *whaler* is a person who (occupationally) does something to tin, slate, or whales; a *hatter* is a person who creates hats; a *spammer* is one who sends out spam ('junk email'). In fact, we can even include in this class formations like *philosopher* and *astronomer* whose truncated bases evoke an academic discipline. In a

more abstract sense, philosophers and astronomers are human Agents who professionally direct mental action/energy onto an abstract substance (a scientific discipline), which may be regarded as an affected entity insofar as the discipline may be changed or redefined by the efforts of the Agent. In other cases, e.g. *driftnetter*, *Senator*, *market timer*, the base nominal denotes the instrument used in the occupation, the institutional setting, and the time period of the occupation, respectively.

The examples in (3.1.b) are complementary to those in (3.1.a), whose bases denote an occupational action that implies other participants in a particular occupational scenario. In the examples in (3.1.b), however, an Agent is denoted by naming in the base a component of a particular (occupational) action scenario - i.e. a Patient, Instrument, Location or even Time. In these examples the profession of the Agent referent is construed from the perspective of the component in the base and the occupational *action* must be metonymically accessed from that reference point. This is the reason why we regard the non-verbal bases in *-er* formations like those in (3.1.b) as metonyms for the particular occupation scenario they evoke.[18]

In Figure 2 we provide a schematic representation of an instance of type (3.1.b) *-er*. The single-headed arrow symbolizes an operation from a metonymic source to a metonymic target.

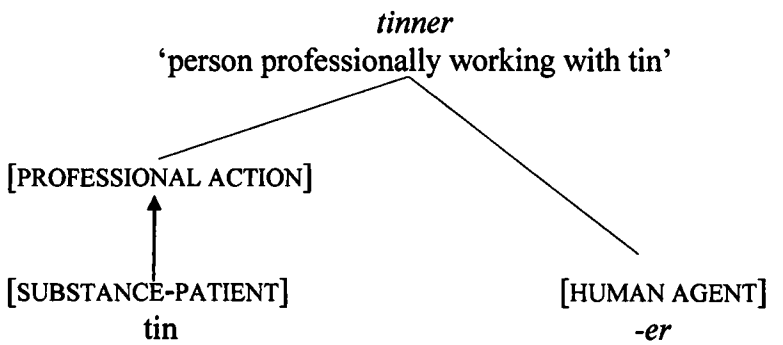

Figure 2. The metonymic structure of *tinner*

3.2. 'Referent characteristically engages in an activity'

Conceptually contiguous to *-er* words that denote human Agents in terms of professional occupations are those that denote a human Agent in terms of a characteristic or habitual activity, which is named in the base or evoked by a non-verbal metonym. Recall that in our conceptual model of transitivity the degree of agenthood may vary in terms of control, volitionality, intentionality, etc., depending on a given scenario. Representative examples relatively high in agentivity are:

a. Referent is relatively high in agentivity
runner, jogger, skater, hiker, backpacker, marathoner, walker, plodder, swimmer, surfer, bowler, hoofer, do-gooder, complainer, liar, swindler, cheater, smoker, hugger, kisser, smiler, road-rager 'someone habitually expressing rage while driving', *sinner, wife-beater, hunter, reader, talker, mumbler, meat-eater, beer drinker, shoplifter, burglar, wrong-doer, hell raiser, hustler, gambler, tail-gater, mover and shaker, lip smacker, nose thumber, nay-sayer, toddler, early-riser, late-arriver, church-goer, free loader, day-dreamer, ankle biter, practical joker, one-night stander* ...

Somewhat removed from the more Agent-like referents are formations like those below that are comparatively low in agentivity, although it is evident that the boundary between the two groups is not sharp:

b. Referent is relatively low in agentivity
thinker, believer, sinner, owner, loser, blunderer, sufferer, (heavy/light) sleeper, (day)dreamer, snorer, drooler, idler ...

To exemplify the fuzziness of the boundary between (3.2.a) and (3.2.b), consider *sinner*. This nominal could be used to denote a person who intentionally and habitually sins and is therefore closer conceptually to the central sense, or to one who is imbued with "original sin", and is conceptually less agentive. This distinction is evident in

other contrastive formations like *dreamer*, which has the sense of one who habitually but nonvolitionally dreams while sleeping, vs. *day-dreamer*, which has the sense of one who characteristically intentionally (but also perhaps nonvolitionally) "dreams" while awake. The nominal *ankle-biter* denotes a person who habitually and perhaps also intentionally criticizes someone's position (i.e. metaphorically "bites someone's ankles") but offers no alternatives.[19] An *idler* is one who is characteristically and intentionally inactive and therefore not highly agentive. A *plodder*, on the other hand, denotes one who characteristically undertakes an action in a slow and deliberate fashion (often succeeding in the end), and is more Agent-like.

Nominals like *plodder* and *mumbler* in (3.2.a) are noteworthy because the base denotes not only an action but in addition the *manner* in which the action is performed, thus providing a conceptual link to *-er* formations having non-verbal bases that denote *only* manners of action, like those in group c. below:

c. base: metonym of characteristic manner for Agent's actions
   loner, do-it-yourselfer ...

The formations *loner* and *do-it-yourselfer* denote persons in terms of a characteristic manner preference for engaging in activities or undertaking actions.

Like human Agents of professional activities (see group [3.1.b] above), a human referent of a nonprofessional activity can also be denoted by naming in the base the *time* or the *location* of a characteristic activity.[20] This may be a less conventional means of referring to an ordinary (non-professional) Agent, but it is motivated by the Transitive Scenario because Time and Location are setting components in the scenario. Representative examples are:

d. base: metonym of time or location for Agent's characteristic action
   nooner, all-nighter, year-rounder 'one who shops year round', *back-seater, highschooler, kindergartner, fourth-grader, prisoner*

An Agent denoted by *nooner, all-nighter* or *back-seater* is one who regularly engages in an activity at noon, all night or in the back seat of a car. Likewise, *highschooler, kindergartner, prisoner* denote (nonprofessional) Agents in relation to the locations named in the bases rather than the habitual activities undertaken in and characteristic of those locations, activities that are culturally known and can be metonymically accessed.

3.3. 'Referent has behavioral/ideological (action-oriented) disposition'

The class of characteristically acting Agents like those in (3.2.) above (cf. especially (3.2.c), e.g. *loner*, whose base denotes the Agent's manner preference for carrying out actions) is conceptually close to those *-er* nominals that denote humans with respect to enduring behavioral and ideological dispositions, such as:

> base: metonym for disposition
> *nutter, right/left-hander, right/left winger, sex-as-sporter, hetero/same-sexer, supply-sider, global-glutter, flat-earther, Green-Earther, young-earther* 'Creationist', *old-ager* 'fundamentalist who accepts the scientifically determined age of the earth', *third-wayer, hardliner, pro-choicer, anti-choicer, prolifer, no-hoper, black self-esteemer, CogLinger* ...

The examples above denote persons in terms of seemingly non-dynamic elements named in the base, i.e. non-verbal terms or phrases that do not seem to function as metonyms for particular action scenarios (in the way that the base of *hatter* does, by contrast). Nevertheless, we claim that the formations in (3.3.) above involve dispositions that are primarily *behavioral* and evoke dynamic scenarios in which the referent *acts* in a way characteristic of the disposition evoked by the base. Compare *nutter* above with *hatter* from group (3.1.b), whose base denotes a clearly defined participant (the effected Patient) in a particular occupation scenario. The base in *nutter* is a

metaphor for "head", which in turn is a metonym for "mind". Thus a *nutter* is someone who is characterizable as being off his nut ("out of his mind") due to perceived "crazy" behavior. As another example, *left-hander* does not conventionally denote a person who merely *has* a left hand but rather a human Agent whose preference or disposition is to *use* the left hand for carrying out actions.[21] In the same way, *sex-as-sporter* denotes one who *behaves* as if sex is "sport"; *same-sexer* denotes one who *chooses* a sexual partner of the same sex.

That behavior is a default assumption associated with these formations can be seen in plausible disclaimers such as *I'm a left-hander but I **use** my right hand for eating* and *She married a sex-as-sporter but his operation changed his **behavior**.* Another example is *He may be a same-sexer but he has never **acted on** his inclinations*, which cancels the expected default reading that a disposition is reflected in behavior.

Nevertheless, it is possible to use such formations as in (3.3.) to denote persons merely in terms of ideological disposition rather than in terms of behavior. For example, one could proclaim *Though I consider myself to be heterosexual, I am a same-sexer insofar as I support gay rights*. Even so, we regard dispositions normally to be reflected in behavior, i.e. to be action-oriented. Thus, *supply-sider* and *pro-choicer* denote persons who maintain particular factual or normative propositions metonymically evoked by the base, which they not only hold but actively espouse. Likewise, *CogLinger* denotes a linguist who practices and/or advocates a particular view of how language is best described, explained, and taught. These bases too, then, evoke scenarios of intellectual action and interaction.

3.4. 'Referent has enduring affiliation/relation/attribute'

Closely related conceptually to *-er* formations like *left-hander* and *CogLinger* are *-er* nominals that denote persons in terms of ideological or historical affiliations, socially defined relations and memberships – including place of origin – and even enduring physical characteristics. The boundary between (3.3.) and (3.4.), particularly sub-

group (3.4.a), is indeed fuzzy since exemplars from either can be used to denote varying degrees of action-orientation. Still, the overall semantic shift from (3.3.) to (3.4.) is away from characteristic behavior towards less dynamic – though characteristic and/or enduring – affiliations, relations, and attributes. Examples of these three subcategories are given in (a–c):

base: metonym for characteristic and/or enduring affiliation/ relation/attribute

a. *GOPer, darksider, Freeper* 'member of Free Republic' *(a pro-impeachment Web site), trench-coater, bobby-soxer, baby-boomer, Gen Xer, '56er, '49er, '68er, old-timer* ...

b. *villager, parishioner, cottager, commoner, widower, out-of-towner, foreigner, stranger, new-comer, New Yorker, Londoner, Hamburger, Hong Konger, teenager, big leaguer, rank-and-filer, gang-banger* ...

c. *good-looker, six-footer, 200 pounder* ...

As noted above, many of the formations in (3.4.a – b) could just as easily be assigned to category (3.3.). *GOPer* may well denote an active advocate of the Grand Old (i.e. Republican) Party political values, but equally as well an inactive member of the party. *'56er* denotes a person who was most likely a participant in the events taking place in Budapest in 1956 but may also denote a non-active participant who lived through the events. While some of the forms in (3.4.) can be associated with stereotypical behavior (e.g. *I can't stand her because she is such a New Yorker*), others – which are more typical of this subcategory – have no such behaviors associated with them. For example, *Londoner* does not evoke for an American any associated stereotypical behavior of the referent. In general, (3.4.) marks a shift towards enduring attributes less associated with habitual or characteristic behavior of the referent. At one time there may have been expected behaviors associated with *widower*, but the formation is now used primarily to designate a male person in terms of an enduring social (marital) relation (which is the same relation as that expressed by its base *widow*, the difference residing in a gender re-

versal). *Good-looker* denotes someone judged by others to possess good looks; *six-footer* denotes a person who is six feet tall but, like the latter two nominals, does not conjure up any characteristic behavior of the referent. In other words, the *-er* nominals in (3.4.) are very low in agentivity but at the same time maintain a link to habitualness in that the bases denote lasting, culturally significant attributes.

3.5. 'Referent has enduring attribute based on non-habitual action'

The *-er* nominals in this group are related to the central sense in that they denote or evoke a highly agentive participant in an action scenario. But they are also conceptually close to the extensions in (3.4.) as well, especially sub-groups b. and c., in that they are permanent appellations even though the action or achievement might have occurred only once.

base: verb or metonym for non-habitual stigmatized action
a. *murderer, killer, liar, quitter, adulterer* ...

base: verb or metonym for non-habitual achievement
b. *Academy Award winner, Fulbrighter, Hall-of-Famer, World Cupper* ...[22]

Certain human actions and achievements may be so noteworthy or stigmatized, i.e. salient, that, even if a person undertakes them only once, having done so may thereafter be regarded as an enduring attribute of that person and thus be a means by which that person may be referred to. For example, a person is not typically a habitual murderer or killer (cf. the contrastive expressions *serial murderer/killer*). Nevertheless, a one-time murderer is likely to be regarded as one forever. We also include *liar* in this category, as the proverbial expression *Once a liar, always a liar* suggests. If sufficiently stigmatized by one's social group, single acts of lying, quitting or committing adultery might result in the enduring appellations *liar*, *quitter*,

and *adulterer,* respectively. Of course, if a person is known to habitually lie, quit, or commit adultery, the corresponding *-er* formations would belong to category (3.2.a), where we find formations like *smoker, gambler, church-goer*. However, if such human referents (as in [3.2.a]) ceased performing the habitual/characteristic actions that typify them, it is unlikely that they could be referred to in these terms any longer. That is, one can say *He used to be a smoker/gambler/ church-goer* but it is less felicitous to say *He used to be a murderer/adulterer.* Similarly, *Academy Award winner, Hall-of-Famer,* and *Fulbrighter* convey enduring attributes of their referents, as in *I am proud to be a Fulbrighter* (i.e. a member of the Fulbright community) even though the time of service was completed in the past. As well, like *murderer*, they are infelicitously used with a past habitual aspect expression, e.g. ??*She used to be an Academy Award winner.*

3.6. 'Referent has temporary attribute based on context-dependent action/process'

Whereas the act of murder (in any context) may be committed non-habitually yet mark the Agent forever as a murderer, other non-habitual actions may be so context-dependent that the corresponding *-er* formations are used only for temporary reference. Examples are:

base: verb or metonym for action/process

a. One guy jumped right into the fight, but his friend immediately vanished. The police came and hauled off the fighter, after which the *vanisher* promptly reappeared, laughing. (Ryder 1999: 283)
b. *perpetrator, doer* (police jargon for *perpetrator*), *keynoter, frontrunner, voter, recommender, appointer, congratulator, thanker, welcomer, questioner, arguer, persuader, caller, visitor, sightseer, sufferer, sneezer, cougher, receiver, pos-*

> *sessor, undergoer, experiencer, goner* 'one deemed to be on the verge of death' ...

We agree with Ryder's (1999: 282) characterization that such nominals "are made up on the spot to refer to participants in the present speech situation, and are not intended to be permanent [referring terms] ... they may well have verbs referring to one-time events as bases, because all that matters is that the event will pick the referents out of the current situation."

We extend this analysis to *-er* nominals like those in (3.6.b). The word *perpetrator* does not denote a person who habitually perpetrates; rather its use is a convenient way to refer to the unknown protagonist in the context of a particular criminal event. The difference between *perpetrator* and *murderer* is that an act of murder may become an enduring (stigmatizing) attribute of the Agent, whereas an act of perpetrating does not mark one permanently as a perpetrator.[23] The other examples in (3.6.b) like *keynoter* 'keynote speaker of some assembly', with a metonymic base, or *caller* with a verbal base, are also used to make temporary, context-specific reference to a particular participant in a scenario and do not sustain continual use as a designator of that person outside a specific context. Note, however, that the terms in (3.6.b) are conventional *-er* formations whereas *vanisher* in (3.6.a) is an ad hoc derivation that fulfills a convenient referential function in a piece of journalistic discourse.

Goner is unique among these data. Though its base is a metaphor for 'dead', *goner* does not denote a dead person (as a learner might expect). Rather the adjectival/participial form in the base is a metonym that evokes the process of transition to certain death or disaster via the metonymy RESULT FOR PROCESS LEADING TO RESULT. Thus *goner* denotes a doomed, not yet dead, person as in e.g. *From the moment he contracted the virus, he was a goner.* We schematize this formation in Figure 3. The double-headed arrow represents a metaphorical mapping; the single-headed arrow represents a metonymic relation.

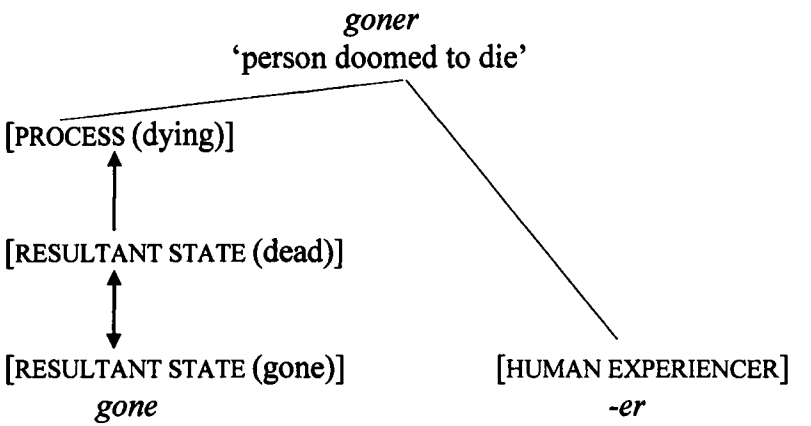

Figure 3. Metaphor and metonymy in the base of *goner*

3.7. Summary of -er *nominals with human referents*

Starting out from the central sense of *-er* – 'a person who occupationally performs an action' – we have assessed other human referents of *-er* words with regard to their conceptual closeness to the central sense in terms of the scalar parameters *agentivity*, *habitualness*, *salience*, and *contextual independence*. These are independent parameters that do not co-vary. The central sense of *-er* exhibits high degrees of all four parameters and can be used both referentially and predicationally, functions that are variously constrained with the conceptually more removed formations. Our account is unified in that it does not treat verb-based and non-verb-based *-er* nominals separately, as in generative treatments. We found that the evocation of an action scenario is crucial regardless of the syntactic type of the base. Both verb-based and non-verb-based *-er* formations evoke action scenarios – either directly, by means of the verbal base, or metonymically, by means of a non-verbal base. To our knowledge, our analysis is unique in this respect; all other investigations of *-er* nominals have undertaken to classify them in terms of the syntactic category of the base.

Our account of the human referent of *-er* nominals is schematized in Figure 4.

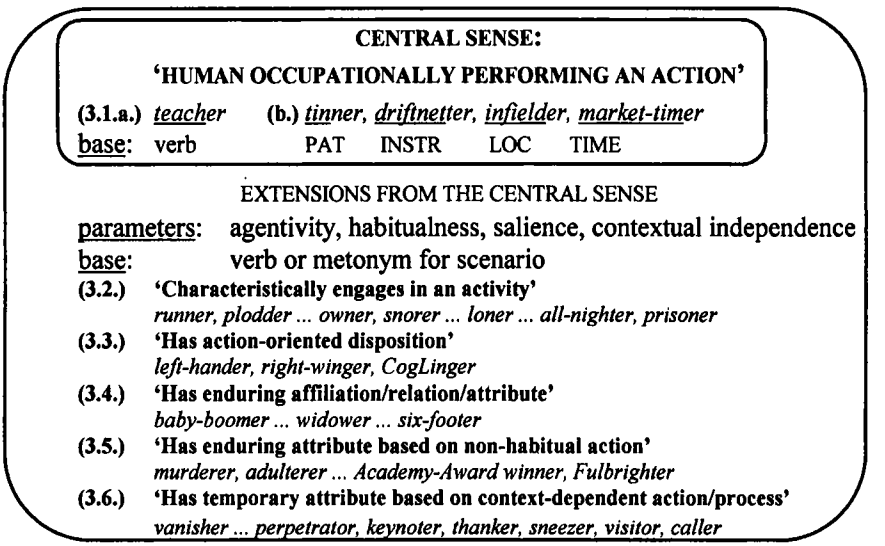

Figure 4. The polysemous structure of *-er* nominals with human referents

4. *-er* nominals with personified agent referents

Whether animate or inanimate, nonhuman entities perceived to be like humans in some respect can be referred to via the high-level metaphor NONHUMANS ARE HUMANS, also known as known as personification.

4.1. Organisms

Organisms (i.e. animals and plants), though non-human, can be construed to be agentive to a greater or lesser degree. In fact, some domesticated creatures are referred to as "working" animals and it is thus not surprising that there are *-er* nominals denoting them by naming in their base the "professional" action – as the first several examples in (4.1.a) show. A variety of animals in group (4.1.a) and

plants in (4.1.b) is represented below, many of which name in the base either a "profession" or habitual or characteristic "behavior".

base: action/process or metonym for action/process
a. *(Golden) Retriever, pointer, setter, ratter* 'rat-catching dog', *mouser* 'mouse-catching cat', *porker, mudder* 'horse that races well in the mud', *biter* 'habitually biting dog', *kingfisher, warbler, nightcrawler* 'worm', *grasshopper, downer* 'cow with BSE disease/falls repeatedly', *90-dayer* 'animal that must take a medication for 90 days' ...
b. *Venus fly-catcher, creeper, (late) bloomer, wilter* ...

The exceptional nominals *90-dayer* (from Ryder 1999: 282) and *downer* show that non-human referents may – like humans – be designated by a temporary attribute specific to a context. *90-dayer* is not a permanent term for the animal but is used in a discourse specific to the prescription of medication the animal must take for 90 days; *downer*, too, refers to a temporary attribute of a diseased cow that tends to fall down.

4.2. Inanimate objects

Inanimate objects such as automobiles and buildings are also sometimes personified as human agents with characteristic traits, two well-known examples are:

base: action
gas-guzzler, sky-scraper ...

The highly conventionalized *gas-guzzler* and *skyscraper* denote objects as if they were humans, habitually guzzling a liquid, or scraping their tops ('heads') against some upper boundary, respectively.

5. *-er* nominals with non-human object referents

Thus far we have dealt with *-er* nominals denoting humans or personified entities in relation to an idealized action scenario involving conceptual closeness/distance to the central sense of an Agent professionally performing an action. We now turn to non-human object referents that are more or less conceptually close to an Agent in an action scenario. These object *-er* nominals designate Instruments of various types and Locations. Even *-er* Patient nominals are found, a fact that may appear surprising at first sight, but we will show that their occurrence is conceptually motivated.

5.1. Instrument

As has been recognized (Ryder 1991a), a natural extension from Agent *-er* nominals are those that denote Instruments, since Instruments are conceptually contiguous to Agents in an action scenario. Instruments may be concrete or abstract and they may be more or less Agent-dependent, as in *screw-driver* and *sprinkler*, respectively.[24]

As with Agents, Instrument *-er* nominals either denote an action scenario directly with a verbal base or metonymically access an action scenario with a non-verbal base. A good example of the latter case is *three-wheeler* 'tricycle'. We propose that *three-wheeler* is analogous to *left-hander* (3.3.) in that the base in both formations names a "design feature" that evokes a scenario in which the entity with such a design feature is *used.*

> base: action/process or metonym for action/process
> *can-opener, refrigerator, dishwasher, hairdryer, muffler, fender, bumper, distributor, beeper, pager, vibrator, screw-driver, sprinkler, tranquilizer, thirst quencher, Bacardi Breezer* 'rum drink', *wine cooler* 'wine drink'/'cold box', *cleaner, duster, multiplier, divider, three-wheeler, double-decker, whaler, freighter, cabin cruiser, slaver* 'ship', *upper/downer* 'drugs', *3-incher* 'nail' ...

Ryder's (1999: 290) interesting examples of knives called *steaker* and *breader* also have bases that are metonyms – *steak* and *bread* – that name what is cut (i.e. the Patient in the cutting scenario) rather than a verb naming a cutting action. Similarly, *freighter* and *whaler* denote types of ships used to transport the Patient entity named in the base. In this regard these four instrumental formations are analogous to the agentive *tinner* and *furrier*. Note, however, that *steaker* and *breader* are context dependent formations whereas *freighter* and *whaler* (like *tinner* and *furrier*) are highly conventionalized and thus context independent.

An example of the operations of metaphor and metonymy on the base can be seen in *upper* (cf. *goner* discussed above), which, in its instrumental sense denotes a drug that is designed to reliably create a euphoric effect. This meaning of *upper* is derived from the metaphor HAPPY IS UP. The base denotes the intended resultant state of taking the drug. Thus the RESULTANT STATE FOR CAUSE metonymy (a subtype of the EFFECT FOR CAUSE metonymy) combines with the HAPPY IS UP metaphor to contribute to the meaning of this particular *-er* nominal, represented schematically in Figure 5.[25]

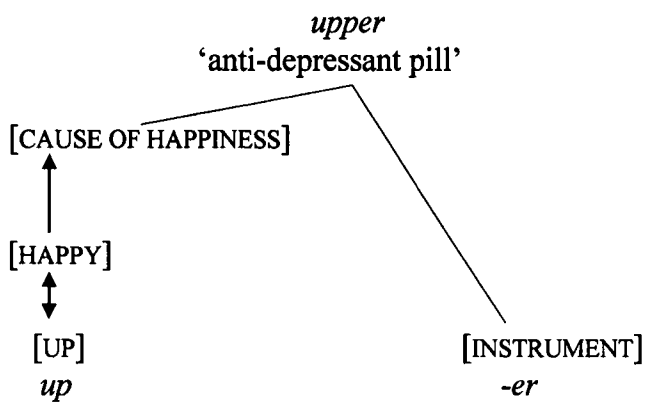

Figure 5. Metaphor and metonymy in the base of *upper*

5.2. Quasi-instrument

There are a number of *-er* formations that denote articles of clothing worn by an Agent in carrying out a particular action. Examples are:

> base: action/process or metonym for action/process scenario
> *pedal-pushers, clodhoppers, clamdiggers, stroller, muffler, loafers, sneakers, top-siders, sleeper(s), romper(s), joggers, loungers, swimmers, bathers, waders, bowler, sweater, (straw)-boater, top-siders* ...

We call this category Quasi-Instrument because the referents are not themselves sufficiently instrumental in bringing an action about, but like Instruments assist the Agent in carrying out the action. *Pedal-pushers* facilitate bicycle pedaling, *waders* facilitate wading in water. Of course these actions can be accomplished without Quasi-Instruments (strictly speaking, the same holds for Instruments).

As with Agents and Instruments the bases of Quasi-Instruments may be verbal as well as non-verbal. For example, the nominal *top-side* forms the base for *top-siders,* a type of shoe with rubber-soles designed to be worn for walking on a boat's top-side.

5.3. Purpose-location

As noted in Section 2.3.2. the Transitive Scenario has a setting with the components Location and Time. Indeed we find *-er* nominals that denote a *place* where an activity is carried out by some (human) Agent, e.g.:

> base: process or metonym for action/process scenario
> *sleeper, diner, crapper, shitter, bed-sitter, larder* ...

What makes these formations conceptually contiguous to Instruments is the fact that they designate (sometimes large) objects that are de-

signed for special purposes of human Agents. In this sense they are motivated extensions of the Instrument category.

We note at this point that the setting component Time does not seem to be available as an *-er* referent.

5.4. Purpose-patient

So far we have seen that, overwhelmingly, *-er* words denote an Agent or an Agent-like participant, or an Instrument participant, and even Locations, in the Prototypical Transitive Scenario. Yet strikingly, *-er* words in English may also denote affected entities (i.e. a Patient) in an action scenario. Examples are:

> base: (manner of) action or metonym for action scenario
> *cracker; fryer, broiler, roaster* 'types of chickens'; *steamers* 'clams'; *eater, baker, cooker* 'types of apples'; *sipper, slurper, gulper* 'types of drinks'; *reader* 'collection of readings', *poster, mailer, scratcher* 'lottery ticket'; *stocking stuffer, fixer upper; keeper, holder; toothpicker* ...

At first sight this is puzzling because affected entities (i.e. Patients) seem conceptually so far removed from Agents. However, on closer inspection, it turns out that some Patients resemble Instruments in that they are designed for a special purpose (independent of whether the purpose is realized or not) like *reader, poster, scratcher*. Others may not be intentionally designed for a certain purpose but have inherent properties that make them suitable for certain purposes, e.g. *broiler* 'chicken suitable for broiling', *stocking stuffer* 'small gift suitable for Christmas stocking', *fixer-upper* 'house suitable for being fixed up'. Such Patients, then, are conceptually fairly close to Instruments, which are also purpose-designed entities. A sub-set of purpose-designed Patients are those we call Valued Patients, which fulfill a purpose in a person's value system, e.g. *keeper* and *holder*. *Keeper* may denote an entity that is subjectively construed as worthy of being kept (e.g. a piece of jewelry or even a human via the

HUMANS ARE OBJECTS metaphor, as in *Your boyfriend is a keeper*). *Holder* may denote a stock that could pay off in the future and should therefore be held.

Ryder's (1999: 290) example of the noun-based *toothpicker* also fits into this category and is especially interesting because the metonym in the base names the instrument that acts on the Patient referent. According to Ryder, *toothpicker* can refer to a class of cooked items whose doneness can be tested by sticking a toothpick into them; thus cakes are toothpickers but roasts are not. It seems that being a toothpicker would be an enduring attribute of cakes but this referring expression probably arises only in the specific discourse related to determining the doneness of a cooked item.

Besides naming an instrument in the base (like *toothpick*), Patient *-er* nominals can also have a base that names a time period or location that expresses how long or where an affected entity must undergo a process; *over-nighter* could denote a frozen turkey that has to undergo the process of defrosting over night before use, and *in-the-sunner* could very well denote the turkey by naming the location where it undergoes the process. Again, these examples are likely to be used as referring terms only within a special discourse.

5.5. True patient

The participant in the Transitive Scenario furthest removed conceptually from an Agent is what we call a "true" Patient; the two examples we have found are:

> base: action or metonym for action scenario
> *scrambler* 'scrambled egg dish', *beater* 'beaten up car' ...

These are True Patients because there are no special eggs for scrambling, nor are cars designed for the purpose of being beaten up. These nominals can only be conceptualized as being in a resultant state after having undergone some action. True Patient *-er* formations seem to be the least productive type, which is not surprising given their con-

ceptual distance from the Agent. Still, that they occur at all is motivated because they can be regarded as natural extensions from Purpose-Patients.

5.6. Summary of -er *nominals with non-human referents*

In Figure 6 we present a summary of our findings in terms of a conceptual network of the meanings of non-human *-er* nominals in relation to the central agentive sense. Note that the box labeled Human Agent in Figure 6 is itself a condensation of Figure 4. The branches between category boxes represent minimal conceptual links. The number of links from the left-most box represents the conceptual distance from the central agentive sense. The heavy link between the Human Agent and Instrument boxes represents what we assume to be the high degree of productivity of *-er* nominals in these domains (though we have no quantitative evidence at this time to support our subjective impression). The thin link from Purpose-Patient to True Patient represents the low productivity in this domain. With the exception of the setting component of Time, all other components of the Prototypical Transitive Scenario (see Figure 1) are exploited for *-er* formation.

Heretofore we have observed a variety of metonymic processes that affect the base of *-er* nominals. The question that now presents itself is: Are there metonymic processes that operate on the *-er* suffix itself? In other words, what is the conceptual status of the lines in Figure 6 that connect the different categories in the network? Are they to be interpreted as metonymic links, and, if so, in what sense?

The answer to this question depends on whether metonymy is narrowly defined as a substitution relation ("x stands for y") or, in a broader sense, as any kind of meaning change that is based on conceptual contiguity. It is thus necessary to distinguish historical semantic change based on metonymy from conceptual metonymy that, as a reference-point phenomenon, productively operates in the minds of present-day English speakers.

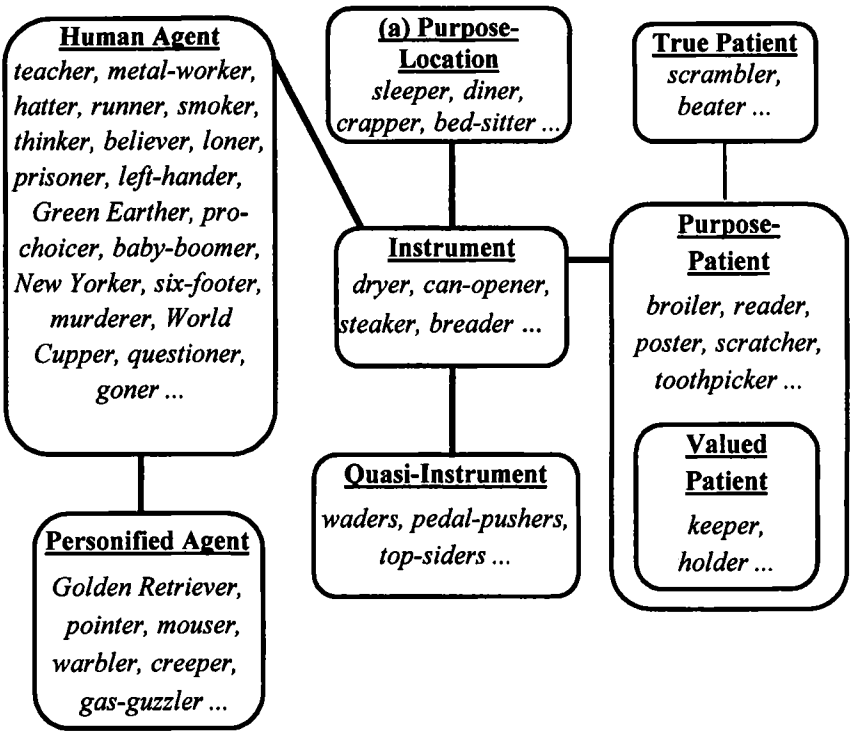

Figure 6. Conceptual network of human and non-human referents of *-er* nominals

Historically, it is certainly plausible to regard the instrumental sense of *-er* nouns as a metonymic extension from the agentive center.[26] However, from the perspective of present-day English, can the contiguity relation between Agents and Instruments be regarded as a metonymic substitution relation? If the answer is yes, this would entail that the instrumental sense of *-er* inherits Agent-like properties via the metonymy AGENT FOR INSTRUMENT.[27] An argument in favor of this position would be that Instruments can indeed often be used in the same kinds of constructions as human Agents. However, as the conceptual distance between the agentive sense and the other role types increases, the presence of agentivity would proportionately decrease and eventually fade away as in the case of True Patients. Under the substitution view of metonymy, a highly "agentive" Instrument like *dishwasher* could be represented as in Figure 7:

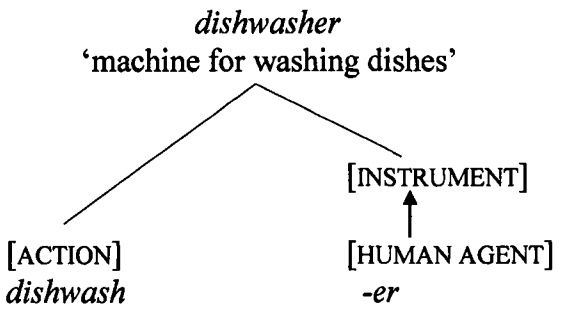

Figure 7. The AGENT FOR INSTRUMENT metonymy

We want to leave open at this point whether the relation between Agents and Instruments is a strong (substitutional) metonymy or merely a historical extension of the *-er* category metonymically motivated by conceptual contiguity.[28]

6. *-er* nominals with event referents

So far we have discussed only *-er* nominals denoting objects that are conceptualizable as components within an idealized action scenario, i.e. denotata that are Agents, Instruments, Patients, etc. But a very interesting property of *-er* nouns is their capacity to denote not only *things* (humans, animals, plants, objects) but also *events*.[29] This extension from things to events is a case of REIFICATION, often achieved by means of the EVENTS ARE OBJECTS metaphor, which operates on the suffix of the formation.

6.1. Agent/Causer-event referent

We now want to show how the EVENTS ARE OBJECTS metaphor allows specific conceptual roles in the Transitive Scenario to be mapped onto events. The result of this kind of mapping is that events themselves can function agentively or causally like human Agents, in-

strumentally like other object Instruments, or even as undergoers like object Patients.[30] Examples are:

base: action/process

a. *thriller, chiller, stunner, kicker, bummer, tearjerker, belly buster, spinetingler, blockbuster, stomach churner, bone/ kidneycrusher, backbreaker; drencher, gullywasher* 'rain events'; *sizzler, scorcher* 'hot weather' ...
b. *groaner, howler, laugher, screamer, hooter, sleeper* 'boring event', *lipsmacker, eyepopper, eyeopener, pageturner, suspenser* ...
c. *cliff-hanger, bodice-ripper*
d. CNN Showbiz Today, 16 May 2000:
BEVERLY WEST (co-author, *Cinematherapy*). We have two categories of PMS [Pre-Menstrual Syndrome] movies: We have *weepers* and *ragers*, [for] when you're feeling fragile or pissed. "Scarface" could be a PMS *rager*.
NANCY PESKE (co-author): "Ghost" is up there.
WEST: That's the ultimate *weeper*.

Consider a narrative event, such as a movie, that thrills you – i.e. *thriller* (a highly conventionalized, context-independent term). This narrative event (and others in (6.1.a) is metaphorically likened to the human Agent in the Transitive Scenario. The base in these nominals names the action that the agentive event "performs" on the experiencer. A simplified schema of an Agent-Event *-er* nominal is given in Figure 8.

Somewhat different are event nominals like those in (6.1.b). *Groaner* denotes an event, such as a bad joke (highly conventionalized with this sense), that makes the experiencer groan. Whereas a thriller-event thrills you, a groaner-event does not "groan you". Rather, the bases in (6.1.b) are EFFECT FOR CAUSE metonyms; what they name is not the action of the Causer-event (which is not specified), but rather the caused resultant effect on the experiencer of the event, who groans, laughs, hoots, sleeps, smacks his lips, metaphorically opens or pops his eyes, turns the pages (of a book), etc.[31]

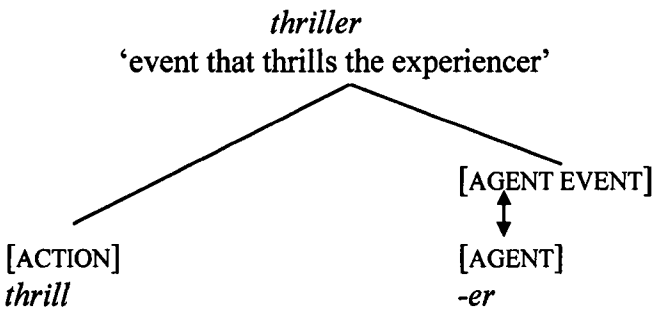

Figure 8. Metaphoric structure of *thriller*

Slightly different is relatively recent *suspenser*, which names an effect that is a resultant *state* of the experiencer brought about by the causing event.[32] By way of illustration of category (6.1.b), we represent *groaner* in Figure 9.

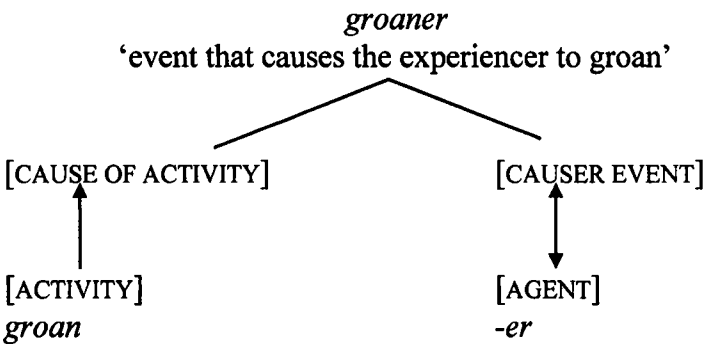

Figure 9. Metonymic and metaphoric structure of *groaner*

A particularly complex and interesting example that seems to depart from the otherwise prevalent event reification metaphor is *cliff-hanger*. A cliff-hanger is literally a person (low on the agentivity scale) hanging from a cliff (an event very low in conceptual transitivity). We tentatively propose that *cliff-hanger* acquires its event reading via the metonymy PARTICIPANT FOR EVENT (cf. Brdar-Szabó and Brdar 1999 for the grammatical significance of this metonymy). That is, the main participant in the event of cliff-hanging *stands for* the dangerous situation itself.

We analyze the event named in the base as a salient sub-event in a larger event structure. This sub-event evokes a whole event structure (e.g. the narrative plot of a movie) via the metonymy SUB-EVENT TOKEN FOR WHOLE EVENT TOKEN. We further assume that there is also a metonymic shift from a specific event to an event type that comprises a whole class of suspenseful events (WHOLE EVENT TOKEN FOR WHOLE EVENT TYPE). A consequence of this metonymy is that *cliff-hanger* can refer to a movie that does not contain a cliff-hanging event in the strict sense but any suspenseful event. Finally, there is a metonymic shift from the event type as such to the effect that the event type produces (CAUSE FOR EFFECT). This metonymy accounts for the fact that *cliff-hanger* denotes a movie (novel, play, etc.) genre that causes suspense in the viewer (reader, etc.). We trace the conceptual history of *cliff-hanger* as a (movie) genre in Figure 10. A similar analysis can be applied to *bodice-ripper* (where the resultant state of the causing event is sexual or romantic excitement).

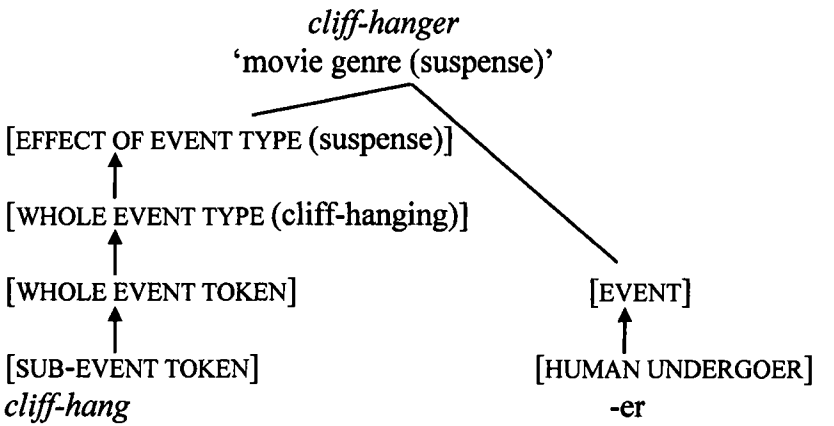

Figure 10. Metonymic structure of *cliff-hanger*

The recent (context-dependent) innovations in (6.1.d), *weeper* and *rager*, testify to the productivity of this class of *-er* event nominals denoting film genres. The conceptual category (6.1.b) accommodates *weeper*. *Rager* denotes a violent film like "Scarface", an event-level nominal formed on the basis of the EVENTS ARE OBJECTS metaphor

(the source domain being a raging person) (cf. *road-rager* in [3.2.a]). *Rager* can also be analyzed along the lines of the formations in (6.4.), in which a nominal base names an essential component of the event genre.

6.2. Instrument-event

We have discussed the event *-er* nominals in (6.1.) above to illustrate how the EVENTS ARE OBJECTS metaphor allows us to conceptualize events as Agents or Causers in the idealized Transitive Scenario. But since many events, such as the narrative events of books and films, are intentionally designed to produce effects on the experiencers of these events, the boundary between Agent/Causer-event and Instrument-event is fuzzy. The movie "Ghost" – a weeper – may be conceptualized as a Causer-event in that an (perhaps unintentional) effect on viewers is that they weep. But one might just as easily consider *weeper* to be a movie that is *designed* to produce weeping and therefore appeal to a particular market share. In either case – as Agent/Causer-event or as Instrument-event – these *-er* nominals are motivated in our analysis.

We now look at some event nominals that have a clear instrumental function, i.e., they are designed for particular purposes.

base: action/process
a. *mixer, fundraiser, updater, (season) opener, semester starter* ...
b. *brain-teaser, brain-twister, tongue-twister* ...

The first three examples in (6.2.a) denote events that have the instrumental function to e.g. (metaphorically) mix (young) males and females, raise funds, and update an audience, respectively. *Season opener* is an event that performatively functions to open the (concert or baseball) season. It is exactly parallel to an object instrumental such as *can-opener* (see Section 5.1.) in that the metaphorical mapping to the event level preserves the conceptual structure of the

source domain. Note that, as elsewhere, the conceptual structure of some formations in (6.2.a) is more complex than indicated above. For example, a mixer is not only an event with the purpose of "mixing people" but, in addition, is thought of as a *means* to accomplish sociability (e.g. at a party). The more abstract nominals like those in (6.2.b) are designed to produce the metaphorically expressed processes named in the base.[33]

6.3. Patient-event

Finally, the EVENTS ARE OBJECTS metaphor can also have an object Patient as its source domain.

base: action/process
keeper, forgetter ...

The word *keeper* 'some *thing* worthy of being kept' can be projected metaphorically onto the event level so that *keeper* denotes an experience worthy of being "kept" in one's memory or preserved, e.g. on a video-recorder. *Forgetter* can be used to characterize an immemorable event, e.g. *That movie? Terrible! A real forgetter!*, but is less likely to be used to denote an object worthy of being forgotten (cf. Section 5.4. regarding Purpose Patients).[34]

6.4. Metonymically evoked event

Finally, there is a class of event *-er* nominals whose referents have no role function in a transitive scenario; they merely denote an event as such. The event referent of these nominals are metonymically evoked by the base, which names an essential component of the event referent, such as a time or location component, a sub-event, an affected entity, a means, etc.

base: metonym for salient event component
no-brainer, rear-ender, kegger, tailgaiter, sundowner, all-nighter, bender, beaner, in-the-parker 'homerun hit within the baseball park', *back-hander* 'tennis stroke', *breakers* ...

For example, *no-brainer* denotes a kind of activity, the kind that requires no brains (i.e. no intelligence) to be successfully completed. *Rear-ender* evokes a car accident scenario; the metonym in the base names the affected entity in the event. *Kegger* denotes a beer keg party, naming the essential item in its base. *Tailgaiter* is a kind of picnic in which the tailgate part of a car is used for a table. *Sundowner* is a cocktail party held at sundown; *breather* is a short rest event, the salient activity of which is named in the base. A metaphorical base is evident in *beaner* 'a hit on the bean' in which *bean* has the sense of 'head', the affected entity in the event referent. *Bender* is a drinking spree. Like *breather*, *bender* has a verbal base; *bend* is a metonym for a sub-event in the complex drinking-spree event, which requires one to bend one's elbow repeatedly. A simplified schematization for *bender* is given in Figure 11.

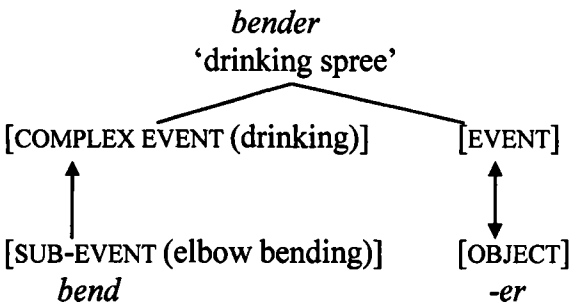

Figure 11. Metaphoric and metonymic structure of *bender*

6.5. Summary of event-level -er *nominals*

We have shown that from the central sense of *-er*, a person professionally engaged in an action scenario, the denotational range of *-er*

can be extended to the event level via reification, predominately by means of the EVENTS ARE OBJECTS metaphor (*thriller, tear-jerker, season-opener*), but as well by the PARTICIPANT FOR EVENT metonymy (*cliff-hanger*).

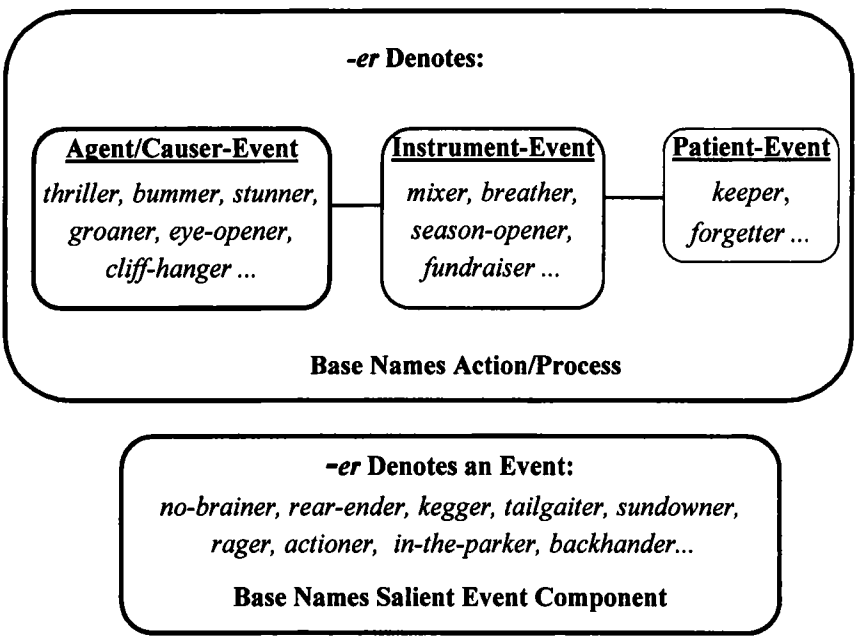

Figure 12. Extensions of *-er* referents to event level via reification

Some remarkable structural parallelisms exist between object-level and event-level *-er* nominals: Agent, Instrument, and Patient functions can be found on both levels. Another parallelism manifests itself in the exploitation of the EFFECT FOR CAUSE metonymy on both levels. Indeed, in many formations there is systematic ambiguity: e.g. *sleeper* can denote both an object (sleeping pill) and a boring event; in both cases the base denotes the effect of an unnamed cause.

For those event-level nominals that have no semantic role function in a scenario (*sundowner, in-the-parker*), PART-WHOLE metonymies seem to be crucial to their understanding as events insofar as a salient

sub-event or crucial object or setting component functions to evoke the targeted event. These formations have non-transparent meanings that often require extensive knowledge of cultural scripts.

Figure 12 presents the main features of our analysis of event-level *-er* nominals. Variation in the thickness of the box outlines reflects (our subjectively determined) relative productivity. Lines between boxes represent conceptual contiguity links, as in Figure 6.

7. Problem areas

Given the amazing productivity of *-er* nominals in English, the problem arises as to whether there are any constraints on this derivational pattern at all. Beth Levin and Malka Rappaport have developed a syntactic approach to verb-based *-er* nominals that claims to predict their occurrence. We discuss and assess their proposal critically in Section 7.1. In Section 7.2. we turn to nouns ending in *-er* that, to our knowledge, have received scant attention in the past: *-er* nouns that phonologically look like regular *-er* formations, resemble regular formations in their conceptual make-up, but that are structurally not analyzable into a complex of base plus derivational morpheme. We call such formations "*-er* gestalts".

7.1. Unlikely -er *nominals*

In two influential papers in the generative framework, Levin and Rappaport (Levin and Rappaport 1988, Rappaport and Levin 1992), maintain that verb-based *-er* nominals denote the external argument (roughly, the subject) of their verbal bases. Furthermore, these authors claim that formations with so-called *unaccusative* verbal bases are impossible. Unaccusatives are a special type of intransitive verb without volitional agents, comprising e.g. existential verbs like *exist, disappear, die, happen, occur, last,* and verbs of directed motion like *go, come, arrive.* Levin and Rappaport argue that unaccusative verbs are not counterexamples to their proposed generalization

since their subjects originate as "internal" arguments, i.e. they contrast with the "external" subjects of other verbs.

Formations with internal arguments that are supposed to be blocked would include: *exister, disappearer, laster, happener, occurrer, dier.* Although it is indeed difficult to form such *-er* words, there are counterexamples to Levin and Rappaport's generalization. Ryder (1991b) notes the following formations: *stayer* 'horse that stays, i.e. shows endurance, in a long race', *wilter* 'plant that wilts'. Levin and Rappaport (1988: 1081, fn. 11) themselves acknowledge that there are counterexamples like *newcomer, churchgoer, early riser, descender, ascender, faller, late developer, late bloomer, low grower,* which, they note, often involve directed motion.

Table 1. -er nominals with "unaccusative" verb bases

NO WILLFUL AGENTS	DIRECTED MOTION	COUNTER-EXAMPLES
exist/?exister	*go/?goer*	*churchgoer*
disappear/?disappearer	*come/?comer*	*new/late-comer*
die/?dier	*rise/?riser*	*early riser*
happen/?happener	*fall*	*faller* 'horse'
occur/?occurrer	*bloomer/?bloomer*	*late bloomer*
last/?laster	*grow*	*low grower*

While the *-er* data in Table 1 are problematic for Levin and Rappaport's theory or any model that tries to account for the occurrence of *-er* derivations in an all-or-none fashion, they can be explained in our model. Our model predicts that the more an *-er* form is conceptually distant from the central sense, the more unlikely it is going to occur. The examples in the left column of Table 1 are conceptually very far removed from the agentive central sense and they are therefore *unlikely* to occur, but by no means impossible. The examples that denote directed motion become acceptable if a modifier is added to questionable forms like *goer* and *riser,* e.g. *churchgoer* and *early riser.* These modifiers denote goals or endpoints on a scale or add specificity to the meaning of the formation.[35] In other words, when the base becomes conceptually more transitive and there is thus a

semantic move closer to the central sense, the acceptability of formations with unaccusative verb bases drastically increases.[36]

The reason why non-modified formations like *goer*, *comer*, *exister*, *occurrer* are rare or non-existent may also be related to their extremely general conceptual content. The set of people or animate beings that go and/or come at any moment is so large that there is no conceptual gain in referring to people carrying out these activities as *goers* or *comers*. In other words, under normal circumstances the property of being a "goer" or "comer" is simply not distinctive enough to be of use in cognition and communication – in contrast to e.g. *churchgoers* or *newcomers*, which denote in their bases useful and potentially relevant categories that mark their referents as distinct groups. Only in very specific contexts could a *goer/comer* be usefully distinguished from e.g. a *non-goer/non-comer*; and if such a context can be found, *goer* and *comer* would probably be acceptable derivations.[37]

In conclusion, rather than relying on an absolute grammatical principle that presumably predicts the set of well-formed *-er* formations, it seems more promising to motivate the varying degrees of acceptability of *-er* formations in terms of their relation to the central sense.

7.2. -er *gestalts*

There are a number of nouns that end in *-er* [ər] that a structural morphological analysis would not regard as derivational, i.e. as consisting of a stem and a bound nominalizing suffix. Nevertheless, we believe that there are reasons to relate them to the *-er* words that are morphologically "analyzable" in the traditional sense. We call such forms *-er gestalts*, but it should be kept in mind that gestalts form a continuum in terms of analyzability. Here are some examples that deviate from *-er* formations proper in various respects:

- *brazier* (based on *brass*), *glazier* (*glass*), *grazier* (*grass*), *collier* (*coal*): Originally, these formations were phonologically conditioned but are likely to be opaque to many native speakers.
- *hammer*: This noun denotes a prototypical instrument and is therefore related to the very productive category of *-er* formations that are Instruments, but it is morphologically unanalyzable and would therefore by many not be regarded as a derived noun.[38]
- *tweezers*: This noun has become less opaque because some speakers have backformed the transitive verb *tweeze* from a putative base *tweeze* (cf. *pliers*, which has resisted backformation).
- *corker* 'sth./so. good, funny, or entertaining': This word is morphologically analyzable but is probably opaque for most native speakers.

Consider, again, the noun *hammer*: Obviously, it cannot be analyzed into the base *hamm-* and the affix *-er*. Nevertheless, it has a *phonological* gestalt that resembles that of "real" *-er* Instruments such as *sprinkler, washer* or *screwdriver*. It also has a meaning that corresponds to that of Instruments in the Transitive Scenario: An Agent does something with an Instrument to a Patient (e.g. a nail). Thus out of the three properties [MORPHOLOGICAL ANALYZABILITY], [PHONOLOGICAL *-er* SHAPE], and [INSTRUMENT] the latter two are satisfied by *hammer*. A case where only the property [PHONOLOGICAL *-er* SHAPE] is satisfied is *father*. Morphologically, *father* is not analyzable and on the conceptual level – apart from perhaps *widower* – we find no kinship terms among the analyzable *-er* nominals. Thus *father* is only remotely related to the central sense of *-er* formations through the feature [HUMAN].

We think it is important to include these *-er* gestalt forms in the analysis because they provide evidence that there is a continuum between the lexicon as a repository for unanalyzable forms and a putative morphological component, which contains schemata for forming words out of morphemic building blocks. In Figure 13 we represent this continuum with morphologically simple and arbitrary lexemes in the left circle, morphologically analyzable and conceptually motivated formations in the right circle, and gestalt forms that

occupy the zone in-between arbitrary and motivated formations in the center circle.

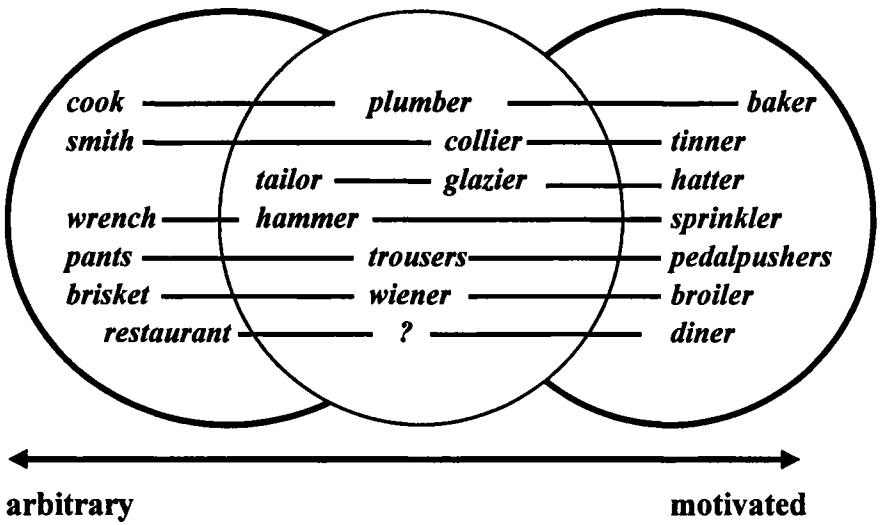

Figure 13. Continuum from motivated *-er* derivations to unanalyzable lexical items via *-er* gestalts

Lexemes connected by lines belong to the same (or a similar) conceptual domain. The lexemes in the first three lines belong to the domain of professions. The fourth line contains Instruments; the sense of Quasi-instruments is obvious in *pedalpushers* in the fifth line but less so in the other two lexemes in this line, which are not transparent as to their instrumental purpose. Analogously, the food Patients in line six range from the transparent sense of *broiler* 'chicken suitable for broiling' to other less transparent food items whose manner of preparation is not specified. In the last line, *diner* specifies the action carried out by an Agent in that kind of restaurant, whereas *restaurant* is opaque with regard to its designed purpose. There seems to be no *-er* gestalt in this domain.

In Table 2 we give a list of nouns ending in *-er* that deviate from morphologically analyzable *-er* nominals in varying degrees but are closely related to some of the conceptual categories we have established in Sections 3 – 6 to warrant their inclusion in the table.

Table 2. Conceptual categories of some *-er* gestalts

OBJECT	
PERSON	
occupation	*brazier, plumber, collier, glazier, grazier, tailor, tinker, soldier, major, mayor, vicar, pastor, (church) elder, prior, friar, doctor, haberdasher, chauffeur, usher, censor, author, fishmonger ...*
social relation	*mother, father, sister, brother, mister, master, junior, senior, superior, inferior, betters, bachelor, partner ...*
(enduring) attribute	*miser, corker, humdinger, wingdinger ...*
ANIMAL	*spider, alligator, oyster, beaver, badger ...*
INSTRUMENT	*hammer, pincer(s), scissors, tweezers, razor, trigger, helicopter, rudder, calendar, mirror ...*
CONCEPTUAL INSTRUMENT	*calendar, grammar ...*
QUASI-INSTRUMENT	*jumper, blazer, drawers, trousers, dockers, pullover, garter ...*
FOOD/PATIENT	*frankfurter, wiener, (ham)burger, whopper, fodder ...*
SUBSTANCE	
INSTRUMENT	*mortar, plaster ...*
NON-INSTRUMENTAL	*matter ...*
EVENT	
EVENT	*blooper, blunder, corker, humdinger, wingdinger ...*
SPEECH EVENT	*rumor, filibuster ...*

8. Conclusions

In this section we outline some of the practical and theoretical implications of our analysis. Section 8.1. discusses some possible pedagogical applications of our work; Section 8.2. places our study in a larger theoretical context.

8.1. Pedagogical implications

We believe that a cognitive approach to *-er* formations has consequences for both contrastive linguistics and language pedagogy. For example, German, like English, has a very productive *-er* nominalizing suffix, but we suspect that the conceptual range covered by *-er* formations in German is much smaller than that in English. For instance on the object level, German seems to lack *-er* words that denote Patients and Locations. On the event level, *-er* words in German seem to be much rarer than in English. There is, thus, probably much less polysemy in *-er* nominals in German than in English. We illustrate this polysemy contrast with English *sleeper* and its translational German equivalent *Schläfer*. The polysemy of *sleeper* is represented in Figure 14.

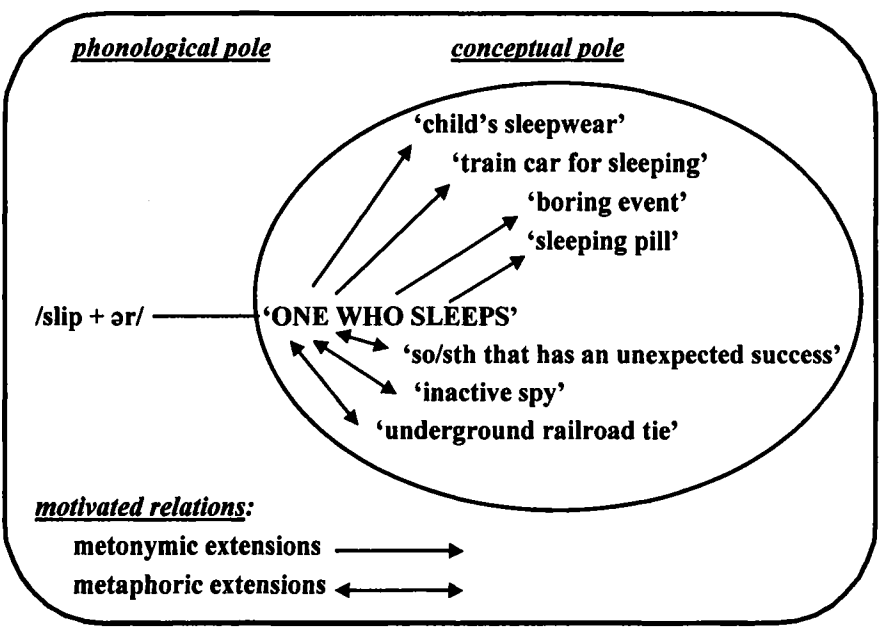

Figure 14. The polysemy of *sleeper*

Sleeper has the primary sense 'one who sleeps'. Given the *sleeper* scenario, however, various metonymic – and thus motivated – extensions are possible in English such that *sleeper* may also be used to

denote (a child's) clothing designed for sleeping, the specially designated car on a train for sleeping, and a drug/event that causes sleep. These metonymically motivated meanings are shown in Figure 14 above the conventional sense and are marked with single-headed arrows. Below the conventional sense and marked with double-headed arrows are the metaphorical – and thus also motivated – extended meanings of *sleeper*: 'someone/something that has an unexpected success', 'inactive spy', and 'underground railroad tie'. In German, however, *Schläfer* – whose conventional primary sense is 'sleeping person' – bears none of the senses available by metonymic extension within the sleeping scenario; moreover, *Schläfer* has only one metaphorical extension, the sense of 'inactive spy'.[39]

We believe that our analysis offers a coherent basis for systematically comparing the conceptual range and the relative productivity of *-er*-like derivational suffixes across languages (e.g. *-eur* in French) as well as contributing to language teaching and vocabulary learning. Abstract rule-based accounts that operate with highly theory-dependent notions like "external argument" do not lend themselves to any meaningful application in the context of learning English. In our view, an approach that relies on the rich conceptual motivations of grammatical phenomena is much more promising as a methodological tool in language pedagogy.

We have seen that many individual *-er* formations are highly polysemous, in the sense that their meanings are metaphorically and metonymically interconnected, rather than instantiating homonymy. We surmise that the recognition of these conceptual interconnections could enhance foreign language learning. Of course, we acknowledge that there is a strong likelihood that *-er* formations have specific idiosyncratic meanings that lie beyond recoverable metonymic and metaphorical mappings and thus are not transparent to the learner.[40] Cultural knowledge is certainly required to learn, for example, that *dunker* typically denotes a doughnut or cookie – and not other types of food – suitable to be dunked (in coffee or milk). Such idiosyncratic meanings have to be learned one by one. Nevertheless, *dunker* belongs to a larger class of *-er* nominals that share the general sense of Purpose-Patient.

Learning a foreign language requires a high degree of vocabulary memorization. However, by providing the learner with conceptually-based insights into vocabulary and word-formation structure, the arduous task of language learning can be considerably facilitated.

8.2. Theoretical implications

It has become apparent from our study that *-er* words do not constitute a "classical" conceptual category. We have given substantial evidence that the meanings of *-er* nominals cannot be defined by a set of necessary and jointly sufficient features. Nor can they be characterized in terms of an overall abstract meaning. Rather, they form a complex conceptual category with a central sense to which a large number of other senses is more or less directly linked. The meanings of *-er* formations are not predictable, but we hope to have shown that they are motivated.

We have claimed that the central sense of *-er* is a human Agent who performs an action or engages in an activity to the degree that doing so defines a primary occupation. On the basis of this central sense, a conceptual model of transitivity, and metaphorical and metonymic mappings, we can account for the semantic diversity of *-er* formations. On the basis of the notion of 'conceptual distance' our model also explains the fact that certain *-er* forms are less likely to occur.

Finally, we have also demonstrated that there are many nouns in English whose phonological shape and meaning resemble ordinary *-er* formations; such *-er* gestalts provide evidence that morphology and the lexicon of unanalyzable words form a continuum. The assumption that grammar and the lexicon are not distinct components (Langacker 1987/1991, Goldberg 1995) is of course very much in line with current thinking in cognitive linguistics.

Notes

1. This paper is a substantially revised version of our presentation "How is *no-brainer* related to *teacher*? A(nother) cognitive approach to *-er* nominals" at the *28th International L.A.U.D. Symposium 'Ten Years After': Cognitive Linguistics: Second Language Acquisition, Language Pedagogy, and Linguistic Theory,* University of Koblenz-Landau in Landau (Germany), March 27–30, 2000. That paper was itself a substantially revised version of "A continuum between lexicon and morphology: evidence from *-er* nominals" presented at the *26th LACUS Forum* (Linguistics Association of Canada and the United States), University of Alberta, Edmonton, August 2–7, 1999. Earlier versions were presented at the *4th HUSSE Conference* (Hungarian Society for the Study of English), Eötvös Loránd University, Budapest, Hungary, January 28–30, 1999; to the Linguistics faculty and students at Southern Illinois University, Carbondale, IL, September 4, 1998; and at the *Cognitive Morphology Workshop*, University of Ghent, Belgium, July 1–4, 1998. We gratefully acknowledge the helpful comments from those audiences. We are also grateful to an anonymous referee for many detailed comments and suggestions for improvement. Last but not least, we owe a note of special thanks to René Dirven. His comments on the overall structure of the paper, apart from improving the content, led to a reorganization of the presentation resulting, we hope, in a more reader-friendly contribution. All remaining errors may be attributed to the authors.
2. The only other theoretical account that, to our knowledge, deals with *-er* within a cognitive grammar framework is Ronald Langacker (e.g. 1987: 311f, 1991: 23), who briefly mentions *-er* formations in the context of his discussion of valence relations and nominalization, respectively.
3. They claim that all verb-based *-er* nominals denote the "external" argument, i.e. roughly the underlying subject of the verb that constitutes the base.
4. In connection with noun compounds like *garage man* Ryder (1999: 278) notes that people have certain default assumptions about what the compound could reasonably mean.
5. Although much can be said about the historical sources of these orthographic variants and their current distribution, this has no bearing on our present analysis. We simply note that almost all have the pronunciation [ər]and that the *-or* and *-ar* spellings seem to be unproductive. The pronunciation of *-or* as [ɔ:r], occasionally found in American English (e.g. educator), is most likely a hypercorrect spelling pronunciation. Exceptions to the [ər] pronunciation are e.g. *registrar* and *exemplar*, in which *-ar* is pronounced [a:r].
6. One exception to the typical analysis of *-er* is found in Dirven and Verspoor (1998: 64–65), the first textbook introduction to language and linguistics written from a cognitive linguistics perspective. There, some meanings of the *-er* nominalizer are sketched in terms of a radial category.

7. A necessary consequence of this rule is that forms like *New Yorker*, *Winnipeger*, *Newfoundlander* (O'Grady, Dobrovolsky, and Aronoff 1993: 149) must be the products of a different rule having not only different input conditions but certain phonological constraints as well (cf. **Torontoer*, **Denverer*). In this account, then, there must be (at least) two *-er* suffixes that derive from the application of distinct rules identical forms with different meanings, 'one who does X [verb]' vs. 'native of X [place]'. This account misattributes homonymy to the suffixes in e.g. *New Yorker* and *teacher*, which, by native speakers, are intuitively felt to be semantically related.
8. *Fixer-upper* illustrates the occurrence of reduplication of the *-er* suffix on primarily monosyllabic (but cf. *buttoner upper*) verb + particle bases, a complex phenomenon (cf. *washer upper* vs. *runner up*) we exclude from our analysis.
9. The overwhelming majority of *-er* words are count nouns; exceptions are mass nouns like *creamer, (coffee) whitener,* and *toner*, which denote substances. Others, such as *thinner* and *thickener*, seem to vary with respect to countability.
10. We call such formations *-er gestalts* (see Section 7.2.) and count them as evidence for a fuzzy boundary (or continuum) between morphology and the lexicon.
11. We would like to thank Tibor Frank at Eötvös Loránd University for his suggestion to look again at the history of the meaning and use of the *-er* suffix.
12. Ryder (1999: 269) cites Kastovsky's (1971) examination of three Old English dictionaries yielding 50 denominal *-er* formations among a total of about 300 (the rest being deverbal).
13. With the exceptions of British English *nutter* (3.3.), *bathers* ('swimming suit') (5.2.) and *bed-sitter* (5.3.), our data reflect American English usages collected from various sources: the literature on *-er*, transcripts of television broadcasts (e.g. CNN), magazines, newspapers, conversations, and native speaker judgments. Since the focus of our analysis is on conceptual content, we do not consider (as an anonymous reviewer suggested) variables such as register and style, which would have to be included in a more fine-grained (and surely longer) analysis.
14. Our scenario is an outgrowth of previous work on transitivity by other linguists – notably Hopper and Thompson (1980) and Rice (1987). We have found that conceptual transitivity also plays a role in other word-formation processes, for example in subject-verb incorporations (Thornburg and Panther 2000).
15. Though worthy of systematic investigation, we can only remark occasionally on the referential and predicational functions of *-er* nominals within the scope of this paper.
16. An anonymous referee has pointed out that examples like *farmer* and *programmer* can also be regarded as having a noun base. We account for such cases in group (3.1.b): *farmer* can be likened to *banker* and *programmer* to *hatter*.

17. See Radden and Kövecses (1999: 21) for a definition of metonymy as reference-point phenomena.
18. Depending on the degree of the conventionalization of *-er* nominals with non-verbal bases, like those in (3.1.b), their meanings may or may not require inferential processing. What we emphasize here is that the motivation for the non-verb-based formations is metonymic.
19. William Safire, *International Herald Tribune*, April 26, 1999.
20. Instruments (see Section 5.1.) and Patients (see Sections 5.4. and 5.5.) too can be denoted with time and location bases. Plausible nonce formations are: *This gun isn't a Saturday night special, it's an* ***anytimer/anyplacer****. This turkey won't defrost in four hours/in the refrigerator – it's an* ***overnighter/in-the-sunner****.*
21. In exceptional contexts *left-hander* could be used to denote an amputee with only a left-hand or a prosthetic device with a left "hand", in which case it would belong to group (3.4.c).
22. The conceptual structure of formations in (3.5.b) is actually quite complex. Suffice it to say here that formations like *Fulbrighter, Hall-of-Famer,* etc. denote persons who have been Agents in a professional action scenario before being distinguished with an award that is named or metonymically evoked by the base.
23. Both *doer* and *perpetrator* function more readily referentially, as e.g. *The police arrested the perpetrator/doer today*, rather than predicationally; cf. ?*My neighbor is a perpetrator/doer.*
24. Levin and Rappaport's (1988) generalization that only verbs that have underlying "external" arguments are allowed as bases for *-er* nominals requires a distinction between what they call "intermediary" vs. "facilitating" Instruments. For example, they claim that in *Doug opened the can with the new gadget, opener* may be used to denote the intermediary instrument 'the new gadget'; whereas, in *Bill ate the meat with a fork, eater* cannot denote the facilitating instrument 'fork'. Plausible context-dependent counterexamples, however, are easy to construct by incorporating a noun with *eater*, e.g. *My child ate beans with this fork* yields *This (fork) was my child's favorite bean-eater* ('facilitating instrument for eating beans'). See Section 7.1. for similar counterexamples.
25. *Upper, downer* and the like can also be used to denote humans via the HUMANS ARE OBJECTS metaphor, or any other entity (e.g. an event via the EVENTS ARE OBJECTS METAPHOR; see Section 6) having the ability to bring about a euphoric or depressive state, respectively.
26. Ryder (1991) regards this meaning shift as a case of reanalysis.
27. As shown in grammaticalization studies, the phenomenon of persistence or retention of original meanings is quite common (see e.g. Hopper 1991, Hopper and Traugott 1993).

28. A third possibility that we have not considered is that the relationship between Agent and Instrument is metaphorical in the sense that Instruments are conceptualized like Agents. To explore this possibility is, however, beyond the scope of our paper.
29. What we call "event" *-er* nominals should not be confused with "event nominals" as used by Levin and Rappaport (1988) and Rappaport and Levin (1992).
30. For the sake of clarity we note that we have already likened non-human entities to human Agents, e.g. *Golden Retriever, Venus fly catcher, gas-guzzler,* etc. by means of the OBJECTS ARE HUMANS metaphor. The point is that these *-er* nominals denote objects, whereas those in Section 6.1. (by means of the EVENTS ARE OBJECTS metaphor) denote events.
31. The EFFECT FOR CAUSE metonymy is pervasive in other domains of English grammar, as we have shown in Panther and Thornburg (1999, 2000).
32. An alternative analysis of *suspenser* is that the base *suspense* is a metonym for the type of scenes characteristic of a suspenseful film. This analysis would provide a basis for the relatively recent film genre term *actioner*, a kind of movie which neither "actions the viewer" nor causes the viewer "to action" or "feel action". *Actioner* may also fall into the conceptual category of (6.4.). Like *kegger* – a party event whose base names the essential ingredient, a keg of beer – *actioner* denotes a film event whose base names the essential scene type. Under either analysis, the innovation of *actioner* is motivated.
33. Cf. *multiplier* and *divider* in category (5.1.), which denote abstract instrumental objects.
34. If used to denote an object, *forgetter* would coerce the interpretation 'something, e.g. a set of keys, that lends itself to being habitually forgotten'.
35. Rice (1987) uses a similar argument to explain some atypical passives in English.
36. A systematic analysis of the conceptual constraints of *-er* formations remains to be done and is beyond the scope of this paper. Suffice it to say that there are other domains such as verbs denoting illocutionary acts, whose use as verbal bases in *-er* nominals is also restricted: along with acceptable formations such as *promisor, advisor, commander, thanker*, etc. we find questionable cases like *?orderer, ?urger, ?entreater, ?asserter, ?describer, ?claimer, ?vower, ?pledger,* etc. Their use is likely to be restricted to denoting referents in terms of a temporary attribute (as users of the speech act named in the base) (cf. data set in Section 3.6.).
37. *Goer* and *comer* can be used in American English in a narrow sense of 'person always on the go, busy person' (cf. 3.2.a.) and 'person showing promise of obtaining success' (cf. 3.3.), respectively.
38. Note, however, that Bloomfield (1933: 240) calls the *-er* ending in *hammer, spider*, etc. "primary affixes". Cf. also Langacker's (1987: 465f.) discussion of such lexemes with regard to analyzability and compositionality.

39. It is quite likely that this metaphorical extension is a calque from English.
40. This is the problem of lexicalization, which is dealt with, e.g. by Grimm (1991).

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Basicness and conceptual hierarchies in foreign language learning: a corpus-based study

Friedrich Ungerer

1. Introduction[1]

The idea of approaching conceptualization at a middle level may look suspicious in the eyes of traditional scientists who are used to strictly following a bottom-up or top-down approach, but it has an intuitive appeal to the layman because it seems to save him from looking at too much detail or grappling with complex abstract structures. In Cognitive Linguistics the interpretation of basicness as a middle level is linked with the name of Eleanor Rosch (Rosch et al. 1976), but has permeated cognitive linguistic thinking ever since (Lakoff 1987, Lakoff and Johnson 1999). For Rosch the main advantage of basic level concepts was what she called the principle of cognitive economy (Rosch 1978): the claim that basic level concepts permit us to assemble the largest amount of information with the least degree of cognitive effort. This ease of conceptualization is reflected in various ways: Basic level concepts normally first come to mind in the process of conceptualization; they have a clearly recognizable gestalt and are related to identifiable motor movements; their linguistic labels tend to be morphologically simple and are first acquired by children (Ungerer and Schmid 1996: 66–71).

In an effort to provide more scientific support, the basic level has been linked to the generic level of biological taxonomies, but research into plant and animal folk hierarchies has shown that the assignment of basicness depends on the cultural background. What is superordinate in a pre-industrial agricultural society (e.g. concepts like 'bird', 'fish' or 'tree') may well have basic level status in an industrialized society, where members have less contact with their

natural habitat (Rosch et al. 1976). Since both cultures involved in our investigation, English and German, belong to the second group, our conception of the basic level cannot be strictly linked to the notion of generic level, but will be based on a culture-sensitive application of the above-mentioned criteria.[2]

Returning to these criteria, and focusing on the last of them, the early acquisition of basic level terms observed by psychologists, this leads us on into the area of language learning. It is not just that principles of first language acquisition have generally been used as an inspiration for second language learning strategies; the primacy of the basic level also seems to square well with the practical tradition of frequency vocabularies, which have been used as a guideline for foreign language textbooks for several decades. Their selection criteria also include availability ('words that first come to mind') and ease of learning (West 1953: ix–x). It goes without saying that the primacy of the basic level implies that non-basic concepts, in particular superordinate concepts, are acquired later.

The hypothesis examined in this paper is that the sequence from basic to non-basic concepts is also followed in a foreign language teaching context, at least in the domain of nominal concepts.[3] As it will emerge in the course of the paper, the matter is more complex than might be expected at first sight. Basic level concepts collected from a corpus are less easy to define than the well-known model examples used in the literature.[4] Corpus-selected superordinates turn out to be a very mixed bag, too, some based on class inclusion, some on part-whole relationships and some on a mixture of both.[5] In this light the teaching maxim "from basic to non-basic" will need to be differentiated; and – to tickle the linguist's curiosity – some of the accepted truths about basic level concepts and conceptual hierarchies will have to be questioned.

2. Corpus design

Since classroom data about the use of lexical concepts are not easily accessible, the paper is based on the analysis of German textbooks of

English, for which the *Green Line New* series (Stuttgart 1995-2000), a six-year course for the German 'Gymnasium', was selected. To reflect the progress in language acquisition the first and the last volume were chosen for the analysis. In either case the corpus consists of the running English text including stories and exercises but excluding additional grammar and translation appendices; the result was an unprocessed corpus of about 30,000 words for both volumes. This data was processed to conflate inflectional and spelling variants and sorted according to frequency with the aim of selecting the items that appeared at least 5 times in the corpus.[6] The idea was that a word used with this frequency in a year's language course book would not be a chance selection by the authors, it was destined to be used many more times in classroom discourse and could be seen as fairly well entrenched in the pupil's mental lexicon. To arrive at the noun sample, the processed corpus was tagged for word classes, and this yielded 315 nouns for *Green Line 1* (=GL 1) and 360 nouns for *Green Line 6* (=GL 6); these nouns were further subdivided into common nouns and proper nouns (person and place names).

Although the main interest of the study is in the learner's vocabulary, it was thought desirable to evaluate this vocabulary against the background of an adult native speaker vocabulary, as represented in authentic English texts. For this purpose the 5plus frequency items were extracted from a 30,000 word corpus composed of 10,000 word samples from two popular newspapers (*The Sun* and *The Daily Mirror*) and one quality paper (*The Guardian*). Preference was given to the popular papers in an attempt to include more soft news and counteract the bias towards hard news topics inherent in journalistic texts, at least to a certain extent. Here the number of nouns was 369. Table 1 assembles the relevant quantitative information about the corpora used.

The design of the table reflects the two stages in the preparation of the data. The upper section documents the selection of the high frequency items from the corpora, the lower part shows the word class assignment, focusing on nouns and verbs, other lexical words (adjectives, adverbs, numerals) and function words (prepositions, conjunctions, pronouns, auxiliaries) and neglecting further subdivisions.[7]

What should attract our interest here is the asymmetrical distribution of high-frequency common nouns and lexical verbs. While in GL1 there is a four-to-one ratio of nouns and verbs (262 nouns vs. 71 verbs), this ratio is reduced to less than two to one in GL 6 (312 nouns vs. 200 verbs), a ratio much closer to the sample of newspaper texts (304 nouns to 181 verbs). This may be taken as a first hint that a frequency-based study of the vocabulary is a suitable tool for distinguishing different levels of learning vocabulary.

Table 1. Corpus design and word class analysis

Source	*Green Line 1*		*Green Line 6*		Newspaper sample (*Sun, Daily Mirror, Guardian*)	
Number of words (=tokens)	28,452		34,364		30,714	
Word forms (=types unprocessed)	1,509		4,795		5,279	
Words (=types processed from 2 tokens upwards)	829		1,850		2,003	
Words analyzed (=types from 5 tokens upwards)	583	100 %	895	100 %	829	100 %
Nouns	315	54 %	360	40 %	369	44 %
– common nouns	262	45 %	312	35 %	304	36 %
– proper nouns	53	9 %	48	5 %	65	8 %
Verbs	71	12 %	200	22 %	181	22 %
Other lexical words	129	22 %	221	25 %	173	21 %
Function words	68	12 %	114	13 %	106	13 %

As it appears, the entry into the foreign language is largely through nominal concepts, while verbal relationships are relatively unimportant, but their share increases in the later stages of the acquisition process. Any more detailed discussion of this problem as well as any attempt to solve the sequencing of basic and non-basic concepts mentioned above presupposes a more finely grained semantic classi-

fication of the nouns in our sample or – in more cognitive terminology – an analysis of their conceptual structure.

3. Classifying nouns: cognitive models, basic and non-basic concepts

Even if one leaves aside the proper nouns for the moment, a sample of between 262 and 312 common nouns cannot be satisfactorily analyzed along one dimension only. Instead a combination of two dimensions seems more promising: a horizontal dimension along which nominal items can be assigned to cognitive models and a vertical dimension based on the distinction of basic and non-basic items, or, more comprehensively, on conceptual hierarchies. It is obvious that such an approach takes up accepted traditional concepts of lexical fields and hyperonymy (Lipka 1992: 140–157) as well as the cognitive notion of frame (Fillmore and Atkins 1992), not to mention the more applied view held by many textbook and curriculum writers that the vocabulary should cover certain 'thematic domains'.

Starting with the horizontal dimension, the first problem was how to delimit the cognitive models. The task was approached in a practical vein by establishing models that between them covered most items from the noun lists while keeping the inevitable overlap within reasonable bounds.[8] The result was a provisional list whose only claim to psychological reality might be that the frequency-filtered items are more probable candidates for entrenchment in a learner's conceptualization of a cognitive model than other possible members. Obviously this is not a way to arrive at a comprehensive description of a cognitive model, but it seems quite suitable to differentiate between entrenched basic and non-basic concepts, which is the major goal of this study. As for the labels used, their choice is provisional although, as we will see, many of them are equivalent with superordinate concepts. Compare Table 2, which assembles the quantitative results both for GL 1 and GL 6, as well as the 'control' sample, but excludes kinship and related person concepts, which will be treated separately.[9]

The findings are not really surprising. GL 1, where nouns are much more dominant among frequent items than in GL 6 or the newspaper sample, offers a large range of 'every-day topics', cognitive models like BODY, CLOTHES, FOOD, MEALS, FURNITURE, HOUSE, PARTY, SPORTS, HOLIDAY, SHOPPING, etc. plus a huge array of elements connected with school and classroom life, the most natural entry point for foreign language teaching. By contrast, everyday topics are less prominent in GL 6, not to mention the newspaper sample, where several of them are simply missing, among them, interestingly, animals. The main difference is that many cognitive models attract fewer high-frequency items in GL 6 than in GL 1 as indicated by the bold digits in Table 2. In fact, the relationship of member concepts between GL 1 and GL 6 is 12 to 3 for the ANIMAL model, 17 to 7 the for FOOD model, or 10 to 5 for the SPORTS model.

At the same time the findings for GL 6 point the direction into which the learner's lexicon is moving at this more advanced stage of language acquisition. To accommodate additional items, such as *state, independence, law, war, slavery* or *idea, problem, memory* and *mind*, it was necessary to add more general cognitive models like POLITICS, SOCIAL RELATIONS and MENTAL PROCESS, and this stresses the transitional status of GL 6 between the learner's and the native speaker's lexicon.[10] An interesting discovery was the number and high frequency of what has been labelled DIMENSION concepts in Table 2. TIME DIMENSION concepts like 'year' and 'time' belong among the most frequent nominal concepts in all three corpora.[11] OTHER DIMENSION concepts like 'number', 'price' and 'way' are also surprisingly frequent (see Ungerer forthcoming).

Apart from reflecting the horizontal distribution, Table 2 also provides information about the vertical dimension, and this raises the tricky question how basic level concepts can be safely distinguished from non-basic concepts. As practical work on assigning the hierarchical status has shown, we can only assume a scale of distinctiveness. Concrete elements like body parts, items of clothing and furniture, food items like 'apples' or 'eggs' can be safely identified as basic but others, such as 'birthday', kinds of sports, 'garden' or

'beach', much less so, not to mention abstract concepts where the distinction can hardly be made.[12]

Table 2. Frequency-selected nouns from *Green Line 1, Green Line 6* and the newspaper sample arranged in cognitive models

Models	Green Line 1			Green Line 6			Newspaper		
	basic	super-ord.	total	basic	super-ord.	total	basic	super-ord.	total
ANIMALS	11	1	**12**	2	1	**3**	-	-	-
BODY	10	1	**9**	11	1	**12**	9	1*	**13**
CLOTHES	4	0	**4**	2	1	**3**	2	1*	**4**
FOOD	17	0	**17**	6	1	**7**	2	0	**2**
MEALS	2	0	**2**	2	1	**3**	-	-	-
FURNITURE	6	0	**6**	3	0	**3**	-	-	-
UTENSILS	3	0	**3**	2	2	**4**	5	0	**5**
HOUSE	7	1	**8**	9	1	**10**	2	2	**4**
NEIGHBORHOOD	7	2	**9**	3	3*	**8**	5	2	**7**
PARTY	4	1	**5**	2	1	**3**	2	0	**2**
SPORTS	8	0	**10**	4	1	**5**	2	1	**3**
HOLIDAY	16	1	**17**	13	1	**14**	3	1	**4**
AUDIO MEDIA	6	1	**7**	3	1	**4**	-	-	-
VISUAL MEDIA	7	1	**8**	9	3	**12**	7	4	**11**
TRANSPORT	15	0	**15**	11	1	**12**	6	0	**6**
SHOPPING & SERVICES	11	1	**12**	9	1	**10**	11	1	**12**
PROFESSION	6	1	**7**	7	1	**8**	10	2	**12**
CLASSROOM/ EDUCATION	33	4	**37**	43	4	**47**	10	2	**12**
POLITICS	-	-	-	8	3*	**16**	27	4*	**34**
SOCIAL RELATIONS	-	-	-	2	2*	**7**	2	0*	**10**
CRIME & COURTS	-	-	-	7	1	**8**	16	2*	**19**
MENTAL PROCESS	-	-	**3****	-	-	**36****	-	-	**37****
TIME DIMENSION	-	-	**23****	-	-	**15****	-	-	**18****
OTHER DIMENSIONS	-	-	**16****	-	-	**32****	-	-	**27****

Explanations
* = contains additional abstract concept
** = not processed for basic and superordinate levels

Turning to the quantitative results we find that of the 17 general cognitive models drawn from GL 1 (i.e. excluding the CLASSROOM

model) 7 models are represented by basic level concepts and contain no superordinate concepts at all; for example the CLOTHES model is represented by 'jeans' (here regarded as a basic item), 'hat' and 'sweatshirt' but not by 'clothes', the SPORTS model by 'bike', 'football', 'player' and 'tennis', but not by the term 'sports'. Nine of the remaining models include one superordinate term, only the NEIGHBOURHOOD model offers two superordinates, which are, however, almost synonymous, namely 'town' and 'city'. The average ratio of basic and superordinate terms in the models to which it can be applied is 8 to 1. By contrast, in GL 6 all 17 models include at least one superordinate term, and since the number of basic concepts represented is often smaller than in GL1, the average ratio between basic and superordinate concepts is 4 to 1. This is definitely closer to the ratio of 3.4 to 1 for the newspaper sample and the adult native speaker usage it stands for.[13]

On the face of it, these quantitative results fully support the initial hypothesis that cognitive models are accessed through basic level items in the early stages of foreign language learning, but that the use of basic concepts is gradually reduced in favor of superordinate terms, as the acquisition process proceeds. The problem is that these findings do not distinguish between the different kinds of superordinates and the different types of hierarchies encountered in the analysis.

4. Taxonomic and meronymic superordinates

If we look at the first two cognitive models presented in Table 2, the ANIMAL and the BODY model, and assume correctly that the superordinate concepts identified in them are 'animal' and 'body' respectively, it is obvious that they represent different notions of conceptual linking. The ANIMAL model is a prototypical example of a type-of-relationship, a taxonomic hierarchy based on the principle of class inclusion. The BODY MODEL is the prime case of a part-of-relationship, the most forceful example of a meronymy based on segmental parts (Cruse 1986: 157, 160–171).[14] For linguists bent on a

systematic analysis this mixture of two principles may seem unacceptable. However, dropping one principle in favor of the other one would be difficult. Organizing the frequency-selected members of the BODY model along a taxonomic dimension would mean that 'body' would have to be replaced as a superordinate by 'limb' or, more comprehensively, by 'body part' to cover the concepts 'leg', 'head', 'hand', 'finger', 'heart' etc., but this would move the meronymic relationship between the parts and the whole only one level further up without removing the problem. Replacing the taxonomic superordinate 'animal' by a loose meronymic relationship[15] under the cover term 'farm' seems easier and would reflect the access chosen in GL 1 for the introduction of animals. Yet the farming context would more or less exclude the concepts 'crab', 'fish', 'frog' and 'snake', which could not really be regarded as farm animals (and are in fact introduced in different contexts in GL 1), but would be counted among animals, at least in the wider sense of the term. More importantly, disregarding the deeply entrenched taxonomic salience of 'animality' would be as unnatural as severing the conceptual tie between the body and its parts.

The distinction between primarily taxonomic and primarily meronymic superordinates can also be applied to the other cognitive models, assembled in Table 3. FOOD, CLOTHES, MEALS, FURNITURE, UTENSILS, SPORTS and PROFESSION are models that seem to be organized along taxonomic lines while in the second group the meronymic model BODY is joined by HOUSE, PARTY, NEIGHBORHOOD, HOLIDAY, TRANSPORT and SHOPPING, all of them at least implicitly based on a part-whole relationship. The AUDIO MEDIA and VISUAL MEDIA models are more difficult to classify. The first would be an acceptable case of meronymy headed by the superordinate concept 'music' if we had not included the concept 'telephone' for lack of better affiliation. VISUAL MEDIA contain a number of concepts with a claim to meronymic superordination ('television', 'internet', 'press', 'theatre'), but – on a higher level – also involve the taxonomic superordinate 'media' (explicit only in the newspaper corpus). If we restrict ourselves to the textbook samples, we are justified in adding these models to the meronymic camp.

Comparing the two sets of taxonomically and meronymically oriented cognitive models also makes sense in terms of language acquisition. As documented in Table 3, few of the attested taxonomic superordinates occur in the frequency-filtered vocabulary of GL 1 ('furniture' is also missing in GL 6)[16], while all the meronymic superordinates are already present in GL 1. Looking for an explanation it is helpful to return to the characteristics listed for basic level items in the introductory section.[17] Like basic level concepts meronymic superordinates such as 'body', 'house', 'city' and 'town' have an easily recognizable visual gestalt, while taxonomic superordinates like 'animal', 'food', 'meal', 'clothes', 'furniture' or sports call for gestalt representation through the related basic concepts. Meronymic superordinates like 'party', 'holiday' and 'traffic' are certainly less accessible through gestalt perception, but cannot be so easily replaced by the gestalts of a component concept as taxonomic superordinates: the 'beach' concept alone does not fully represent the 'holiday' concept, presents alone do not make a party; cars are an important, but not the only ingredient of traffic, and all this calls for a more holistic approach.

If we also think of the ease of conceptualization ('what first comes to mind'), most meronymic superordinates seem to score higher than their taxonomic counterparts. All in all, meronymic superordinates tend to be closer to basic level concepts than taxonomic superordinates and this is an obvious asset especially in the early stages of language acquisition, both in L1 and L2.[18]

The easy accessibility of meronymic superordinates, their closeness to basic level concepts, may also help to explain the fact that some of them are actually introduced into the learner's lexicon without the support of the respective basic level items. This is true of the 'hospital' and the 'weather' concepts,[19] but also for 'television'.[20] In GL 1 these concepts are part of the frequency-filtered vocabulary while the related basic level concepts ('doctor' and 'nurse' for 'hospital', 'rain' and 'wind' for 'weather', 'show' and 'news' for 'television') are either far below the frequency threshold or non-existent. No doubt the holistic perception of the new concept is here prepared for by the conceptual knowledge acquired with L1, but this should

also apply to taxonomic superordinates like 'meal', 'sports', 'profession', where the same phenomenon cannot be observed. As it appears, meronymic relationships are more basic and also more valid cross-culturally; their transfer from L1 to L2 is more automatic and less hampered by interferences than in the case of many taxonomic hierarchies.

Table 3. Taxonomic and meronymic superordinates in *Green Line 1* and *Green Line 6*

		Superordinates in *Green Line 1*	Superordinates in *Green Line 6*
Taxonomic models	ANIMAL	animal	animal
	FOOD		food
	CLOTHES		clothes
	MEALS		meal
	FURNITURE		
	UTENSILS		equipment
	SPORTS		sports
	PROFESSION	job	job
Meronymic models	BODY	body	body
	HOUSE	house	house
	NEIGHBOURHOOD	city, town	city, town
	PARTY	party	party
	HOLIDAY	holiday	vacation
	TRANSPORT		traffic
	SHOPPING	shopping	shopping
	AUDIO MEDIA	music	music
	VISUAL MEDIA	television	television, internet, theatre

5. Multi-level hierarchies

What we have regarded so far were on the whole two-level arrangements. The classical conception of lexical hierarchies is of course much more elaborate. The dauntingly comprehensive taxonomies developed for animals and plants by Linnaeus and his successors distinguish at least a dozen levels. Roget's five-level-hierarchy of concepts like 'car' is also impressive, but soon leads on to very ab-

stract categories like 'motion' and 'space' (McArthur 1986: Chapter 18, Ungerer and Schmid 1996: 62). Linguistic discussions, which try to avoid this pitfall, not only stick to the domain of animals and plants but are forced to take recourse to subcategories which are far from meeting the frequency threshold assumed in this study (Lipka 1992: 155). If we stick to our corpus, neither the textbook samples nor the newspaper sample supply the material on which a multi-level taxonomy could be based. Obviously there is no need to develop this kind of explicit taxonomic hierarchy for the usual communicative purposes however helpful it may be for a systematic understanding of the world.

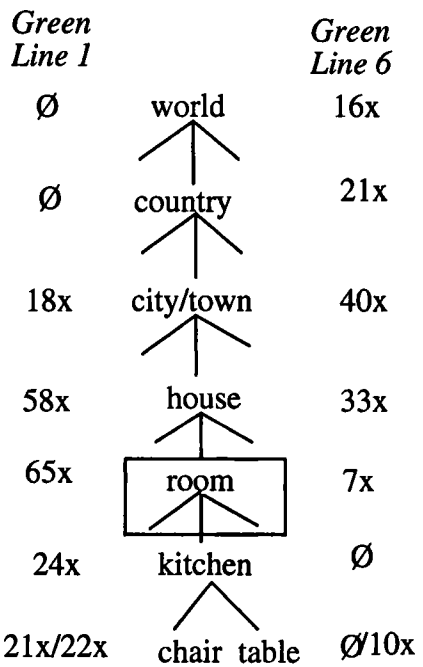

Figure 1. Conceptual hierarchy in *Green Line 1* and *Green Line 6*

The picture changes somewhat if we consider the possibility of extended meronymies, called meronomies by Cruse (1986: 168–171). Here the sample yields at least one multi-level example, but only if we are prepared to cross the boundaries of the cognitive models pro-

posed so far and to combine concepts from the FURNITURE, HOUSE, NEIGHBORHOOD and POLITICS models. The hierarchy results are illustrated in Figure 1, which can be read in two ways. If one disregards the box containing the ROOM concept, the hierarchy consists only of meronymic relationships. If the box is included, the result is a 'mixed' hierarchy of meronymic and taxonomic elements, an idea that will be taken up at the end of the paper. The digits indicate the frequencies reached by the concepts of the hierarchy in GL 1 and GL 6. Comparing the two sets makes it clear that GL 1 not only enters individual cognitive models through basic level concepts, which are extended into a conceptual hierarchy only at a later stage ('country' and 'world' are not present in GL 1); the numbers for GL 6 show that basic level items and the lower ranks of the hierarchy are neglected in favor of the higher ranks and the focus shifts from 'room' to 'town' and 'city'.[21]

6. Basic and superordinate person concepts

The analysis of the text samples suggests that the distinction between basic and non-basic concepts is not only a matter of object concepts, but is applicable to person concepts as well. Some of these concepts, in particular those referring to professions or politics, can be integrated in the respective cognitive models developed for object concepts in Section 3. What deserves a separate treatment are the general person concepts which focus on the four basic level concepts 'man', 'woman', 'boy' and 'girl', but are supported by a range of what can be loosely called kinship concepts (loosely in the sense that relational concepts like 'NEIGHBOR' and 'FRIEND' are included) as well as first names and family names. A juxtaposition of the findings for GL 1 and GL 6 is provided in Table 4 where token frequencies are given for all items and superordinates are distinguished from basic level terms by italics.

Table 4. Person concepts and names in *Green Line 1, Green Line 6* and the newspaper sample (superordinate concepts in italics)

	Green Line 1	*Green Line 6*	Newspaper sample
GENERAL PERSON CONCEPTS	man 23x woman 19x boy 59x girl 48x *people 32x*	man 39x woman 41x boy 18x girl 20x *person 9x,* *people 107x*	man 49x, woman 48x boy/youngster/lad 86x girl 54x *person 9x* *people 37x*
RELATIONAL KINSHIP CONCEPTS	father/dad 49x mother/mum 67x child 45x brother 29x sister 21x *parents 24x* grandpa 29x grandma 51x uncle 14x aunt 16x *family 19x* friend 103x neighbor 7x	father/dad 21x mother 17x child/kid 21x brother 18x *parents 18x* cousin 11x *family 21x* friend 57x	father/dad 14x mother/mum 30x child 26x son 14x daughter 6x *parents 19x* grandfather/granddad 7x husband 5x *family 28x* friend/pal 45x girlfriend 6x
FIRST NAMES	Robert 305x Becky 291x Sarah 268x David 264x etc. *total: 17 items*	Morgan 4x Corey 34x Grace 26x Joe 26x etc. *total: 19 items*	Diana 76x, Karl 53x Paul 33x etc. *total: 26 items*
FAMILY NAMES	Burton 64x Penrose 59x etc. *total: 13 items*	Capone 14x Ford 10x etc. *total: 8 items*	Heaney 77x Hewitt 61x etc. *total: 19 items*

For GL 1 the table clearly reflects the fact that person concepts are more often introduced through kinship terms than through the neutral basic concepts, in particular more often through 'father/dad', 'mother/mum', 'grandpa' and 'grandma' than through the concepts 'man' and 'woman'. These kinship concepts express a natural per-

spective on persons from the point of view of the ten-year-old addressees of GL 1 and so does the most frequent relational item, the concept 'FRIEND'. Superordinate concepts, all of them meronymic, exist but do not play an important role. The concepts 'parents' and 'family' are less frequent than the individual kinship concepts and this also applies to the general superordinate concept 'people'. However, the most important access to persons is not provided by either general or kinship concepts, but through personal names. *Robert* occurs more than 300 times, *David* and *Becky* and *Sarah* almost reach the 300 times mark. This high frequency of first names may be partly due to the fact that these names are used to designate participants in dialogues, but whatever their purpose, they accompany the student through the book and supply roles for the student to enter into; each occurrence strengthens the presence and the entrenchment potential of the concept.

In GL 6 the situation is quite different. General person concepts are more frequent, in particular the superordinate but semantically rather empty concept 'people' while kinship concepts are less prominent. This surely indicates the change from the personal NEIGHBORHOOD perspective to the wider perspective of SOCIAL RELATIONS and POLITICS, which was also reflected in the shift of cognitive models in Table 2. Names are not only less frequent and therefore less important in terms of entrenchment; the similar overall numbers of items hide a significant difference. Names are no longer used to introduce and build up identities of textbook characters, which are used instead of general person concepts (like 'boy' and 'girl') and are maintained throughout the volume. Instead even the most frequent ones refer to individual characters in authentic texts (this applies to *Morgan* and *Corey*) or to historical figures (*Al Capone* and *Henry Ford*). This again reflects a stage which is close to the native speaker competence of the newspaper sample in the right-hand column of Table 4, where general person concepts are even more prominent (and enriched by slang expressions) and names refer to topical persons like Princess Diana and her alleged lover (*Hewitt*), a lotto millionaire (*Karl*), the victim and the killer in a crime story (*Paul* and *Heaney* respectively).

7. Conclusions

There are several levels on which one may draw conclusions from this study for foreign language learning and teaching. Considering the method used, the frequency-filtered analysis into cognitive models seems to provide a good overview of how intensively a lexical item is fed into the language acquisition process, which could be used to complement the practiced method of registering first occurrences.

Vocabulary selection could also benefit if it made use of the basic/non-basic distinction, but not in the crude way in which it is often applied, but in the more sophisticated manner proposed in this study. Accordingly, basic level items are to be preferred as entry points, where the respective superordinate concepts involve less tangible taxonomic notions (as in the case of 'vehicle', 'household utensils' or 'equipment'), which should then be introduced later. No such precaution seems necessary for meronymic superordinates because they are often as easily accessed as basic level items; these concepts should precede or replace related taxonomic superordinates (i.e. 'traffic' should be introduced before or instead of 'vehicle'). Often meronymic superordinates can be introduced early and without the support of the respective basic level terms. For concepts with a complex internal structure (like 'television' or 'hospital'), this may even be better than insisting on the early introduction of a differentiated cognitive model because the holistic approach may facilitate the handling of the concept in the foreign language, while the conceptual underpinning is available from L1 conceptualization.

Finally, person concepts deserve particular attention. Apart from kinship concepts, first names and – to a lesser extent – family names offer an excellent opportunity to introduce the learner into participant roles of the target culture, but only if they are selected with care. Apart from being non-discriminatory and up-to-date, personal names should be neither difficult to pronounce nor easy to confuse with each other and – this concerns the intermediate stages of the course, which were not examined in this study – they should be as carefully phased out as they are introduced to make room for authentic names of real persons.

8. Linguistic afterthought

The investigation of basic level concepts, superordinate concepts and conceptual hierarchies was carried out against the background of the hierarchies developed in zoology, botany and other sciences and transferred into lexicography by rationalists like Roget. No wonder, differences between folk and expert hierarchies were first identified with regard to hierarchical depth. Compared with expert models, folk models were found to lack the top levels of hierarchies and permitting hierarchical gapping or "covert categories" (Cruse 1986: 148), e.g. the lack of the levels 'canine' or 'bovine' in the folk hierarchy of 'animal', and split labeling, e.g. using the word *animal* to denote the level of 'higher animal' and the level of 'non-human living beings'. Another feature of folk models, it was claimed, was that they have no problems in tolerating the coexistence of several superordinates based on the same basic level concept, e.g. 'vehicle' and 'toy' for 'car'.[22] Yet all this variation was thought to take place inside the taxonomic paradigm of class inclusion. Hierarchical links based on a part-whole relationship were recognized, but mostly kept separate from taxonomies.

Looking back at the empirically compiled cognitive models of this study we find that taxonomic hierarchies seem to be much less important for the mental lexicon underlying ordinary communication than has been assumed by many linguists, including cognitive linguists. Part-whole relationships and similar meronymies are not only an alternative organizing principle, but successfully compete with the taxonomic type-of relationship in hierarchy building. The basic concepts 'leg', 'hand', 'head' and 'heart' are more convincingly and more usefully organized under the meronymic superordinate concept 'body' than the taxonomic 'body parts'; 'bedroom', 'kitchen' and 'bathroom' call for the superordinate concept 'house' rather than 'room'. Even 'car', 'bus' and 'lorry' need not be subsumed under the taxonomic superordinate 'vehicle', as we have been taught in linguistics courses, but may be more naturally assigned to a meronymic superordinate concept like 'traffic', which also covers 'noise', 'pollution', 'pedestrian' and many more concepts that we would like to

place together. Meronymic superordinates, we have seen, are often conceptualized as gestalts, they come to mind more easily than many taxonomic superordinates, their linguistic labels are generally simple; taken together this means that they are in many ways closer to basic level items and thus more easily accessible than taxonomic superordinates. The conclusion one may draw (and which is supported by the analysis in Table 3) is that the meronymic principle has at least the same share in the organization of conceptual folk models as the taxonomic principle.

Yet looking at some of the models more closely, one may take the argument one step further. Even taxonomic superordinates like 'clothes' or 'food' or 'furniture' can be seen as 'including' the basic level items they are supposed to list as 'types', at least to a certain extent.[23] Shirts and trousers can be seen as parts of the clothes worn by a person; meat, potatoes and bread can be understood as components of the food we need to support ourselves, furniture as 'consisting' of the beds, chairs, tables, sofas that we normally find in our house or flat – and this seems to make these concepts more accessible than purely taxonomic superordinates like 'limb' or 'vehicle'. In other words, there is reason to assume that both taxonomic type-of relationship and meronymic part-of relationship may be dormant in the same superordinate concept, ready to be called up in varying degrees as required by communicative needs. Indeed, one might claim that this variability in creating and combining hierarchical links of different types and different intensity is one of the things that make our mental lexicon tick.[24]

Notes

1. I am grateful for the criticism of an anonymous reviewer which has made me think about the limitations of a corpus-based study of this format and has stimulated various additions, in particular footnotes 2–5, 8, 12 and 24.
2. Although the culture-dependence of categorization is generally acknowledged by cognitive linguists, the axiomatic link between basicness and the generic level is often maintained. Wierzbicka (1985), for instance, is a case in point. While favorably reviewing the culture-dependent assignment of 'bird' and 'fish'

to the basic level in one chapter (1985: 158–161), she then goes on to contrast 'bird', etc. as one type of supercategory ("taxonomic supercategory") with other types of supercategories ("functional categories", "collections", etc. – see fn. 5 below).

3. It is obvious that the basic/non-basic contrast is just one aspect of cognitive lexicology, which is here used as a test case for examining the possibilities inherent in a corpus-based analysis. Other important aspects, such as the prototype structure of lexical concepts, or the systematic investigation of Idealized Cognitive Models or frames might also be worth looking into in a language learning context, but would provide formidable methodological problems and could never be dealt with in an article this size.
4. Most of these examples used by Rosch and others were taken from the domain of organisms (animals) and concrete stative natural objects or artefacts (apples, cars, etc.). No doubt, for these examples the gestalt can be easily identified and explained in terms of gestalt principles (Ungerer and Schmid 1996: 33–34) and the 'first-come-to-mind principle' can be better tested in psychological priming experiments. In other lexical domains classification as basic will have to rely on the remaining criteria (morphology, early acquisition) as well as analogy with concrete concepts.
5. Class inclusion will be claimed for superordinate concepts like 'animal', 'food', 'furniture' and 'profession', while superordinate concepts like 'body', 'house', 'party' and 'holiday' are understood as wholes consisting of parts (meronymies). This distinction shows some similarities with Wierzbicka's classification of supercategories (1985: 261–290) but there are also noticeable differences. What Wierzbicka calls "taxonomic supercategories" (e.g. the English concepts 'bird', 'flower', 'tree' and 'fish') are here regarded as basic level concepts, as suggested by Rosch et al. (1976). Of Wierzbicka's remaining supercategories, 'collections' are here taken to be class-inclusive in a limited sense and as such contrasted with meronymic categories. Functional superordination (as in 'toy', 'vehicle', 'tool', 'instrument', 'weapon') is not really relevant for our investigation, but should not necessarily be seen in terms of discrete categories (as suggested by Wierzbicka), but as a gradable quality which is applied across superordinate categories in varying degrees. Cf. fn. 24 and Ungerer and Schmid (1996: 77–79).
6. Items that appear in the corpus only once are neglected because even if these one-token items include different verb forms of one lexeme, their conflation will not produce a frequency passing the threshold level of 5 tokens per type.
7. For a discussion of the role of function words in textbook corpora and other aspects of corpus design relevant for didactic texts see Ungerer (forthcoming).
8. To my knowledge most classifications into word fields, thematic domains, frames or cognitive models have been based on the authors' intuition. Theoretically, it should be possible to assemble cognitive models on the basis of attrib-

utes and family resemblances, but the work needed to cover even the limited vocabulary range of a textbook in this way is just not feasible.

9. The full list of concepts and their classification according to cognitive models is available as an e-mail attachment from the author: friedrich.ungerer@philfak.uni-rostock.de.
10. With regard to the more specialist domain of CRIME & COURTS, it is clear that these matters are over-represented in our newspaper corpus, but this would also apply to other more general corpora, which heavily rely on newspaper texts. On the whole, crime is less dominant in textbook vocabularies; its relevance for GL 6 stems from the fact that the book contains an excerpt from the screenplay of a detective play (*Bonny and Clyde*).
11. This is also supported by the analysis of a noun corpus gleaned from a 320-million word version of the COBUILD Corpus.
12. This is reflected in the table, where an asterisk after the digit indicates that the model contains abstract concepts that do not lend themselves to a basic/superordinate distinction (such as 'health' in the BODY model and 'fashion' in the CLOTHES model). A double asterisk signals that no classification in terms of basic/superordinate was attempted because it seemed unsuitable for the (abstract or dimension) concepts involved. In addition one might mention that the SPORTS model contains the only subordinate concepts ('bicycle pump', 'saddlebags') discovered in the frequency-selected sample.
13. The results for the newspaper texts are not as representative as one would wish them to be because they are based on the general news section of the papers excluding the sections on food, living, etc. This means that the areas of food, meals, furniture and audio media are poorly if at all covered in the corpus.
14. In a wider cognitive context, the part-of relationship can be seen as a major type of metonymy if understood as a relationship "in which one conceptual entity, the vehicle, provides mental access to another conceptual entity, the target, within the same domain, or ICM" (Kövecses and Radden 1998: 39).
15. Meronymy is here not only applied to relationships between segmental and systemic parts and wholes, which Cruse (1986: 169) regards as meronymies proper, but also includes what he calls "meronym-like relations" (such as Germany/France – Europe; Cruse 1986: 172–173), or in our interpretation: fields/animals/farmer – farm. See also Wierzbicka's notion of contiguity (1985: 270) and the role she assigns this parameter in the classification of supercategories.
16. As for 'food', it does not pass the frequency threshold in GL 1 if only the superordinate concept is considered; however, it also occurs to denote 'fish food'.
17. An interesting explanation, though from a slightly different angle, has been suggested by Cruse, who claims that meronymies are closer to concrete reality than taxonomies because they are based on the association of parts of an individual whole and not on an abstract relationship between classes of objects (Cruse 1986: 178).

18. This is probably the reason why the hierarchical relations that have been found difficult to grasp for young children (e.g. relating 'dog' and 'animal') seem to be of the taxonomic and not or the meronymic kind. Cf. Aitchison's remarks on network building (Aitchison 1994: 94–95).
19. 'Hospital' and 'weather' belong to the few items than have not been assigned to one of the proposed cognitive models.
20. One has to be aware that this observation could also be used to claim 'television' for the basic level, just as 'bird' and 'fish' have acquired basic level status in the cultural models underlying German and English.
21. On the hierarchical levels of 'city/town' and 'country', the number of items could be supplemented by the place names contained in the sample. See the remarks on the use of first and family names in the next section.
22. See Cruse (1986: 152–153) on "intersecting taxonomies".
23. This link is also established by Cruse, but on a much more abstract level: "Any taxonomy", he claims, "can be thought of in part-whole terms ... : a class can be looked upon as a whole whose parts are its sub-classes" (Cruse 1986: 179). From this he concludes that both taxonomies and meronomies may be based on a common underlying principle. What he does not claim – and what seems particularly important for the understanding of folk hierarchies – is that there is not just a common principle of classification but that the actual superordinate concept may, to a certain extent, be equipped with a potential for both taxonomic and meronymic interpretation.
24. Returning to Wierzbicka's highly differentiated range of supercategories mentioned in fn. 5, she is obviously right in suggesting that function and contiguity (spatial contiguity, and more heterogeneous collections) play an important role in the conceptualization of superordinate categories. Yet where one has difficulty in following her is that these distinctions should be used as the basis of a rigid and fairly discrete classification rather than be seen as dormant conceptual possibilities which are called up in varying degrees as required by context and communicative purpose.

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Section 4

Cultural models in education

The African cultural model of community in English language instruction in Cameroon: the need for more systematicity[1]

Hans-Georg Wolf and Augustin Simo Bobda

1. Introduction

The choice of a teaching model is one of the most hotly debated issues in the field of English as a second language (ESL). The debate, which boils down to international intelligibility of the English spoken vs. local acceptability and authenticity, cannot be unraveled here in all its various facets.[2]

Roughly, two linguistic fields are implicated: the phonetic/phonological and the pragmatic (including the lexico-semantic). For Cameroon specifically, the former complex has been extensively dealt with by Simo Bobda (1993), who finds that the crucial problem of phonetic/phonological adaptation in education to the local norm is international intelligibility, a problem that has not been resolved until today.

Less controversial than pronunciation but culturally more important are lexico-semantic and pragmatic adaptations in schoolbooks (cf. Bamgbose 1991: 103). In this field, the accusation by critical linguists and pedagogues is that textbooks ethnocentrically represent a Western life-style and Western values and thus alienate the students from their own indigenous culture, a position Schmied (1991: 104) labels the "cultural alienation argument" (cf. Pennycook 1994: 176–179).[3] But a neglect and exclusion of African elements in textbooks of English does not occur anymore. As Bamgbose (1991: 102) emphasizes, "most textbooks are now written by local experts and they are fully adapted to the cultural and linguistic setting".

Still, our impression is that educators and authors of textbooks are not aware of the systematic nature of the cultural knowledge they utilize and only intuitively make use of some of the elements of African culture. It is in the context of Cameroon English, which can be taken as a representative of other ESL, particularly in Africa, that we will discuss our ideas. For the purpose of this paper, we have scanned Longman's *Secondary English Project for Cameroon* Book 5, GCE (General Certificate of Education) edition (Grant, Poulter and Vifansi 1991), the major textbook of English at an advanced level in the educational system of the North-West and South-West Provinces of Cameroon, i.e. the anglophone part where English is taught as an ESL. After the survey of the topics the book presents, we will introduce the basic structure of the African model of community, arguably the most pervasive cultural model of African thought. This introduction serves two goals: First, this schoolbook is a source of data itself, as texts taken from it express underlying concepts of this model. At the same time, these texts demonstrate the extent to which this model is used in education. Thus, the second goal of our elaboration of the model of community is to suggest further areas and topics in the educational field where this model can be usefully applied, or perhaps has to be applied, because indigenization is lacking so far. Our paper closes with a discussion of the question whether utilizing and perpetuating the model in education would lead to "over-indigenization" and a severing of the African student from "modernity." "Indigenized" means that "reading passages, relevant to the students' experience, have been selected from Cameroonian literature and newspapers" (Grant, Poulter and Vifansi 1991 backcover).

2. The indigenization of topics in Grant, Poulter and Vifansi's *Secondary English Project for Cameroon*

In fact, *Secondary English Project for Cameroon* is a prime example of indigenization or Africanization. It is replete with topics concerning African life. The carefully chosen themes for reading and composition exercises as well as for listening comprehension reflect the

cultural tension between tradition and modernity that is characteristic of African society today. This is also true for the pictures. The cover depicts an affluent urban family, a drummer in traditional attire and the Mandara mountains of northern Cameroon. In the book, one can find picture prompts of mothers in a maternity clinic, a dance in a village, the savannah, and a soccer tournament as well as Africans in various situations.

Topics pertaining to the realm of tradition include a dance at a local festival, harvesting crop, traditional marriage, and building a hut. Those that draw from the cultural model of community in particular include traditional medical practitioners, witchcraft, superstition and belief, and implicitly, the spiritual satisfaction of working in the fields, as we will outline later. "Modern" topics cover, to mention only a few, illiteracy and underpayment of women, the exploitation of Africa by pharmaceutical companies, malaria control, rainforest conservation and national parks, sports and sports heroes, finding employment, computers in Africa, Cameroon's legal system, the spreading of deserts, the trans-African Highway, the domestication of indigenous animals, and the impact of TV on Cameroonian children. Only two topics do not have an overt relation to Africa or Cameroon in particular, namely industrial robots in Japan and the attitude to new technologies in the UK in the last century.

It is worth noting that the modern topics are not juxtaposed with the traditional ones; in "real life", tradition permeates much of the modern sphere, and this perfusion and conflicts possibly resulting from it are worked in the texts. Thus, educational disadvantages for women are discussed against the background of marriage and their traditional role in society (Grant, Poulter and Vifansi 1991: 32–33); the passages on rainforest conservation and wildlife touch upon the traditional customs of the indigenous population (Grant, Poulter and Vifansi 1991: 60–63); the spreading of the desert is related to a nomadic life-style (Grant, Poulter and Vifansi 1991: 70–75); customary courts are mentioned in the context of Cameroon's legal system (Grant, Poulter and Vifansi 1991: 96–98). The most striking example of the inextricable link between tradition and modernity is a story by a Cameroonian writer on a soccer match which involves *juju* prac-

ticed by a sorcerer to influence its outcome (Grant, Poulter and Vifansi 1991: 76–78).

Evidently, the Africanization of topics is accompanied by the introduction of local lexemes (cf. Simo Bobda 1997: 227). Names, places, events, food items, and currencies are Cameroonian or African. For example, a table on the order of adjectives was taken over from the *Grammar of Contemporary English* but uses Cameroonian towns and ethnic groups for the category "origin."

To understand the cultural background of many of these topics, it is vital to first get a grasp of the African model of community, which we will describe in the following.

3. The African model of community and its representation in Cameroon English

For our analysis, the concept of cultural model, as developed by Quinn and Holland (1987) in the context of cognitive anthropology, is particularly useful. In this perspective, culture is defined as "shared knowledge" (Quinn and Holland 1987: 4), which is systematic of nature and has dominant themes. Quinn and Holland (1987: 4) hold these meaning systems to be "presupposed, taken-for-granted models of the world that are widely shared (although not necessarily to the exclusion of other, alternative models) by the members of a society and that play an enormous role in their understanding of that world and their behavior in it". Hence, these models may also be realized outside of language. One disciplinary aim is to explain the way these cultural models are organized.

"Models" and "metaphors" cannot be neatly distinguished; cultural models are often metaphoric and/or metonymic (see Wolf 1994). In that, cultural models conform to a large part to Lakoff and Johnson's notion of "metaphor" (Lakoff and Johnson 1980; also, e.g. Lakoff 1987, 1994, Lakoff and Turner 1989). They distinguish between "conceptual metaphors" (indicated in the text by small capitalized letters) and "metaphoric linguistic expressions" (indicated by italics). Seemingly unrelated expressions on the linguistic "surface"

are generated by conceptual metaphors; searching out and analyzing a body of expressions thus enables us to arrive at the "underlying" conceptual metaphors, or the cultural models utilized by a group in question. Here, we will follow this distinction, without necessarily differentiating between underlying concept and metaphor. This non-differentiation is important because from a Western or non-African perspective, an aspect of the model in question may seem metaphorical, whereas from an African perspective it may not be understood metaphorically at all. In other words, this openness tries to account to some degree for the fact that we as observers are not culture-neutral but bring in our own cultural presuppositions.

We need to be aware that cultural models do not coincide with particular languages. Specific models can transcend a single language or variety; models that can be found in British or American English may also exist in German, for example, as Wolf (1994) has demonstrated elsewhere for the model of the "internal self". In turn, we may find different models within one language. Since cultural models, qua definition, are indicative of a culture, and not of a particular language, references to first language or mother-tongue interference with respect to models extracted from a second language are moot: If a model does not exist in mother-tongue varieties, but in a second-language variety, we can expect it to have originated from the mother tongues of second-language speakers, these mother tongues being part of their cultural background.

Cultural models can be found in all forms of linguistic expressions. Our sources of data include, besides the schoolbook, the Corpus of Cameroon English (CCE), literary works, and excerpts from newspaper articles. Findings by other theorists that support our analysis are also cited. Though our focus is mainly on Cameroon English, which represents anglophone sub-Saharan Africa (vis-à-vis other regional varieties of English in which this model does not exist), some examples from other varieties of African English which confirm our generalization are included as well. In fact, if one were to do the same kind of analysis for another variety of African English, we are convinced that one would be able to extract the same concepts or metaphors.

One may object that it is too much of a generalization to treat West African or even African culture as monolithic. Definitely countless different cultural practices exist in Africa. Yet if one abstracts from particular forms of cultural expressions one arrives at common beliefs and concepts. Many African and non-African scholars alike agree or presuppose that (West) African culture transcends languages and ethnicities (cf., e.g. Wiredu 1992, Tengan 1994, Simo Bobda 1994: 8–9) or even that sub-Saharan Africa forms a fundamental cultural unit (Bjornson 1985: 69).

Globally, two basic opposing notions of the individual or "self" can be distinguished. In Western society, an individuated, encapsulated concept of self predominates over other possible conceptions. Markus and Kitayama (1991: 224) describe this view as one in which the individual is seen as an "independent, self-contained, autonomous entity". Here, distinctness and separateness of persons are emphasized (cf. Wolf 1994). As opposed to this independent view of the individual, Markus and Kitayama find an interdependent view exemplified in African, but also in Asian, Latin-American and many Southern European cultures. Individuals there see themselves as part of an encompassing social relationship. Cultures "subscribing" to the interdependent view of self generally have a holistic orientation towards life with the self being conceived as contingent upon the social whole.

In the African context, this holistic orientation is linked to a cosmology. In the traditional world view of Africans, human beings are central in the cosmic hierarchy, because they link God to nature, and community is crucial for the maintenance of cosmic harmony (Musopole 1994). Community is implicated by three basic elements of African spirituality:

- the sanctity of life,
- the role of spirits and ancestors, and
- the relation between illness, misfortune, and sin (Masamba ma Mpolo 1994).

These elements constitute the skeleton of the general model of community. As we indicated earlier, this model can be described as an open set of complex, interrelated, and perhaps hierarchically organized concepts and their entailments, which are realized in linguistic expressions. Thus, lexico-semantic peculiarities in African varieties of English may not be isolated and unrelated occurrences, but may be tied to a larger conceptual network. Despite Western hegemony, this model persists, and "neither colonization, Christianization or the slave enterprise has ... eradicated the traditional African spirituality" (Masamba ma Mpolo 1994: 16).

The central metaphor is THE COSMOS CONSISTS OF MAN, HEAVENLY BODIES, AND DEITIES AND SPIRITS, which we find expressed in Alembong:

(1) African thought-systems emphasize the three worlds of African cosmology, namely that of man, heavenly bodies ... and deities and spirits (Alembong 1993: 136).

Other expressions of this conceptualization are, for example:

(2) A West African universe consists not only of 'this' world, the world in which we live, but also of the 'next' world, a ... spiritual world (CCE 17216).
(3) He called on the Fako Mountain, the god of hi [*sic*] fathers and the spirits of the living and the dead (CCE 14223).
(4) Time's sun and rain within the planets be ye gods or humans (CCE 12889).

This metaphor involves all the three elements. The sanctity of life is due to the fact that LIFE COMES FROM THE GODS (which, for atheists or monotheists, can be taken as another metaphor),[4] as reflected in the sentence *Human beings and all nature are expressions of God* (CCE 52838).

Hence, life must be preserved by all means (Masamba ma Mpolo 1994: 18).[5] The earth and nature are part of man's world (cf. Alembong 1993: 137) but pertain to the gods, as expressed in

(5) soils of godly waters (CCE 13600);
(6) the priest's obligation is to the gods of the lands (Alembong 1993: 137);
(7) humanity is itself priest of God on behalf of all nature (Musopole 1994: 9);
(8) earth goddess (CCE, e.g. 60506; Kalu 1993: 129).

Thus, the ideal case is captured by the metaphor HUMANITY IS IN COMMUNITY WITH THE GODS AND SPIRITS, NATURE, AND ITSELF (Musopole 1994: 9), which generates expressions like

(9) in the universe everything is ONE united. Man, animals, plants, fishes, water, air etc. are one from the same source (CCE 52828);
(10) human kinship with the universe (CCE 14559);
(11) the union of heaven and earth ... the relationship, so to speax [*sic*] between supernatural forces and human beings with the cosmic continuum (CCE 13174).
(12) The sense of community is not restricted to relations with human beings alone. There is community with nature (Opoku 1993: 77).

As all life comes from the gods, an understanding which is interwoven with the conception of the earth, family offspring is an important part of the sacred man-god-earth/nature relationship, as the following examples illustrate:

(13) To live in the African traditional context is to participate in the protection of life, the survival of the family and the continuity of the community .... To share in the child is seen as the field that we share with God (in Masamba ma Mpolo 1994:18).
(14) Pregnancy and birth are ... positive indicators of the process of divine gifting (CCE 19768).
(15) All children have a divine origin (CCE 19743).
(16) The child is God's precious gift ... through the mediate approval of ancestral spirits (CCE 19734; cf. 19465, 19770).

(17) Children who are stillborn or those who die during birth ... are usually suspected of 'spirit' children (CCE 19759).
(18) The fact that a couple has no children is interpreted as sufficient proof that they are bad people and their 'badness' is being punished with childlessness (CCE 19359).
(19) The link between humans and God is via filiation (CCE 17307).

The importance of fertility and children in the African culture is a well-known fact; in order to continue this sacred communion,

(20) procreation is ... a divine obligation and children are ... the seed of immortality (Musopole 1994: 11).

Children are conceived as originating from the earth (see below); furthermore, they are not born to parents, but to the community as a whole, which shares in the birth of a baby. This conception is reflected in the Yoruba proverb

(21) it takes a whole village to raise a child (Singer 1995, online).

As Musopole puts it,

(22) the collective ontology of the whole community is involved. That small being is the promise of life through which the family, clan, and community is fulfilled and perpetuated (Musopole 1994: 80).

These sentences are generated by the metaphor CHILDREN LINK MAN TO THE GODS, TO ONE ANOTHER, AND TO EARTH/NATURE. Therefore, in Cameroon English, as in other varieties of African English, expressions like

(23) *my child, daughter of our people*, or *our baby* (said by a member of the village and not by the biological parents); in Todd 1982: 73)

make perfect sense, and a sentence like

(24) the valuation of humanity in West Africa is rooted in kinship (CCE 17452)

is justified by this metaphor.

It is crucial to note that family and community are not clearly distinguished; as Weekes-Vagliani (1976: 15) emphasizes:

> In Africa, the notions of family and society are closely intertwined. The boundaries of family are defined by the social exchanges as much as by the biological ties between people, and the term covers far more than the strict nuclear unit of two parents and their children. In fact, the languages used in the area [of Southern Cameroon] make no distinction between the terms for 'family' and for 'kinship' in general.[6]

Or, as Mbiti (1990: 102) explains,

> The kinship system is like a vast network stretching laterally (horizontally) in every direction, to embrace everybody in any given local group. This means that each individual is a brother or sister, father or mother, grandmother or grandfather, or cousin or brother-in-Law [*sic*], sister-in-law, uncle or aunt or something else to everybody else. That means that everybody is related to everybody else.

This conception can be summarized by the interchangeable metonymies KINSHIP IS COMMUNITY and COMMUNITY IS KINSHIP. It has been documented, for example, for Yoruba speakers of Nigerian English by Alo (1989) and for Cameroon English by Mbangwana (1992). Thus, utterances like

(25) I greet my fathers (Oyono 1968; cit. in Mbangwana 1992: 95);
(26) my brothers and country people (CCE 14162);
(27) the family head of the Bakweri community (Andu 1998: 5);
(28) the health development of brothers and sisters in Cameroon (CCE 35066);
(29) children are introduced to adult kin as 'other' fathers and mothers and to their children as brothers and sisters (CCE 17719);

(30) the Santa CPDM [a political party] is planning a mass decamping because none of their sons was appointed into the new government (Ntoi 1998: 8);
(31) Santa people whose son was a prime minister (Ntoi 1998: 8);
(32) three policemen molesting their grandson (Kwendi 1998: 10);
(33) all brothers and sisters are extending their warm greetings (CCE 49166);
(34) they took bribes from their less fortunate brothers (CCE 13895)

are immediately meaningful to a speaker of an African variety of English (cf. Hansen 1991a: 15–16). Musopole stresses that "the social nature ... is maintained and expressed through extended family systems and elaborate kinship networks, which produce a very strong sense of community" (Musopole 1994: 76).[7]

In fact, this sense of community is so strong that communal collectivity takes precedence over individual identity (Musopole 1994: 79). This precedence of the community has been elaborated by anthropologists and philosophers dealing with Africa, and is indeed expressed in African English, as the following quotes illustrate:

(35) The individual does not and cannot exist alone except corporatively. He owes his existence to other people ... He is simply part of the whole. The community must therefore make, create or reproduce the individual; for the individual depends on the corporate group (Mbiti 1990: 106).
(36) The dictum, '*I am because we are, and since we are therefore I am*', is the cardinal philosophical principle underlying African communitarianism (Musopole 1994: 74; also see Gbadegesin 1991: 66–67).
(37) True death in the African context is the exclusion of the individual from the community (Masamba ma Mpolo 1994:19).

Thus, THE INDIVIDUAL SELF (TRUE SELF) IS THE COMMUNITY is a central metaphor in the African model of community, as expressed in:

(38) Our collective essence, our collective unconscious (Eyoh 1993: 103).
(39) The sense of self that we possess cannot therefore be attained without reference to the 'community' of other humans .... Without [...] incorporation into 'this' or 'that' human community, individuals are considered mere 'danglers' to whom the designation 'person' does not appropriately and fully apply (CCE 17305–17311).
(40) Without other humans, a human offspring cannot attain social self-hood (personhood) (CCE 19970).

A related metaphor is THE COMMUNITY IS A NATURAL ENTITY, which is fairly common in African English, because it is entailed by the metaphors LIFE COMES FROM THE GODS, and HUMANITY IS IN COMMUNITY WITH THE GODS, NATURE, AND ITSELF, mentioned earlier. Family or community is a godly natural product, so to say. Thus, in African English, the following expressions and sentences are not unusual:

(41) community as a body (Musopole 1994: 179–181);
(42) the organic nature of the family (Alembong 1993: 136);
(43) children are the buds of society (Mbiti 1990: 107);
(44) whence we stem like forests from the soil (CCE 17296);
(45) because women 'give' life through birth, they should be responsible for the fertility of the fields (CCE 17654);
(46) the child is considered a 'plant' growing up in a field – the kin group (CCE 19791);
(47) knowledge [metonymical for person] rooted in the African soil (CCE 22735);
(48) a son/sons of the soil (CCE, e.g. 2377; Civil Cabinet. Presidency of the Republic 1990: 12; Kwendi 1998: 10),

and, again,

(20) children are the seed of immortality (Musopole 1994: 11).

This conceptualization explains the "beauty of working in the fields and the satisfaction that may be derived from it", as pointed out in Grant, Poulter and Vifansi (1991: 42).

The metaphor HUMANITY IS IN COMMUNITY WITH THE GODS, NATURE, AND ITSELF entails yet another, very important metaphor, namely COMMUNITY IS COMMUNITY WITH WHOM THE GROUND IS SHARED. This metaphor is reflected in the above quoted expression

(13) the field that we share with God,

and in

(49) the ... West African social field is punctuated by kinship ramifications ... and ... common habitation with a tendency for the claim of territory, the ancestral land (CCE 17456);
(50) ancestry and common residence as core identity criteria (CCE 17485).

Since Africans live in community with their ancestors, who lived on the same ground,

(51) West Africans virtually are prisoners of their ancestral land (CCE 15834).

"Ground" is not clearly defined and can mean any locality, stretch of land, or territory. Consequently, if ground is one factor upon which community is contingent, community can be defined accordingly.

As mentioned earlier, spirits and ancestors are the second element of the African model of community. In the quote above, Mbiti mentioned that the kinship system is a network stretching laterally in every direction. This is not, however, its only extension, because it also "extends on the vertical plane, to the world of spirits and finally to God" (Musopole 1994: 77, cf. Mbiti 1990: 102). ANCESTORS ARE SPIRITS is a prominent metaphor pertaining to the African model of community:

(52) The departed ancestors are part of this constellation of living spirits. By virtue of their moral integrity which made them to [*sic*] become ancestors, they live in close proximity to God [the gods] and are believed to possess special powers (Masamba ma Mpolo 1994: 24).

Another metaphor is mixed with this general metaphor, namely SPIRITS AND GODS ARE PART OF PRESENT REALITY, as in *ancestors are living spirits*. A passage from the CCE (14610) nicely expresses this conceptualization:

(53) The frequent appearance of Mola's ghost affected the daily lives of the whole village community. The men had to accompany their wives to the farm. It had been rumoured that he had developed certain vices since his death. That he had become a sex maniac. He had molested his wife on many occasions. The villagers had to retire early to the safety of their homes as the ghost normally started its prowls at nine o'clock.

Further samples of this metaphor abound in the literature, as the following list demonstrates:

(54) My return to the land of the living have [*sic*] been due to the disapproval of the Greater Caouncil [*sic*] of the spirits, which had decided that I was too young to do any useful work on the plantation (CCE 14677).
(55) Admonishing the evil spirits in song (CCE 14622).
(56) I saw his ghost walking along the road (CCE 14507).
(57) It is the duty and the right of every ancestor to torment or punish the living (CCE 17822).
(58) Ancestors and gods keep a watchful eye on the living (CCE 17628).
(59) She marries into the spirit world (Eyoh 1993: 106).
(60) Departure from the traditional usage which might offend the ancestors (Setiloane 1993: 151–152).
(61) Contrary to the will of the ancestors (Setiloane 1993: 153).

(62) The approval of the ancestors (Setiloane 1993: 155).
(63) The ancestors live (Opoku 1993: 75)
(64) The revered ancestors and the deities still exerting tremendous force on the living, acting as their guardians and protectors (Ambanasom 1993: 120).
(65) Land illustrious ancestors handed over to us (Ambansom 1993: 122).
(66) Here is drink for you gods, for you ancestors (Ambanasom 1993: 122).[8]
(67) Ancestors, grant me strength and wisdom, grant me patience and love (Ambanasom 1993: 122).
(68) Man's perpetual communion with his Gods (Alembong 1993: 138).
(69) Our relationship with the gods who hover permanently over and above us (Eyoh 1993: 103).
(70) I wish that everyone return home safely with our ancestors guiding you on the way (Ngongwikuo 1980; cit. in Mbangwana 1992: 95).
(71) The point where all members of a given community meet: the departed, the living and those yet to be born (Musopole 1994: 86).
(72) The living-dead (Musopole 1994: 92).
(73) Funeral rites are ways of keeping alive the presence of the deceased among the living (Musopole 1994: 93).
(74) Ancestral wrath is caused by the neglect of the offspring (Gbadegesin 1991: 105).
(75) Calling on the deities or ancestors to pour blessings on the living (CCE 61757).
(76) Cruelty to children is ... punishable by ancestral spirits (CCE 20084).
(77) Spirits ... are also very sensitive to any acts of disrespect (CCE 17923).
(78) The capriciousness of spirits (CCE 17907).
(79) Ancestors intercede on behalf of their living kin (CCE 17235, 17858).

(80) Nocturnal spirits are believed to use marketplaces as habitats (CCE 17763).
(81) She is believed to have communicated with the spirits (CCE 3327).
(82) The Shufai (sub-chief) then invited all the sons and daughters of Nzeendzev to return home and perform certain rites and sacrifices to appease their ancestors so as to receive their blessings in return (Shiyuntum 1998: 5).

The last quote points to a conceptualization that is close to SPIRITS AND GODS ARE PART OF PRESENT REALITY, namely PERSONS OF RESPECT MEDIATE BETWEEN THE SPIRITS AND THE LIVING. In different settings, this person of respect can be an elder, a traditional healer, or a traditional ruler (cf. Geschiere [1995] 1997: 151, 160). This conceptualization is expressed, for example, in

(83) kings incarnate their cultural heritage and are intermediaries between the living and the ancestral spirits and deities (CCE e.g. 17625);
(84) the ancestors and gods keep a watchful eye on the living through the mediation of the king (CCE 17629);
(85) the chief priest of a deity (CCE 12670);
(86) in the family, the Diokpala 'head of the lineage' as well as the paterfamilias 'head of the nuclear household' become quasi-priests, who ... pour libation to the 'living-dead' ancestors (Kalu 1993: 115);
(87) the communal leader and his council of chiefs gather as priests (Kalu 1993: 115);
(88) she is the ceremonial head who links the living community with the deceased ancestral community (Setiloane 1993: 150).

And, to include an example from *The Raving Masquerade* by the Cameroonian writer Ndeley Mokoso, used in Grant, Poulter and Vifansi (1991: 22):

(89) The priests (*nwanas*) enter the water to consult *Nyikob* ('God') through the Fon's ancestors.

Kalu (1993: 115) draws attention to the fact that age is crucial in this context, because older people are believed to be closer to the ancestors. This is the reason why older people are often believed to possess special powers (see Geschiere 1997: 95, 151). These special powers have two sides and possessing them assigns an ambiguous role to these healers or dignitaries: that of controlling witchcraft (see below). For a positive use of their powers,

(90) witchdoctors are asked to exorcise spirits and ghosts (CCE 14681)

and

(91) diviners are consulted to find whether a harmful spell looms over a person (CCE 17995).

If ancestors are spirits and are part of present reality, one entailment of this metaphor is that FAMILY IS TIMELESS, as one postcard read received from Cameroon, an entailment also expressed in *children are the seed of immortality* (Musopole 1994: 11). The metaphor SPIRITS AND GODS ARE PART OF PRESENT REALITY and its entailment FAMILY IS TIMELESS also underlies a proverb Mbangwana found in Cameroon English:

(92) Life on earth is like the *assiko* dance that dancers move to the centre, display and return to the background (Mbangwana 1992: 101).

The center is the visible life, so to say, whereas the deceased, the ancestors, live in the background, but are present nevertheless. Thus, death is described as a

(93) return to the fathers (Nsom 1998: 9),

as

(94) passing on, disappearance, or as transition (*The Herald* 1998: 2, Shiyntum 1998a: 5, Shiyntum 1998b: 5, Bangsi 1998: 6).

This proverb implies another metaphor connected with ANCESTORS ARE SPIRITS, namely that HUMAN BEINGS CAN BE HUMANS AND SPIRITS AT THE SAME TIME, as expressed in the following statements:

(95) Mediums generally impersonate the type of God they represent (Alembong 1993: 131),

and

(96) characters to function on both the human and spiritual levels, taking part in human affairs, but also as a spirit incarnate (Alembong 1993: 135).

Due to the prominence assigned to ancestry in the African model of community, genealogy plays a significant role (cf. Mbiti 1990: 102–103).

(97) To lack genealogical depth is to deprive oneself of one's historical rootedness (Musopole 1994: 77),

because one important component of community is community with the ancestors, as the following quote implies:

(98) Communication links the living, the dead and the unborn in communion (Ambanasom 1994: 121).

Not surprisingly,

(99) genealogical information is also very important in the [sic.] maintaining of kinship relationships (Musopole 1994: 77).

Thus, qua KINSHIP IS COMMUNITY IS KINSHIP, the African model of community also includes the metaphor COMMUNITY IS COMMON ANCESTRY.

The third element of the general model of community, the relation between illness, misfortune, and sin, rounds it off. It brings together the elements of the sanctity of life and the element of spirits and ancestors. This relationship can be captured by an extension of the metaphor HUMANITY IS IN COMMUNITY WITH THE GODS AND SPIRITS, NATURE AND ITSELF to HEALTH IS HUMANITY IN COMMUNITY WITH THE GODS AND SPIRITS, NATURE AND ITSELF and its inversion ILLNESS, MISFORTUNE AND SIN ARE HUMANITY IN DISCORD WITH THE GODS AND SPIRITS, NATURE, AND ITSELF. Illness and the related concepts can be the result of acting against any of the components in the sacred communion, as the following sentences indicate:

(100) The cause of death may be attributed to the living-dead, especially when they have been neglected, their mortuary ritual has not been performed satisfactorily, or they suffered some violent death themselves which leaves them disgruntled, angry and bent on revenge (Musopole 1994: 92).

(101) Illness and misfortune are associated with personal or group transgressions ... . The sickness and death of a child, a young person and an active adult is ... often explained in terms of the result of an offense against the ancestors; violation of social taboo; an attack by deities and evil spirits, or the result of witchcraft (Masamba ma Mpolo 1994: 19).

(102) The violation of morals leads to a severing of established relationships between God and his creatures, and between the living and the departed ancestors (Msamba ma Mpolo 1994: 19).

(103) Zana is sick and the diviner has diagnosed conflicts in the extended family as the source of illness (Msamba ma Mpolo 1994: 21).

(104) When a woman loses several children in succession, it is believed that it is often the same child who returns to punish the mother for some of her misbehaviors or sins committed against a kin member (Masamba ma Mpolo 1994: 22).

(105) Infertility is regarded not as a physiological deficiency, but a cosmocultural deficit (CCE 19364).

More often than not, illness, misfortune, and sin are interpreted in terms of witchcraft, as indicated in one of the above quotes (see Geschiere 1997: 69). Witchcraft cannot be seen separately from the positive powers ascribed to the traditional healers, i.e. the herbalists, but also to other people believed to be able to control spirits (see Gbadegesin 1991: 109–136). Geschiere (1997: 57–8) points to the ambivalence of this spiritual power and argues that Western good/evil dichotomies do no capture the reality of witchcraft; in other words, discourse on witchcraft is inconsistent. Without entering into anthropological intricacies, one can generalize that witchcraft and the breach of community values go together; acting against the communalistic nature of society can be, e.g. the acquisition of wealth (cf. Geschiere 1997) or "when people express their individuality in too ostensive a manner" (Jacobson-Widding and Westerlund 1989: 10). The breaking of community values by an individual can cause negative emotions, say, jealousy or anger, in the community/family. That is why Geschiere (1997: 11) describes witchcraft as "the dark side of kinship". As he explains, witchcraft begins "inside the house". Part of this ambiguity, to our mind, is that it escapes analysis whether witchcraft is a sign that community values have been broken or whether it is used to break community values, e.g. by community members who foster negative emotions. Be it as it is, a number of popular conceptions relating to witchcraft can be extracted from the literature. Arguably, the "witchcraft aspect" of the African model of community is the one most conspicuously different from Western thought. It is also the one the textbook most heavily draws on.

A pervasive conceptualization is DEATH OR ILLNESS OF A YOUNG PERSON OR HEALTHY ADULT IS CAUSED BY WITCHCRAFT (cf. Jacobson-Widding and Westerlund 1989: 10). It is expressed, for example, in the following passages:

(106) Aina is ... sickly and dull in school ... . The mother begins to worry and therefore goes to a herbalist who prescribes some

medicine, to no avail. In the end, ... the mother attributes his [sic] son's predicament to the second wife's jealousy. She must be a witch. Another herbalist is consulted who confirms that Aina's problem is the handiwork of an evil force (Gbadegesin 1991: 111).

(107) In two months, not less than five young men in their early thirties and holding key positions in government services ... had been brought home in coffins ... and their deaths are all connected with witchcraft. In Kom itself fetish threats of life are immediately followed by surprise and shocking deaths. This frightening situation has forced the Kom people to resort to ... expulsion and banishment of witches and wizards from the land ... . The first victim was a well-known trader ... . He is alleged to have killed more than two people by witchcraft and some are still critically sick in their homes (CCE 23802).

(108) He was sorry he had brought shame to the family by his diabolic activities. He said he could not help it. He had developed a certain evil urge to kill and kill ... . The whole matter of death and witchcraft had been shrouded in the [*sic*] mystery (CCE 14601).

(109) At this stage of his illness, family members and friends feared that the musician had been bewitched (CCE 53087).

(110) Sanga Tete invokes evil spirits to kill Ma Mende (CCE 61056).

(111) There is still consternation and disbeleive [*sic*] surrounding the mysterious death on [!] a six-years-old boy that occurred last tuesday [*sic*] from alleged rat bite ... . The body of the boy, who had gone to bed normally in the evening ... was discovered ... with some parts of his body including his genitals eaten up by the 'vampire rat'. Although rats in Douala are usually extraordinary in size, it is still very difficult, to beleive [*sic*] that this six years-old boy could be found dead under his bed and the death attributed to a rat of extra-large size! ... There are already very strong feelings that witchcraft emanating not very far from his parents could be at the basis of the boy's death (*Cameroon Tribune* 1995a: 1).

(112) Exploding gun kills owner ... . According to sources close to the victim, his wife's loin cloth recently got burned mysteriously, the only object that was burned in the house. Was this a witchcraft warning of some impending danger? (*Cameroon Tribune* 1995b: 1).

(113) A certain old woman of the village, named Mma-Baloi, was charged with allegedly practicing witchcraft ... . The evidence was that Mma-Baloi had always lived a secret and mysterious life apart from the other villagers ... . Now over a certain period, a number of the children of the village had died sudden deaths, and each time a mother stood up to describe these sudden deaths, the crowed roared in fury because the deaths of the children and the evil practices of Mma-Baloi were one and the same thing in their minds ... . Further evidence was that ... a strange young woman had turned up in the village ... and made straight for the hut of Mma-Baloi where she had died a sudden death (from the novel *When Rainclouds Gather* by Bessie Head, in Grant, Poulter and Vifansi 1991: 92).

(114) A brilliant young school girl called Tona died ... . The old man looked at me thoughtfully. 'Kofi', he said. 'He also shines at school.' He turned his gaze to my mother. 'Be careful', he warned her. 'Do not arouse the enmity of those who are jealous.' [The story continues with a description of the funeral scene.] Four men carried the coffin but they were behaving in an alarming manner. They crossed and re-crossed the road, sometimes running forward, sometimes backward, sometimes standing quite still for a minute or two, so that the procession made very little progress. A crowd of people danced and shouted around it. In the midst of them was a young white priest, obviously afraid. 'Headmaster', he said, 'what is it? Are these men drunk?' 'No father', my father answered. 'They are bewitched'[9] ... . 'The child will not go to the cemetery', my father told him. 'She did not die a natural death. She wishes to be avenged' ... . 'They will bring her back to the cemetery in the end ... . But now she goes to show them the witch.' I began to understand. The witch-bird had flown over the town. Tona had

> died. Her body refused to rest until she had shown us her murderer ... . The witch who killed Tona should herself be killed... . [Eventually the coffin leads the crowd to a house inhabited by three women, who are accused of witchcraft and brought before the village priest. Three cocks whose throats are cut are used to verify the truth of the women's defense. The third women] confessed that she was a witch. She was exhorted by the priest and his assistants to confess all her crimes (Grant, Poulter and Vifansi 1991: 111–113).

The conceptualization DEATH OR ILLNESS OF A YOUNG PERSON OR HEALTHY ADULT IS CAUSED BY WITCHCRAFT implies that there is no natural cause of death; in other words, witchcraft involves human agency (Sikod, informant, Gbadegsin 1991: chapter 5, Konaté 1992: 158–159, Geschiere 1997: 22).

The spiritual force related to witchcraft is believed to live in a person's belly, and *eating* has an extended meaning (Geschiere 1997: e.g. 7, 108, 134): eating is feeding the spirit, so to say. For example, in Grant, Poulter and Vifansi (1991: 117), we found the following passage:

> They think that a man's spirit can quit his body for a time during life and take up his abode in an animal. A man who wishes to acquire this power procures a certain drug from a wise man and mixes it with his food ... . A sly rogue will sometimes surreptitiously administer the magical drug to his enemy in his food.

Again, this conceptualization is ambiguous. A big belly is viewed positively as an indication of wealth and power, but can also be seen as a sign of illicitly acquired wealth and the abuse of power. Eating in the context of witchcraft is understood as eating the soul of other persons (one is reminded of cannibalism). As Geschiere (1997: 239–240) writes, "the frightful image of the nocturnal banquet where the sorcerers eat their own family members could be a general element of witchcraft/sorcery in Africa." This understanding of eating is transferred to the modern realms of economy and government, where cor-

ruption, greed and mismanagement are understood as acting against the broader community.

(115) They eat your money

for undue financial demands is a frequently heard expression, not only in Cameroon English, but also in Nigerian English, and the

(116) national cake

is the "common-wealth" of a nation (see Igboanusi 1998: 91, 99). This extended understanding of the metonymy WITCHCRAFT IS EATING also generated the following passages:

(117) When you eat money the way locusts eat tonnes [*sic*] of green (CCE 60607).
(118) Kwengong invokes spirits which kill him and his stomak [*sic*] gets swollen because of exploitation, greed and corruption (CCE 60995).
(119) The embezelment [*sic*] has eaten deep in his vein (CCE 60686).
(120) Francophones should eat all what we have in our coffers (CCE 60640).
(121) Witches are predators, bloodhounds who have no friends. As predators, greed is their hallmark; an abiding zest for destroying the successful, the healthy, and the 'lucky' in the community (Agu 1987, cit. in Bastian 1993: 129).

Another popular conceptualization relating to witchcraft is ANIMALS HAVE A SPECIAL RELATION TO THE SUPERNATURAL, which is also repeatedly expressed in *Secondary English Project for Cameroon.* It is believed that witches can turn into animals (see Grant, Poulter and Vifansi 1991: 116–117, Geschiere 1997: *passim*), as in

(122) every wizard is believed ... to unite his life with that of some particular wild animal (Grant, Poulter and Vifansi 1991: 116);

or that killing chicken and cocks can give signs of the supernatural, as the following examples indicate:

(123) The headless chicken leaps and bounds across the ground. The way it dies and its position at death tell the people whether their relationship with the ancestors has been good or not (Grant, Poulter and Vifansi 1991: 22).
(124) The second old woman was brought forward. She too denied that she was a witch .... Her cock too died on its back and the god acknowledged her innocence (Grant, Poulter and Vifansi 1991: 113).

Owls are perhaps the animals most intimately connected to the negative practice of witchcraft; they are considered to be *witch-birds*, as indicated in the story in Grant, Poulter and Vifansi (1991: 111–113), cited above. Data from another source include:

(125) Diabolic owl exorcised from Presbyterian Church;
(126) a mysterious bird of the night was behind his misfortunes;
(127) the owl ... was an embodiment of some evil elements of the community bent on harming him;
(128) you omen of death and destruction [in reference to the owl];
(129) this owl is the incarnation of those ... who have joined the forces of evil (*The Herald Observer* 1998: 6).

A different supernatural capacity is ascribed to dogs: It is generally known in Cameroon that DOGS CAN SEE WITCHES, as a quote from the CCE (14528) illustrates:

(130) The endless whining and barking of dogs – a sure sign that something mysterious and weird was around.

The above presentation shows that the indigenized material found in *Secondary English Project for Cameroon* is not used haphazardly or in isolation, but is indeed embedded and in line with dominant cultural beliefs, expressed in a number of sources. Furthermore, given

this evidence, it cannot be claimed that English has eradicated African culture; on the contrary, a cognitive transfer has taken place. It is a transfer that has conveyed the indigenous culture via the thoughts (or social practices) of the people into the English language.

4. The need for further adaptations and the problem of intelligibility

To recapitulate, Grant, Poulter and Vifansi's *Secondary English Project for Cameroon* (1991) makes ample use of the witchcraft aspect of the African model of community. Yet besides one direct reference to the element regarding spirits and ancestors (see p. 11) and one line pointing to "the beauty of working in the fields and the satisfaction that may be derived from it" (Grant, Poulter and Vifansi 1991: 42), which could be related to conceptualizations of the sacredness of earth and nature, other important elements which are widespread in Cameroon English are surprisingly missing.

The model is used to an extent, but Simo Bobda's (1997: 227–232) demand for further lexico-semantic and pragmatic adaptations still holds. In the realm of lexico-semantic adaptations, it is still necessary to accommodate the use of kinship terms in the textbooks to the way they are used in Cameroon English and other varieties of West African English based upon to the FAMILY IS COMMUNITY IS FAMILY metonymy (cf. Simo Bobda 1997: 228–229). Thus, *good morning, Dad* in a textbook should indicate that a range of referents is possible. Moreover, to pick up a suggestion by Mbangwana (personal communication, March 1998), the plural form *fathers*, as in *good day, my fathers*, uttered by a younger person, should be preferred to *good day, sirs*, which would be considered rude and arrogant in African culture.[10]

The "abundant use of blessings" in letters written by Africans senior in age to the reader, once observed by Platt, Weber and Ho (1984: 151), can also be explained by this model, namely the conception that elders are closer to the ancestors and to God. Thus they feel it is their duty to bestow blessings upon the younger members of

the community. Definitely, this pragmatic difference needs to be highlighted in lessons on writing skills.

Furthermore, according to the THE INDIVIDUAL SELF (TRUE SELF) IS THE COMMUNITY) concept, *we*, *our*, and *ours* may encompass the speaker, although he or she may not be concerned, as in *How is our wife/child*, etc. (cf. Simo Bobda 1997: 229). Yet the use of these pronouns in the textbook is still based upon the Western concept of the individual.

One may also point out the potential negative consequence of the paternal concept in politics, where the president or persons in power are perceived as *fathers*, with respect to democratic training.

If this model and the suggestions made here are adopted on a wholesale basis in education, then teachers and authors of textbooks need to be aware that words acquire new meanings, as, e.g. in the case of the kinship terms. Furthermore, certain collocations become more prominent, as, e.g. *practicing witchcraft* or *son of the soil* (cf. Wolf 2001).

Nevertheless, an incorporation of this cultural model brings back the intelligibility vs. authenticity debate in a different guise. Arguably, cognitive adaptations are more far-reaching than changes in pronunciation, albeit less symbolic. In one way, the foregoing discussion should allay the fear of the "alienationists." If "the colonial educational system was created, in part, to destroy African culture" (Amin 1994: 249) and if educational planners failed "to come up with a curriculum designed to decolonize the Cameroonian mind" (Amin 1994: 253), these mistakes have, at least in the teaching of English, been restituted to a large extent. It is not true that the English language as such imposes "new 'mental structures'" (Phillipson 1992: 166), i.e. an alien cultural universe, for non-Western cultural models can indeed be realized in English, as we have demonstrated. Unless one wants to argue that modernist issues like rainforest conservation, computerization, employment, and the future of Cameroonian soccer are part of the imperialist discourse of globalization (cf. Pennycook 1994: chapter 2), the topics in the textbooks do emphasize African culture and help to maintain or "develop a sense of community, belonging and direction" (Amin 1994: 256).

Conversely, it is equally misguided to think that L2 varieties are inappropriate for a broader international communicative purpose because they are "culturally and geo-politically specific in orientation" (Johnson 1990: 304). There is no need to erect an artificial boundary between "naturally grounded" L1 and L2 varieties and an International English, as Johnson (1990) does. But it is a problem to find a norm for such a "denationalized" international variety of English (Hansen 1997: 63). Furthermore, what should the cultural and hence conceptual basis of such a denationalization be? For some, "culturally neutral" seems to mean the same as "twentieth-century developments in commerce, economics, politics, science and technology" which should be reflected in International English (see Johnson 1990: 305, 311; Pennycook 1994: 176–179). To put it in a nutshell, the "common core" or "nuclear English" (Quirk 1981), on which such an International English would be established implies a consensus notion that conforms to a Western way of life and its associated values and concepts.

Apart from the valuational issue, does the application of the cultural models expressed in L2 varieties jeopardize intelligibility? The answer is clearly no. It poses no problem for an outsider to read and comprehend an indigenized textbook of English or a novel written in English by a Cameroonian, for that matter. Not all lexical items will be known, nor will all concepts be understood; but this problem of encountering something new is part of human life in general and is not unique to communication across varieties of English. The point is to learn new concepts, to accept the expansion of the English lexicon and the models expressed in this language rather than to restrict them, as proponents of "International English" would have it.[11]

Why should references in L2 textbooks to *witchcraft* and *ancestors who need to be consulted* impede intelligibility? Humans have the capacity to understand conceptual systems they do not share, and shifting between different conceptualizations is a sign of scientific thought (cf. Lakoff 1987: 304–330). Why should the introduction of alternative conceptualizations be banned from learning materials, if all that can be weighed against the benefit of a broader range of expe-

rience is an unwarranted threat of unintelligibility? To sum it up with some of Whorf's ideas, as compiled by Lee (1996: 33):

> Studying as wide as possible a range of different ways of making meaning as are represented by the diversity of languages [or varieties] which are or have been used has the potential to facilitate study of human thought on a planetary scale ... . Multilingual awareness also has the capacity to increase intercultural understanding by engendering respect for other logics and other pictures of the universe represented by different ways of speaking ... . In the personal lives of individuals, becoming consciously aware of the linguistic (including logical) processes that we employ automatically in the use of languages we know can help to free us from illusion about the nature of reality which we have been conditioned by our speech community to regard as facts having the same conceptual character and salience for all people.

Conceptual diversity which is realized lexically enriches the English language and learners of it profit most if indigenous cultural elements occur alongside native-English elements.

Notes

1. Parts of this paper are published as Wolf (1999, 2001).
2. A very brief selection of works that deal with this issue may include Smith 1981, Platt, Weber and Ho 1984: Chapter 10, Johnson 1990, Schmied 1991: Chapter 4, Pennycook 1994, Quirk 1995: Chapter 1–3, Banda 1996.
3. Here the distinction between English as a Foreign Language (EFL) and ESL may be of importance, because one aim of EFL textbooks may be to convey the culture associated with the target language. Yet what is the culture associated with English if English is not "owned" by any one country (cf. Simo Bobda 1997: 223f.)?
4. Under the influence of monotheistic Christianity, 'gods' may be substituted by 'God'.
5. This claim may seem cynical in the light of the recent atrocities that took place in Africa. However, as we will point out, community is a flexible concept and can defined according to the circumstance. Furthermore, people rarely live up to their idealizations.
6. Weekes-Vagliani's research suggests that the notion of the extended family persists in urban, and "modern" settings in Africa.
7. Musopole (1994: 78) introduces the term 'adoptive kinship'; in urban areas, where people have been uprooted from their traditional village settings, people,

personal friends are adopted and become part of the family. This phenomenon is motivated by and contributes to the persistence of the community model.

8. In parts of West Africa, for example in the Igbo culture, before one takes a drink, part of it is poured on the ground for the ancestors (E. Okoroafor, informant).
9. This answer points to the ambivalence of witchcraft. The men are carrying the coffin and they are bewitched qua being an instrument of the child who is about to reveal which witch is responsible for her death.
10. Obviously, the use of fathers in native varieties of English is only possible in metaphoric extensions, as in *the fathers of the atom bomb*. For Africans, the use of fathers may not be metaphoric at all.
11. This linguistic reductionism can be regarded as an expression of a technocratic and utilitaristic world view only concerned with a smooth and efficient functioning in the very realms of modernity listed by Johnson (1990: 305). Ironically, in these realms an expansion of knowledge is deemed necessary, even essential.

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