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## ■ Prototypes, transfer and idiomaticity: an empirical contrastive analysis of local prepositions in English and German

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### 1. Background

This presentation uses part of the Internet Grammar that is being constructed at the University of Chemnitz as a basis for a contrastive analysis of prepositions to illustrate some old problems of language description from dictionaries or (cognitive) grammars.

I would therefore like to set this empirical study into its wider context before proceeding to description of the object of this study, prepositions.

### 2. The analysis of prepositions

*2.1. Prepositions as a special borderline case between the lexicon and grammar*

Prepositions are a notoriously difficult field for foreign language learners in general. This is partly due to the problem that information on prepositions is not really found in the traditional grammar books nor is it presented in an appropriate system in the traditional dictionaries. This is partly true because prepositions have syntactic as well as semantic specifications that are unique

to them. Of course prepositions are syntactic link words that link nouns to verbs, nouns and occasionally other word classes. The choice of prepositions, however, often depends on the meaning of the syntactic element that determines it. To put it in terms of dependency theory prepositions partly depend on the preceding noun, verb, etc. and partly on the following noun. Prepositions also overlap, at least in English and German, with other word classes, such as adverbs and particles, which are occasionally called intransitive prepositions.

All this makes it very difficult to use prepositions or to categorize prepositions only on the basis of its surface value, which is common practice in simple corpus linguistics analyses. For the more sophisticated semantically based corpus analysis we would need a semantically tagged corpus, which is very rare indeed since there are no generally acknowledged simple tools that can do the job automatically and experienced linguistic labour is usually too scarce to go through millions of words as in our translation corpus. Thus the tagging for a corpus-based analysis of prepositions can only be done partially (cf. Table 4 below).

### 2.2. *Prepositions in (cognitive) grammar*

The literature on prepositions, in particular local prepositions, in theoretical grammar is abundant. I will mainly use concepts from case grammar and cognitive grammar for my presentation because they are more concerned with the semantics than most others.

As early as 1968 Fillmore uses prepositions to illustrate his semantic cases or roles by saying "the instrumental preposition is *with*", "the agentive proposition is *by*" or "the objective proposition is *of*" (1968:368). Later in X-bar theory prepositions often only transmit (indirectly) theta roles from verbs, adjectives or nouns to noun phrases and have often only a minor part in the semantic composition. But the concepts on the syntax of prepositions and the semantics are heterogeneous (cf. Rauh 1995).

In cognitive grammar, local prepositions have been used extensively since Lakoff/Johnson (1980:15) to show how 'orientational metaphors' map basic experiences from the spatial domain onto abstract cognitive models. Radden (1989) has tried to categorize the figurative uses of prepositions on a practical basis.

In more theoretical treatises, mainly following Lakoff (1987) a figure/ground and trajector/landmark framework has been used for prepositions.

Lakoff (1987) includes prepositions among words that have "image-schematic meaning", which includes the prototypical meaning of each

preposition (possibly with the exception of *of*) as well as "secondary" meanings from 'elaborations' to 'metaphorical extensions' (cf. also Ungerer/Schmid 1996 ch.4, which is largely an interpretation of Lakoff 1987). Lindstromberg (1998:19) calls them prototypical, secondary and metaphorical meanings and distinguishes them from idiomatic uses, where the "meaning cannot be guessed from the individual words that make up the phrase" (ibid).

However, none of these studies for English or for other languages (e.g. French in Garrod/Ferrier/Campbell 1999) is firmly corpus-based, so that the same deduced examples tend to be used to support the general argument all the time. In contrast, we prefer an inductive approach from the data to test these models.

### 2.3. *Prepositions in (EFL) dictionaries*

Since prepositions are a notoriously difficult area even for advanced foreign learners of English (cf. Schmied/Fink 1999 for German and Coppieters 1989 for French), they are treated extensively in EFL dictionaries (cf. Lindstromberg 1991).

The first cursory look into the standard dictionaries shows that the semantic structures of prepositions are extremely complex. *With* for instance has 18 entries in LDOCE3, 21 in the Cobuild2, 16 in ALD and also 16 in CIDE. This makes it the most polysemous English preposition (despite the obvious problem of counting overlapping sememes) - apart from *of*, which is considered a special or especially empty case by most linguists. This leads some linguists and lexicographers to claim that prepositions are "lexically empty" (CIDE 1995: viii). CIDE, however, also tries to achieve the clearest semantic distinction by its use of semantic keywords (e.g. COMPANY and METHOD, as prototypical for *with*). Thus the categories applied in monolingual dictionaries vary enormously (c.f. Table 1 with CIDE vs. COBUILD, which are both based on large corpora).

The same complexity can be found in bilingual dictionaries such as the *Oxford Duden, Pons* or *Langenscheidts Handwörterbuch Englisch - Deutsch* (1991).

### 2.4. *Prepositions in English and German in comparison*

Since prepositions are among the most common words in Germanic languages the database for an analysis of prepositions is usually extremely good. A comparison of the most common words in our translation corpus with Wordsmith shows that among the most common words in English and parallel in German.

It must, however, be emphasized again that this analysis is only based on surface parallels. A more detailed analysis of the actual usage which is only possible with a good compatible database like our translation corpus, show some interesting divergence, for instance, in the behaviour of English and German *in* (below) and English *with* and German *mit* (Schmied 1998).

### 3. From prototypes to transferred usage to idiomaticity: the example *in*

#### 3.1. Methodology

The following presentation starts from the assumption that the most frequent English prepositions have their origin in their LOCAL meaning, which is then further extended into the fourth dimension TIME. These meanings are usually seen as original and prototypical and constitute the basis of discussion of semantics of English prepositions in grammar. On the other hand, the meaning of a preposition in English is often derived from the context, so that the meaning of a preposition is mainly gained from the preceding verb or noun or from the following noun. These meanings are usually listed (after examples of the prototypical meaning) in the dictionaries of the English language.

The meanings for the preposition *in*, which looks so similar in both languages have been taken from the Langenscheid's Handwörterbuch (Table 3). This dictionary follows the traditional root of more prototypical, local and temporal usages first, moving on to more figurative usages afterwards. This can be seen from the German translation equivalents where *in* is substituted at least in the middle area by related prepositions, such as *zu*, *bei* and where the final prepositional examples get more and more lexic-specific, so that the meanings are largely derived from the governing head of the preposition.

Although our German learners read through a lot of the explanations of the prepositions and as we know from personal interviews found them quite interesting they also said that a lot of the basic and original meanings and the respective explanations were very little used to them. This is not surprising since German and English are so closely related and the cognitive systems of prepositions have not developed that far apart in many cases. Whereas the German learners always called their problem idiomaticity it is not really true that these problems cannot be explained apart independently of individual sentences, this is what German learners usually meant by idiomaticity, very closely related to irregularity and singularity.

The following Table 4 shows the preposition *in* in context, an example from an English novel with a classification of the occurring *in*-constructions

according to our codification and the German equivalent added as tags. Table 5 is a different representation of the same concrete examples.

#### 3.2. Meaning continua of prepositions

The following diagrams (Fig. 1-5) for each of the five prepositions investigated here try to illustrate how far the prepositions have developed out of the basic local meaning. In all the diagrams a blue plus indicates that the German equivalent **can** and a blue minus that it **cannot**.

Our standard example is the preposition *in*, which usually has the meaning PLACE first. The prototypical example of this meaning is *in the street* versus *on the road*, where *in* clearly suggests the three-dimensional context of SPACE, whereas *on* denotes the two-dimensional context of SURFACE (i.e. with or without buildings on both sides of the way), which is not always stated clearly enough, as in the following example from the BBC Learning English division, with whom we have started a collaboration (Fig. 4).

A modern extension of this meaning is DIRECTION, as in

In both cases of meaning the German equivalent *in* is treated identically.

A further expansion of the local meaning is PARTICIPATION:

- (S1E) The Grace Darling museum tells the story of her life and of her heroism **in** <PARTICIPATION> rescuing survivors from the wreck of the Forfarshire in 1838.  
 (S1D) Das Grace Darling Museum erzählt die Geschichte ihres Lebens und ihres Heroismus **bei** der Rettung von Überlebenden aus dem Wrack der Forfarshire im Jahr 1838.

Here the overlap between locative and temporal meaning becomes obvious. Whereas in English the preposition *in* is used all the way, the more temporal meanings are covered by *bei*.

An even clearer temporal meaning becomes apparent in the cases of PERIOD, which can be as short as *part of the day* and as long as *times immemorial*.

- (S2E) CHILLINGHAM - The Castle, open to the public for the first time **in** <PERIOD> 800 years, dates from the 12th century with Tudor and Georgian additions.  
 (S2D) CHILLINGHAM - das Schloß, das nach 800 Jahren zum ersten Mal der Öffentlichkeit zugänglich ist, stammt **aus** dem 12.

Jahrhundert und weist Anbauten aus der Tudor - und Georgianischen Zeit auf.

Clearly lexically conditioned meanings of *in* occur in the examples *in fashion* or *in government* where the former is rendered as *in* in German but the latter requires the preposition *an*.

In-between these two extremes several semantic areas of figurative transfer from the local / temporal meaning of *in* can be found. The examples S3 to S11 show how CONDITION, POSSESSION, MEASURE, MATERIAL, REASON, PERSPECTIVE:

- (S3E) The premise at the heart of this Green Paper is that the next phase **in** <CONDITION/STATE > the development of European social policy cannot be based on the idea that social progress must go into retreat in <idiom> order for economic competitiveness to recover.
- (S3D) Diesem Grünbuch liegt die Prämisse zugrunde, daß die nächste Entwicklungsphase der europäischen Sozialpolitik nicht im Zeichen des Sozialabbaus zur Wiederherstellung der wirtschaftlichen Wettbewerbsfähigkeit stehen kann.
- (S4E) Part I sets out what the Community has already achieved in <condition/state> the social sphere.
- (S4D) In Teil I wird dargelegt, was die Gemeinschaft im sozialen Bereich bereits erreicht hat.
- (S5E) The succeeding Norman Earls of Warwick rebuilt the Castle in <material> stone, so that ...
- (S5D) Die nachfolgenden Grafen von Warwick ließen das Schloß aus Stein neu bauen, so daß ...
- (S6E) the advancement of economic and social progress as two sides of the same coin and the search to ensure that the process of integration is clearly identified in <possession> the minds of all the population ...
- (S6D) Der wirtschaftliche und soziale Fortschritt - zwei Seiten einer Medaille - soll weiter vorangetrieben werden, und im Bewußtsein der gesamten Bevölkerung soll verankert werden, ...
- (S7E) Oblivious to the passage of time, the industries of salmon netting and sea fishing survive in <reason> the tradition of past centuries.
- (S7D) Ungeachtet des Laufes der Zeit überlebt die Lachs - und Meeresfischerei gemäß überlieferter Traditionen.
- (S8E) Battle is a busy and attractive town grouped around the site of the Battle of Hastings and the remains of the Abbey which William the Conqueror built in <reason> thanks for his victory there in <period> 1066.
- (S8D) Battle ist eine geschäftige, hübsche Stadt, die um den Schauplatz der Schlacht von Hastings und die Überreste der Abtei

- angeordnet ist, die Wilhelm der Eroberer aus Dankbarkeit für seinen Sieg 1066 dort baute.
- (S9E) Of outstanding beauty is the Long Library - 183' in <measure> length and containing over 10,000 volumes and a four manual Willis Organ.
- (S9D) Besonders interessant ist die 'Lange Bibliothek' - 55 m lang und bestückt mit mehr als 10.000 Bänden und einer Willis Orgel mit vier Manualen.
- (S10E) Another venue of this variety, identical in <perspective> all respects except bar size, is more compact Julies (232 7240), ...
- (S10D) Julies (232 7240) ist ein ähnlicher Nachtclub, ist jedoch kleiner.
- (S11E) The potato is prepared in <perspective> a number of interesting ways. 'Champ' is a wonderful combination of potatoes mashed with milk and chopped spring onions.
- (S11D) Kartoffeln werden auf vielerlei Arten zubereitet - und keine besser als 'champ', ein wohlschmeckendes Kartoffelpüree, gemischt mit Frühlingszwiebeln, Milch und Butter.

In addition to this *in* is used as the first part of a great number of complex prepositions, like *in view of*, *in spite of* and *in contrast to*.

But *in* is hardly used in adverbial constructions that cannot be explained as redundant prepositional ones and clausal meanings with gerunds, like *in doing so*, are rare.

#### 4. Expansion of the concept to other local propositions: at, from and by

I will now transfer this model to other propositions but omit the examples in order to save time.

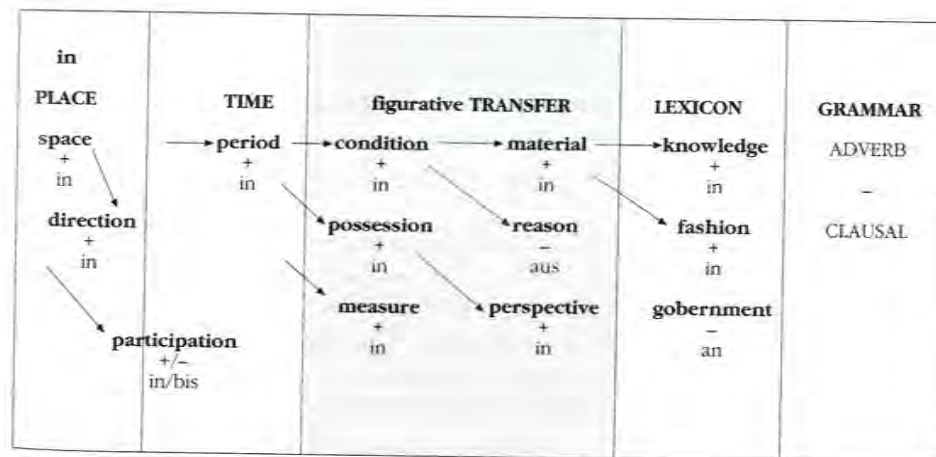


Fig. 1

4.1. *at*

The preposition *at* is even more straightforward. The LOCAL meaning is prototypical and corresponds to the German *zu*, as in *look at someone zu jdn hinsehen* or with a prefix *jdn. ansehen, jdn. beschimpfen*.

From these the DIRECTIONAL meaning can be easily inferred; it is rare compared to *to* and thus the German equivalent here is *zu*.

The temporal expansion of *at* denotes a specific point in TIME (*at the start/end*).

The figurative meanings that are derived concern CAUSE, AMOUNT, JUDGEMENT and CONDITION. Interestingly enough almost all of these take different prepositions in German: *anger at* is *Ärger über*, *at 50 pence* is *für 50 Pence*, etc.

*At* has one important grammatical function, introducing (implied) superlatives like *at best*, *at most*, *at last*, a function which is expressed differently in German.

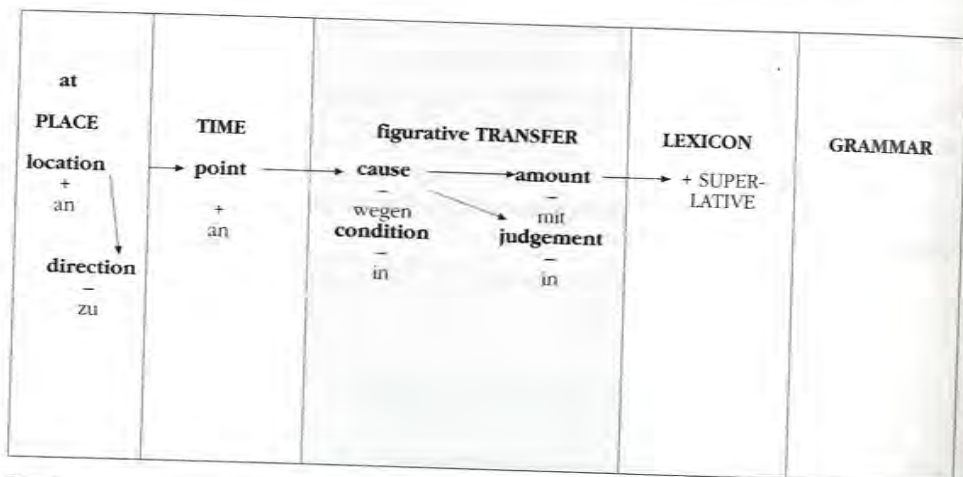


Fig. 2

4.2. *by*

The preposition *by* in English today hardly ever carries the meaning PLACE (*by the bench*), as does German *bei*. Thus the original meaning is no longer prototypical. The prototypical meaning of *by* nowadays is largely temporal. Here we have to distinguish between the less frequent meaning PERIOD (*by night*) and the very common meaning denoting FINAL LIMITATION *up to* (*bis 10 Uhr*).

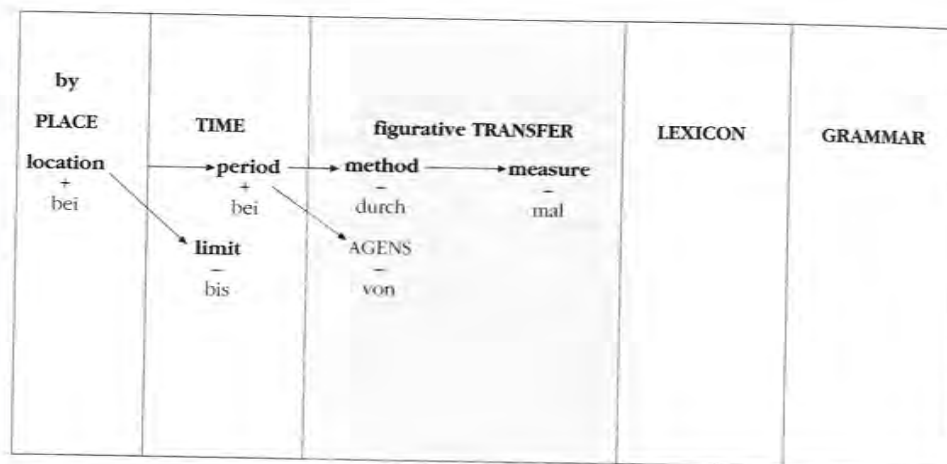


Fig. 3

The most frequent figurative meaning of *by* in English today is METHOD or INSTRUMENT (*by hand, by a bullet*).

A special case seems to be the usage denoting MEASURE in *5 by 6*, for example.

The most important grammatical meaning of *by* today is that it denotes the AGENS in passive constructions. The usage of *by* + gerund, as in *by turning the knob*, is clearly an expansion of the prototypical meaning METHOD.

4.3. *from*

*From* is an interesting example, since it has preserved at least quantitatively a lot of its original local and temporal meanings quite in contrast to the German *von*. It also occurs in a SOURCE - GOAL pair with *to*, in German *bis*, relatively frequently.

*From*, however, also has a wide number of related transferred meanings, such as ORIGIN (Beispielsatz), MATERIAL and DIFFERENCE as well as the related or abstract CAUSE.

In most cases these transferred meanings cannot be translated by the German *von*, however, there can be a wide related spectrum, as in the case of DEDUCE, which maybe translated as *aus* (*from experience - aus Erfahrung*), *nach* (*from appearances - nach dem Äußeren/Augenschein*). In the case of *from* there are some fixed collocations, where the preposition is closely linked to the preceding verb or noun so that, for instance, *protect / protection from* and *prevent / prevention from* have to be considered as special cases of the lexicon.

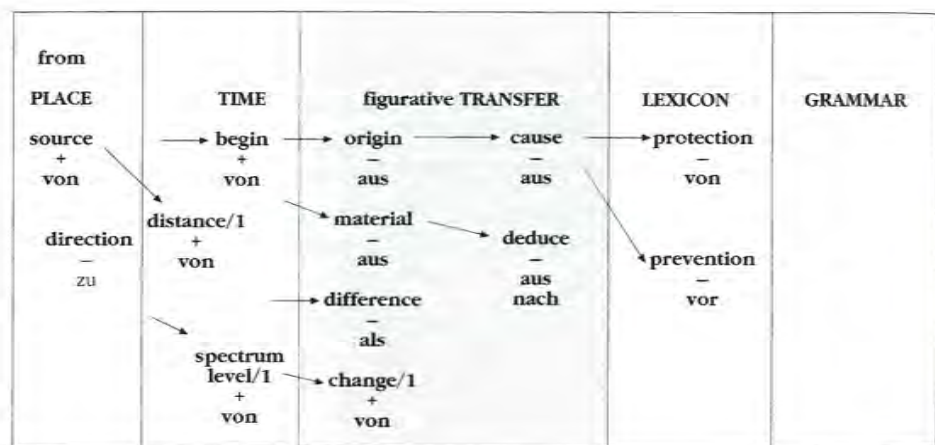


Fig. 4

4.4. with

The preposition *with* has the prototypical meaning of COMPANY, which combines TIME with an off-skDot DURATION, and PLACE (). This meaning is expanded into METHOD () and CAUSE ().

The other prototypical meaning of *with* today in instrument, combining PLACE, TIME and METHOD, which is identical in German.

*With* also has a lot of lexicon-specific meanings, which have hardly their own history / especially the meanings of *position with* and *comparison with*. The special meaning of *be with someone* e.g. *I am with you*, has even too distinctively different meanings like

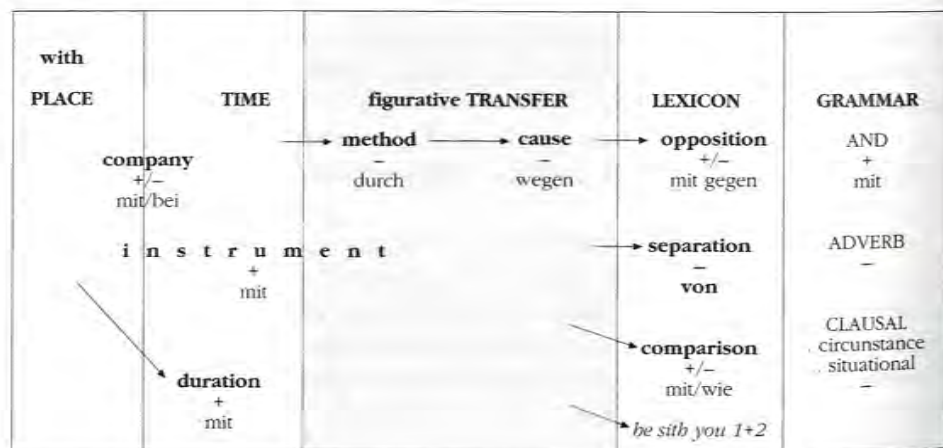


Fig. 5

1. I understand you.
2. I am staying at your place.

What makes *with* a special case is its grammatical usages, since it can be used in small verbless clauses to denote CIRCUMSTANCE and SITUATION.

- (S11) With the disappearance of a two-block world strategic system, ...
- (S21) With the great depression of the 1930s behind them, the founders of the modern European socioeconomic system saw the world in terms of boom and depression. (EUE: 14)
- (S21D) Die Schöpfer der modernen europäischen Wirtschafts- und Sozialordnung hatten unter dem Eindruck der Weltwirtschaftskrise der dreißiger Jahre vor allem den Konjunkturverlauf im Auge. (EUD: 13/14)

This can only in exceptional cases be rendered similarly in German:

- (S12E) And with a city as compact as Cardiff there are places to stay in all price brackets ...
- (S12D) Und bei einer kompakten Stadt wie Cardiff ...

And then, of course, adverbs can often be replaced by *with* noun phrases, as in

- (S22) They must seize it with ambition, with energy, with courage, and with vision. (DOC7E: 3)
- (S22D1) Die Wirtschaft muß diese Chance wahrnehmen, und zwar ehrgeizig, energisch, mutig und vorausschauend. (DOC7D: 5)
- (S22D2) Die Wirtschaft muß diese Chance wahrnehmen, und zwar mit Ehrgeiz, Energie, Mut und Voraussicht.

5. Conclusion

In this study I hope to have shown that an empirical corpus-based contrastive study of English and German

- prepositions reveals deficiencies in our standard dictionaries and grammars and
- only an open and gradient approach can explain the numerous cases of extensions and expansions of propositional usage.

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