VOLKER GAST
EKKEHARD KÖNIG

Introduction

Within comparative linguistics, contrastive analysis can be regarded as the complement of language typology: While typological studies usually compare a large number of languages with respect to a single variant property (e.g. word order, the expression of possession, tense, modality, etc.), contrastive linguistics deals with very few languages (typically only two), but considers a larger number of parameters. The objectives of each discipline are, accordingly, different: While it is the ultimate goal of linguistic typology to determine the invariants of language as a system of communication, contrastive linguistics is concerned with the more fine-grained aspects of cross-linguistic comparison and also takes dependencies between grammatical subsystems (e.g. morphology, syntax) into account. Moreover, contrastive analysis often serves a specific purpose (e.g. implications for teaching/learning, translation, the study of bilingualism), even though such applied aspects of language comparison are no longer its primary concern.

The contributions to this special issue are written in this spirit, striving for fine-grained analyses that are informed by findings from language typology and linguistic theory. Even though most of the papers focus on English and German, evidence from other languages is also occasionally taken into account.

Günter Rohdenburg analyzes a topic in lexical semantics that presents serious difficulties not only to learners of English or German but also to professional translators, as is shown by serious mistakes in authorized translations. Adjectival measure phrases of the type *four-metres long* exist in both English and German, but there are subtle differences. One of the major stumbling blocks for learners and translators is a difference in the number specification of such expressions. For instance, measure phrases such as Germ. *meterdicke Mauern* are often erroneously rendered as *metre-thick walls* in English. In addition to providing a detailed comparison of the domain under investigation, Rohdenburg points out that the area of adjectival measure phrases provides further support for the 'explicitness theory' put forward in work done by John Hawkins.

Carsten Breul's contribution is concerned with a central contrast between English and German in the domain of (morpho-)syntax: While in English copular sentences of the form *A is B* the preverbal constituent is always the subject and the postverbal constituent the predicative nominal, in German the choice of the

subject is sensitive to the featural specification of the constituents involved. For instance, first person pronouns invariably function as subjects when they occur in the type of sentence under study (*Der Gewinner bin/*ist ich*, *Ich bin/*ist der Gewinner*), in cases where English allows alternative structures (*The winner is me*, *I am the winner*). Breul's analysis makes use of featural economy as a factor constraining syntactic derivations and also takes more general differences between English and German clause structure into account.

Florian Haas explores the trade-off between lexicon and grammar in the verbal domain on the example of the verb *meet* and its German equivalents in different contexts and uses. He shows that, even though Engl. *meet* corresponds to a variety of German verbs (*[an]treffen*, *erwidern*, *unterstützen*, etc.), ambiguity arises only rarely because diathesis assumes a disambiguating function: Specific uses tend to occur in the active voice while other uses are typically associated with the passive voice. In this way, English (partly) makes up for the lack of lexically more specific verbs like those of German.

The contribution by Volker Gast deals with a topic from the area of word formation, namely V-N compounding (e.g. *whetstone/Schleifstein*). It is shown that central contrasts can be formulated in terms of the endocentric/exocentric distinction. While endocentric V-N compounds are more widely distributed in German than in English, exocentric ones only exist in English (e.g. *breakwater*). The observed contrasts are partly attributed to aspects of external language history (language contact), but language-internal factors are also taken into account (e.g. the presence/absence of conversion).

Lutz Gunkel and Gisela Zifonun provide a fine-grained comparative analysis of 'relational adjectives' such as *departmental* and *medical* in English, German and French. They show that the distribution of these adjectives in German differs from their distribution in English and French, esp. with respect to the type of semantic relation holding between the head of a noun phrase and the noun within a relational adjective. For instance, relational adjectives combining with deverbal nominalizations may be object-related in English (*colonial administration*) but not in German (**koloniale Verwaltung*). These generalizations are interpreted against the background of relevant typological findings, and functionally motivated explanations for the observed patterns are proposed.

Finally, Ekkehard König's contribution deals with temporal prepositions in English and German. Starting from the observation that German speakers of English often have difficulties in correctly using the temporal prepositions *by* and *until* in English (e.g. *Let me have you abstract by next Monday*, *Let me have your bicycle until next Monday*), König explores the domain of temporal prepositions along several dimensions of meaning such as *deictic* vs. *non-deictic*, *anaphoric* vs. *non-anaphoric*, etc. He shows that *by* and *until*, which correspond to a single preposition in many other languages (e.g. Germ. *bis*), form a dual pair and can be paraphrased in terms of each other by using negative operators with appropriate scope. This analysis explains both the common core meaning underlying the two prepositions and the difference between them.

GÜNTER ROHDENBURG

Adjectival constructions involving measure phrases in English and German

Abstract: This paper surveys the major English-German contrasts associated with the type *four metres long*. German makes use of an increased inventory of relevant collocations and favours the attributive position. English generally employs a larger set of less explicit structures. For instance, the English type can occur as an opaque noun phrase in contexts not matched by German, and the attributive use in German is regularly rendered by an English structure lacking an adjective. A special section explores the erroneous equation of examples like *meterdicke Mauern* and *metre-thick wall*s.

1. Introduction

Presumably owing to the traditional literary orientation of second language acquisition, constructions involving measure phrases have been generally neglected in the teaching of English and German alike. In Germany, even advanced students of English tend to be unfamiliar with many facets of the range of constructions available with measure phrases. For instance, they usually are puzzled by the meanings of (1) or (2), they will wrongly equate (3a) with (3b), and they are likely to mistranslate (4a) and (5a) as (4b) and (5b), respectively.

(1) *a four-inch round pot*
(2) *The river is as wide as 80 m.*
(3) a. *The suitcase is 10 pounds heavy.*
   b. *The suitcase weighs 10 pounds / is 10 pounds in weight.*
(4) a. *Im Ganzen können wir 50 Leute unterbringen.*
   b. (*)*On the whole we can accommodate 50 people.*
(5) a. *meterdicke Mauern*
   b. (*)*metre-thick / yard-thick walls*

But German speakers of English are not alone in misinterpreting unfamiliar constructions involving numerals and measure phrases. In English translations of German books I have often come across serious errors distorting the meanings conveyed by the original. Consider, for instance:

(6) a. »*Ist der Abt noch da?*«
      ... »*Nein, er ist sieben und vierzig gestorben; … *« (Böll)
   b. ... »*No. He died at forty seven; ... *«

(7) a. *... rief die NSDAP ... zu einer Großkundgebung auf im Sankt Josephs-*
       haus, Töpfergasse fünf bis acht. (Grass)
    b. *... called a monster mass meeting in the Sankt Josephshaus on Töpfergasse*
       from five to eight.

(8) a. *Denn diese Straße ... . Auf beiden Seiten war sie eingefaßt von hohen,*
       sieben Meter mächtigen Festungsmauern. (Ceram)
    b. *Both sides of the deep way were hemmed in by formidable walls, 22.4*
       feet in height.

(9) a. *Da der Himalaya so nahe war, schneite es tagelang in dichten Flocken, ...*
       (Harrer)
    b. *All day long snowflakes fell and ...*

This paper concentrates on the type *four metres long / vier Meter lang* (as in [8a]
but not in [3a]), which has been studied or at least touched upon in a succession of
investigations (cf., e.g., Bierwisch 1967; Bolinger 1977; Dixon 1977; Ebert / Roh-
denburg 1972; Eisenberg 1976; Givón 1977; Hale 1970; Kaiser 1979; Klein 1980;
Klooster 1971, 1972; König 1971; Lehrer 1985; Neubauer 1977; Quirk et al. 1972;
Rusiecki 1985; Seuren 1978; Teller 1969). Even so, to date there is no extensive
contrastive analysis of such expressions in English and German. Moreover, the
available studies are remarkably incomplete in the coverage of relevant data, which
has led to some serious theoretical inadequacies.

The purpose of the present paper is to provide a more detailed and compre-
hensive analysis of the phenomenon based to some extent on a large and random
corpus of examples collected during the 1970s and 1980s. The data are drawn from
a variety of written and spoken texts of English and German totalling about five
million words. More recently, a large number of additional case studies have been
carried out by means of electronic newspaper collections available on CD-ROM.

The theoretical orientation inspiring the contrastive analyses presented in
this paper is provided by Hawkins' (1986, 1988) so-called 'explicitness thesis'.
The thesis may be characterized by the following quotations:

> Where the grammars of English and German contrast the surface forms
> (morphological and syntactic) of German are in a closer correspondence
> with their associated meanings. (Hawkins 1986, 121)

> The drift in the history of English has clearly been towards the more exten-
> sive use of more limited formal means, with the resulting complexity be-
> tween form and meaning. (Hawkins 1986, 129)

While these assumptions have been increasingly restricted in their ranges of appli-
cation (cf., e.g., Rohdenburg 1990, 1992, 1998; Kortmann / Meyer 1992; König /
Gast 2007), I still feel that the explicitness thesis continues to provide an illuminat-
ing standard of comparison for any contrastive description of English and German
grammar.

2. Three semantic types featuring 'standard' measure phrases

The greater part of this paper deals with strings like *four metres long / vier Meter lang*, which no doubt constitute the oldest and still prototypical measure phrase + adjective constructions in English and German. In this section, an attempt will be made to informally characterize the type by contrasting it with two superficially similar structures. Our first task, however, is to identify and exclude from further consideration two kinds of peripheral phenomena not containing either 'standard' measure phrases or typical adjectives.

The standard measure phrase may here be defined as containing a term denoting either an explicit unit of measurement as in (10) or simply a cardinal number as in (11), which may potentially be expanded by the designation of the category of entities involved.

    (10) *The vehicle is four metres long.*
    (11) *The army was 12,400 (men) strong.*

These expressions have to be distinguished from degree terms combined with adjectives as in (12)-(14).

    (12) *The bottle is half full.*
    (13) *You are 100% right.*
    (14) *The job is still nine-tenths incomplete.*

The semantics of such cases is highly variable. While example (12) does not entail (or logically imply) the corresponding sentence without the degree term, this kind of entailment certainly goes through in (13) and (14). In fact, the entailment relations are generally unstable in examples like these, depending on the kind of degree term and the adjective chosen. While German has similar structures to English, it may also employ more explicit prepositional phrases to render English degree terms (e.g. *zu neun Zehntel unvollständig*).

A further marginal area concerns constructions like those in (15)-(17), which Bolinger (1977) described as adverbial.

    (15) *The place is 50 km away.*
    (16) *The circle is five yards across.*
    (17) *The lake is two miles round* (BrE) / *around* (AmE).

Comparable uses are also found in German. These adverbial elements tend to exhibit the following characteristics:

    a) The measure phrase represents an obligatory constituent of the construction.
    b) In addition, these items are usually found to collocate with *far* (or *weit* in German).

The usual German equivalent of *away* in (15), *entfernt*, is identified as adverbial on both accounts. A second alternative in German, *weit*, does not allow the measure

phrase to be omitted, either, in contexts such as (15) denoting a static relation between two entities. However, presumably for reasons to do with *horror aequi* (cf., e.g., Rohdenburg 2003a, 236ff.), it is incompatible with the intensifier *weit*. *Distant*, a relatively rare and literary equivalent of *away* in examples like (15), turns out to constitute a genuine borderline case:

(18) a. *How far distant is the station?*
      b. *The station is (3 miles) distant.*
      c. *The station is a distant place.*

In what follows, *distant* will be disregarded along with its equivalents *away*, *entfernt* and *weit*.

This leaves us, then, with adjectival constructions involving standard measure phrases. A closer analysis of the remaining cases in English shows that they fall into at least three general semantic types. In type I, represented by examples like (10) and to be explored in greater detail in later sections, the measure phrase typically designates any point on a given scale of measurement associated with the – gradable – adjective in question. In (10), for instance, the adjective is used in what is designated as the neutralized or unmarked sense: It may refer to the whole of the length scale, not just to the upper end which is long but also to the other parts of the scale which may be short. Accordingly, examples like this do not entail the corresponding construction without the measure phrase.[1] Cases like (11) and their German counterparts should also be assigned to type I. Example (11) does not entail that the army was strong numerically, and, as is seen in (19), *strong* may even in this sense function as a gradable adjective in both predicative and attributive uses.

(19)   *The delegation is (very) strong. – It is a very strong delegation.*

This brings us to the second type associated with (predicative) measure phrase + adjective combinations. The type is illustrated in examples (20) and (21), and a non-exhaustive list of further adjectives potentially occurring in relevant contexts is given in (22).

(20) a. *The shot was two yards wide.*
      b. *The shot was wide by two yards.*
(21) a. *The watch was 10 minutes fast / slow.*
      b. *The watch was fast / slow by ten minutes.*
(22)   *early – late, heavy – light, overweight, (a foot) long, (a yard) high, (two) points low, (a year) young for school*

Generally speaking, these examples denote a deviation from some (pre-established or given) norm. The range of deviation is then indicated by the measure phrase

---

[1]   In addition to playful rule bending seen in examples (i) and (ii), German systematically deviates in a few cases from the basic pattern outlined here (cf. Section 3.1).

   (i) *The Sharp Executive Calculator. Just 5 mm thin, with a full memory and fitted into a soft calfskin wallet.* (Scotcade)
   (ii) *Nur ein Meter acht und fünfzig ist Ferdinand Greulich klein.* (ZDF)

in question. As is shown for (20a) and (21a), this interpretation could in most cases be made more explicit by means of the kind of logically equivalent construction provided in (20b) and (21b).[2] There is no corresponding paraphrase relationship in examples of type I. Despite these differences, the first and second types share one semantic feature: The adjectives in both types are gradable ones. German does not possess a formally corresponding and semantically equivalent construction, and English examples of type II will have to be rendered by a large number of syntactic and lexical devices.

There is a third type associated with what looks superficially like the same syntactic frame and which is not found in German either:[3]

(23) *She was seven months pregnant.*
(24) *The area is five feet square.*
(= *five feet long by five feet wide,* but ≠ *five square feet*)

As in the case of type II, the entailment concerning the omitted measure phrase does go through. Thus (24) entails that the area is square. There are two differences, though, between types II and III. First of all, type III contains ungradable adjectives. Moreover, since the measure phrase does not denote any deviation of some norm, it cannot be expressed by a *by*-phrase.

We have to conclude, then, that Hawkins' explicitness theory has received further support from the brief analysis presented so far. While there are three semantic types in English sharing the same syntactic frame, there appears to be only one in German.

3. The type *four metres long*

3.1 Surveying the sets of adjectives used in English and German

Returning to type I as in *four metres long*, we will begin by comparing the English and German inventories of the items available in predicative and/or attributive uses. An overview of the relevant adjectives (regularly) attested in English and German newspapers is given in lists (25) and (26).

(25) (*broad*), *deep* (*line – 3* [*men*]), *high* (*building – storeys*), *long* (*book – pages, sentence – words, poem – lines,* etc.), *old, strong* (numerical strength), *tall, thick, wide* (*road – lanes*)
(26) *alt, breit, dick* (*Buch – Seiten*), *groß* (height of human being etc., surface area, volume; *Stadt – Einwohner, Gebäude – Zimmer, Schiff –*

---

[2] Some of these cases (e.g. *a year young for school*) can be viewed as elliptical for a corresponding construction containing *too* (e.g. *a year too young for school*; Ebert / Rohdenburg 1972, 118-9). Many of the long-established cases, however, involve subtle semantic differences between constructions with or without *too* (e.g. *five minutes* [*too*] *late/early*).

[3] A third example may be provided by technical uses of *mature* as in (i), which are occasionally met with in the medical literature:

(i) *the baby was 26 weeks mature.*

Tonnen, Orgel – Register, Herde – Stück Vieh, Motorrad – Kubikzenti-meter, Wirtschaftsmarkt – Mark/Euro), heiß, hoch (Gebäude – Stock[werke], Schaden – Mark/Euro), kalt, lang, mächtig (Mauer/Schicht – Meter), schnell ([highest] speed), schwer (weight, Wirtschaftspaket/Defizit – Mark/Euro), stark (numerical strength, thickness, Fahrzeug – PS, Glühbirne – Watt, Buch – Seiten), steil (Ab-hang – Grad), teuer, warm, weit (length of a jump/shot/pass/journey, width/diameter of a hole/crater/shipping line), (wertvoll)

While there are only nine items in English (including *broad*), the German inventory boasts as many as 17 (including *wertvoll*). Of the constructions regularly occurring in English, only very few cannot be matched by common formally corresponding equivalents in German. Exceptions include examples (27) and (28).

(27) *The line was three men deep.*
(28) *The road is four lanes wide.*

Allowing for such cases, the English set appears to be properly included within the German one.

As a result, German is much more versatile than English in this area. Compared with English, German constructions of type I cover a number of additional basic parameters/dimensions: weight, two- and three-dimensional size, temperature, speed, (slope) steepness, price, amount of money. With respect to the economy principle advanced by Klooster (1971, 1972) and Seuren (1978) the ideal state of affairs is one where neutral parameter verbs are not in competition with the measure phrase + adjective constructions under discussion. From this perspective, English turns out to be more economical than German insofar as it does not tolerate type I constructions involving *dear/expensive* and *heavy* alongside the parameter verbs *cost* (or *be*) and *weigh*.[4] In German, both possibilities exist side by side.

While the English adjectives in (25) usually only cover one basic parameter/dimension, several German ones such as *groß, dick, stark, hoch* and *schwer* are used to refer to a great variety of aspects. Accordingly, and unlike English, German has evolved in a number of cases two, three or even four rivalling alternatives displaying subtle semantic nuances. Consider, for instance:

(29) a. *eine 2 Meter dicke/starke/mächtige Mauer*
      b. *ein 200 Seiten langes/dickes/starkes Buch*
      c. *ein 30.000 Mark/Euro schwerer/großer/hoher Etat/ Schuldenberg/Verlust*
      d. *ein 30 Meter weiter/langer Pass*
      e. *eine 200 Meter weite/breite Fahrrinne*

---

[4]   With respect to temporal uses of *long* as in (i) Rusiecki (1985, 18) points out that such examples are rejected by many speakers.

(i) *That conference was a week long.*

If there is such a tendency (which I have been unable to confirm), it might also be due to the avoidance of a construction rivalling an established parameter verb (i.e. *last/take*).

> f. *eine 200 Rinder große/starke Herde*
> g. *ein 50.000 Mark/Euro schweres/teures Vorhaben*

As mentioned above, constructions of type I do not entail their counterparts lacking the measure phrase. While usually adhering to this pattern as well, German has in a few cases introduced marked/non-neutralized (gradable) adjectives, and it appears to be expanding the minority pattern. Two of the best established uses of this kind include the adjectives *heiß* and *kalt*. A fairly recent addition regularly met with in some newspapers (apparently less frequently in the *taz*) is provided by *wertvoll*, which supplies the attributive counterpart to the predicative use of (adverbial?) *wert*.

The typical adjective occurring in type I constructions is one which stands in a relationship of antonymy with a marked adjective denoting the lower end of the scale in question. In English, this basic pattern has been preserved with the exception of *strong* in (11), *deep* in (27), and some spatial uses of *deep* matched by German. In addition to *stark* referring to numerical strength, German has evolved a number of further uses which illustrate the new pattern lacking a marked antonym. A preliminary list of such cases is given in (30), where semantically inappropriate 'antonyms' have been asterisked or question-marked.

(30)   a. *ein 200 Seiten dickes Buch* (*?dünn*)
       b. *ein 200 Seiten starkes Buch* (**schwach*)
       c. *eine 3 Meter mächtige Mauer* (**schwach*)
       d. *ein 5 cm starkes Brett* (**schwach*)
       e. *ein 500.000 Mark/Euro schwerer Etat* (**leicht*)
       f. *ein 500.000 Mark/Euro hohes Defizit* (*?niedrig*)
       g. *ein 7 Meter weiter Sprung* (**eng*)
       h. *eine 10 Grad steile Straße* (*?flach / eben*)

Concerning the specification of the numerical strength in various sets of human beings, English – unlike German – usually dispenses with the explicit mention of the people involved. By contrast, and in line with tendencies inspired by political correctness, German is now introducing a number of alternatives to the established (uninflected) *Mann* (cf. also Table 5, row 5b).

While the German set of adjectives appears to be gaining new members, the English inventory has almost lost one in obsolescent *broad*. As far back as the 1960s, it was pointed out that, unlike *wide*, *broad* was not available in the relevant measure phrase construction (Ullmann 1962, 143; Teller 1969, 205). I have been unable to find any examples in a collection of American newspapers running to 844 million words. However, they do crop up occasionally in British English (cf. Table 2 below).

3.1 Comparing the syntactic uses in English and German

In both English and German, attributive uses of type I structures diverge in their morphological make-up from all other uses including predicative and postnominal ones. Compare:

(31) a. *a 200-page-long book*
      b. *The book is 200 pages long.*
      c. *They only sell books less than 200 pages long.*
          (tight postnominal use)
      d. *They published an amazing book, 50 pages long and full of pictures.*
      e. *Over 200 pages long, it is an expensive book.*

(32) a. *ein 200 Seiten langes Buch*
      b. *Das Buch ist 200 Seiten lang.*
      d. **Sie verkaufen nur Bücher weniger als 200 Seiten lang.*
          (tight postnominal use)
      e. *Sie veröffentlichten ein erstaunliches Buch, 50 Seiten lang und voller Bilder.*
      f. *Über 200 Seiten lang, ist es ein teures Buch.*

In English, there is only a number contrast, which is usually neutralized in cases like (31a) (but not in [31b-e]).[5] As is suggested by the general use of hyphens between numeral and unit noun as well as unit noun and adjective in both British and American English, the attributive use involves a closely integrated compound-like structure. In this respect, it resembles attributive noun structures like those in (33a). Notice that the morphological contrast between English and German found in (31a) and (32a) is preserved in (33a) and (33b).

(33) a. *a 200-page book*
      b. *ein 200-Seiten-Buch*

In German, any plural inflections associated with measure nouns can never be omitted in examples like (32a), (32b-f) or (33b). However, the agreement marker on the adjective shows up only in attributive uses such as (32a). We have seen, then, that in English, the attributive structure is minimally inflected whereas in German it is maximally inflected.

It can be shown that the morphological contrast between attributive and other uses in English and German coincides with marked distributional contrasts between the two languages. To begin with, consider the analysis summarized in Table 1.

---

[5] Inflectional plurals are occasionally found in attributive uses with temporal unit nouns such as *year* and *month*, in particular in British English.

Table 1 The use of six English and German spatial adjectives (*deep*, *high*, *long*, *tall*, *thick*, *wide* – *breit*, *dick*, *groß*, *hoch*, *lang*, *tief*) associated with and following the phrases *three metre(s) / meter(s) / yard(s)* or *drei Meter* in *The Guardian* and the *taz*[a),b)]

	I attributive	II predicative	III tight post-nominal use as in (21c) (ex-cluding com-mas, hyphens, etc.)	IV other verbless uses as in (21d-e) loosely asso-ciated with an implied subject	V total
1 g90-00	16 (40%)	8 (20%)	9 (22.5%)	7 (17.5%)	40
2 taz86-92	101 (82.1%)	15 (12.2%)	–	7 (5.7%)	123

a) The analysis disregards three examples in English, where the measure phrase + adjective combination is part of a prepositional phrase or is used in an object-like function (cf. Sections 5.1.1-5.1.3 below). There are similar exclusions in some of the later tables.
b) In addition to *sein* (9x) and *werden* (2x), the German category 'predicative' includes the verbs *wachsen* (1x) and *stehen* (3x).

The major difference is that the – minimally inflected – attributive type in English occurs far less frequently than the – maximally inflected – German one. We may also note, in passing, a very well-known fact: German has no direct counterpart of the 'tight' postnominal construction in English (cf. [31d] and [32d]).

A similar picture emerges in Table 2, which compares an additional number of functionally equivalent structures in the two languages.

While there may be enormous differences in the distribution of attributive or other structures between the five cases analysed, the evidence leaves no doubt that in every single case there is a markedly stronger pull towards the attributive use in German.

This raises the question as to how an attributive structure in German is rendered in English if the corresponding attributive use is found to be unsuitable. The comparison of original texts in English and German with their authorized translations in the other language has revealed a minor and a major translation strategy. To some extent, as is seen in (34a-b), the attributive structure may correspond to the tight postnominal one.

(34) a. *Äußerst variable Pflanze mit etwa 2 cm großen purpurrötlichen Blütenköpfen.* (Seidel/Eisenreich)
   b. *An extremely variable plant, with purplish red flower-heads about 2 cm long.*

Table 2   The use of some functionally equivalent adjectival measure phrase
constructions in English and German newspapers[a]

			I attributive	II predicative	III others	IV total
1	a	*page + long* (g90-00)	12 (4.8%)	168 (66.9%)	71 (28.3%)	251
	b	*Seite + lang* (taz93-97)	54 (63.5%)	27 (31.8%)	4	85[b]
2	a	*storey + high* (g90-00)	16 (9.2%)	54[c] (31.2%)	103 (59.5%)	173
	b	*Stock(werk)/Etage+hoch* (taz93-97)	30 (44.8%)	9 (13.4%)	28 (41.8%)	67
3	a	*metre/meter/yard/+thick* (g90-00)	5 (19.2%)	4 (15.4%)	17 (65.4%)	26
	b	*Meter + dick* (taz93-97)	56 (78.9%)	11 (15.5%)	4 (5.6%)	71
	c	*Meter/Kilometer+mächtig* (taz86-99)	5 (62.5%)	–	3 (37.5%)	8
4	a	*metre/meter/yard/mile+broad* (t90-00, g90-00, d91-00, m93-00)	–	2 (16.7%)	10 (83.3%)	12
	b	*three+metre+meter/yard+wide* (g90-00)	3 (33.3%)	1 (8.3%)	8 (66.7%)	12
	c	*drei Meter +breit* (taz86-99)	17 (50%)	11 (32.4%)	6 (17.6%)	34
5	a	*army* (subject/head)+*strong* (g90-00)	107 (85.6%)	8 (6.4%)	10 (8%)	125
	b	*Mann/Personen/Frau(en)/* *Männer+stark* (taz88-89)	474 (95.4%)	14 (2.8%)	9 (1.8%)	497

a)   The analyses are restricted to examples containing numerals higher than 1.
b)   The analysis excludes a total of 34 language-specific examples, where the structure *x Seiten
     lang* modifies a predicate.
c)   In addition to *be* and *stand*, the category 'predicative' includes the verbs *rise* (2x), *soar* (1x)
     and *shoot up* (1x).

Much more important is the kind of correspondence illustrated in (35)-(37).

(35)   a.   *The Park Lane Hospital for the Dying was a sixty-storey tower of
            primrose tiles.* (Huxley)
       b.   *Die Moribundenklinik in der Schwanenallee war ein sechzig Stock
            hoher primelgelber Kachelturm.*
(36)   a.   *... ihres 1,68 großen und 58 Kilogramm schweren Körpers ...* (Knef)
       b.   *... of her five-foot-six-inch, 120-pound body ...*
(37)   a.   *The search is continuing for the 9000000 pound Tornado.* (BBC)
       b.   *Die Suche nach dem 36 Millionen teuren Flugzeug ...* (SDR)

While the English translation omits the adjective, the German rendering adds an
appropriate one.

   The assumption that English favours the less explicit adjectiveless structure in
attributive position has been strikingly confirmed by the evidence in Table 3,
which – like Table 1 – concentrates on spatial adjectives and entities.

Table 3 The rivalry between two attributive structures in English and German newspapers: *a two*(-) / *three*(-) / *four*(-) + *kilometre*(s) / *kilometer*(s) / *mile*(s) + spatial noun (e.g. *lane*) and their close German counterparts

	I attributive adjective	II attributive noun	III total	IV % attributive adjective
1 g90-00	5 (*long*:3, *thick, wide*)	35	40	12.5%
2 taz86-97	41 (*lang*:28, *breit*:9, *hoch*:2, *dick, tief*)	–	41	100%

a) For obvious reasons, the German analysis has been confined to the noun *Kilometer*.
b) Examples involving a combination of two or more than two attributive structures have been excluded from consideration.

The more complex option happens to occur in all German instances. In English, by contrast, it is only used in a small minority of cases. It is obvious, then, that the English tendency to avoid type I structures in attributive position and its preference for closely integrated compound-like structures such as (33a) must be causally related.

Returning to Table 2, we observe in rows 1a-b an extraordinarily big gap in terms of attributive uses between English (*page + long*) and German (*Seiten + lang*). Here we would expect the adjectiveless type (33a) to make an even stronger showing than elsewhere. A quick look at the strings in (38) in a large database has clearly confirmed this expectation.

(38) *a two*(-) / *three*(-) / *four*(-) *page* x

Retrieving these strings in *The Guardian* for 1990-2000 we find a total of 420 instances of type (33a) and not a single one of the preferred German type including the adjective.

On the basis of the preceding observations, it might be hypothesized that the establishment of novel examples of type I structures proceeds in diametrically opposed ways. The attributive use would be the first to be established in German, but the last one in English.[6] At any rate, we would expect the contrast to be sharpened in such cases. Comparing the data in Tables 4 and 5 we find that the hypothesis is generally confirmed: With respect to the attributive use, the gap between English and German has indeed been widened in both directions.

_____

[6] Note in this connection the acceptability contrast between (i) and (ii) observed though not accounted for in Kaiser (1979, 15).

(i) ?*Die Schulden der Vereinigten Staaten am 30. Juni 1974 waren $ 486 400 Millionen hoch.*
(ii) *Am 30. Juni 1974 hatten die Vereinigten Staaten $ 486 400 Millionen hohe Schulden.*

Table 4   The use of relatively recent and/or less well established adjectival measure phrase combinations of type I as reflected in the *taz*[a]

	I attributive	II predicative	III others	IV total
1 *Seite + dick*	168 (78.9%)	26 (12.2%)	19 (8.9%)	213
2 *Einwohner + groß*	19 (100%)	–	–	19
3 (*Bruttoregister-*) *Tonne + groß*	31 (100%)	–	–	31
4 *Zimmer + groß*	–	–	1	1
5 *Mark + groß*	32 (91.6%)	3 (8.6%)	–	35
6 *Mark + hoch*	31 (86.1%)	5 (13.9%)	–	36
7 *Mark + schwer*	134 (87.0%)	16 (10.4%)	4 (2.6%)	154
8 *PS + stark*	48 (98.0%)	–	1 (2.0%)	49
9 *Watt + stark*	7 (87.5%)	1 (12.5%)	–	8
10 *Seite + stark*	63 (92.6%)	2 (12.5%)	3 (4.4%)	68
11 *Mark + teuer*	288 (97.3%)	4 (1.4%)	4 (1.4%)	296
12 *Grad + steil*	2	–	–	2
13 *Mark + wertvoll*	2	–	–	2
1-13 total	825 (90.3%)	57 (6.2%)	32 (3.5%)	914

a)   The expressions in rows 10 and 11 have been analyzed in the *taz* for 1988-1989; all others are based on the *taz* for 1986-1999.

While the more unusual and presumably more recent English combinations in Table 4 are – with the exception of *page + long* – not yet found in attributive position, this slot certainly constitutes the major point of entry for novel combinations in German. There are a number of cases which at this stage are used (almost) exclusively in attributive position.

Table 5   Examples like *the fifty(-)page(-)long brochure* containing non-standardized units of measure and a numeral (higher than 1) or a quantifier in *The Guardian* for 1990-2000

	I attributive	II predicative	III tight post-nominal use	IV other uses loosely associated with an implied subject	V total
1 *lane + wide*	–	6 (46.2%)	7 (53.8%)	–	13
2 *column + wide*	–	–	2	1	3
3 *name + long*	–	1	1	1	3
4 *block + long*	–	–	–	1	1
5 *line + long*	–	15 (68.2%)	1 (4.5%)	6 (27.3%)	22
6 *word + long*	–	44 (73.3%)	9 (15%)	7 (11.7%)	60
7 *sentence + long*	–	5 (83.3%)	–	1 (16.7%)	6
8 *letter + long*	–	6 (50%)	1 (8.3%)	5 (41.7%)	12
9 *syllable + long*	–	1	–	1	2
10 *page + long*	12 (4.8%)	168 (66.9%)	21 (8.4%)	50 (19.9%)	251
11 *floor + high*	–	5 (33.3%)	5 (33.3%)	5 (33.3%)	15
1-11 total	12 (3.1%)	251 (64.7%)	47 (12.1%)	78 (20.1%)	388

This area provides further evidence concerning the rivalry between parameter verbs and constructions of type I. Compare the options in (39) and the analysis shown in Table 6 on page 228.

(39)   a.   *eine 150000 Einwohner zählende/große Stadt*
       b.   *Die Stadt zählt 150000 Einwohner / ist 150000 Einwohner groß.*

The data suggest that far from avoiding the function of the parameter verb, the adjective structure seems to follow in its wake. Moreover, it is quite possible that participial structures as in (39a) may have encouraged the preference for attributive uses of the adjectival alternative.

4. The type *the year-long struggle*

So far, we have concentrated on examples like *four metres long* that include a numeral (or a functionally similar quantifier like *several*). This section focuses on related structures not containing any numerals.

Table 6   The rivalry between the parameter verb *zählen* and the corresponding type I construction involving *groß* in the *taz* for 1986-1999

	I attributive	II predicative	III others	IV total
1 *Einwohner* + *zählen*	482 (present participle)	118 (finite verb)	–	600
2 *Einwohner* + *groß* (*sein*)	19	–	–	19

In the type *four metres long*, the numeral *one* is usually replaced in other than attributive uses by a form it shares with the indefinite article. In attributive uses, however, the 'reduced' numeral, which occurs in a determiner position and looks like a determiner, has to be omitted across the board:[7,8]

(40)   *the/their/this/a (*a) year-long struggle*

German, by contrast, does not permit the (unreduced) numeral to be dropped. Compare (40) and (41):

(41)   *der/ihr/dieser/ein ein Jahr lange(r) Kampf*

In comparison with examples containing higher numerals, cases such as (41) are relatively rare. However, German does possess a commonly used and extremely productive compound-like structure superficially resembling the English type in (40):

(42)   *der jahrelange Kampf*   'the struggle lasting (many) years'

Semantically, there is a clear-cut contrast between expressions like (40) and (42): Example (40) – like (41) – refers to just one year, but (42) has a plural interpretation. The feature 'plural' is also present in cases like *meterlange* (*Wurzeln*), where the unit noun carries no plural inflection. This suggests that the inflection in expressions like (42) is a genuine plural marker rather than a mere formative signalling compound status. In more recent times, English has evolved a type semantically equivalent to (42), whose plural interpretation is explicitly signalled by the plural suffix.

(43)   *the years-long struggle*

This gives us for both English and German a functionally equivalent pair of expressions involving a singular-plural contrast in the unit of measure. Crucially, however, the distribution of the singular or plural cases shows a striking divergence between English and German. Consider the evidence relating to five pairs of expressions in Tables 7-9.

---

7   The rule extends to fractions lower than 1 as in (i):

    (i) *the/a (*a) quarter-mile-long race*

8   According to one recent estimate, the more explicit variant containing *one* occurs in less than 5% of all relevant cases.

Table 7 The attributive types *der ein Jahr lange Kampf* and *der jahrelange Kampf* in the
taz[a)]

			I solid	II juxtaposed	III Total
1	a	*ein Jahr lange(n/m/r)*	–	–	–
	b	*jahrelange(n/m/r)*	1340	–	1340
2	a	*ein(en) Kilometer lan- ge(m/n/r)*	–	15	15
	b	*kilometerlange(m/n/r)*	153	–	153
	a	*eine Seite lange(n/m/r)*	–	–	–
	b	*seitenlange(m/n/r)*	38	–	38
4	a	*ein Jahrzehnt lan- ge(m/n/r)*	–	–	–
	b	*jahrzehntelange(m/n/r)*	444	–	444
5	a	*ein Jahrhundert al- te(m/n/r)*	–	3	3
	b	*jahrhundert(e)alte(m/n/r)*	329 (323/6)	53	382

a)   The expressions in rows 3a-b have been analyzed in the *taz* for 1993-1999, those in
     rows 5a-b in the *taz* for 1986-1997; all others are based on the *taz* for 1993-1997.

Table 8 The attributive types *the year(-)long struggle* and *the years(-)long struggle* in *The
Guardian* for 1990-2000

			I solid	II hyphenated	III juxtaposed	IV total
1	A	*year-long*	6 (0.5%)	1134 (97.5%)	23 (2.0%)	1163
	B	*years-long*	–	7 (77.8%)	2 (22.2%)	9
2	A	*mile-long*	–	189 (99.5%)	1 (0.5%)	190
	B	*miles-long*	–	2	–	2
3	A	*page-long*	–	19	1 (5%)	20
	B	*pages-long*	–	2	–	2
4	a	*decade-long*	–	161 (95.3%)	8 (4.7%)	169
	b	*decades-long*	–	47	–	47
5	a	*century-old*		215 (99.1%)	2 (0.9%)	217
	b	*centuries-old*	–	351[a)] (93.9%)	23 (6.1%)	374

a)   In ten cases, an apostrophe replaces the hyphen.

Table 9 The attributive types *the year(-)long struggle* and *the years(-)long struggle* in
the *Los Angeles Times* for 1992-1999 or *The New York Times* for 2001[a]

			I solid	II hyphenated	III juxtaposed	IV total
1	a	*year-long*	182 (94.8%)	9 (4.7%)	1 (0.5%)	192
	b	*years-long*	5 (31.3%)	11 (68.8%)	–	16
2	a	*mile-long*	39 (7.1%)	512 (92.9%)	–	551
	b	*miles-long*	–	43	–	43
3	a	*page-long*	–	19	–	19
	b	*pages-long*	–	2	–	2
4	a	*decade-long*	9 (1.1%)	791 (98.9%)	–	800
	b	*decades-long*	1 (0.2%)	429 (99.8%)	–	430
5	a	*century-old*	–	686	–	686
	b	*centuries-old*	–	827 (99.8%)	2 (10.2%)	829

a) The *New York Times* for 2001 is used only with *year(s)-long* in rows 1a-b.

In German, the singular type shown in (41) is very rare, while the compound plural version in (42) is extremely common. In English, we usually find a reversal of this situation: The singular type invariably is quite common and, with most unit nouns, far more frequent than the plural counterpart. In view of these frequency contrasts, it can be predicted that German and English speaking people alike will tend to wrongly equate the English singular version as in (40) with the German plural one in (42). The following list of erroneous renderings in authorized translations shows that this is indeed the case (cf. also [9a-b]).

(44) a. *Damit war das jahrhundertealte Duell zwischen Tibet und China wieder eröffnet.* (Harrer)
  b. *Thus the century-old quarrel between China and Tibet broke out again.*
(45) a. *… da gruben nun die Archäologen, legten im Innern der größten Pyramide (…) kilometerweite Labyrinthgänge bloß!* (Ceram)
  b. *The excavators disclosed labyrinthine passages five eights of a mile long.*
(46) a. *…, Wedel mit meterlangen Blättern, …* (Frisch)
  b. *…, fronds with yard-long leaves, …*
(47) a. *Night-long studies have recently shown, …* (Gay Gaer Luce)
  b. *Nächtelange Beobachtungen haben kürzlich gezeigt, …*
(48) a. *… as the dark cloud of blood had settled and dispersed in the mile-deep sea.* (Hemingway)
  b. *…, als die dunkle Blutwolke sich gesetzt und in der meilentiefen See verteilt hatte.*

No doubt, the association between the plural structure in German with the English singular one is encouraged by the fact that neither contains a numeral.

Finally, a few remarks on the spelling of these expressions as shown in Tables 7-9: German generally distinguishes clearly between the phrasal structure involving a singular unit noun and the compound-like plural structure. In the former case, the three constituents (numeral + unit noun + adjective) are invariably represented as separate words. In the latter, the plural unit noun and the adjective are – with the occasional exception of *Jahrhunderte alte(m/n/r)* – written solid. In English, the compound-like status of both singular- and plural-oriented structures is reflected in the massive preference for hyphenated forms. The two regional varieties diverge, however, in the use of the two minority spellings, where the two constituents are written solid or juxtaposed as two words. American English, which hardly ever features any juxtaposed forms, shows a remarkable tendency to use forms written solid in the case of singular unit nouns. British English, by contrast, still shies away from forms written solid and, surprisingly enough, uses the juxtaposed spelling variant clearly more frequently than American English.

5. Language-specific syntactic uses in English

Previous work dealing with the type *four metres long* in English has been confined to predicative, postnominal, and attributive constructions. As a result, a large number of syntactic possibilities have been neglected which have no formally corresponding equivalent in German. These include several kinds of prepositional phrases as well as object-like uses. In the following, an overview of such cases will be presented. However, we will not be able to explore the enormous range of equivalents available in German.

5.1 Prepositional phrases

5.1.1 Verb-dependent prepositions

We start by surveying those cases where the choice of the preposition is dependent on the individual verb chosen. The verbs involved may be classified into four groups.

Group 1 includes transitive verbs of *measuring, estimating* and *calculating* associated with *at*, which is occasionally replaced by *as*:

(49)   *The tree was measured at 2 yards tall.* (VOA)
(50)   *The crowd was estimated at more than 20000 strong.* (BBC)

Group 2 consists of intransitive verbs which typically denote the transition of the subject referent to a state described by a *to*-phrase. Some of the more frequently used verbs are listed in (51).

(51)   *amount to, extend (to), get to, grow (to), open to, rise (to), spread (to)*

The type is illustrated in (52)-(53).

(52) *Unfortunately, the end segments normally break off the rattle when it gets to six or seven segments long …* (Stidworthy)

(53) *Spreading to 10 ins wide the plants cover themselves with small double flowers.* (Dobies Seeds)

Group 3 represents the transitive counterpart of group 2. Consider, for instance:

(54) *Roll out the Danish pastry to about 1/4-inch thick and …* (Bates)

(55) *If no new long whippy shoots have developed, retain old ones and prune side growths to 7.5 cm (3 in) long.* (Living)

Group 4 includes the verbs of variation *vary* and *range*. Apart from *to*, they may be associated with *from*, *between* and *around*:

(56) *Elephant shrews range from about 7 inches to 23 inches long, …* (Boorer)

(57) *The bed varies between 6 and 12 feet (2-4 m) thick, …* (Watson / Sissons)

(58) *The lake varies / ranges around 4 miles wide.*

5.1.2   Modifiers of noun phrases

The type *four metres long* may also be introduced by the preposition *of* in examples such as the following:

(59) *Animals less than two months old did not return from 250 metres, yet those of nine months or more than a year old returned from 300 metres in 10 to 15 minutes.* (Carthy)

(60) *The uppermost storey consists of trees of 130-160 ft high, …* (Lawson)

In (59) and (60) this construction functions as a modifier of a noun phrase. As is apparent from example (59), the *of*-phrase is in competition with the tight postnominal structure. Over the last few centuries, such *of*-phrases have been largely replaced by the more economical postnominal structure.[9]

5.1.3   Other verb-independent postpositional phrases

There are many other kinds of prepositional phrases compatible with the type *four metres long*. Typically, they constitute free adjuncts introduced by the prepositions *at*, *by*, *from* and *until*. The category is illustrated in examples (61) and (62).

(61) *At seven feet long, it is the king of the otter family.* (The Guardian)

---

[9]   Pace Schibsbye's (²1970, 296) statement that *of* is always optional in examples like (59) and (60) there are a few environments where the preposition cannot be dropped (Rohdenburg 2003b, 271-2).

(62) *An average baby will be ready to abandon the fifth feed by about four months old.* (Leach)

5.2 Object-like constructions

Sections 5.1.1-5.1.3 have drawn attention to various prepositional phrases where the structure *four metres long* replaces more explicit NPs of the form *a length of four metres*. Intriguingly, the string numeral + unit of measure + adjective functions as a noun phrase without possessing a proper nominal head. A similar rivalry between transparent and opaque noun phrases is found in connection with the verbs listed in (63).

(63) *aggregate, approach* (*to*), *attain* (*to*), *average, exceed, measure, near, reach* (*to*)[10]

These verbs govern complements that resemble direct objects in various respects:[11]

(64) *The Columbia Plateau basalts average 1000 m thick and in places are over 1500 m.* (Ollier)
(65) *Their tower blocks – … – reach eight, nine and even 10 storeys high.* (g90)
(66) *Although heavy-bodied, leaf-nosed snakes rarely exceed fifteen inches long.* (Stidworthy)

6. Conclusion

Comparing the type *four metres long / vier Meter lang* in English and German, we have seen that the English inventory of possible combinations is very much smaller than the German one and as good as properly included within it. While German generally favours the attributive position, in particular with novel and unusual collocations, the reverse is true of English. In English, the avoidance of the type *four metres long* in attributive position is largely compensated for by the use of two alternatives, tight postnominal constructions and, above all, less explicit attributive structures lacking the adjective (e.g. *a 20-page report*). Concerning English expressions not containing a numeral, it is found that equivalent structures in German are rare where the English ones are very common and the other way round. This encourages the mistaken equation of expressions like *meterdicke Mauern* and *walls a yard thick* or *the mile-deep sea* and *die meilentiefe See*. The investigation concludes with a survey of constructions specific to English where the type *four metres long* functions as an 'opaque' noun phrase.

 We have found plenty of evidence supporting Hawkins' explicitness theory in this area. In addition to the phenomena just mentioned where English uses

---

[10] The variants including the preposition *to* are generally regarded as obsolescent or even obsolete.
[11] For further discussion of such complements see Allerton (1982, 84ff.).

more opaque and less explicit structures or is less expressive, there are several others that deserve to be pointed out again:

- the general absence of degree terms introduced by a preposition as in German (Section 2)
- the use of the same syntactic frame found in the type *four metres long* for two other semantic types (Section 2)
- the omission of *too* in collocations like *a year young for school* (Section 2, Note 2)
- the usual rendering of German expressions like *200 Mann/Personen* (etc.) *stark* by means of *200 strong* (Section 3.1)
- the avoidance of expressions like *100 pounds heavy* and *100 pounds dear/ expensive* alongside the use of the parameter verbs *weigh* and *cost/be* (Section 3.1)
- the neutralization of the number contrast with attributive examples like *the four-metre-long car* and *the twenty-page report* (Section 3.2)
- the omission of the reduced numeral in expressions like *the (*a) mile-deep sea* (Section 4)

By contrast, there are only two – far from unambiguous – phenomena where German might at a pinch be said to be less explicit/more opaque:

- the use of many collocations where the parameter adjective has no clear antonym (Section 3.2)
- the use of marked adjectives (*heiß, kalt*) alongside the usual unmarked ones (Section 3.1)

Electronic Corpora

d91-00	*The Daily Telegraph* and *The Sunday Telegraph* on CD-ROM 1991-2000 Chadwyck-Healey / ProQuest
g90-00	*The Guardian* (including *The Observer* 1994-2000) on CD-ROM 1990-2000 Chadwyck-Healey / ProQuest
L92-95	*Los Angeles Times* on CD-ROM 1992-1995 Knight Ridder Inc.
L96-99	*Los Angeles Times* 1996-1999 (courtesy of the Los Angeles Times Editorial Library)
m93-00	*Daily Mail* and *The Mail on Sunday* on CD-ROM 1993-2000 Chadwyck-Healey
N01	*The New York Times* on CD-ROM 2001 ProQuest
t90-00	*The Times* and *The Sunday Times* on CD-ROM 1990-2000 Chadwyck-Healey / ProQuest
taz86-99	*taz* 1986-1999 on CD-ROM (courtesy of Prof. Dr. Manfred Wettler, Univ. of Paderborn)

Works Cited

Allerton, D.J. (1982). *Valency and the English Verb*. London etc.: Routledge.

Bierwisch, Manfred (1967). "Some semantic universals of German adjectivals." *Foundations of Language* 3, 1-36.

Bolinger, Dwight (1977). *Neutrality, Norm and Bias*. Bloomington: Indiana Linguistics Club.

Dixon, R.M.W. (1977). "Where have all the adjectives gone?" *Studies in Language* 1, 19-81.

Ebert, Robert Peter and Günter Rohdenburg (1972). "Presuppositions and contrastive analysis: Polar adjectives in English and German." G. Nickel, ed. *Papers from the International Symposium on Applied Contrastive Linguistics*. Bielefeld: Cornelsen – Velhagen & Klasing, 107-27.

Eisenberg, Peter (1976). *Oberflächenstruktur und logische Struktur: Untersuchungen zur Syntax und Semantik des deutschen Prädikatsadjektivs.* Tübingen: Niemeyer.

Givón, Talmy (1970). "Notes on the semantic structure of English adjectives." *Language* 46, 816-37.

Hale, Austin (1970). "Conditions on English comparative clause pairings." R.P. Jacobs and P.S. Rosenbaum, eds. *Readings in English Transformational Grammar*. Waltham, MA: Ginn & Co., 30-55.

Hawkins, John A. (1986). *A Comparative Typology of English and German: Unifying the Contrasts*. London and Sydney: Croom Helm.

— (1988). "The unity of English/German contrasts: Inferring a typology parameter." C. Duncan-Rose and T. Vennemann, eds. *On Language, Rhetorica, Phonologica, Syntactica: A Festschrift for Robert P. Stockwell from his Friends and Colleagues*. London and New York: Routledge, 361-80.

Kaiser, Gudrun (1979). "Hoch und Gut – Überlegungen zur Semantik polarer Adjektive." *Linguistische Berichte* 59, 1-26.

Klein, Ewan (1980). "A semantics for positive and comparative adjectives." *Linguistics and Philosophy* 4, 1-45.

Klooster, W.G. (1971). "Reductie in zinnen met 'maatconstituenten'." *Studia Neerlandica* 5, 62-98.

— (1972). *The Structure Underlying Measure Phrase Sentences*. Dordrecht: Reidel.

König, Ekkehard (1971). *Adjectival Constructions in English and German: A Contrastive Analysis*. Heidelberg: Groos.

König, Ekkehard and Volker Gast (2007). *Understanding English-German Contrasts*. Berlin: Schmidt.

Kortmann, Bernd and P.G. Meyer (1992). "Is English grammar more explicit than German grammar after all?" Christian Mair and Manfred Markus, eds. *New Departures in Contrastive Linguistics – Neue Ansätze in der kontrastiven Linguistik*. Innsbruck: Universität Innsbruck, 155-66.

Lehrer, Adrienne (1985). "Markedness and antonymy." *Journal of Linguistics* 21, 397-429.

Mair, Christian and Manfred Markus, eds. (1992). *New Departures in Contrastive Linguistics – Neue Ansätze in der kontrastiven Linguistik*. Innsbruck: Universität Innsbruck.

Neubauer, Fritz (1977). "Aspekte der Klassifikation von Adjektiven." K. Heger and J.S. Petöfi, eds. *Kasustheorie, Klassifikation, semantische Interpretationen: Beiträge zur Lexikologie und Semantik*. Hamburg: Buske, 231-59.

Quirk, Randolph, et al. (1972). *A Grammar of Contemporary English*. London: Longman.

Rohdenburg, Günter (1990). "Aspekte einer vergleichenden Typologie des Englischen und Deutschen: Kritische Anmerkungen zu einem Buch von John A. Hawkins." C. Gnutzmann, ed. *Kontrastive Linguistik*. Frankfurt a.M.: Lang, 133-52.

— (1992). "Bemerkungen zu infiniten Konstruktionen im Englischen und Deutschen." Christian Mair and Manfred Markus, eds. *New Departures in Contrastive Linguistics – Neue Ansätze in der kontrastiven Linguistik*. Innsbruck: Universität Innsbruck, 187-207.

— (1998). "Subordinate clauses introduced by interpretative verbs in English and their less explicit counterparts in German." W. Börner and K. Vogel, eds. *Kontrast und Äquivalenz: Beiträge zu Sprachvergleich und Übersetzung*. Tübingen: Narr, 233-49.

— (2003a). "Cognitive complexity and *horror aequi* as factors determining the use of interrogative clause linkers in English." G. Rohdenburg and B. Mondorf, eds. *Determinants of Grammatical Variation in English*. Berlin and New York: Mouton de Gruyter, 203-49.

— (2003b). "Aspects of grammatical iconicity in English." W. Müller and O. Fischer, eds. *From Sign to Signing: Iconicity in Language and Literature 3*. Amsterdam and Philadelphia: Benjamins, 263-85.

Rusiecki, Jan (1985). *Adjectives and Comparison in English: A Semantic Study*. London and New York: Longman.

Schibsbye, Knud (²1970). *A Modern English Grammar*. London: Oxford University Press.

Seuren, Pieter A.M. (1978). "The structure and selection of positive and negative gradable adjectives." D. Farkas, W. Jacobsen and K.W. Todrys, eds. *Papers from the Parasession on the Lexicon*. Chicago Linguistic Society, 336-46.

Teller, Paul (1969). "Some discussion and extension of Manfred Bierwisch's work on German adjectivals." *Foundations of Language* 5, 185-217.

CARSTEN BREUL

On a contrast between English and German copular sentences

Abstract: English and German show a contrast in subject-verb agreement in copular sentences of the type *The winner is me / Der Gewinner bin ich*. The paper presents an analysis of this contrast and suggests ingredients of an explanation for it. The key assumption is that the syntactic subject function is conversely realized by the pre- and postcopular DPs in English as opposed to German sentences of this type. The account of how this difference in the realization of the subject function comes about makes crucial use of considerations concerning grammatical case and inflectional morphology. Information structural aspects are taken into account in order to come to terms with the constituent order peculiarities displayed by copular sentences.

1. Introduction

The present paper is an example of a contrastive analysis that assumes a microscopic perspective on a contrast between English and German.* It takes an approach which conforms to what the editors of the present special issue consider a characteristic of contrastive linguistics as opposed to language typology among the comparative branches of linguistics, namely that "contrastive linguistics is concerned with the more fine-grained aspects of cross-linguistic comparison and also takes dependencies between grammatical subsystems (e.g. morphology, syntax) into account" (Gast and König this issue: 213). The domain where the contrast to be discussed shows itself is the manifestation of grammatical person and number of the finite verb in copular sentences, a domain whose analysis involves morphology and syntax as well as information structural considerations.

Apart from the implications for applied purposes, such as in language teaching and learning or translation, the concern, typical of contrastive linguistics, for the fine-grained aspects of, especially, differences between languages is also important in the following respect: It provides data that are potentially challenging for theories or analyses which aim at detecting universal principles or patterns, as in

generative grammar and language typology. That is, contrastive linguistics may be considered the linguistic discipline that is concerned with revealing linguistic phenomena which are potentially usable in attempts at falsifying claims for universality. Falsifiability being a basic criterion for a valid scientific theory (see e.g. Popper 1972/1984), the provision of data that has the potential to falsify a universalist claim is what may trigger improvements in the construction of universalist theories. This implies, of course, that practicing contrastive linguistics and believing in the existence of universal principles or patterns underlying languages is no contradiction.

The present paper intends to exemplify this function of contrastive linguistics with respect to one particular analysis of copular sentences couched in the universalist framework of generative grammar. It may thus make a small contribution to triggering further endeavours to improve the already highly insightful theories and analyses that aim at the discovery of universal linguistic principles.

2. Types of copular sentences in a nutshell

Copular sentences are often distinguished as to whether they are predicational, specificational, or equative. Mikkelsen (2005), for instance, starts her discussion of copular sentences by giving the examples in (1) and by commenting on them as follows.[1]

(1) a.   *Ingrid Bergman is the lead actress in that movie.*   (predicational)
     b.   *The lead actress in that movie is Ingrid Bergman.*   (specificational)
     c.   *She is Ingrid Bergman.*   (equative)

> Informally, specificational clauses can be distinguished from predicational and equative clauses in the following way. Predicational clauses are similar to non-copular clauses like [*Chris ran a marathon in 3 hours 27 minutes*] in that the VP expresses a property (being the lead actress in a certain movie, having run a marathon within a certain amount of time) which is asserted to hold of the individual denoted by the subject […] Predicational clauses […] thus tell us something **about** the referent of the subject. In contrast […], the VP of a specificational clause does not predicate a property of the subject referent; rather, the subject introduces a variable (in [1b] the *x* such that *x* is the lead actress in that movie), and the post-copular expression serves to provide a value for that variable […] we can say that a specificational clause does not tell us something **about** the referent of the subject NP, instead it says **who** or **what** the referent is. (Mikkelsen 2005, 1f.)

In contrast to both predicational and specificational copular sentences, equatives are said to involve two expressions denoting the same individual, and the function

---

[1]   Note that the way in which the semantic difference between predicational and specificational copular sentences is described here does not match Mikkelsen's own conclusions at the end of her discussion.

of the copular sentence is to equate the referents of the two expressions (Mikkelsen 2005, 1f.).

The distinction between predicational and specificational copular sentences may also show up as ambiguity, as in (2a,b) (from Dikken 2006b, 196 and 312).

(2)   a.   *His supper is food for the dog.*
      b.   *John's contribution to the conference was his best speech ever.*

In the predicational interpretation of (2a), "*food for the dog* [...] predicates a property of *his supper*" while in the specificational interpretation "*food for the dog* specifies what *his supper* consists of" (Dikken 2006b, 296). (2b) allows "a reading for *his best speech ever* according to which it predicates a property of the pre-copular constituent alongside a specificational reading which says that John contributed his best speech ever to the conference" (ibid., 312).

The literature on the syntax and semantics of copular sentences is rich and inconclusive, and the question of whether the distinction between the predicational, specificational and equative types (or any other typology, for that matter) is justified has not yet been definitely settled.[2] For Maienborn (2003, 20ff.), for instance, while (3a) is a German predicational copular sentence, (3b) is an equative one.

(3)   a.   *Die Gewinnerin des Jackpots ist überglücklich.*
      b.   *Die Gewinnerin des Jackpots ist Andrea Schopp.*

That is, Maienborn is in line with those researchers who subsume the specificational type of copular sentences under the equative type.

Contrastive analyses have the capacity to reveal cross-linguistic differences in the 'behaviour' of copular sentences that constitute empirical problems for otherwise coherent theories, as will be exemplified below. The contrast between English and German that I would like to draw attention to here concerns person and number agreement of the finite copula in what Mikkelsen (2005) considers to be specificational copular sentences.

3. The contrast

In what follows, my observations will be restricted to simple copular sentences in the sense of finite, non-embedded copular clauses where there is a nominal phrase, a DP in the terminology of current generative syntax, to the left of the copula and another DP to its right. The reference to these DPs in terms of their

---

[2]   A recent survey article by one of the prominent researchers into copular sentences concludes: "copular sentences still constitute an open field of discussion and one that has very intricate relations with many other domains of grammar" (Moro 2006, 19). Another prominent researcher into copular constructions concludes on a similar note in his recent book on the topic when he says that it contains "neither the first nor the last words written on predication" (Dikken 2006a, 249). See the references in Dikken (2006a, 2006b), Maienborn (2003), Mikkelsen (2005), Moro (2006) for a fairly comprehensive and almost up-to-date bibliography of studies into copular sentences. Many intriguing characteristics of English copular sentences are discussed by Declerck (1988).

linear sequence in relation to the copula rather than to their syntactic function (such as 'subject' and 'predicative nominal') is necessary at the present stage as the question of which of them actually is the subject is not immediately obvious.

3.1 The basic observation and some analytical implications

While in English specificational copular sentences the finite copula, or the finite element of the verbal forms that accompany the copula,[3] agrees in person and number with the DP to its left, their German equivalents show person and number agreement with the DP to the right of the copula. This is shown in (4), while (5) presents one of the relevant sentences as an attested example in context.[4]

(4)　a.　*The winner is {John / him / her}*
　　a'.　*Der Gewinner ist {Hans / er / sie$_{singular}$}.*
　　b.　*The winner is me.*
　　b'.　*Der Gewinner {bin / *ist} ich.*
　　c.　*The winner is you.*
　　c'.　*Der Gewinner {bist / *ist} du.*
　　d.　*The winner is {us / them}.*
　　d'　*Der Gewinner {sind wir / sind sie$_{plural}$ / *ist wir / *ist sie$_{plural}$ }.*

(5)　a.　*Well, finally, now that Time Magazine has gone public on this they have told me that I can finally go public on the true winner of this prestigious award.* **The winner is me.**
　　　　(from http://www.funjunkie.co.uk/news_archive.cfm/date=0802, accessed 25/04/2008)
　　b.　*Eine Vorauswahl fand durch brevetierte Taucher statt. Die 10 besten Fotos aus der Vorentscheidung wurden durch die Expertenjury bewertet und der Gewinner ermittelt. **und** [sic] **der Gewinner bin ich***
　　　　(from http://www.jost-web.de/fotowettbewerb.htm, accessed 25/04/2008)

There is also the case contrast, requiring both DPs to be nominative in German (cf. **Der Gewinner {ist ihn / bin mich / ist mich}*) while requiring the DP to the

---

[3]　This clumsy phrasing caters for the fact that we are potentially also talking about sentences like *The winner will be John* or *Der Gewinner wird Hans sein*, where the copula is a participle accompanied by an auxiliary as the finite verb form. In the following I will avoid this clumsy phrasing and will simply use 'copula' for 'the finite copula or the finite element of the verbal forms that accompany the copula.'

[4]　König / Gast (2007, 165) also mention this contrast, giving the examples *The problem **is** the students* vs. *Das Problem **sind** die Studenten*. Fergal Treanor (p.c.) pointed out to me the contrast between *40 euros **is** a lot of money* vs. *40 Euro **sind** viel Geld*. This is a difference in the number agreement 'behaviour' of English and German measure DPs. These and similar differences have been studied by Berg (1998). The phenomena and contrasts of this kind are orthogonal to the contrast dealt with in the present paper. Note also that *40 Euro **ist** viel Geld* is also acceptable.

right of the copula to be accusative ('objective') in English.[5] There is good reason to suspect that the person and number contrast and the case contrast are connected. But for the moment, the important point to acknowledge is that the person and number contrast rather than the case difference has implications for the question of which of the DPs is the syntactic subject in the corresponding sentences in English and German. If the notion of syntactic subject is crucially tied to the idea that it is the syntactic subject which determines person and number agreement of the finite verb, then the conclusion must be that in English-German sentence pairs like those in (4) the distribution of the subject function is reversed. That is, in such sentences, the syntactic subject is the DP to the left of the copula in English and the DP to the right of the copula in German. Moreover, if the question of what is the syntactic subject has semantic implications in such sentences, then the observation of this reversal turns out to be essential for almost all analytical approaches to copular sentences. For all of them are crucially concerned with the problem of the mapping between the semantically characterized role of the respective DP and its syntactic function. I will now exemplify this concern and the problem the contrast between English and German just pointed out raises in this connection on the basis of Mikkelsen (2005).
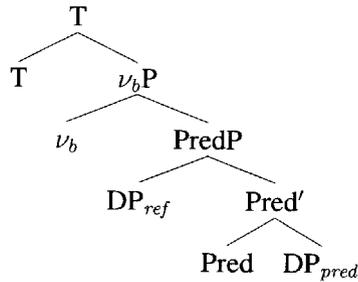
Consider again examples like those in (6).

(6)   a.   *John is the winner.*   (predicational)
      b.   *The winner is John.*   (specificational)

Making use of ideas current in generative syntax, Mikkelsen (2005) suggests that the DP *John* of both (6a) and (6b) starts off in the syntactic position marked 'DP_{ref}' and the DP *the winner* of both (6a) and (6b) starts off in the syntactic position marked 'DP_{pred}' in the syntactic structure given in (7).

---

[5]   a. Despite the well-known reasons not to apply the traditional case terminology (nominative, accusative, dative, etc.) to English, where maximally two morphologically different cases governed by verbs can be distinguished, I will stick to this terminology here. The reason is that a distinction between only two cases will be relevant in the present paper, one of which will be said to be required by an abstract phrasal head T for the DP in its specifier position in both languages ('nominative') so that the name for the other case ('accusative') is nothing but a convenient label with no theoretical implications relevant for the purposes of this paper.
       b. According to Sobin (1997: 334), "the copular verb *be* normally assigns/checks an objective Case, as [the sentence *The person in the purple shirt is me/*I*] illustrates."

(7)   (from Mikkelsen 2005, 168)

```
                  T
               /     \
             T        v_bP
                    /      \
                  v_b       PredP
                         /        \
                     DP_ref        Pred'
                                 /       \
                              Pred      DP_pred
```

The difference between 'DP$_{ref}$' and 'DP$_{pred}$', independently of the way in which they are actually filled with lexical material, is semantic, and this semantic difference is connected to the way in which they relate differently to the abstract head Pred of PredP. To put it in more traditional terms, for Mikkelsen the DP *the winner* is a predicative expression in both (6a) and (6b) and the DP *John* is the referential expression about which something is predicated. The syntactic difference between (6a) and (6b) is due to the fact that in the former the DP *John* moves to become the specifier of T (spec-T), while in the latter the DP *the winner* does.[6] The DP that fills the position spec-T is the syntactic subject, and it is the syntactic subject that enters the agreement relation with the copula: "The T-v_b complex is spelled out as one of the present tense copula forms *am*, *are*, or *is*. Which one depends on how the φ-features are valued on T (by the DP in Spec-TP)"[7] (Mikkelsen 2005, 168). According to Mikkelsen (2005, 171ff.), movement of the 'DP$_{pred}$' to spec-T (i.e. the case of specificational copular sentences) occurs if the 'DP$_{pred}$', but not the 'DP$_{ref}$', carries an interpretable topic feature that has to check, and thereby to delete, an uninterpretable topic feature in T.[8] All other distributions of topic features that are syntactically licit (i.e. where no uninterpretable topic feature on T remains unchecked) result in predicational sentences, where it is the 'DP$_{ref}$' that moves to spec-T, thus becoming syntactic subject and determining person and number agreement with the finite verb.

The problem with this account when it comes to German is that in specificational copular sentences of this language, such as those in (8) below, the correlation

_____

[6]   The specifier of T in (7) (= 'spec-T' or 'spec-TP', a notational difference between which no distinction is made in the present paper) is the position of sister of the higher T. If a phrase occupies spec-T, then its mother node is TP and its sister node T'.

[7]   The term 'φ-features' refers to person, number and gender features. When Mikkelsen says "the φ-features are valued on T (by the DP in Spec-TP)", she uses a current generative conception of the morpho-phonological realisation of syntactic features according to which some features enter the syntactic derivation unvalued and become valued in certain syntactic relations (here the specifier-head relation) with another matching phrase (here the DP in spec-T[P]).

[8]   Uninterpretable features have to be deleted in the course of a syntactic derivation. A topic feature on the functional head T is uninterpretable; a topic feature on any of the two DPs is interpretable.

between 'DP$_{pred}$' and the capacity to determine person and number agreement in the copula is not given.[9] This is shown by (8b,c), suggesting that also in (8a) the phrase that determines person and number of the copula may not be *der Gewinner* but *Hans*, i.e. the post-copular DP.

(8)   a.   *Der Gewinner ist Hans.*
        b.   *Der Gewinner {bin / *ist} ich.*
        c.   *Der Gewinner {bist / *ist} du.*

It is true, Mikkelsen (2005) looks especially at English, Danish and Swedish, and with these languages the problem just pointed out does not arise. However, as Mikkelsen's account is set within a generative framework, i.e. one whose syntactic derivations are supposed to operate by universal principles, it is not only in order but even necessary to point out contrasts with respect to which a given account does not work without modification. As pointed out in the introduction, contrastive analyses provide data that a given generative account needs to deal with in order to support the (explicit or implicit) claim to universality.

3.2   A note on comparability

One component of the *tertium comparationis* of the person and number contrast in English and German specificational copular sentences of the type *The winner is me* vs. *Der Gewinner bin ich* is the assumption of the translational equivalence of utterances in which these sentences are used in a paradigm of relevant contexts. Another component is the fact that these sentences involve lexical items (a determiner, a noun, the copula, a pronoun) that appear to function in the same way in the relevant semantic and grammatical respects apart from those grammatical respects that are to do with the contrast itself.[10] Moreover, as pointed out by Ekkehard König (p.c.), they are information structurally equivalent. The contrastive observation is thus based on the assumption that differences which certainly exist between, for instance, the semantic/pragmatic and grammatical properties of the definite determiner in English and German or the differences pertaining to social deixis between the pronouns *you* and *du* are irrelevant for the contrast in question. An additional assumption is that the contrastive observation can be generalized over a class of similar sentences that vary only in the lexical make-up of the definite DP – *the first man on the moon* or *the most intelligent girl in the class* instead of *the winner*, for instance – where this variation is again irrelevant for the contrast in

---

9   There is another, not empirical, but conceptual, problem of Mikkelsen's (2005) analysis: T may or may not have the uninterpretable topic feature, apparently optionally (cf. ibid., 176f.). It is not clear how this optionally present uninterpretable feature could be motivated independently of the purpose for which it is used by Mikkelsen, namely the distinction between *JOHN is the winner* and *The winner is JOHN* as replies to a context question like *Who is the winner?* (small capitals signalling the position of the main sentence accent here).

10   In other words, the contrastive observation is based on the assumption of translational as well as semanto-syntactic equivalence as *tertium comparationis*. On these notions see Krzeszowski (1990, 15ff. and 147ff.) and the authors mentioned there.

question. In other words, the particular observation concerns an instance of a paradigm of cases. This is an assumption which, if correct, lends relevance to the particular observation for the grammatical system in general. That these are assumptions which do not bias the observation or any approach to its analysis *a priori* and unduly is nothing but another assumption based on intuitions by competent speakers of the languages involved and on certain preconceptions derived from familiarity with theories of grammatical analysis. Whether these assumptions are correct is an empirical question open to challenge.

4.   Some ingredients of an analysis of the contrast

In what follows, I would like to propose some ingredients of an explanatory approach to the contrast which differs from Mikkelsen's account of copular sentences. The proposal does not constitute a full-fledged analysis of copular sentences and thus carries all the weaknesses that less than full-fledged analyses of a phenomenon generally entail, especially the risk of leaving implicit aspects that may turn out to be crucial. My sole purpose is to point out analytical ideas that, as far as I know, have not yet been taken into consideration (in this way) in analyses of copular sentences. The proposal also uses grammatical machinery borrowed from generative grammar. Thus it also comes with an implicit claim of universality that can be falsified by taking other languages into account.

4.1   Theoretical premises

My starting point is the strict commitment to four, more or less traditional ideas in generative syntax, namely

- that the syntactic subject is the phrasal constituent that agrees with the finite verb in person and number;
- that it is in the position spec-T where the syntactic subject determines person and number agreement with the finite verb in English and German;
- that the copula is positioned in the T-head position in both languages when the agreement operation is carried out;
- that the position spec-T is crucially involved in the fact that syntactic subject DPs have to carry nominative case in English and German; let us simply say, without commitment to how exactly this may be technically implemented, that nominative case on a DP in spec-T is a necessary requirement for the syntactic structure to be grammatical.

This means that the syntactic subject is *the winner* in (9a) whereas it is *ich* or *du* respectively in (9b).

(9)   a.   *The winner is {me / you}.*
       b.   *Der Gewinner {bin ich / bist du}.*

What could be the reason behind this contrast? As we will see, the following observations concerning the equipment of DPs and copula with person and number features in German are relevant for an answer to this question.

   If one assumes a theory of feature specification that strives for maximal economy in the postulation of features, German pronominal and non-pronominal DPs can be shown to be most economically specified for person and number by the features [first person] or [second person] and [singular] or [plural] – to be abbreviated [1st], [2nd], [sg], [pl] – as in (10) below, where only nominative DPs are given to instantiate the paradigm (cf. Sternefeld 2006, Vol. 1, 151):

(10) DP   person and number specification
     wir   [1st],[pl]
     ihr   [2nd],[pl]
     ich   [1st]
     du   [2nd]
     sie$_1$, DPs such as *die Gewinner*   [pl]
     er, *sie$_2$*, *es*, DPs such as *der Gewinner*   ————— (= ∅)

Note that traditionally so-called 'third person singular' DPs are characterized by the absence of any of the features [1st], [2nd], [sg], [pl], so-called 'third person plural' DPs are characterized by the absence of [1st] and [2nd] and the presence of [pl]. Finite German verbs, including the copula, are specified for the uninterpretable person and number agreement features [*sg*], [*pl*], [*1st*], [*2nd*] as shown in (11), where the present and preterite forms of the copula are given to instantiate the paradigm (cf. Sternefeld 2006, Vol. 1, 87 and 166.)

(11) copula forms   person and number specification
     sind$_1$, *waren$_1$*   [*1st*],[*pl*]
     seid, *wart*   [*2nd*],[*pl*]
     bin, *war$_1$*   [*1st*]
     bist, *warst*   [*2nd*]
     sind$_1$, *waren$_1$*   [*pl*]
     ist, *war$_2$*   ————— (= ∅)

In the terminology borrowed from generative syntax, each of the person and number agreement features on the finite verb of the form [*α*] (a '*-feature') has to be checked against a corresponding feature of the form [α] on a DP. Checked *-features get deleted. None of the *-features may 'survive' (i.e. may not get deleted) for the syntactic derivation to result in a grammatical sentence. In copular sentences, the checking of these features takes place in the specifier-head relation that is given when the copula is in the T-head position and the syntactic subject is in the spec-T position. This accounts for grammatical German sentences such as those in (12a) below. In all of them the copula can be argued to occupy the T-head position with a nominative DP (*ich*, *du*, etc.) in spec-T that checks all its person and number *-features. The structure is indicated in (12b), where the label 'xP' refers to the phrasal structure dominated by the sister

of the T-head, whose nature is left implicit. The DP *der Gewinner* is located somewhere within xP, and the fact that the syntactic subject and the copula have moved from some position within xP is indicated by the two *t*s co-subscripted with the subject and the copula respectively.

(12) a.   {*Ich bin / Du bist / Wir sind / Ihr seid / Sie sind*} *der Gewinner*.
     b.   [$_{TP}$ *ich*$_j$ [$_{T'}$ *bin*$_i$ [$_{xP}$ t$_j$ t$_i$ [*der Gewinner*]]]][11]

A similar account could be given for English person and number feature checking, whose details, however, play no role in what follows. What has to be kept in mind, though, is that person and number feature checking takes place between a DP in spec-T and the copula in the T-head position in English as well.

4.2 Deriving the contrast

(12b) may also be argued to represent an intermediate stage in the syntactic derivation of the sentences in (12a), with further movement of the syntactic subject into some higher specifier position and, potentially, further movement of the copula into some higher head position, as in (13) below, where these higher specifier and head positions are indicated as constituting a TopP.

(13) [$_{TopP}$ *ich*$_j$ [$_{Top'}$ *bin*$_i$ [$_{TP}$ t$_j$ [$_{T'}$ t$_i$ [$_{xP}$ t$_j$ t$_i$ [*der Gewinner*]]]]]]

A TopP is assumed to be a clausal phrase whose specifier position is the target for the movement of a phrase that is a topic expression.[12] Movements of a topic expression into spec-Top and of the copula into the Top-head position do not affect the person and number agreement relation as established by the specifier-head relation in TP. Moreover the assumption of the existence of clausal phrase structure above TP, such as TopP, allows us to assume that not only the syntactic subject but, alternatively, also the other DP in a copular sentence may move into the additional specifier position with or without attendant movement of the copula into the corresponding head position. This gives us the possibility to derive the sentences in (14a), whose structure is indicated in (14b).

(14) a.   *Der Gewinner* {*bin ich / bist du / ist er / sind wir / seid ihr / sind sie*}.
     b.   [$_{TopP}$ [*der Gewinner*]$_j$ [$_{Top'}$ *bin*$_i$ [$_{TP}$ *ich*$_k$ [$_{T'}$ t$_i$ [$_{xP}$ t$_k$ t$_i$ t$_j$]]]]]

Under this analysis the pronominal constituents *ich*, *du*, etc. in (14a) are the syntactic subjects which agree in person and number with the finite copula although they appear to the right of the copula on the syntactic surface. The structure

---

[11]   Here and below the linear order of the constituents and traces within xP is not to suggest a commitment to any particular proposal for the structure and nature of xP.

[12]   As to the assumption that sentences in languages such as English and German provide for phrasal structure hosting information structurally designated constituents above TP, such as topic and focus expressions, see e.g. Breul (2004, 2007) and the literature mentioned there. In the terminology of Breul (2004, 2007), the functional phrase on top of TP is a FocP and the topic expression is a phrase that carries the feature [-foc].

of the English sentence corresponding to the first option of (14a), i.e. (15a), is given in (15b).

(15) a.   *The winner is me.*
    b. $[_{\text{TopP}}\ [\textit{the winner}]_j\ [_{\text{Top}'}\ [_{\text{TP}}\ t_j\ [_{\text{T}'}\ \textit{is}_i\ [_{\text{xP}}\ t_j\ t_i\ \textit{me}]]]]]$

Apart from the differences between the English and the German structures that are in focus in the present paper, namely the identity of the syntactic subject, the person and number specification of the copula and the case of the DP that is not the syntactic subject, there is another difference: While the German copula moves into the Top-head position when a DP moves into spec-Top, the English copula does not. This is not an assumption which has to be made specifically for the analysis of copular sentences. Rather, this is what one expects generally from the finite verb second property of German as opposed to the lack of this property in English. I will come back to this point in Section 5, and will now turn to the differences related to the agreement contrast.

Let us assume that at the point of the syntactic derivation where one of the two relevant DPs are to move to spec-T it has already been determined that one of the DPs is nominative and the other accusative in English whereas both of the two DPs are nominative in German. For the sake of concreteness I propose to say that this is due to a grammatical operation which ultimately originates in a lexical and thus arbitrary difference between English and German and which takes place within the phrasal domain that I have called xP above. Perhaps it is a lexical difference attached to the copula itself (cf. Note 5b). If we now take the nominative case requirement for a DP in spec-T into account (see above), it follows that there is only one DP which is licensed by this requirement to move to spec-T in English whereas there are two DPs which are licensed by this requirement to move to spec-T in German. In other words, there is no competition for DP movement to spec-T in English, while there *is* such a competition in German. This account explains why we may have both (16a,b) in English.

(16) a.   *I am the winner.*
    a'. $[_{\text{TopP}}\ I_j\ [_{\text{Top}'}\ [_{\text{TP}}\ t_j\ [_{\text{T}'}\ \textit{am}_i\ [_{\text{xP}}\ t_j\ t_i\ [\textit{the winner}]]]]]]$
    b.   *The winner is me.*
    b'. $[_{\text{TopP}}\ [\textit{the winner}]_j\ [_{\text{Top}'}\ [_{\text{TP}}\ t_j\ [_{\text{T}'}\ \textit{is}_i\ [_{\text{xP}}\ t_j\ t_i\ \textit{me}]]]]]$

For the pronominal DP *I* can be argued to be the nominative phrase licensed to move to spec-T in (16a,a'), the DP *the winner* being accusative and thus not licensed to move. In (16b,b'), the DP *the winner* is nominative and licensed to move to spec-T, the DP *me* being accusative and thus not licensed to move. (In [16a',b'] the subject DP has been represented to move further on from its position in spec-T to spec-Top.) The account also explains the grammaticality of (17a) below. It does not yet explain, however, why (17b) is ungrammatical.

(17) a.   *Ich bin der Gewinner.*
    a'. $[_{\text{TopP}}\ \textit{Ich}_j\ [_{\text{Top}'}\ \textit{bin}_i\ [_{\text{TP}}\ t_j\ [_{\text{T}'}\ t_i\ [_{\text{xP}}\ t_j\ t_i\ [\textit{der Gewinner}]]]]]]$

b.   **Der Gewinner ist ich.*

b'.   **[$_{TopP}$ [*der Gewinner*]$_j$ [$_{Top'}$ *ist*$_i$ [$_{TP}$ t$_j$ [$_{T'}$ t$_i$ [$_{xP}$ *ich* t$_i$ t$_j$]]]]]*

In order to rule out such sentences, we have to make use of a theoretical concept that is needed anyway in a theory that works with a maximally economical set of features (i.e. with feature underspecification), as is assumed here by the feature specification tables given in (10) and (11). This is the mechanism of blocking, which says, in the words of Sternefeld (2006, Vol. 1, 167): "Wenn zwei Strukturen A und B sich höchstens in den Flexiven und ihren Merkmalen unterscheiden, ist A blockiert, wenn A weniger Merkmale benötigt als B." (In my translation: If two structures A and B differ at most in the inflections involved and their features, then A is blocked if B needs fewer features than A.)[13] I would like to propose that the syntactic derivation in (17b'), which does not involve any uninterpretable person and/or number agreement features on the copula (*ist*), is blocked by the competing derivation where there is the uninterpretable person agreement feature [*1st*] on the copula (*bin*) and where it is the the nominative pronominal DP *ich* which moves to spec-T. The same reasoning applies to the ungrammatical sentences in (18a), and it is compatible with the grammaticality of the sentences in (18b).

(18) a.   **Der Gewinner ist {du / wir / ihr / sie$_{plural}$}.*

b.   *Der Gewinner ist {er / Hans}.*

In sum, the fact that both relevant DPs in copular sentences have to be nominative in German in connection with the mechanism of blocking have been argued to be crucial in an explanation of the person and number agreement contrast that German so-called 'specificational' copular sentences show in comparison to their English counterparts.

4.3   The contrast and extraction from subject phenomena

As we have seen, one crucial structural difference between English specificational copular sentences of the type *The winner is John* and their German counterparts of the type *Der Gewinner ist Hans* is the fact that the DP *the winner* is syntactic subject in the English sentence whereas the corresponding DP *der Gewinner* is

---

13   That we need blocking if we assume a feature specification as in (10) and (11) becomes clear if we consider that, otherwise, strings like **Ihr {rennen / rennst}* would be grammatical since all *-features could be checked – the single [*pl*] of *rennen* by the [pl] of *ihr* and the single [*2nd*] of *rennst* by the [2nd] of *ihr*. Cf. Sternefeld (2006, Vol. 1, 166f.): "Wie bei jeder Art von Unterspezifizierung müssen wir auf einen zusätzlichen Mechanismus zurückgreifen, der ungrammatische Strukturen blockiert. Es ist klar, dass die Merkmale in [*Ihr rennt*] zum Subjekt 'besser passen' (spezifischer sind) als die in [z.B. **Ihr {rennen / rennst}*]. Um diese zu verhindern, greifen wir wie immer bei Unterspezifikation auf die Methode des Blocking zurück". (In my translation: As with all kinds of underspecification, we have to make use of an additional mechanism which blocks ungrammatical structures. It is clear that the features in [*Ihr rennt*] 'match the subject better' (are more specific) than those in [e.g. **Ihr {rennen / rennst}*]. In order to prevent them, we employ the method of Blocking, as always in cases of underspecification.)

not the syntactic subject in the German sentence, where 'being the syntactic sub-ject' means 'having checked its person and number agreement features against those of the finite verb while being located in spec-T'. This seems to be confirmed by constructions in which a phrase is extracted from such DPs. (19a,a') and (19b) below, for instance, display *wh*-phrase extraction from the DPs that corre-spond to the sentence-initial DPs in copular sentences of the type *The driver of the red car is me / Der Fahrer von dem roten Auto bin ich*. Extraction is unacceptable in English – although not straighforwardly so in the case where the preposition is not left stranded – but fine in German.[14]

(19) a.   *?*Of which car is the driver me?*
      a.' ***Which car is the driver of me?*
      b.   *Von welchem Auto bin ich der Fahrer?*

Such differences in acceptability resulting from movements out of DPs have a long tradition in the generative literature, especially on English, of being considered indicative of subject status (see e.g. Culicover 1997, 192ff., 228ff., Stepanov 2007 and the authors mentioned there): Roughly speaking, subject DPs do not allow such extractions, non-subject argument DPs do allow them.[15] Consequently, the data in (19) seem to support the assumption that the sentence-initial DP in an English copular sentence of the type *The winner is {me / John}* is the syntactic subject whereas the sentence-initial DP in a German copular sentence of the type *Der Gewinner {bin ich / ist Hans}* is not the syntactic subject. There are, however, several problems with this argument. First, substitution of the pronominal DP of (19a) by a heavier (third person) DP leads to a significant improvement. Con-sider (20).

(20) (?)*Of which car is the driver a certain Mr. Shreck?*

It would have to be investigated what exactly this kind of substitution means for the syntax of the construction, a task that cannot be undertaken within the con-fines of the present paper. Second, it is not obvious that the prohibition against extraction from subjects is operative in German to the same extent as in English. Consider (21), where the DPs from which the *wh*-phrase has been extracted (*the*

---

14   The essential aspects of the derivational stage preceding extraction from DP can be repre-sented as in (i) and (ii):

  (i)   [$_{TP}$ [$_{DP}$ *the driver of which car*] *is me*]
  (ii)   [$_{TP}$ *ich bin* [$_{DP}$ *der Fahrer von welchem Auto*]]

  (19) then results from *wh*-phrase extraction from DP to the specifier position of a phrase on top of TP in connection with movement of the finite verbs *is* and *bin* respectively to the head position of that phrase.

15   Some relevant judgements from the literature are the following:
  (i)   ***Who would a funny picture of surprise Susan?* (from Culicover 1997, 197; cf.: *Who did Susan see a funny picture of?*)
  (ii)   ***Of which car did the driver cause a scandal.* (from Chomsky 2008)
  (iii) ***Who is a description of in the book?* (from Adger 2003, 398; cf. from ibid.: *Who is there a description of in the book?* suggesting that *there* occupies spec-T)

driver of which car / der Fahrer von welchem Auto) certainly are subjects (see also Sternefeld 2006, Vol. 2, 526f. and the literature mentioned there).

(21) a.   *Of which car is the driver very rich?*
           Which car is the driver of very rich?
     b.   ??*Von welchem Auto ist der Fahrer sehr reich?*

But note also that the declarative counterparts of these interrogative sentences are predicational rather than specificational copular sentences. Third, as exemplified by (22), some speakers judge extraction from the subject of English passive sentences to be acceptable.

(22) *Of which car was the driver awarded a prize?* (from Chomsky 2008; see Truswell 2007, 220 for further references; see also Stepanov 2007)

However, Chomsky's (2008) point in giving this example is not that there is no restriction on extraction from subjects in English (cf. his example [ii] in Note 14). It is rather that the syntactic configuration for the standard cases where extraction from subject is ruled out is different from that where the subjects of passives are concerned. Roughly speaking, and transposing Chomsky's point from its avant-garde grammatical framework to the more conservative one used in the present paper, extraction from subject in passive sentences happens before the subject DP checks person and number features while in spec-T (see also Stepanov 2007).

In sum, although extraction from subject phenomena have turned out to raise a number of questions for which answers are not readily available, it may still be possible to argue that the contrast displayed by (19) above is relevant for the purposes of the present paper. It shows, irrespective of the complications just referred to, that the syntactic status of an English DP like *the winner* in a specificational copular sentence like *The winner is {John / me}* is different from the syntactic status of a corresponding German DP like *der Gewinner* in a specificational copular sentence like *Der Gewinner {ist Hans / bin ich}*. My claim is that this difference is due to the fact that in the English case the respective DP is a syntactic subject checking person and number features while in spec-T whereas the corresponding German DP is not a syntactic subject so understood. And this point seems to stand independently of the complications just mentioned.

5. Some (more) loose ends (partly tied up)

In my discussion of English copular sentences such as *I am the winner* and *The winner is me* I have suggested analyses according to which the specifier position in a functional phrase above TP, i.e. TopP, is occupied by the syntactic subject (cf. [16]). For German I have postulated movement into spec-Top by the non-subject DP in order to derive sentences such as *Der Gewinner bin ich* (cf. [14]). This raises the question of whether movement into spec-Top by the non-subject DP is also possible in English. Examples like (23a,b) suggest that the answer to this question is not straightforward.

(23) a. (?)*The winner I am.*
     b. **Me the winner is.*

There are contexts in which a sentence like (23a) can be felicitously used, such as in (24), where the small capitals indicate the word that carries the primary sentence accent in a spoken utterance of that sentence.

(24) *John told me that I would be the winner, and **the winner I** AM.*

Thus, while sentences like (23a) need very specific contexts in order to be felicitously used, they are nevertheless grammatical. Moreover, if we consider also copular sentences in which the functional phrase above TP is not TopP but FocP, i.e. a phrase whose specifier position does not host a topic expression but a focus expression,[16] it is easier to find relevant examples and contexts. The following occurrence of *The biggest Grade of all he was* from the *British National Corpus* (BNC)[17] is a case in point.

(25) *He remembers clubs and halls, the £1,500 a week he was paid when that would*
     have bought half a street; and then he remembers Leslie Grade. 'The biggest
     Grade of all he was, and the only one not made a Sir. …
     (BNC AJ8 336)

Here the most natural interpretation goes along with an intonation in which the main sentence accent is located on the last word of the fronted DP *the biggest Grade of all*. In the framework of Breul (2004, 2007) this intonational signal is interpreted to mean that this phrase is an identificational focus phrase located in spec-Foc. The confines of the present paper do not allow me to discuss what kind of copular sentence this is (specificational, predicational, equative, or none of them). My point is just that there do not seem to exist any purely syntactic constraints that prevent movement of the non-subject into the specifier position of a functional phrase on top of a copular TP like that in (26a) – nor, by analogy, (26b).[18]

(26) a. $[_{TP} he_j [_{T'} was_i [_{xP} t_j t_i [the biggest Grade of all]]]]$
     b. $[_{TP} I_j [_{T'} am_i [_{xP} t_j t_i [the winner]]]]$

The situation with strings like (23b) is harder to come to terms with. In (27), however, a sentence structurally similar to (23b) appears in a context which makes its utterance acceptable.

(27) *John told me that the winner would be me, and **me it** IS.*

---

[16] In the framework of Breul (2004, 2007), the specifier of FocP hosts an identificational focus expressions, i.e. a phrase which carries the feature [+foc]; cf. Note 12.

[17] The BNC is a computerised corpus of contemporary written and spoken British English of roughly 100 million words (ca. 90 % written, 10 % spoken material). For more information on the BNC see the website at http://www.natcorp.ox.ac.uk/.

[18] In Breul (2007) I argued that object fronting is more severely constrained in English than in German for reasons of syntactic processing and that for the same reasons the canonical constituent order is favoured in constructions with fronted objects in English. What holds for objects can be assumed to hold for the non-subject DP in copular sentences as well.

Just as with (24) the context has been constructed here in such a way that the non-subject DP of the copular clause can be felicitously used as topic expression while the assertion of the utterance targets the polarity of the clause, i.e. the fact that its truth is asserted in a context in which the (implicit) question of its truth has just been raised. From a purely syntactic point of view it can be argued that this example is sufficient to show that movement to spec-Top of the non-subject DP from the TP given in (28) below is possible. Moreover, given that the pronominal phrase *it* is co-denotational with *the winner* in (27), there should be no purely syntactic reason to rule out the same movement in cases where the position of pronominal *it* is occupied by other, non-pronominal phrases.

(28) $[_{TP} \, it_j \, [_{T'} \, is_i \, [_{xP} \, t_j \, t_i \, me]]]]]$

Yet, there seems to be no context in which (23b) would be appropriate. I would argue that the reason for this is not a syntactic one. Rather, it involves syntactic processing factors as discussed in Breul (2007) (cf. Note 18). The rough line of argumentation is this: In English, sentences in which a non-subject argument is fronted are always disfavoured in terms of syntactic processing in comparison to corresponding sentences with the canonical constituent order;[19] the larger the subject, the larger the disadvantage; the disadvantage can only be overridden if information structurally relevant factors (see Lambrecht 1994) would make the canonical constituent order inappropriate; there do not seem to exist any contexts in which information structurally relevant factors would rule out *I am the winner* to the benefit of **Me the winner is*; this is because the respective pronouns are either topic or identificational focus expressions with the same denotation in both sentences while the respective rest of the constructions has no potential of making a semantic and/or information structural difference between them.

6. Conclusion

The contrastive observation presented in the present paper has led to an explanatory approach in terms of a grammatical framework, generative syntax, which emphasizes commonalities between languages. This procedure allows us to see more clearly what it is that makes the difference between the languages, since the difference is projected against a background of what is (assumed to be) common to them. To the degree that one believes in the validity of these commonalities – universal grammatical principles in generative grammar – they can be taken as derived theoretical *tertia comparationis* (TCs) by the analyst. However, I believe that it is beneficial for the (contrastive) study of language(s) if the analytical procedure that starts off from these derived theoretical TCs is complemented by a procedure that takes as its starting point more easily falsifiable (in principle) TCs – such as the non-derived one based on the observation that sentences like *The winner is me* and

---

[19]   This does not hold for German because of its richer case morphology and its finite second property.

Der Gewinner bin ich are considered to be equivalent by competent speakers of English and German at least in some contexts that are considered equivalent in turn.

Works cited

Adger, David (2003). *Core Syntax: A Minimalist Approach.* Oxford: Oxford University Press.

Berg, Thomas (1998). "The resolution of number conflicts in English and German agreement patterns." *Linguistics* 36.1, 41-70.

Breul, Carsten (2004). *Focus Structure in Generative Grammar: An Integrated Syntactic, Semantic and Intonational Approach.* Amsterdam: Benjamins.

— (2007). "Focus structure, movement to spec-Foc and syntactic processing." Kerstin Schwabe and Susanne Winkler, eds. *On Information Structure, Meaning and Form: Generalizations Across Languages*, Amsterdam: Benjamins, 255-74.

Chomsky, Noam (2008). "On phases." Robert Freidin, Carlos P. Otero and Maria Luisa Zubizarreta, eds. *Foundational Issues in Linguistic Theory: Essays in Honor of Jean-Roger Vergnaud*. Cambridge, MA: MIT Press, 133-66.

Culicover, Peter W. (1997). *Principles and Parameters: An Introduction to Syntactic Theory.* Oxford: Oxford University Press.

Declerck, Renaat (1988). *Studies on Copular Sentences, Clefts and Pseudo-Clefts*. Leuven: Leuven University Press.

Dikken, Marcel den (2006a). *Relators and Linkers: The Syntax of Predication, Predicate Inversion, and Copulas.* Cambridge, MA: MIT Press.

— (2006b). "Specificational copular sentences and pseudoclefts." Martin Everaert and Henk van Riemsdijk, eds. *The Blackwell Companion to Syntax*, Vol. 6, Malden, MA: Blackwell, 292-409.

König, Ekkehard and Volker Gast (2007). *Understanding English-German Contrasts.* Berlin: Erich Schmidt.

Krzeszowski, Tomasz P. (1990). *Contrasting Languages: The Scope of Contrastive Linguistics.* Berlin: Mouton de Gruyter.

Lambrecht, Knud (1994). *Information Structure and Sentence Form: Topic, Focus and the Mental Representations of Discourse Referents.* Cambridge: Cambridge University Press.

Maienborn, Claudia (2003). *Die logische Form von Kopula-Sätzen.* Berlin: Akademie Verlag.

Mikkelsen, Line (2005). *Copular Clauses: Specification, Predication and Equation.* Amsterdam: Benjamins.

Moro, Andrea (2006). "Copular sentences." Martin Everaert and Henk van Riemsdijk, eds. *The Blackwell Companion to Syntax*, Vol. 2. Malden, MA: Blackwell, 1-23.

Popper, Karl R. (1972/1984). *Objective Knowledge: An Evolutionary Approach*. 4th ed. Oxford: Clarendon Press.

Sobin, Nicholas (1997). "Agreement, default rules, and grammatical viruses." *Linguistic Inquiry* 28.2, 318-43.

Stepanov, Arthur (2007). "The end of CED? Minimalism and extraction domains."
     Syntax 10.1, 80-126.
Sternefeld, Wolfgang (2006). *Syntax: Eine morphologisch motivierte generative
     Beschreibung des Deutschen*. 2 vols. Tübingen: Stauffenburg.
Truswell, Robert (2007). "Locality of *wh*-movement and the individuation of
     events." *Ph.D. thesis*. University College London.

FLORIAN HAAS

Symmetric verbs and constraints on passivization: An English-German comparison

Abstract: Constraints on passivization have mainly been formulated in terms of semantic properties of verbs and their arguments. Comparative data from English and German suggest that at least in some areas of the lexicon other factors are at work as well. Different uses of the English verb *meet* have been investigated with respect to their occurrence in the active and passive diatheses. It turns out that there are striking differences between these uses, for some (near) categorical and for others in terms of frequency. A comparison to their German counterparts, each realized as a formally distinct lexeme and each conforming to the general frequency distribution of actives and passives in German, reveals that semantic and pragmatic motivations cannot sufficiently account for the distribution in English. I propose that verb senses and voice values are associated in such a way that semantic ambiguities are minimized.

1. Introduction[*]

It is well-known that the passive is a relatively rare phenomenon across text types. According to Biber et al. (1999, 476-9) passives are less frequent than actives overall, some marked differences between registers notwithstanding. The relative frequency of passives increases with the degree of formality: whereas only 2% of all finite verbs in conversation are passive, the number rises to 25% in academic prose. In general, it is well-established that the active realization of verbs is significantly more frequent in English. Similar figures have been provided for German. Brinker (1971) and Schoenthal (1976) found ratios of seven and nine percent passives in their samples respectively.[1]

It is also well-known that certain verbs are always (or almost always) realized in the passive voice (*John Lennon was born on 9 October 1940* vs. ?*Someone bore John Lennon on 9 October 1940*). In this paper I will look at the uses of a verb for which at first sight we would not expect a passive use at all: *meet*. Being commonly categorized as 'symmetric' (see for instance Lakoff and Peters 1969), we would expect *meet* to repel passivization, the reason being the non-affectedness of the

---

[*] I would like to thank the editors of the present issue and Katerina Stathi for comments and suggestions. Any remaining inaccuracies are my own.

[1] The composition of Brinker's (1971) sample differs somewhat from that of Schoenthal (1976), but both studies are mainly based on written German (see also Vogel 2003).

underlying object, the non-agentivity of the underlying subject (or the non-directedness or bidirectionality of the event expressed, depending on one's perspective). The constraint does not hold for a number of 'non-symmetric' uses of *meet*, however. This is not surprising, since the verb does not denote a symmetric event in these uses. What is striking is that some of such uses occur significantly more frequently in the passive than in the active. I will argue that this frequency asymmetry cannot be solely due to semantic or pragmatic factors favouring passivization, given that the German verbs corresponding to the uses of *meet* at issue do not behave in the same way (under the reasonable assumption that in general the same semantic and pragmatic motivations are at work in the two languages).

It will be proposed that the lexical association of verb senses and voice values is structured in such a way that ambiguities are minimized. The structure of the paper is the following. Section 2 gives an overview of how the verb *meet* is used in Present-day English and of how the relevant meanings are expressed in German. In Section 3 I will discuss corpus data which show that the different uses of *meet* attract or repel passivization in a way that contrasts strikingly with the German data. After briefly reviewing the issue of the lexical specification of argument structure, Section 4 will then deal with those English-German contrasts and similarities in the field of voice argument realization that may be relevant for the case under discussion. In Section 5 I will finally put forward an account of how information structural motivations and the need to distinguish verb senses formally can be taken to interact in the case of *meet* and its German counterparts.

2. The different uses of *meet* and their German counterparts

2.1 English

The verb *meet* is often discussed as a paradigm example of the category 'symmetric predicate', the latter class being defined as containing predicates that express a necessarily bidirectional relation. In this way it is assumed that the sentence *Nick met Greg* is synonymous with the sentence *Greg met Nick*, whereas such an interchangeability of arguments does not hold for a non-symmetric predicate like *see*: *Nick saw Greg* does not entail, and therefore is not synonymous with *Greg saw Nick*. The verb *meet* displays a number of other uses that are not consistent with this definition of symmetry, however. We would also expect the non-symmetry of these verb uses to be reflected by passivization facts. This prediction is borne out in almost all of the uses under consideration. Consider the following examples:

(1) *I've only met her once.*
(2) *Not even in Paradise Street had Rose met that phenomenon.*
     [BNC K8V 3266]
(3) *However, to avoid unnecessary delays in meeting the expectations of the staff,*
     […]. [BNC B2M 304]
(4) *Resistance was met by beatings, fines or imprisonment.* [BNC HH3 12618]

(5) *She and her husband were met at the station by a small open carriage which took them to the palace.* [BNC ANR 650]

The use of *meet* in (1) is the one predominantly discussed in the literature on symmetric predicates. It will henceforth be called COME TOGETHER (*meet*_{COMTOG}). The event denoted in (2) is slightly different. While the participants involved basically act in the same way in the case of *meet*_{COMTOG}, there is a clear asymmetry in participation when *meet* is used in the way exemplified by (2). Here, the subject participant is moving and consciously attends to the entity denoted by the object, but the reverse does not hold. In sentences of this type the object can refer not only to inanimate entities, but also to animates (including humans) that remain passive in a similar way. In the following the label COME ACROSS (*meet*_{COMACR}) will be used for this type. The use types in (3)-(5) share with *meet*_{COMACR} the non-identical participation that the two participants exhibit, and historically they seem to be extensions of *meet*_{COMACR} (Haas 2007, 204). The meaning in (3) will be called STANDARD (*meet*_{STAND}), because the referent of the active subject fulfills (or attempts to fulfill) a standard, requirement or need, as specified by the active object. Sentence (4) illustrates a use of *meet* that is similar to *meet*_{STAND} in that the active subject (or passive subject, as in the actual example) also acts as a type of reference point or stimulus. We should nevertheless treat it as a distinct type, since the event denoted by *meet* is here not predetermined by the reference point, as is the case with *meet*_{STAND}. The label REACTION (*meet*_{REACT}) seems appropriate: what the *by*-phrase in (4) refers to is an event which functions as a reaction to the stimulus denoted by the subject. The reading in (5), finally, exemplifies what I will call the ARRIVAL (*meet*_{ARR}) use of *meet*. The active object (or passive subject) refers to a person (or a group of persons or a means of transport conducted by the latter) waiting for and then receiving the other participant, typically at an airport, a station, or any other place that is construed as an arrival point of that kind.

2.2 German

If we translate the examples in (1)-(5) into German, we find that for each of the use types under discussion German has a formally distinct verb stem:

(6) *Ich habe sie nur einmal **getroffen**.*
    I   have her only once   met
    'I've only met her once.'

(7) *Noch nicht einmal in der Paradise Street hat Rose dieses*
    still not even in the Paradise Street has Rose this
    *Phänomen **angetroffen**.*
    phenomenon met_{COMACR}
    'Not even in Paradise Street had Rose met that phenomenon.'

(8) *Um allerdings unnötige Verspätungen beim **Erreichen***
    to   however unnecessary delays   at.the achieve.INF

> *der Vorgaben   zu vermeiden …*
> the expectations to avoid.INF
>
> 'However, to avoid unnecessary delays in meeting the expectations of
> the staff …'

(9) *Widerstand   wurde   mit   Schlägen, Strafzahlungen und*
     resistance   was   with beatings   fines   and

     *Verhaftungen   **beantwortet.***
     imprisonments responded

     'Resistance was met by beatings, fines or imprisonment.'

(10) *Sie und ihr Mann   wurden am   Bahnhof von einer   kleinen*
     she and her husband were   at.the station of a   small

     *Kutsche **abgeholt**,   die   sie   zum   Palast   brachte.*
     coach   picked.up   which   them   to.the palace   brought

     'She and her husband were met at the station by a small open carriage
     which took them to the palace.'

There are still other verbs that correspond to the relevant uses of *meet* and there
are also other English verbs that parallel them (e.g. *fulfill* [*meet*$_{STAND}$], *receive*
[*meet*$_{ARR}$]). The crucial contrast between English and German, however, is that
there is no German verb that covers all of the relevant meanings in the same way
as English *meet*.

3. *Meet* and the passive

3.1 Data

In conformity with the semantic constraints on passive use discussed above,
meet$_{COMTOG}$, as exemplified in (1), is not passivizable.[2] The same holds for its
German counterpart *treffen*. The situation is different for the remaining uses of
the verb. The verbs in (7)-(10) can all be realized passively. This has been tested
on corpora of written German which are made available by the Institut für
Deutsche Sprache (Mannheim) via the COSMAS II interface.[3] Table 1 shows the
proportions of active and passive realizations of these verbs.[4] The following two

---

[2]   The uses of *meet* that involve a PP introduced by *with* also behave in accordance with this
      regularity. Compare the following examples from Couper-Kuhlen (1979, 167):

      (i)   *Many misfortunes were met with during the course of this year.*
      (ii)   *An accident was met with on the way to the opera.*
      (iii) **An old friend was met with at the dinner party.*

      For reasons of space, only those uses of *meet* will be discussed that select for a direct object in
      what follows.

[3]   Cf. the COSMAS II-website: https://cosmas2.ids-mannheim.de/cosmas2-web/.

[4]   Note that the meanings of the German verbs do not exactly overlap with the uses of *meet* un-
      der discussion. German *abholen*, for example, is compatible with inanimate patients (cor-

observations seem to be relevant here: (i) The active is more frequent across the board, yet passive instances are by no means marginal, amounting to around 30 per cent for *einhalten*, *erwidern*, *beantworten*, *abholen* and *antreffen*; (ii) there are thus no significant contrasts between the verbs as far as the ratio of passives is concerned.[5]

	ACTIVE	PASSIVE	PASSIVE %
einhalten	73	40	35%
erwidern	24	10	29%
beantworten	29	11	28%
abholen	148	28	16%
antreffen	28	12	30%
unterstützen ('support')	142	52	27%

Table 1: Frequencies of active and passive realizations of six German verbs

Turning to English, we meet a strikingly different picture. A classification of the first 2,000 instances of the lemma MEET in the BNC,[6] reveals the following distribution: Whereas the $meet_{ComTog}$ use repels the passive as expected, the other uses of the verb do not at all behave like the German verbs. Table 1 shows that, in contrast to the homogeneous distribution of diathesis realizations for the German verbs, the passive proportions of *meet* uses vary a lot. Crucially, these ratios do not only differ from the German matches of the relevant meanings, but also from a random choice of other passivizable transitive verbs. Thus, in order to show that we are not dealing with a completely general phenomenon I have chosen the verbs *encounter*, *support* and *achieve* as a control group, assuming them to represent the usual distribution of actives and passives in English.[7] *Encounter* is related to $meet_{ComACR}$ insofar as it can also express that meaning. It can therefore help us find out whether the special preference for the active that $meet_{ComACR}$ will be shown to derive from its meaning or whether there have to be other relevant factors. *Achieve* partially corresponds to $meet_{STAND}$ and *support* is semantically and formally unrelated to *meet*, but, as mentioned above, it conforms to the standard

---

responding to English *collect*). The figures in Table 1 only refer to those instances of *abholen* that correspond to $meet_{ARR}$, and the same holds for the other verbs and their translations.

[5]   It remains to be seen whether the higher ratios of passives with these verbs in comparison to the figures reported in the literature (Brinker 1971; Schoenthal 1976; Vogel 2003) is significant or has to do with the different types of corpora used. Giving an answer to this question is beyond the scope of the present paper.

[6]   Mark Davies[0]' (2004-) BYU-BNC: The British National Corpus, available online at: http://corpus.byu.edu/bnc.

[7]   For the lemma SUPPORT the first 200 (randomly generated) instances and for ACHIEVE and ENCOUNTER the first 500 instances were checked in the BYU-BNC.

situation in which English verbs are realized significantly more often as actives
than passives (Biber et al. 1999, 476-9).

	ACTIVE	PASSIVE	PASSIVE %
meet$_{STAND}$	720	190	21%
meet$_{REACT}$	5	22	81%
meet$_{ARR}$	5	13	72%
meet$_{COMACR}$	85	2	2%
meet$_{COMTOG}$	257	0	0%
encounter	242	155	39%
support	150	22	13%
achieve	265	128	33%

Table 2:   Frequencies of active and passive realizations of *meet* uses and
            three other verbs

The *meet*$_{STAND}$ use, with 910 occurrences out of 2,000 the most frequent type in
total, is the only use of *meet* that displays a passive ratio conforming to the general
distribution mentioned above: 21% passives. With *meet*$_{REACT}$, however, the pro-
portion of passives rises to 81%. A chi-square test comparing the passive ratios
of *meet*$_{REACT}$ and the control verb *achieve* shows the difference to be statistically
highly significant ($p<0.001$). The same holds for a comparison of *meet*$_{ARR}$, occurring
with a frequency of 72 per cent in the passive, and *achieve* ($p<0.001$). If we go
further down in Table 1, we come across the fact that *meet*$_{COMACR}$ shows a frequency
skewing of the converse type. Out of 87 instances of *meet*$_{COMACR}$ in the sample,
only two (2.3 per cent) are used passively. Although this time the use of *meet*
under discussion is more often used actively than passively, just like our control
verb *achieve*, the frequency skewing between the two is statistically highly sig-
nificant ($p<0.001$). In other words, the preference for an active realization of
meet$_{COMACR}$ is clearly stronger than that of a verb like *achieve*. A pairwise com-
parison of *meet*$_{REACT}$, *meet*$_{ARR}$ and *meet*$_{COMACR}$ with their German counterparts also
shows the relevant contrasts to be statistically significant (with $p<0.001$ for the
pairs *meet*$_{COMACR}$ – *antreffen*, *meet*$_{REACT}$ – *erwidern* and *meet*$_{REACT}$ – *beantworten*, and
a significance level of $p<0.01$ for the pair *meet*$_{ARR}$ – *abholen*).

To sum up the corpus findings, *meet*$_{REACT}$ and *meet*$_{ARR}$ are significantly more
often used passively in English than their German counterparts. *Meet*$_{COMACR}$, by
contrast is used basically only in the active voice, again contrary to its German
counterpart *antreffen*.

3.2   Lexical specification of argument structure

It is of course not a new observation that lexemes select for specific argument structure patterns. Well known are also cases where the alternation between different patterns such as the double object and the prepositional object construction with ditransitive verbs is more restricted or even limited to a single option for particular (classes of) verbs (see e.g. Levin 1993, 45-8). In the domain of the passive it could be argued that with verbs such as *say* the choice between active and passive realization selects for a specific sense of the verb in a similar way:

(11)   *I said this because* […]. [BNC CK1 576]
(12)   *I endorse everything that was said* […]. [BNC KGM 513]
(13)   *Farrah, 45, is said to be shopping for a challenging film role.*
          [BNC CH6 4591]

The use of *say* in (13) is only compatible with a passive. The variant **They say Farrah, 45, to be shopping for a challenging film role* is not possible. It has to be kept in mind, however, that it is not the passive as such that triggers this sense, but rather a more specific construction that involves the passive and the infinitive complement *to be* V-*ing*. Note that the passive sentence in (12) displays the same meaning of *say* as (11). The cases with *meet* are different in that in terms of argument structure the senses at issue are basically transitive verbs which – from a purely formal point of view – can be realized either actively or passively. In other words, notwithstanding the extremely marginal occurrence of *meet*$_{\text{COMACR}}$ in the passive voice the different readings are compatible with active and passive voice, without depending on a more specific construction, as was exemplified by the NcI construction in (13). The corpus data suggest that there are nevertheless strong preferences for specific readings to be associated with either the active or the passive voice. In the case of *meet*$_{\text{COMACR}}$ this preference seems to be near-categorical.

This state of affairs is well compatible with a usage-based approach to language, where verbs are assumed to be conventionalized together with syntactic constructions to different degrees (see, for instance, Stefanowitsch / Gries 2003; Diessel 2004, ch. 2; Bybee / McClelland 2005; Hay / Bresnan 2006). The question remains, however, as to why the conventionalizations of *meet* uses and their respective voice constructions are distributed the way they are.

4.   Where do English and German differ?

4.1   Use of passives in English and German

Before turning to the differences, let me point out commonalities in the use of English and German passives. If we assume that the semantic and pragmatic motivations for using passives in English and German are the same or at least very similar, we should not expect the aforementioned contrasts in the distribution of diathesis types (active vs. passive) over verb senses in English and distinct verb forms

in German. Therefore I will suggest that in English the need for distinguishing senses of *meet* has led to a tighter association between *meet*$_{COMACR}$ and the active voice on the one hand, and between *meet*$_{REACT}$, *meet*$_{ARR}$ and the passive voice, on the other.

For many verbs passivization is excluded. With others the passive is not possible for specific uses of the verb. Parameters such as the affectedness of the referent denoted by the passive subject, the event type (state vs. action), the visibility of a resultant state, or more generally the non-symmetric nature of the event have been found to constrain passivization (see Tuyn 1970; Couper-Kuhlen 1979; Beedham 1982; Siewierska 1984, 186-216). As far as factors motivating the use of the passive in the first place are concerned, it is above all information structure that seems to be relevant. According to Birner and Ward (1998, 199), long passives, i.e. those where the agent is overtly expressed, are constrained in that the passive subject must not represent newer information than does the NP in the *by*-phrase. Conversely, the passive can be seen as one of a number of non-canonical clause types that render marked relations between thematic roles and the categories 'given' and 'new'.

Despite some minor differences having to do with word order contrasts between English and German (Doherty 1996), the motivations for using the passive, as well as the constraints on the passivizability of transitive verbs, are the same in German (on the use of the German passive see Eroms 1974; Schoenthal 1976; Zifonun 1992; Zifonun et al. 1997, 1837-50; Eisenberg 1999, 127; König / Gast 2007, 132). The same holds for the frequency distribution of passives as opposed to actives in German, as mentioned in the introduction.

4.2 Lexical contrasts in the verbal domain

Plank (1984) shows that English predicates allow complements of semantically diverse types to a higher degree than German predicates. He analyses this contrast in terms of 'semantic agreement' between verbs and their objects. Verbs of dressing and undressing provide a good example. While English gets by with the generic phrasal verbs *put on* and *put off*, German distinguishes a number of different lexemes that are chosen in accordance with certain properties of the object (Plank 1984, 313-5). *Put on*, for instance, translates as *anziehen*, *aufsetzen*, *anlegen*, *umbinden*, *umlegen* and *anstecken*.

It seems that the case of *meet* and its German translations conforms to this tendency, although arguably the uses of *meet* under discussion are semantically more distinct from each other than the uses of *put on* and *put off*. To be sure, the particular movements that *put on* denotes for the different objects varies, but the type of movement that applies in a given case can be predicted from inherent properties of the object referent. With *meet* the situation is different. It cannot be denied that the senses we are investigating are semantically related, *meet*$_{COMTOG}$ and *meet*$_{COMACR}$ being historically the oldest and semantically the most central ones. Nevertheless, they are not predictable from properties of their objects. Consider *meet*$_{COMACR}$ and *meet*$_{ARR}$, for example. Both readings are possible with a human object. Thus, the sentence:

(14)   *I met my boss at the station.*

is acceptable in either of the following two situations: 'I went to the station, picked up my boss and drove him to the hotel' or 'I was surprised to find my boss lying drunk on a bench at the station'. Putting it differently, the semantic differences between senses of *meet* go beyond what Plank (1984) described as semantic agreement with the object. The greater semantic idiosyncrasy of *meet*$_{\text{STAND}}$, *meet*$_{\text{REACT}}$ and *meet*$_{\text{ARR}}$ notwithstanding, the general contrast applies: Where in German a number of formally distinct lexemes are distinguished, a single form seems to be sufficient in English. In the following I will argue that the semantic ambiguity of sentences like (14), which would be rendered unambiguously in German (*Ich habe meinen Chef vom Bahnhof abgeholt* vs. *Ich habe meinen Chef am Bahnhof angetroffen*) is counterbalanced by a stricter association of certain verb senses and restrictions on the choice of otherwise variable syntactic constructions (either in the form of significant frequency asymmetries or of near categorical constraints).

5.   Towards an explanation

5.1   Sense distinguishability as a driving force

As I mentioned earlier, motivations for using the passive are usually assumed to be pragmatic ones, insofar as the passive presents the verbal event from a different perspective, which also correlates with a reversed given-new structure with respect to the active: the passive subject typically refers to given information and the optional *by*-phrase may introduce new information (Birner / Ward 1998, 199). The point I would like to make is that the different uses of the verb *meet* are distributed over the active and the passive voice in a way that cannot be exclusively reduced to the choice of perspective or given-new structure.

An important factor seems to be the functional need for distinguishing the different senses of the verb in discourse, which is achieved by conventionally associating a given sense with a particular diathesis. For example, if *meet*$_{\text{COMACR}}$ is realized only actively, while *meet*$_{\text{ARR}}$ is conventionally realized passively, the identification of the intended sense by the hearer is strongly facilitated. There is no functional need for such a conventionalization in German, since the different meanings are expressed by formally distinct verbs anyway. Consider the following examples:

(15)   *I was met at the station.*
(16)   *Ich wurde am   Bahnhof   abgeholt.*
      I   was   at.the station   picked.up
      'I was picked up at the station.'
(17)   *Ich wurde am   Bahnhof   angetroffen/aufgefunden.*
      I   was   at.the station   found
      'I was encountered at the station.'

Simplifying slightly, the sentences in (15)-(17) are all unambiguous. The crucial point is that they are unambiguous for different reasons. While *meet* in (15) will be interpreted as having the *meet*$_{ARR}$ sense because *meet*$_{COMACR}$, the only competing sense that would be appropriate in the context given, is conventionally associated with the active voice, the verbs in (16) and (17) do not trigger the relevant ambiguity in the first place; *abholen* unambiguously expresses the *meet*$_{ARR}$ sense, while *antreffen* and *auffinden* unambiguously express the *meet*$_{COMACR}$ sense, whether realized actively or passively.

The competition between *meet*$_{STAND}$ and *meet*$_{REACT}$, on the one hand, and their German counterparts, on the other, can be illustrated in a similar way:

(18)   *The government's requirements were met by…*

(19)   *They met the government's requirements by…*

(20)   *Die   Vorgaben der   Regierung   wurden von den Firmen*
        the   standards the.GEN government were   of   the companies
        eingehalten.
        fulfilled
        'The government's standards were adhered to by the companies.'

(21)   *Die Firmen   hielten die Vorgaben   der   Regierung   ein.*
        the companies kept   the standards   the.GEN government PTCL
        'The companies adhered to the standards of the government.'

(22)   *Die Vorgaben der   Regierung   wurden mit   Protesten*
        the standards the.GEN government were   with   protests
        beantwortet.
        answered
        'The government's standards were answered with protests.'

(23)   *Die Firmen   beantworteten die Vorgaben der   Regierung*
        the companies   answered   the standards the.GEN government
        mit   Protesten.
        with   protests
        'The companies answered the government's standards with protests.'

(24)   *Die   Vorgaben der   Regierung   wurden erst   spät bemerkt.*
        the   standards the.GEN government were   only   late noticed
        'It was only late that the government's standards were noticed.'

(25)   *Die Firmen   bemerkten die   Vorgaben   der   Regierung*
        the companies   noticed the   standards the.GEN government
        erst   spät.
        only   late
        'It was only late that the companies noticed the government's standards.'

For the passive sentence fragment (18) the senses $meet_{STAND}$ and $meet_{REACT}$ are theoretically possible. The active variant in (19), however, would preferably be interpreted as $meet_{STAND}$, because $meet_{REACT}$, as discussed above, is more strongly entrenched as a passive verb. Interpreting the sentence fragment as involving $meet_{COMACR}$ would be possible for the active variant in (19), but not for the passive variant in (18). Again, the reason is that the $meet_{COMACR}$ use is associated with the active to a very high degree. The German versions in (21)-(25) are all unambiguous. Whatever voice the speaker chooses, there is no ambiguity comparable to the one found in English, where one lexeme *meet* corresponds to a number of different senses. Although this has not been investigated for the German corpus data, the choice between active and passive can probably be derived from those pragmatic factors that have been shown to operate on the active-passive alternation in general (see Zifonun et al. 1997, 1837-50).

This brings us to what turns out to be the crucial English-German contrast; the choice between active and passive voice for the German verbs under discussion conforms to general motivations operating in English and German, whereas the use of English *meet* cannot be accounted for by these motivations alone. From the perspective of the speaker this means that there are certainly discourse situations in which he or she has to use either the active or the passive, because the distribution of given and new or the (ir)relevance of the agent referent, to name the most important pragmatic motivations, are such that the other option would result in unacceptability. Yet, the distribution in Table 2 suggests that in those cases where the discourse context would require the lexically dispreferred realization speakers will rather use a different verb from the outset.

5.2   Some speculations on diachrony

From a diachronic point of view I assume that higher frequencies for certain uses of *meet* were first due to pragmatic motivations, and later increased in order to strengthen distinguishability. What would make a preferred passive use of $meet_{REACT}$ and $meet_{ARR}$ plausible from a pragmatic point of view? As for $meet_{REACT}$, the information structural distribution of thematic roles over the arguments of this verb use is in fact one that is compatible with the passive construction. Let us distinguish between Agent, Stimulus and the (rather unconventional but specific) role Reaction here. In example (4), *resistance* has the Stimulus role and *beatings, fines or imprisonment* qualifies as Reaction. A passive realization, such as the one in (4), is pragmatically motivated when the Reaction NP contains newer information than the Stimulus NP.

Note, however, that this does not have to be the case, if we consider the larger context of (4), given in (26), we note that in this example the two NPs refer to referents that are equally new:

(26)   *Around 12 million Africans were captured and transported to work the cotton fields and tobacco and sugar plantations of the Caribbean and North America. Later in India and Africa, entire villages were rounded up*

> *and forced to work for minimal wages set by foreign officials. Resistance*
> *was met by beatings, fines or imprisonment. Unions were forbidden.*

Motivations for using the passive other than the distinguishability from other readings here might be (i) the iconic mapping of the event's temporal sequence on syntactic constituents (the Stimulus temporally and causally precedes the Reaction), and (ii) syntactic parallelism (the sentence under discussion is preceded by two passive sentences; see Bock 1986 on this phenomenon). Whereas (ii) can certainly not account for all instances of the passive with $meet_{REACT}$, (i) seems to be a serious candidate for boosting the frequency of passives. Again, however, I would like to suggest that in order to fully explain the significantly higher incidence of passives with $meet_{REACT}$ in English as compared to the passive ratio of German *erwidern* and *beantworten*, an additional factor is needed. One way of avoiding the active realization of $meet_{ARR}$ and $meet_{REACT}$ without enforcing the passive against its pragmatic restrictions is to opt for other verbs with the same (or at least a similar) meaning in these cases.

Let us consider this option for the state of affairs described in (26). An active realization of the same information structural distribution as in (26) is of course possible, provided the Agent, not overtly expressed in the passive variant, as well as the Stimulus are given information:

(27)   *They met the slaves' resistance with beatings, fines or imprisonment.*

As argued above, in such a case the speaker has the option of using the passive. Another way of avoiding the active use of $meet_{REACT}$ and at the same time retaining the overt expression of a highly accessible Agent would be to use a different verb such as *react*:

(28)   *They reacted to the slaves' resistance with beatings, fines or imprisonment.*

I assume that the tendency to use such an alternative verb will be stronger if the lexically preferred voice realization is excluded by information structure restrictions. Summing up this argument, the theoretical possibility of sentences like (27) supports the proposed thesis because the information structural configuration displayed by the passive sentences under consideration is not incompatible with an active structure. As a consequence, it cannot be argued that the presence of a given Stimulus and a new Reaction alone makes a passive realization necessary. Thus, when there is a choice between an active variant, on the one hand, and a passive variant, on the other, speakers will tend to use the passive variant for $meet_{REACT}$ and $meet_{ARR}$ and the active variant for $meet_{COMACR}$. In those cases where information structure would not allow for the lexically preferred variant, there will be a significant preference for using an alternative verb. Apart from general considerations concerning the interplay of pragmatic factors and lexical preferences, there is no direct evidence for the latter point in the data discussed here. Further work involving parallel corpora and experiments will address this question.

To conclude, it has been argued that the polyfunctionality of the verb *meet* leads to a stronger association of its respective uses with either the active or the

passive voice. A comparative view on English and German suggests that the significantly different voice preferences of these verb uses in English cannot be reduced to those pragmatic, i.e. information structural, factors that usually favour the choice of diathesis types in English and German. Under the assumption that there is no strict boundary between lexicon and syntax in that verbs (or uses of verbs) and the constructions in which they occur can be represented together in the mind of the speaker, the facts under discussion are nothing special, but tie in with other observations undertaken from a usage-based perspective on grammar.

Works cited

Beedham, Christopher (1982). *The Passive Aspect in English, German and Russian*. Tübingen: Narr.

Biber, Douglas et al. (1999). *Longman Grammar of Spoken and Written English*. London: Longman.

Birner, Betty J. and Gregory Ward (1998). *Information Status and Noncanonical Word Order in English*. Amsterdam: Benjamins.

Bock, J. Kathryn (1986). "Syntactic persistence in language production." *Cognitive Psychology* 18, 355-87.

Brinker, Klaus (1971). *Das Passiv im heutigen Deutsch: Form und Funktion*. München and Düsseldorf: Hueber.

Bybee, Joan and James L. McClelland (2005). "Alternatives to the combinatorial paradigm of linguistic theory based on domain general principles of human cognition." *The Linguistic Review* 22, 381-410.

Couper-Kuhlen, Elizabeth (1979). *The Prepositional Passive in English: A Semantic-syntactic Analysis, with a Lexicon of Prepositional Verbs*. Tübingen: Niemeyer.

Diessel, Holger (2004). *The Acquisition of Complex Sentences*. Cambridge: Cambridge University Press.

Doherty, Monika (1996). "Passive perspectives; different preferences in English and German: a result of parametrized processing." *Linguistics* 34, 591-643.

Eisenberg, Peter (1999). *Grundriss der deutschen Grammatik. Band 2: Der Satz*. Stuttgart: Metzler.

Eroms, Hans-Werner (1974). "Beobachtungen zur textuellen Funktion des Passivs." Ernst-Joachim Schmidt, ed. *Kritische Bewahrung: Beiträge zur Deutschen Philologie*. Berlin: Erich Schmidt Verlag, 162-84.

Haas, Florian (2008). "Reciprocity in English: Historical Development and Synchronic Structure." *PhD thesis*, Freie Universität Berlin.

Hay, Jennifer and Joan Bresnan (2006). "Spoken syntax: the phonetics of *giving a hand* in New Zealand English." *The Linguistic Review* 23, 321-49.

Helbig, Gerhard and Gertrud Heinrich (1978). *Das Vorgangspassiv*. Leipzig: VEB Verlag Enzyklopädie.

König, Ekkehard and Volker Gast (2007). *Understanding English-German Contrasts*. Berlin: Erich Schmidt Verlag.

Lakoff, George and Stanley Peters (1969). "Phrasal conjunction and symmetric predicates." David A. Reibel and Sanford A. Shane, eds. *Modern Studies in*

English: Readings in Transformational Grammar. Englewood Cliffs: Prentice Hall, 113-42.

Plank, Frans (1984). "Verbs and objects in semantic agreement: minor differences between English and German that might suggest a major one." *Journal of Semantics* 3, 305-60.

Schoenthal, Gisela (1976). *Das Passiv in der deutschen Gegenwartssprache*. München: Hueber.

Siewierska, Anna (1984). *The Passive: A Comparative Linguistic Analysis*. London: Croom Helm.

Stefanowitsch, Anatol and Stefan Th. Gries (2003). "Collostructions: Investigating the interaction of words and constructions." *International Journal of Corpus Linguitics* 8, 209-43.

Stein, Gabriele (1979). *Studies in the Function of the Passive*. Tübingen: Narr.

Tuyn, Harry (1970). "Semantics and the notion of transitivity in passive conversion." *Studia Neophilologica* 42, 60-71.

Vogel, Petra M. (2003). "Passiv in deutschsprachigen Chats: Eine Korpusanalyse." *Linguistik Online* 15 ⟨http://www.linguistik-online.de/15_03/vogel.html⟩ (June 6, 2008).

Zifonun, Gisela (1992). "Das Passiv im Deutschen: Agenten, Blockaden und (De-) gradierungen." Ludger Hoffmann, ed. *Deutsche Syntax: Ansichten und Aussichten*. Berlin: de Gruyter, 250-75.

— et al. (1997). *Grammatik der deutschen Sprache*, vol. 3. Berlin: de Gruyter.

VOLKER GAST

Verb-noun compounds in English and German

Abstract: This paper provides a comparative analysis of verb-noun compounds and their distribution in English and German. It is shown that two major generalizations are possible along the endocentric/exocentric dimension: While the types of endocentric V-N compounds found in English form a subset of the relevant types found in German, exocentric V-N compounds constitute a substantial lexical class in English but not in German. The distribution of the two major types of V-N compounds is considered against the background of competing expressions such as V-*ing*-N compounds (in English) and synthetic compounds of the type N-V-*er* (in both languages under comparison). The differences in the inventories of types are related to aspects of external language history (language contact), but the role of language-internal factors is also considered, in particular the tendency of English to allow conversion.

1. Introduction[*]

Word formation – or, more generally speaking, the lexicon-grammar interface – is one of the more poorly studied areas in the contrastive analysis of English and German. This may, to some extent, be due to the fact that it is hard to formulate generalizations in this domain. Even though a number of revealing studies on particular areas of the lexicon have been carried out – for instance, König's (1982) contrastive analysis of focus particles and Plank's (1984) observations concerning 'semantic agreement' between verbs and their arguments (cf. also König / Gast 2007, ch. 13)[1] – the lexicon seems to be too loosely structured a system to allow for any major generalizations. In many cases, the only thing we can say is that one language

---

[1] This issue also contains some contributions dealing with either the lexicon or the lexicon-grammar interface. The papers by G. Rohdenburg and L. Gunkel/G. Zifonun deal with specific types of adjectives; E. König addresses some English-German contrasts in the domain of temporal prepositions; and F. Haas' paper deals with the trade-off between lexical meanings and voice categories in the interpretation and distribution of specific verbs.

does, while the other does not, have a certain lexical opposition or subsystem, or a specific way of 'communication' between lexicon and grammar.

Word formation is probably one of those lexico-grammatical areas where most regularities can be found. Providing a comprehensive overview of this domain in English and German is therefore one of the major objectives pursued in the project that has given rise to this study (cf. Note * on p. 269). This article presents first results of this programme, focusing on one type of word formation which reveals relatively clear-cut – and relatively general – contrasts between English and German, i.e. the area of verb-noun compounding.

After providing an overview and addressing some central problems concerning the identification and analysis of V-N compounds in Section 2, Sections 3 and 4 provide a comparison of the major types of compounds, i.e. endocentric and exocentric ones. Endocentric compounds exist in both languages under comparison, but are much more widely distributed in German than in English, where they are subject to restrictions concerning both the verbal and the nominal constituent. Exocentric compounds exist only in English, which is, first and foremost, attributed to language contact with French, but also to the greater tolerance that English shows to processes of conversion. In both cases, it will be pointed out that in order to fully understand the distribution of a given type, competing expressions with an overlapping domain of denotations need to be taken into account. One generalization that emerges under this perspective is that the English system of word formation is characterized by a 'division of labour' between rivalling strategies whereas German tends to subsume a greater range of meanings under one type of word formation, in the area under investigation. The results of the study are summarized in Section 5.

2. V-N compounds in English and German: An overview

2.1 General remarks

In studies of English word formation, nominal compounds with a verb as lefthand member typically play a very minor role (cf. e.g. Marchand 1969, 72-4; Plag 2003, 145-6; Schmid 2005, 122). This seems to reflect the relatively marginal position that V-N compounds take up in the lexico-grammatical system of English and is indicative of their restricted distribution. In German, by contrast, V-N compounding is particularly productive and allows for a wide range of semantic patterns (cf. Donalies 2002, 72f.; Fleischer / Barz 1995, 108ff.). Some relevant examples from both languages are given in (1):

(1) a. English: *cutthroat, carry cot, whetstone, scatterbrain, blowlamp, bumblebee, checklist, drawbridge, drift ice, flick knife*
    b. German: *Schleifstein, Schlafzimmer, Esszimmer, Zahltag, Denkweise, Waschmaschine, Bauart, Parkverbot, Nährwert*

The impression that V-N compounds are more widely distributed in German than in English is confirmed by a glance at the Europarl corpus (cf. Koehn 2005). More often than not, German V-N compounds (which are invariably endocentric) correspond to some other 'strategy' in the English component of the corpus. N-N compounds – especially the subtype [$_N$[$_N$ V-*ing*] N] – are most often found as counterparts of German V-N compounds (cf. [2a]), but simple nouns also provide a not uncommon strategy (cf. [2b]):

(2) a. *Park-ausweis*   *parking permit*
      Trink-wasser   *drinking water*
      Nähr-boden   *breeding ground*
   b. *Lauf-bahn*   *career*
      Brenn-stoff   *fuel*
      Fahr-zeug   *vehicle*

This situation seems to suggest that the V-N compounds attested in English form a subset of those found in German. However, that this cannot be true can easily be shown by looking at less formal registers, where English features a number of V-N compounds that do not have a formally parallel counterpart in German. Typically, such – exocentric – V-N compounds correspond to 'synthetic compounds' of the form N-V-*er* in German (cf. (3)), but there are also other strategies used to render the relevant meanings (e.g. *pickpocket/Taschendieb*):

(3) *break-water*   *Wellen-brech-er*
    cut-throat   *Hals-abschneid-er*
    spoil-sport   *Spiel-verderb-er*

A first generalization that emerges is, thus, that endocentric compounds are more widely distributed in German than in English, whereas exocentric compounds are more numerous in English than in German. This observation will provide the basis for a more detailed comparison in Sections 3 and 4. Before turning to this comparison we will, however, address some problems concerning the identification of V-N compounds in Section 2.2 and the endocentric/exocentric distinction in Section 2.3.

2.2 Identifying V-N compounds

V-N compounds cannot always be straightforwardly identified as such. The reason is that the lefthand member (of endocentric compounds) can sometimes be analysed as either a verb or a noun. Some pertinent examples are given in (4):

(4) a. Engl.: *callboy, guideline, lovebird, punchball, workbench*
    b. Germ.: *Antwortschein, Blickfeld, Filmstudio, Schlafzimmer*

For instance, a *lovebird* is a bird species "noted for the affection that pairs show one another" (OED, s.v. *lovebird*). This could either mean that *lovebirds* are 'birds that [$_V$ love] each other', or else 'birds that display a great degree of [$_N$ love] towards

each other'. Similarly, a *workbench* can be interpreted as either a 'bench that is used to [$_V$ work] on' or a 'bench that is used for [$_N$ work]'. Deciding one way or another seems pointless in such cases, as words such as *love* or *work* do not show any clear preference to function as either nouns or verbs.

Given that English (unlike German) allows for virtually unrestricted V-to-N conversion, the problem of identifying the lexical category of the lefthand member in compounds is non-trivial even in cases of apparently *bona fide* V-N compounds such as *whetstone*, *bakehouse* or *washday* – as there are also nouns corresponding to the lefthand members: (*a*) *whet* ('act of whetting'), (*a*) *bake* ('act/process/result of baking'), (*a*) *wash* ('act of washing'). Still, it seems reasonable to assume that *whet*, *bake* and *wash* are basically verbs, considering common diagnostics for the directionality of conversion (see e.g. Plag 2003, ch. 5). If we make the additional assumption that, all other things being equal, constituents of compounds typically retain their basic category, *whetstone*, *bakehouse* and *washday* can reasonably be classified as V-N compounds.

In German, the classification of endocentric V-N compounds is more straightforward than in English. In many cases there are different forms for nouns and corresponding verbs, typically distinguished by *ablaut* (vowel gradation). Some pertinent examples are given in (5). Accordingly, the compounds in (6) can clearly be classified as V-N compounds or N-N compounds:

(5) a. *brechen*   *der Bruch*
    b. *gehen*   *der Gang*
    c. *gießen*   *der Guss*
(6) a. *Brecheisen*   *Bruchstelle*
    b. *Gießmaschine*   *Gusseisen*
    c. *Gehhilfe*   *Gangart*

Note that such pairs also exist in English, e.g. in the case of *think* and *thought*. Given that *think* is a verb and *thought* a noun, *thinktank* can be classified as V-N and *thought experiment* as N-N. However, in English this criterion is not safe, since even in cases like these V-to-N conversion is possible: The OED also lists *think* as a noun ("Let's have a cigar and a quiet think"; s.v. *think*, n.).

In German, V-to-N conversion based on 'bare' verbal roots (i.e. roots without an infinitive ending) is heavily constrained. For instance, there are no direct nominal counterparts to the verbal roots *schleif-*, *back-* or *wasch-* (*der Schleif, *der Back, *der Wasch*), and the very few relevant existing cases are clearly conventionalized, e.g. *der Schwenk* and *der (Politiker-)Sprech* (vgl. Donalies 2002, 128ff.).[2]

Still, there are also many cases of compounds that could be classified as either V-N or N-N in German (cf. [4b] above). Accordingly, we can distinguish three cases: (i) compounds for which a classification as either V-N or N-N would be more or less arbitrary (Engl. *lovebird*, Germ. *Antwortschein*); (ii) compounds which are V-N under the assumption that the lefthand member is basically (i.e. without the application of conversion) a verb (Engl. *whetstone*, Germ. *Sprechgesang*); and

---

[2]   Note moreover that *Sprech* may have emerged under English influence (cf. *speech*).

(iii) compounds which are clearly V-N because there is a formal differentiation between verbs and nouns (Germ. *Gehhilfe/Gangart*; Engl. *thinktank/thought experiment*, with the reservation made above).

As the above discussion has shown, the criteria for identifying V-N compounds are slightly different in English and German, and the class of V-N compounds can more easily be identified in the latter language. However, the existence of this category in both languages is beyond doubt. While English endocentric compounds of the type *whetstone* would in principle allow an interpretation as N-N compounds, such an analysis is out of the question in the case of exocentric compounds like those listed in (3) (*breakbones, catchpenny*, etc.). I will therefore assume that the category 'V-N compound' provides a reasonable basis for a comparison of English and German, i.e. it qualifies as a *tertium comparationis*. The discussion of endocentric compounds will largely be based on cases of types (ii) and (iii) distinguished above, i.e. those cases that are either plausibly or unquestionably V-N compounds.

2.3 Types of V-N compounds

One of the most prominent criteria for the classification of compounds is the endocentric/exocentric dimension: Endocentric compounds are those compounds that denote a special case of their righthand member (their head) whereas exocentric compounds do not fulfill that condition, i.e. they do not have a head (see e.g. Plag 2003, 145; Schmid 2005, 123ff.; Booij 2007, 79). Accordingly, a *whetstone* is endocentric because every whetstone is a stone while a *pickpocket* is exocentric because a pickpocket is not a type of pocket. Under this criterion, both groups of compounds given in (7) are exocentric (cf. also Plag 2003, 145):

(7) a. *breakbones, breakwater, turnpenny*
     b. *scatterbrain, draggle-tail*[3]

However, the compounds in the a-group are clearly different from those in the b-group. In the first type – sometimes also called 'imperative compounds' or, in the German tradition, 'Satzkomposita' – the noun functions as an argument of the verb, and the compound denotes an entity that can be characterized in terms of the resulting activity. In other words, these compounds are based on the corresponding ('genericized') VP-denotations – *break bones, break (the) water, turn (a) penny* – and their meaning can be regarded as a type of metonymy, say *actio-pro-agente*.

In the second type, which is illustrated in (7)b. and whose representatives are often referred to as 'Bahuvrihis' or 'possessive compounds', the verb modifies the noun, just as in the case of endocentric compounds of the *whetstone* type; but, again, the resulting compound is reinterpreted metonymically. These compounds are thus based on NP-denotations – (*a*) *scattered brain*, (*a*) *draggled tail* – and the

---

3   A draggle-tail is "[a] draggle-tailed person; a woman whose skirts are wet and draggled, or whose dress hangs about her untidily and dirty; a slut" (OED, s.v. *draggle-tail*).

relationship between the literal and the metonymical meaning can typically be regarded as an instance of *pars-pro-toto* (hence, 'possessive compounds').

The two instances of metonymy pointed out above are illustrated in (8):

(8) *breakbones*:   'an *x* that $[_{VP}[_{PRED}$breaks$]$ $[_{COMP}$ bones$]]$'
    scatterbrain: 'an *x* that has a $[_{NP}$ (*a*) $[_{MOD}$ scattered$]$ $[_{HEAD}$ brain$]]]$'

As (8) clearly shows, there is an important difference between the two types of exocentric compounds: One of them is (basically) category-preserving – the type *scatterbrain*, where both the input and the output of metonymical reanalysis are nominal denotations – whereas the other type is category-changing – the type *breakbones*, where a VP-denotation/action is reinterpreted as a nominal denotation/ entity. In other words, in addition to a process of metonymical reanalysis (which also characterizes the *scatterbrain* cases), the interpretation of *breakbones* involves a process of 'categorial transformation'. It is for this reason that V-N compounds of the type *breakbones* are often dealt with under the rubric of conversion of 'derivation by zero morpheme' (e.g. Marchand 1969, 380ff.).

The difference between the two types of exocentric V-N compounds pointed out above is highly relevant to a comparison of English and German. While English has both types of compounds, German only has representatives of the type *scatterbrain* (e.g. *Wendehals*, *Quatschkopf*). Under the assumption that Bahuvrihis or possessive compounds are, structurally speaking, completely parallel to endocentric compounds, differing from the latter only in the presence of a process of metonymy that is independent of the operation of V-N compounding (cf. Donalies 2002, 62 on this point), the possibility of forming compounds of the type *Wendehals* in German is not surprising, as they instantiate the same structural pattern as endo-centric compounds of the type *Schleifstein*.

Given that Bahuvrihis/possessive compounds do not allow for any interesting generalizations in the context of an English-German comparison, we will not consider them any further. Suffice it to say that they are very rare in both languages under comparison, with the most typical German representatives being examples like *Quatschkopf* 'blatherskite', *Wendehals* 'opportunist' and *Hinkefuß* 'limping person'. For English, Marchand (1969, 389) lists *crack-brain, draggle-tail, shatter-brain, spring-tail, muddle-head* alongside *scatterbrain*, none of which is widely used in the contemporary language.

3. Endocentric V-N compounds

Endocentric V-N compounds were "not existent in Germanic and came into being through the reanalysis of N+N compounds" (Becker 1992, 16, following Osthoff 1878 and Carr 1939). For instance, MHG *slâfhûs* can be interpreted either way, as *slâf* functioned both as a nominal and as a verbal stem. It is a matter of debate whether this development happened in Proto-West Germanic or later. According to Carr (1939, 175), there are two V-N compounds that are attested in both Old English and Old High German, namely OE *bernîsen* / OHG *brennîsarn* 'branding

iron' and OE *hwetestān* / OHG *wezzistein* 'whetstone'. This could be taken as evidence that V-N compounding existed as early as in Proto-West Germanic. However, given the general difficulty of distinguishing between N-N compounds and V-N compounds, the evidence is less than fully conclusive.

In contemporary English and German, the distribution of endocentric compounds differs along two dimensions: While V-N compounding is a basically unrestricted word formation rule in German, it is severely constrained in English, in two respects: (i) it occurs only with a subset of verbs (Section 3.2), and (ii) it is only found with a reduced inventory of nouns, in comparison with German (Section 3.3). Before considering these differences in detail, some more general remarks on the productivity of this pattern will be made in Section 3.1.

3.1   Notes on productivity

Endocentric V-N compounds exhibit a virtually unrestricted degree of productivity in German (see e.g. Donalies 2002, 72-3). There is hardly any combination that cannot, in some way or other, be interpreted. Even apparent nonce formations such as *Geh-tür* ('go-door') are attested, as a web search shows: *Gehtür* is used for a (man-sized) door within a larger gate that can be walked through when the gate is closed. Donalies (2002, 72) provides the *ad hoc* formations in (9), which are easily interpreted by native speakers:

(9)   *Umrührkakao, Mitklatschtempel, Ausdenksachen*

Marchand (1969, 74) also attributes a high degree of productivity to endocentric V-N compounds in English: "The morphological type **whetstone** is very productive (one of my students has collected about 2600 examples), but most of the combinations are only in technical use." While Marchand (1969) thus refers to the 'realized productivity' of V-N compounds – the number of existing elements of that pattern in the English lexicon, cf. Baayen (2006) – V-N compounds are also productive in the sense that new words are formed ('expanding productivity'). For instance, the entry for *drop-* in the OED (online version) contains several formations from the twentieth century, some of which are listed in (10):

(10)   *drop handlebar, drop initials, drop-sonde, drop tank, drophead, drop safe*

3.2   Types of verbs found in endocentric V-N compounds

Even though endocentric compounds display a certain degree of expanding productivity, they can only be formed with specific verbs as lefthand member (cf. Marchand 1969, 74). The verbs in (11) are not used in this structure but are regularly found in compounds consisting of a gerund and a noun (V-*ing*-N compounds, e.g. *boiling point*, *dressing room*, etc.):

(11)   *boil, climb, dress, drink, eat, fight, fish, hear, hunt, look, read, ride, sew, sleep, spin, start, train, walk, write*

The following – much smaller – groupf of words only occurs in V-N compounds but not in the V-*ing*-N pattern:

(12)   *drift, drip, pay, rattle, show, slip*

Finally, there are of course also verbs that are found in both types of compounds:

(13)   a. *drawbridge*   *drawing room*
       b. *swim suit*   *swimming style*
       c. *wash cloth*   *washing mashine*

The domain covered by V-N compounds in German is thus distributed over two major rivalling types in English, V-N compounds and V-*ing*-N compounds. As was pointed out in Section 2.1, English moreover often uses simple nouns to render the meanings of German V-N compounds (*Brenn-stoff* vs. *fuel*, *Buß-geld* vs. *penalty/fine*).[4] Roughly speaking, we can thus say that, as far as the verbal component is concerned, the distribution of V-N compounds in English is a proper subset of the distribution of this type of compound in German.

3.3   Types of nouns found in endocentric V-N compounds

In English, V-N compounds are basically restricted to three types of head nouns or referents: (a) concrete referents (persons, animals, objects), (b) locations and (c) points in time or time spans:

(14)   a. concrete referents: *grindstone, stopwatch, slapstick, washcloth*, etc.
       b. locations: *bakeshop, driveway, pay station, washhouse*, etc.
       c. time spans: *washday, leapyear, rush hour, workday*, etc.

Obviously, these types of referents are also covered by German V-N compounds, as there are German counterparts for most of the English examples in (14) (e.g. *driftwood – Treibholz*; *washhouse – Waschküche*; *washday – Waschtag*). However, in German endocentric V-N compounds are also found with a range of head nouns that do not have a counterpart in English. The following selection of examples covers the most frequent types documented in the CELEX database:[5]

(i) Compounds denoting dimensions of measurement

The compounds in (15) are abstractions over specific types of quantities (technically, second-order predicates). They can be used in sentential frames such as *The ___ is / amounts / has risen / dropped to* n U (where *U* stands for some unit of measurement). Such compounds are based on nouns like *Kraft, Zeit, Wert, Quote, Frist, Last*, etc.:

---

[4]   There are of course more than just those two translational strategies, e.g. *of*-genitives, as in *level of protection* for German *Schutzniveau*.
[5]   This database is maintained by the Dutch Centre for Lexical Information: http://www.ru.nl/celex/.

(15) *Kaufkraft* ('purchasing power'), *Laufzeit* ('operating time'), *Messwert* ('[measured] value'), *Nährwert* ('nutrition value'), *Nennwert* ('nominal value'), *Schlagkraft* ('strike capability'), *Sehkraft* ('eyesight'), *Spannkraft* ('clamping force'), *Sparquote* ('savings rate'), *Sperrfrist* ('blocking period'), *Stoßkraft* ('momentum'), *Tauschwert* ('exchange value'), *Tragkraft* ('carrying capacity'), *Traglast* ('bearing load'), *Tragzeit* ('gestation time'), *Wechselkurs* ('currency rate')

As can be seen from the translations provided, the English counterparts of the compounds listed in (15) are either N-N compounds (including the V-*ing*-N type) or simple nouns. The only reasonable candidate for a V-N compound in (15) is *exchange rate*, but given that the word *exchange* is typically used as a noun in economic contexts, it is unlikely that it is here used with a verbal sense.

(ii) Compounds denoting abstractions over manner expressions

Like the nouns listed in (15), the group of 'compounds denoting abstractions over manner expressions' contains second order predicates. For instance, the noun *Baustil* ('construction style') stands for a set of (abstraction over) specific construction styles such as *Gothic* or *Romanesque* (*This church is Gothic* [first order predicate]. *Gothic is a construction style* [second order predicate]). The nouns most typically found in this function are *Stil*, *Weise*, *Art*, *Kultur* and *Kunst*:

(16) *Baustil* ('style of construction'), *Denkweise* ('way of thinking'), *Machart* ('way of making'), *Schwimmstil* ('swimming style'), *Dichtkunst* ('poetry'), *Esskultur* ('gastronomic culture'), *Kochkunst* ('[art of] cookery')

Among the English renderings of this type, *of*-genitives are found as a relatively frequent strategy alongside V-*ing*-N compounds and simple nouns.

(iii) Compounds based on the noun *Mittel*

This type of compound includes the following items:

(17) *Nährmittel* ('nutriments'), *Reizmittel* ('irritant'), *Schlafmittel* ('soporific'), *Treibmittel* ('propellant'), *Waschmittel* ('detergent')

Interestingly, the English translational equivalents are relatively homogeneous, insofar as they are based on derived Latinate words which were originally adjectives (e.g. *irritant, soporific, propellant, detergent*). These adjectives have probably been reanalyzed as a result of ellipsis of a generic noun like *agent* (e.g. [$_{N'}$[$_A$*soporific*] *agent*] → [$_{N'}$[$_A$*soporific*] $\varnothing$] → [$_N$*soporific*]).

(iv) Compounds denoting relations between persons and activities

Many German endocentric V-N compounds are based on relational nouns, with the verbal component functioning as one of the arguments required by that noun:[6]

(18)   *Parkverbot* ('parking prohibition'), *Fressgier* ('gluttony'), *Habgier*,
        Raffgier ('avarice'), *Schaulust* ('curiosity')

The compounds in (18) can be paraphrased by using an infinitival construction: *Parkverbot – das Verbot*, (*sein Auto*) *zu parken*; *Fressgier/Habgier/Raffgier – die Gier*, (*etwas*) *zu fressen/haben/raffen; Schaulust – die Lust*, (*bei*) etwas (*zu*) *zu schauen*. They denote relations between persons and activities. For instance, the noun *Parkverbot* corresponds to the verbal three-place predicate *verbieten*, which requires two animate arguments and an activity: *Karl* (Agent) *verbot Fritz* (Recipient) *zu rauchen* (Theme). English – again – has no corresponding V-N compounds and typically uses either V-*ing*-N compounds or simple (Latinate) words.

The four types of compounds distinguished above can be grouped into two major categories: First, there are two types of second order predicates (types [i] and [ii]); and second, there are two types of relational nouns (types [iii] and [iv]). The distributional differences pointed out in this section can thus be summarized by saying that English does not have endocentric V-N compounds denoting either second order predicates or relations, whereas such elements do exist in German. Given that all of the relevant items are relatively young (dating back no longer than the 17th cent.), we are obviously dealing with a distributional extension of V-N compounds that took place in German but not in English.

3.4   Summary

As has been seen, the distributional difference between V-N compounds in English and German is certainly related to the fact that in German, unlike in English, there is no serious competitor (such as V-*ing*-N compounds), as German does not have a category comparable to English gerunds. In English, V-*ing*-N compounds are attested from Old English times onwards and have, according to Marchand (1969, 72), always been prevalent over V-N compounds (cf. also Sauer 1992, 196). A compounding pattern corresponding to English V-*ing*-N compounds did not exist in either OHG or MHD (cf. Carr 1939, 221).[7] Some relevant examples are found in the sixteenth century – e.g. *Warn-ung-s-schrift, rat-ung-s-mann* and *beswer-ung-s-bahn* – but this type never even came close to the productivity of V-N compounding. The wide distribution of V-N compounds in German is thus at least partially motivated by the lack of alternatives.

Another contrast between English and German can perhaps be explained on the basis of considerations concerning argument structure. Two types of compounds

---

[6]   Note that English does have a noun that fits into the group in (18), but this is clearly a loan word (*wanderlust*).

[7]   There are singular relevant examples in OHG, which Carr (1939, 221) attributes to language contact with OE.

that exist in German but not in English (types [iii] and [iv] in Section 3.2) have been said to be 'relational'. In these cases the verb does not function as a modifier of the head noun but as a complement/argument of it (e.g. *Parkverbot*, *Schlafmittel*). It is possible that English does not allow these compounds because leftward complementation is generally disfavoured (though supposedly not impossible; cf. Lieber 1983, 263, Note 18). German, unlike English, allows object incorporation of the type *staub-saug-en* ('hover, vacuum-clean', lit. 'dust-suck'), which is parallel to *Park-verbot* insofar as the left element (*Staub*) functions as a complement of the right one (*saugen*).

4. Exocentric V-N compounds

The domain of exocentric V-N compounds allows for an (almost) categorical generalization: While there are many representatives of this type in English, German (almost) completely lacks this category. This generalization is hedged by the adverb *almost* only because of less than a handful of exceptions. The following German examples are commonly treated as instances of exocentric V-N compounds (cf. Fleischer / Barz 1995, 109):

(19) *Habenichts, Taugenichts, Störenfried* (< *stör-den-Fried*[*en*])

Exocentric V-N compounds were rather productive in MHG (cf. Fabian 1931), and the examples in (19) are remnants of this pattern. Relevant cases have also been preserved in some proper names, e.g. in *Störtebeker* (< *stürz-den-Becher*). Otherwise, however, they are basically non-existent in the German lexicon.

In English, the class of exocentric compounds is considerably larger, even though the type is also unproductive in the contemporary language (but see below on child language). My database compiled on the basis of the collection provided by Uhrström (1918) and the OED contains more than 400 items (some of which are obsolete or dialectal, however). Note that most of the relevant compounds are found in more 'peripheral' parts of the lexicon, e.g. among nouns denoting plants and animals (e.g. *eat-bee, pick-cheese, suck-egg, tell-tale* [animals]; *heal-all, stop-blood, catchfly, trouble-belly* [plants]). Still, some exocentric V-N compounds have made it into the core vocabulary of English, even though their status as exocentric V-N compounds may not be transparent in all cases (e.g. *breakfast* < *break fast*, i.e. the first meal after fast).

While exocentric V-N compounds are unproductive in adult language, they provide a more commonly used strategy for identifying objects or persons in child language. For instance, children have used compounds such as *kick-ball, hug-kid* and *break-bottle* in experiments when referring to persons carrying out the relevant activity (cf. Clark et al. 2001). This shows that the pattern is, to an extent, still active. In German, the use of compounds such as *Treteball* (as an agent nominalization) in child language has, to my knowledge, not been reported. Note that this word is certainly possible, but only if interpreted as an endocentric compound, i.e. as a ball one can kick.

One interesting feature of exocentric V-N compounds is that they "have at all times a pejorative tinge" (Marchand 1969, 380) when referring to persons. This means that they either denote concepts that are *per se* negative (*pickpocket, cutthroat, spoilsport*), or else they carry a negative connotation (e.g. *sawbones* for 'surgeon', *whiparse* for 'schoolmaster', *kill-calf* for 'butcher' etc.). This generalization also applies to the very few relevant German cases mentioned above, i.e. *Habenichts, Taugenichts, Störenfried* and *Störtebeker* (someone who turns the cup upside down, i.e. a drunkard).

The fact that exocentric V-N compounds are much more numerous in English than in German can easily be explained in historical terms: Even though singular instances of such compounds are attested from pre-Norman times – e.g. the proper names/epithets *Clawecunte* and *Cunnebried* (cf. Dietz 2002, 398-9) – the pattern is generally assumed to have been borrowed from French, or at least to have been strengthened by French influence (cf. also Carr 1939, 171-3, Sauer 1992, 246-50). Three types of French influence can be distinguished:

(i)   Direct borrowings, e.g. *cheuerchef* ('cover-chef', contemp. *kerchief*), *chauntecler* ('sing-clear', contemp. *chanticleer*) and the more obvious case *wardrobe*;

(ii) hybrid formations (which are now obsolete), e.g. †*steal-placard* ('someone who has stolen a begging licence/*placard*'), †*dobbe-dent* ('dentist'; *dub* here means 'beat');

(iii) loan translations, e.g. *cut-throat* (cf. Fr. *coupe-gorge*), *bere-blisse* (cf. Fr. *porte-joie*), *kindle-fire* (cf. Fr. *attise-feu*).

The history of exocentric V-N compounds can thus be sketched as follows: There was (probably) a certain inventory of relevant items even before the Norman conquest, esp. in proper names and epithets. Under French influence, the pattern was 'upgraded' in English, i.e. it became more productive and frequent and was used in more (esp. higher) registers. The productivity of exocentric V-N compounds increased steadily in the 14th and 15th centuries and reached a peak in the 16th century (e.g. *kill-courtesy, lack-brain, lack-beard* in Shakespeare). From the 17th century onwards, its productivity decreased considerably, resulting in the status quo of the contemporary language, where an inventory of relevant forms is still preserved, but hardly any new words are created.

The decline of exocentric V-N compounds was accompanied, and perhaps partly also caused, by a strong increase of 'synthetic compounds' of the form N-V-er. The two types have existed side by side for many centuries, sometimes providing alternative terms for one meaning (e.g. *breakstone* [1688] and *stone-breaker* [1827]). However, at the time of the Industrial Revolution synthetic compounds gained ground and took over great parts of the denotational domains previously covered by exocentric V-N compounds. Synthetic compounds are also used in German to render the relevant meanings (e.g. agent nominalizations derived from transitive verbs such as *Knochen-brech-er* for *breakbones*). This situation thus resembles the one observed for endocentric V-N compounds: German has only

one pattern where English has two. The difference is, however, that synthetic compounds have a basically unrestricted distribution in contemporary English and completely cover the denotational range of exocentric V-N compounds, whereas the distributional relation between endocentric V-N compounds and V-*ing*-N compounds is one of overlap (V-*ing*-N compounds being more widely distributed than V-N compounds, though).

5. Conclusions and outlook

The most important contrasts between English and German in the domain of V-N compounding can be summarized as follows:

- In German, endocentric V-N compounds are virtually unrestricted in their distribution whereas in English there are clear constraints concerning both the verbs and the nouns involved. The types of endocentric V-N compounds found in English form a subset of the German types. In English, endocentric V-*ing*-N compounds compete with V-*ing*-N compounds, among some other (minor) types, whereas in German, V-N compounding is clearly the primary strategy for the expression of the relevant meanings.
- In English, exocentric compounds are relatively numerous – though largely unproductive in the contemporary language – whereas they are virtually non-existent in German. German typically uses synthetic compounds of the type 'N-V-*er* to express the relevant meanings.

Finally, we should briefly address the question of *why* English and German differ in the way they do. The contrast relating to endocentric compounds has been shown to be at least partly due to language-external factors, esp. French influence. However, it has also been pointed out that the disposition of English to allow categorial transposition may be a relevant factor, as exocentric compounds involve the reanalysis of a VP-denotation as a nominal one. In the domain of endocentric V-N compounding, the availability of a strong competitor in English was identified as a major factor, but the question remains *why* such a competitor exists in the first place. While answering this question is obviously beyond the scope of this paper, I would like to point out that English does not only lack V-*ing*-N compounds, but also a category comparable to English *ing*-forms, which are characterized by a high degree of polyfunctionality, thus mirroring the loose association between form and meaning that has repeatedly been claimed to constitute a major difference to German (cf. Rohdenburg this issue). Even though such a conclusion would of course be premature at this point, the idea that the high degree of functional versatility characteristic of grammatical categories in English manifests itself in (subsystems of) linguistic subsystems like V-N compounding is certainly appealing and worth of further consideration.

Works cited

Baayen, Harald (forthcoming). "Corpus linguistics in morphology: morphological productivity." Lüdeling, A., M. Kyto and T. McEnery, eds. *Handbook of Corpus Linguistics*. Berlin: Mouton de Gruyter.

Becker, Thomas (1992). "Compounding in German." *Rivista di Linguistica* 4, 5-36.

Booij, Gerd (2007). *The Grammar of Words: An Introduction to Linguistic Morphology*. 2nd. ed. Oxford: Oxford University Press.

Carr, Charles T. (1939). *Nominal Compounds in Germanic*. London: Oxford University Press.

Clark, Eve V., Barbara Hecht and Randa Mulford (2001). "Coining complex compounds in English: affixes and word order in acquiaition". *Linguistics* 24, 7-29.

Dietz, Klaus (2002). "Lexikalischer Transfer und Wortbildung am Beispiel des französischen Lehngutes im Mittelenglischen." Habermann, M., P.O. Müller and H. Haider Munske, eds. *Historische Wortbildung des Deutschen*. Tübingen: Niemeyer, 381-405.

Donalies, Elke (2002). *Die Wortbildung des Deutschen: Ein Überblick*. Tübingen: Narr.

Fabian, Ernst (1931). *Das exozentrische Kompositum im Deutschen*. Tübingen: Narr.

Fleischer, Wolfgang and Irmhild Barz (1995). *Wortbildung der deutschen Gegenwartssprache*. Tübingen: Niemeyer.

Koehn, Philipp (2005). "Europarl: A Parallel Corpus for Statistical Machine Translation." *Proceedings of the 10th Machine Translation Summit*. Phuket, 79-86.

König, Ekkehard and Volker Gast (2007). *Understanding English-German Contrasts.* Berlin: Erich Schmidt Verlag.

König, Ekkehard (1982). "Scalar particles in German and their English equivalents." F. Lohnes and E. Hopkins, eds. *The Contrastive Grammar of English and German*. Ann Arbor: Karoma Publishers, 76-101.

Lieber, Rochelle (1983). "Argument linking and compound in English." *Linguistic Inquiry* 14.2, 251-85.

Marchand, Hans (1969). *The Categories and Types of Present-Day English Word-Formation: A Synchronic-Diachronic Approach.* (Second, completely revised and enlarged edition). München: Beck'sche Verlagsbuchhandlung.

Osthoff, Hermann (1878). *Das Verbum in der Nomnalkomposition im Deutschen, Griechischen, Slavischen und Romanischen.* Jena: H. Costenoble.

Plag, Ingo (2003). *Word-Formation in English*. Cambridge: Cambridge University Press.

Plank, Frans (1984). "Verbs and objects in semantic agreement: minor differences between English and German that might suggest a major one. *Journal of Linguistics* 3, 305-60.

Sauer, Hans (1992). *Nominalkomposita im Frühmittelenglischen: Mit Ausblicken auf die Geschichte der englischen Nominalkomposition*. Tübingen: Niemeyer.

Schmid, Hans-Jörg (2005). *Englische Morphologie und Wortbildung: Eine Einführung*. Berlin: Erich Schmidt Verlag.

Uhrström, Wilhem (1918). *Pickpocket, Turnkey, Wrap-Rascal, and Similar Formations in English: A Semasiological Study*. Stockholm: Bergvall.

LUTZ GUNKEL
GISELA ZIFONUN

Constraints on relational-adjective noun constructions: A comparative view on English, German and French

Abstract: In English and French relational adjectives occurring in construction with deverbal nominalizations can be thematically associated with subject as well as object arguments. By contrast, in German object-related readings of relational adjectives seem to be inadmissible. The greater flexibility of English and French in terms of the thematic interpretability of relational adjectives also shows up with respect to 'circumstantial' thematic roles like directionals, locatives and instrumentals. It is arguably due to the common Latin heritage of English and French, since in Latin relational adjectives representing subject or object arguments of nominalizations are widely attested. However, even in English and French object-related readings are confined to result nominalizations, a restriction we suggest to account for in terms of the more 'noun-like' character of result nominalizations in contrast to process nominalizations. Moreover, since argument-related interpretations of relational adjectives can always be overridden by appropriate agentive/patientive phrases, relational adjectives cannot be analyzed as *occupying* an argument position, but rather as modifying the semantic role associated with it.[1]

1. Introduction

In many European languages of different genetic background two types of adjective can be found: 'qualitative' adjectives such as those in *green spot* or *humble character* and 'relational' adjectives[2] like the ones in *departmental issue* or *medical school*.

A qualitative adjective is commonly characterized as one that attributes a property to the denotation of its head noun, whereas a relational adjective is one that is said to classify that denotation by relating it to a certain type of entity. For example, one can fairly say that a green spot is a spot that has the property of being green, but one would not define a departmental meeting as one that is 'departmental'. Rather, one would say that a departmental meeting is a meeting of a certain kind, viz. the kind of meeting that in one way or other concerns the department. Relational adjectives, then, classify an entity by relating it to whatever

---

[1]   We are grateful to the editors for numerous helpful comments concerning content and style.
[2]   The term was introduced by Bally (1932/1965, 97) with respect to French ('l'adjectif dit «de relation»') and subsequently taken up by other scholars; cf. Dornseiff (1964), among others.

they themselves refer to, with the denotation of the overall construction always being most often derived from common nouns or – to a minor degree – from proper names, their denotation appears to be of the same semantic type as that of their respective base nouns. This is also reflected in some salient syntactic characteristics of relational adjectives. For example, just like nouns, relational adjectives can neither be modified by adverbs (*a very judicial decision*, *a very court decision*), nor can they be used predicatively (*the decision was judicial*, *the decision was court*).

The semantic closeness of relational adjectives to nouns is also shown by the fact that in English the semantic relation of a relational adjective to its head noun seems to be the same as that of a noun modifier to its head noun (*a government decision*, *a very government decision*, *the decision was very government*). Moreover, relational adjectives in construction with nouns compete semantically with N-N compounds in languages that have this type of compound (*linguistic difficulties* vs. *language difficulties*).

It should be noted that adjectives may often be ambiguous between a relational and a qualitative meaning. In English, the most famous example is probably *criminal lawyer*, meaning 'lawyer specialized to criminal cases' ('defense lawyer') in its relational reading and 'lawyer who is criminal' in its qualitative one.

Given the noun-like character of relational adjectives (in terms of their semantics), one may ask whether they may enter into thematic relations to deverbal nominalizations. For example, in (1) we find nominalizations based on the verbs *to meet* and *to pollute*, where an *of*-phrase realizes either the subject (in the case of *meeting*) or the object argument (in the case of *pollution*). As can be seen from (2), semantically (almost) equivalent constructions are possible where the thematic roles of agent or patient appear to be realized by a relational adjective.

(1)   *the meeting of the department, the pollution of the environment*
(2)   *the departmental meeting, the environmental pollution*

In what follows, we will pursue the question to what extent relational adjectives can be interpreted thematically with respect to deverbal nominalizations as illustrated in (2). To this end, we will present comparative data from English, German and French. The focus of interest will be the question of the constraints imposed on such constructions. As will be shown, both English and French appear to be more flexible than German with respect to the realization of thematic roles by relational adjectives. This holds for 'core' thematic relations like agent/experiencer and patient/theme as well as for 'circumstantial' ones such as directionals, locatives and instrumentals.

The paper is organized as follows. Section 2 gives a brief survey of relational adjectives in the languages under investigation. In Section 3, relational-adjective noun construction will be examined, involving nouns derived from different types of verbs. A summary and some attempts at an explanation are found in Section 4.

2. Relational adjectives in English, German and French – an overview

2.1 English

In English, relational adjectives are predominantly formed with non-native suffixes, mostly of Latin origin. These include, among others, *-al* (*criminal*), *-an* (*urban*), *-ary* (*visionary*), *-ic* (*atomic*), *-ine* (*canine*). Among these suffixes, *-al* and *-ic* are most frequent, with *-ic* being the most productive suffix of this type in general (cf. Leitzke 1989, 17). Allomorphic variants exist for *-al* (*-ial, -ual, -ar*), *-ic* (*-atic, -ific, -ical, -istic*; cf. Huddleston / Pullum 2002, 1707-12) and *-an* (*-ane, -ean, -ian*) (Leitzke 1989, 17).[3] In general, these suffixes are also used to derive qualitative adjectives. They almost exclusively[4] combine with non-native bases inherited or borrowed – sometimes via French – from Latin and Greek (Leitzke 1989, 35). These are often bound stems that in some cases "[…] correspond semantically to morphologically unrelated English-based nouns" (Huddleston / Pullum 2002, 1708), as is illustrated in (3).[5] (4) shows in addition that such stems are sometimes even morphologically unrelated to corresponding nouns of foreign origin.

(3)   *oral – mouth, cardiac – heart, canine – dog, verbal – word, filial – child, paternal – father, maternal – mother, royal – king / queen, lunar – moon, annual – year, corporal – body*

(4)   *clerical – office, nuclear – atom (nucleus), urban – city, fiscal – tax*

Conversely, the two relevant native suffixes, *-ish* (*doggish*) and *-ly* (*bodily*), are restricted to native bases (cf. Leitzke 1989, 16-7). Both are found, in particular, with qualitative adjectives. When forming relational adjectives, *-ish* mainly derives "[…] adjectives relating to countries or ethnic groups […]" (Huddleston / Pullum 2002, 1693).

Relational adjective-noun constructions in English semantically compete with N-N compounds and possessive constructions in expressing the same type of classificatory meaning. Some examples of (near) synonymous pairs of adjective-noun constructions and compounds are given in (5).

(5)   *language difficulties – linguistic difficulties, industry output – industrial output, drama criticism – dramatic criticism, ocean winds – oceanic winds, atom bomb – atomic bomb* (Levi 1978, 4)

Possessive constructions express a meaning similar to that of relational adjective-noun constructions if the *of*-phrase is interpreted generically:

(6)   *output of the industry – industrial output, winds of the ocean – oceanic wind*

---

[3]   Not surprisingly, the exact extension of each allomorphic set is a matter of debate. Thus, for instance, Leitzke (1989, 17) considers *-ical* a variant of *-ic* – in fact the only variant of this suffix.

[4]   The notable exception is *-al* as in *tidal* (cf. Marchand 1969, 238).

[5]   The same observation holds for French; see below.

2.2   German

German, like English, has two sets of affixes for deriving relational adjectives: a native and a Latin-based one. In contrast to English, relational adjectives formed with the two native affixes *-isch* and *-lich* (etymologically corresponding to English *-ish* and *-ly* respectively) are frequent and still productive. Their distribution is determined by several factors. For instance, non-native bases only license *-isch* as in *linguistisch* ('linguistic') and *elektrisch* ('electrical'). An important factor is animacy: Under suitable phonological conditions animate bases favour *-isch* as in *tierisch* ('animal'), *hündisch* ('canine'), *kaufmännisch* ('mercantile') and *verlegerisch* ('publisher-related'). Derivations from topological terms like *badisch* ('from/of Baden'), *russisch* ('Russian') and *amerikanisch* ('American') can be added to this list. Interestingly, with the core part of nouns having a human/ personal denotation, especially within the kinship terms, *-lich* is preferred: *kindlich* ('filial'), *väterlich* ('paternal'), *mütterlich* ('maternal'), *elterlich* ('parental'). Within this domain the two affixes can also mark the semantic opposition between qualitative (*-isch*) and relational (*-lich*) uses of adjectives: *kindisch – kindlich* ('childish' – 'filial'), *weibisch – weiblich* ('effeminate' – 'feminine'). Native inanimate bases almost exclusively combine with *-lich* for deriving relational adjectives: *staatlich* ('state-related'), *häuslich* ('domestic'), *baulich* ('structural'). Exceptions are *städtisch* ('urban') and *schulisch* ('school-related').

As for the Latin-based affixes there is a large overlap with English and the Romance languages: *-al/-ell* as in *kriminal/kriminell* ('criminal'), *-ar/-är* as in *nuklear* ('nuclear'), *revolutionär* ('revolutionary') and *-an* as in *human* ('human'), *urban* ('urban') represent the most frequent types. There is one important feature that is unique to German (among the languages under comparison): Latin-based relational adjectives can either combine syntagmatically (as inflected attributes), for instance as in *globale Lösung* ('global solution'), *nuklearer Schlag* ('nuclear stroke'); or they can combine lexically as the non-head of a compound: *Globallösung* ('global solution'), *Nuklearschlag* ('nuclear stroke'). In English this distinction is neutralized, since adjectives do not inflect in attributive function. Combinations like *criminal case* and *criminal gang* both count as syntactic adjective-noun constructions (possibly denoting only one unified concept), whereas the German equivalents *Kriminalfall* and *kriminelle Bande* disambiguate the two readings of the adjective on the morphological and on the syntagmatic level. Relational adjectives with native affixes cannot participate in compounding: *Brüderlichliebe vs. *Bruderliebe* ('fraternal love').

The example in (7) shows that adjectival attribution and compounding may have similar semantic effects in German:

(7)   *königlicher Palast – Königspalast* ('royal palace')

In contrast to English, compounding is preferred over relational adjective-noun constructions whenever possible, at least in the colloquial language:

(8) *Arztpraxis – medical practice, Arztberuf – medical profession, Kernwaffen /*
     Atomwaffen – nuclear weapons[6]

2.3 French

In French the nominal bases of relational adjectives are almost exclusively of
Graeco-Latin origin. There are three different cases:

   a) The base of the relational adjective is a French noun which, in most cases,
      goes back to a Latin word as in *routier* ('road-related') < *route* ('road'), *royal*
      ('royal') < *roi* ('king'), *touristique* ('tourist-related') < *touriste* ('tourist').
   b) The base is a Latin or Greek noun as in *scolaire* ('school-related') < Latin
      schola ('school'), *infantile* ('filial') < Latin *infans* ('child'), *cardiaque* ('cardiac')
      < Greek *kardia* ('heart'). The noun itself is preserved in French, but may
      have undergone a phonological development leading to differing forms as
      in *école* ('school') < *schola*, *enfant* ('child') < *infans*. French *cœur* ('heart')
      goes back to Latin *cor*, etymologically related to Greek *kardia*. For pairs
      like *scolaire – école* there is a phonological similarity and perhaps an asso-
      ciative link between the elements, but no direct derivational connection.
      In some cases two versions of adjectives coexist, a native one and a neo-
      classic one, where the latter always has a clearly relational use, while the
      former may develop qualitative meanings of different types:

(9)   *scolaire* < Latin *schola* ('school') – *écolier* < French *école* ('school')
(10) *legal* < Latin *lex* ('law') – *loyal* < French *loi* ('law')
(11) *infantile* < Latin *infans* ('child') – *enfantin* < French *enfant* ('child')

   c) The base is a Latin or Greek noun which does not have the status of a lexical
      entity in French, but occurs as a bound stem only.

(12) *urbain* < Latin *urbs* ('town'), also in: *urbanisation* ('urbanization'), *urbaniste*
     ('city planner'), *urbanité* ('urbanity')
(13) *rural* < Latin *rus* ('countryside')

In this case there is no associative link to a French noun. The link to a Latin (or
Greek) noun is only manifest to educated people.

    'Relatinization' of the French lexicon, starting at the end of the Middle Ages,
is especially distinctive for the formation of relational adjectives on the model of
types b) and c), so that these two types together outnumber those of type a) by
far (cf. Wandruszka 1972, 16).

    As is well known, nominal compounding in the sense of an asyndetic combina-
tion of a head noun with a nominal modifier to its right (N-N construction) is a
rather peripheral phenomenon in French. Examples like *appareil photo* ('camera')
and *vignette auto* ('road tax disc') occur in the print media and their use is in-
creasing; but at least for the late seventies, Rohrer (1977, 112) pointed out that

------

[6]   In more elaborate style there is often free variation between the compound and a relational ad-
     jective-noun construction, cf. *Atomwaffen/nukleare Waffen/Nuklearwaffen* ('nuclear weapons').

this structure had not yet affected the core domains of the language.[7] So, bound attributes are chiefly represented by 'bound prepositional phrases' (sometimes called 'prepositional compounds', cf. Thiele 1981, 91; Bollée 2002, 83), mainly with the prepositions *de* and *à* as in (14) and (15).

(14) *le medecin de famille* ('the family doctor'), *la soirée d'automne* ('the autumn evening')

(15) *le couteau à fromage* ('the cheese knife'), *le moteur à essence* ('the gasoline engine')

In bound prepositional phrases there is no internal article. This demonstrates the defective syntactic status of the prepositional phrase and its semantic non-referentiality. Though in many cases an internal article is necessary, the conditioning factors are not fully understood. This sort of construction containing an internal definite article is neither to be considered as 'bound attribution', nor as classificatory modification, even if a unified concept is denoted, as in (16):

(16) *la police de* *(*la*) *route* ('the highway police'), *la maison* *de / *du père* ('the paternal home')

We regard constructions like the well-formed ones in (16) as possessive constructions where the attribute has a generic referential reading.

   As for the choice between relational adjective-noun constructions and the alternatives just mentioned, again, only adjectival and bound prepositional attributes are real competitors (cf. [7], [8] for German), the generic possessive construction being of a different semantic type. Interestingly enough, there are also considerable gaps on both sides, though there is substantial overlap between both types:

(17) *le medecin familial – le medecin de famille* ('the family doctor'), *le manuel scolaire – le manuel d'école* ('the school textbook')

(18) *la langue maternelle – *la langue de mère* ('the mother tongue'), *la politique gouvernementale – *la politique de gouvernement* ('the governmental politics')

(19) *le film d'aventure* – Ø (no corresponding relational adjective) ('the adventure movie')

It should be emphasized, however, that relational adjective-noun constructions are highly productive and still expanding, even in the everyday language (cf. Wandruszka 1972, 25). In contrast to German they are in general not outranked by competing 'bound constructions', i.e. the two patterns are more or less balanced in terms of productivity.

---

[7]   The exocentric type of nominal compounding, in contrast, as in *allume-cigarre* ('cigar lighter'), *ouvre-lettre* ('letter opener'), where a verbal stem (or an imperative form) is followed by a noun filling the object slot of the verb, is very productive in the colloquial language, cf. Rohrer (1977, 138). These nouns usually denote concrete objects (persons, instruments) and do not compete with relational adjective-noun constructions. Therefore, they are neglected here.

3. Relational adjectives in construction with deverbal nouns

3.1 Types of nominalizations

Deverbal nominalizations can be roughly divided into three types, according to the semantic type of their denotation. First, there are nominals referring to actions or processes (*nomina actionis*, cf. [20]). Second, we have those denoting a state or object resulting from some action or process (*nomina acti*, cf. [21]). The third type comprises deverbal nouns designating the agent of some action or process (*nomina agentis*, cf. [22]). In what follows, we will also refer to these as 'process', 'result' and 'agent nominals' (or nominalizations), respectively.

(20) *The pollution of our waters by the local industries has to be stopped.*
(21) *The pollution of our waters is severe.*
(22) *Any pollutor of our waters must be punished.*

Process nominals are sometimes difficult to distinguish from result nominals. The main reason for this is that nominalizations of telic verbs regularly have both readings, provided they are not lexicalized. In English, for instance, (non-lexicalized) derivations in *-(a)tion* based on telic verbs are systematically ambiguous in this way (cf. [20] vs. [21]), and the same applies to their counterparts in other languages (*-ion*, *-ung*). For matters of convenience we will often use the term 'event nominalization' (or 'event nominal') to refer to both process and result nominals.

3.2 English

In English, event nominalizations are mainly derived by *-ing*, forming the nominal gerund (*running*, *developing*, *reading*), and *-ation* (*circulation*) with *-ion*, *-ition*, *-sion*, *-tion* and *-ution* as allomorphic variants. Both *-ing* and *-ation* are productive in Present-Day English, in contrast to a couple of other suffixes such as *-ance* (*performance*, variant: *-ence*), *-ure* (*departure*) and *-ment* (*improvement*), which, according to Huddleston and Pullum (2002, 1703), is "[…] now only marginally productive, if indeed productive at all." Another suffix to be mentioned is *-al* (*arrival*), whose productivity is likewise questionable (cf. Huddleston / Pullum 2002, 1700). Agent nominals are formed with *-er*, with the variants *-or* and *-ar*, as in *dweller*, *instructor* and *liar*.

Nominalizations derived from intransitive verbs

In combination with event nominals based on intransitive verbs, relational adjectives can take on a subject-related reading, being thematically interpreted either as the agent/experiencer (cf. [23]) or the theme/patient of the underlying verb (cf. [24]).

(23) *judicial acting / action, canine barking, human thinking / dreaming, American / maternal interference / interfering, female participation, departmental / plenary meeting*

(24) *atmospheric circulation, volcanic eruption, judicial failing, cellular division, thermal / urban expansion, urban regeneration, economic / industrial / linguistic / occupational / organizational / personnel / professional / regional / rural / urban development*

Note that some forms are ambiguous between noun and adjective, cf. (25). This holds regularly true of so-called ethnic adjectives, cf. (26). What prevents examples like *human thinking* from being analyzed as N-N compounds is the fact that in synthetic compounds[8] subject-related readings are permitted only if the subject argument is not an agent (or 'external argument', cf. Fabb 1998, 68), cf. (27). Thus, compounds based on agentive intransitive verbs like the ones in (28) are either ruled out as ungrammatical, or at least cannot be interpreted with the non-head as subject argument. Instead, a non-referential, descriptive *s*-genitive must be used in English, cf. (29). Interestingly, but not surprisingly, when in construction with an N-N compound relational adjectives may realize their subject argument and the non-head N the object argument of the deverbal base, cf. (30).

(25) *human, female, male, public, canine, feline, equine, bovine, animal, domestic*
(26) *American, German, Polish, Italian,* etc.
(27) *cell division, language development, volcano eruption*
(28) **man thinking, *women participation*
(29) *man's thinking, women's participation*
(30) *industrial water pollution*

Furthermore, it should be noted that a subject-related reading of the adjective can almost always be overridden by adding an appropriate *of*-phrase, as illustrated in (31). In these cases, the semantic contribution of the adjectives no longer consists in providing a thematic argument for the deverbal noun. Rather, the relational adjective denotes an aspect of the denotation of the *of*-phrase with regard to which the process denoted by the noun is to be interpreted. For instance, *rural development of Java* means the development of Java's rural area, in contrast to, say, the development of its urban settlements.

(31) *urban expansion of Athens, rural development of Java, volcanic eruption of Pinatubo, urban regeneration of the Lower Lea Valley, cellular division of the coelomic epithelia*

Turning to agent nominals, attribution by relational adjectives is possible, but in order to invoke a reading that comes close to a subject-related reading of the adjective, both the adjective and the noun must be interpreted as coreferential, cf. (32).

---

[8]   Recall that synthetic compounds are ususally defined as consisting of an adjectival or nominal (deverbal) head and a nominal non-head filling an argument position of the head, cf. Fabb (1998: 68), among others.

However, it seems more plausible to interpret the adjective in examples like (32) in the same way as in (31), i.e. as providing an aspect or a role of the head noun.

(32) *human thinker / dreamer, male / female worker*

Nominalizations derived from transitive verbs

With event nominals derived from transitive verbs, a relational adjective may likewise be interpreted as the subject argument, cf. (33).

(33) *domestic/human/public consumption, domestic production, parental/maternal/ paternal/fraternal protection, judicial execution/interrogation, congressional opposition, political provocation, editorial/governmental supervision, medical examination, industrial pollution, corporate planning*

As with intransitive verbs, a subject-related interpretation of the adjective can be shifted to a purely classificatory one when an appropriate agentive phrase is added, cf. (34) and (35).

(34) *governmental supervision by the states, corporate planning by corporations*
(35) *the Norman invasion of England by William the Conqueror*

In contrast to German, but in accordance with French, English also permits relational adjectives to be associated with the object argument of a nominalization, cf. (36). Such constructions are largely restricted to denoting result states or result objects.

(36) *colonial administration/liberation/suppression, chemical consumption, racial discrimination, presidential/gubernatorial election, floral exposition, agricultural/economic/educational/environmental/financial/fiscal/industrial/regional/ urban planning, environmental pollution/protection, dramatic/electric production, corporal punishment, urban renovation, colonial ruling, cardiac transplantation, dramatic/lyric writing*

Again, a thematic reading can be blocked by an *of*-phrase, cf. (37).

(37) *colonial administration of India, racial discrimination of black people, urban renovation of three cities.*

As has often been noticed in the pertinent literature (Kayne 1981; Grimshaw 1990, 88; Giorgi / Longobardi 1991, 125), ethnic adjectives are barred from being thematically related to the object position when the subject argument is realized at the same time. This is shown in the contrast between (38) and (39).

(38) *Polish invasion remembered.*[9]
(39) **the Polish invasion by the Germans*

Constructions with object-related relational adjectives compete with synthetic compounds in English, since in synthetic compounds the non-head constituent

---

[9]   URL: http://news.bbc.co.uk/1/hi/world/europe/435383.stm.

usually figures as the patient or theme argument of the deverbal head. Thus, synonymous pairs of synthetic compounds and relational adjective-noun constructions are not hard to find, cf. (40).

(40) *bovine/canine/equine/feline breeding* vs. *cattle/dog/horse/cat breeding, floral exposition* vs. *flower exposition, dramatic writing* vs. *drama writing*

Not surprisingly, agent nominals in construction with object-related relational adjectives are possible as well, cf. (41). Constructions of this type are likely to be derived as a whole from the corresponding construction involving an event nominal (e.g. *urban planning* → *urban planner*, by replacement of *-ing* with *-er*, etc.).

(41) *urban planner, colonial ruler, symphonic composer, dramatic/lyrical writer, racial discriminator, canine/equine breeder*

Moreover, relational adjectives may also be associated with thematic roles other than agents/experiencers or patients/themes. These are, above all, directionals (*polar expedition, lunar traveller*), locatives (*Italian travelling, coastal walker*) and instrumentals (*aural comprehension, manual worker*), which occur in combination with both event and agent nominalizations.

   Summing up, in English relational adjectives are found to relate to subject and object argument positions. Besides, they may also function as locatives, directionals and instrumentals. Constructions involving object-related adjectives semantically compete with N-N compounds.[10]

3.3 German

Nominalizations derived from intransitive verbs

In German, relational adjectives can be combined with nominalizations of intransitive verbs, notably nominalized infinitives, less frequently *ung*-nominalizations, where the base can either be an agentive (cf. [42], [43]) or a non-agentive verb (cf. [44], [45]). Both types can be realized as *haben*-verbs (cf. [42], [44]) or as *sein*-verbs (cf. [43], [45]). Non-agentive *sein* verbs are usually called 'ergative' or 'unaccusative'.

(42) *ärztliches Handeln/Streben* ('medical action / a doctor's striving'), *polizeiliches Durchgreifen* ('action-taking by the police'), *väterliche Drohung* ('paternal threat'), *staatliche Einmischung* ('governmental intervention'), *weibliche Beteiligung* ('female participation')
(43) *polizeiliches Einschreiten/Tätigwerden* ('intervention/action by the police')
(44) *richterliches Versagen* ('judicial failure'), *körperliches Zucken* ('bodily convulsion'), *solare Strahlung* ('solar radiation'), *ökonomische/wirtschaftliche Entwicklung* ('economic development')
(45) *amerikanisches Scheitern* ('American failure'), *männliches Überlegensein* ('male supremacy')

---

[10]   To a certain degree this also holds for constructions involving directionals, locatives and instrumentals, but for reasons of space we cannot go into this in any detail.

A special case belonging semantically to the group (42) or (44) are nominalizations of lexically reflexive verbs like *sich einmischen* ('to intervene'), *sich beteiligen* ('to participate'), *sich entwickeln* ('to develop'). In all these cases the adjective can be associated with the subject argument of the underlying verb and, in consequence, with the thematic role of agent in (42) and (43) or of patient/theme in (44) and (45).

Note that there are also cases that are ambiguous between argument and non-argument readings, cf. (46).

(46) *betriebliches Vorgehen* ('proceedings of the company' vs. 'proceedings with respect to the company')

Agent nominals, which are mainly derived by *-er*, with non-native bases also by *-ant*, *-or* or *-eur*, are possible but infrequent with agentive intransitive verbs (e.g. *Arbeiter* 'worker', *Helfer* 'helper', *Demonstrant* 'demonstrator', *Agitator* 'agitator', *Provocateur* 'troublemaker') and ungrammatical with unaccusative verbs (cf. *Scheiterer 'someone failing', *Unterlieger 'someone being defeated'). They should not allow relational adjectives with a subject-related (agentive) reading. The subject/agent slot is reserved for the referential argument; for instance, *Helfer* denotes the set of people who, at a certain moment or habitually, help someone else. Thus, possible combinations like (47) must be interpreted without recourse to the thematic role of agent for *ärztlich* ('medical') / *polizeilich* ('police-related'). Rather, the adjective provides an aspect or role of the person(s) denoted by the head noun.

(47) *ärztlicher/polizeilicher Helfer* ('medical assistant', 'assistant to the police')

If we look at the alternative compounding construction, the following picture emerges: In synthetic compounds based on intransitive verbs, only patient/theme arguments can be realized by the non-head constituent. In other words, only the subject argument of non-agentive intransitive verbs can be realized as the non-head constituent. So along with (44) and (45) we may have (48) – where we sometimes replace a Graeco-Latin base with a native one – but compounds analogous to (42) and (43) are excluded, cf. (49).

(48) *Sonnenstrahlung* ('solar radiation'), *Körperzuckung* ('bodily convulsion'), *Wirtschaftsentwicklung* ('economic development')
(49) *Arzthandeln (lit. 'doctor acting'), *Vaterdrohung (lit. 'father threatening')

Nominalizations derived from transitive verbs

In construction with nominalizations of transitive verbs relational adjectives are also easily associated with the subject/agent role. This is most evident when the patient/theme argument is realized in addition, be it as a possessive genitive (cf. [50]) or as the non-head of a synthetic compound (cf. [51]).

(50) *töchterliche Wiederholung mütterlicher Verhaltensmuster* ('repetition of behavior patterns of the mother by the daughter'), *polizeiliche Absperrung des Platzes* ('barring of the square by the police'), *polizeiliche Durchsuchung der Wohnung* ('searching of the apartment by the police'), *ärztliche Ein-*

schätzung des Täters ('assessment of the culprit by a physician'), *städtische Reinigung der Straßen* ('urban cleaning of the streets')

(51) *kaiserliche Stadtgründung* ('city founding by the emperor'), *bäuerliche Getreideproduktion* ('grain production by farmers'), *ärztliche Tätereinschätzung* ('assessment of the culprit by a physician'), *städtische Straßenreinigung* ('urban street cleaning')

Object-related interpretations, on the other hand, are regularly excluded: *ärztliche Einschätzung* cannot be interpreted as 'someone's assessment of a physician', *städtische Reinigung* can hardly be read as 'someone's cleaning of the city'. Even if we try to force an object-related reading by adding an agentive *durch*-phrase, the result will not be acceptable with the intended reading:

(52) *die ärztliche Einschätzung durch das Pflegepersonal*
    $'the nursing staff's assessment of the physician'[11]
(53) *die städtische Reinigung durch die Müllabfuhr*
    $'the city cleaning by the cleansing services'

As the examples in (51) show, it is the non-head constituent of nominalizations of transitive verbs that usually realizes the object argument, not a relational adjective. Since for these non-head constituents a subject-related reading is not available (in general), we get oppositions like the ones in (54).

(54) *elterliche* (agent/*patient) *Kinderbetreuung* (*Kinder-* patient/*agent) ('parental child care') – *kindliche* (agent/*patient) *Elternbetreuung* (*Eltern-* patient/*agent) ('filial parent care')

As a first generalization, one might thus say that in German relational adjectives and non-head constituents of compounds, in construction with nominalizations of transitive verbs, are in complementary distribution with respect to their thematic roles; in construction with nominalizations of intransitive verbs, relational adjectives may fill the gap left behind by the lacking agent slot in a compound.[12]

   Examples like (55) seem to contradict our generalization: the relational adjectives can receive an interpretation as object arguments. However, apart from a few collocations like *körperliche Züchtigung/Ertüchtigung* ('corporal punishment', 'physical training'), this seems to be restricted to adjectives derived from a Graeco-Latin base which are usually confined to a specialized scientific terminology. It can be assumed that they follow the Latin pattern (cf. Section 4) or are directly copied from an English or French model. In colloquial language we should expect (56) (and [57]) instead of (55).

---

[11]   '$' indicates that the reading given by the translation is not available.
[12]   There may occasionally be compounds like *Expertennennung, -duldung* (lit. 'mentioning/ toleration by experts') etc. (Eisenberg 2004, 231), where the non-head may get an agent reading, if not combined with a possessive: *die Expertennennung des Problems* ('the mentioning of the problem by experts').

(55) *kardiale Transplantation* ('cardiac transplantation'), *dentale Pflege* ('dental care'), *mentales Training* ('mental training')

(56) *Herztransplantation* ('cardiac transplantation'), *Zahnpflege* ('dental care')

Note that those Graeco-Latin adjectives which pertain to a higher register in German, also occur as the first part of a deverbal compound (cf. [57]), in which case they appear to function as an object argument of the base verb.

(57) *Dentalpflege* ('dental care'), *Genitalverstümmelung* ('genital mutilation'), *Mentaltraining* ('mental training')

However, in contrast to English, object-related readings are completely ruled out with agent nominals. There is no corresponding pattern for deriving agent nominals as a whole from event nominalizations, cf. (58).

(58) **kardialer Transplanteur* ('s.o. performing cardiac transplantations'), **dentaler Pfleger/*??*Dentalpfleger* ('s.o. looking after teeth')

As in English, agent nominals with a native noun as non-head of a compound in object-related reading are perfectly acceptable and quite productive:

(59) *Herztransplanteur* ('surgeon performing cardiac transplantations'), *Zahnpfleger* ('s.o. looking after teeth'), *Stadtplaner* ('city planner'), *Frauen-versteher* ('man showing understanding to women')

As for agent nominals derived from transitive verbs in general, we may have combinations with relational adjectives as in (60).

(60) *ärztlicher Betreuer/Beobachter* ('medical superviser/observer'), *weibliche Verehrer* ('female admirers')

An agentive interpretation of the adjective faces the same problems as it does in the case of agentive intransitive verbs, cf. (47). This is because the agent-role is already realized by the referential argument of the noun, while the semantic contribution of the adjective reduces to further specifying this argument. Now looking back at the examples (52) and (53), we see that the same type of interpretation is available with event nominals too, cf. (61) and (62), respectively.

(61) *the assessment by the nursing staff acting as physicians*
(62) *the cleaning by the cleansing services as representatives of the city*

A search of the IDS-corpora yields numerous examples of this type, cf. (63)-(65).

(63) *polizeiliche Abklärungen durch die Fachgruppe Kinderschutz* (lit. 'police-related clarifications by the child protection department'), *ärztliche Untersuchung von Frauen durch Männer* ('medical examination of women by men')

(64) *nach einer monatelangen spanischen Belagerung durch Frederik von Toledo* ('after a Spanish siege of many months by Frederic of Toledo')

(65) *nach der normannischen Eroberung durch Wilhelm den Eroberer* ('after the Norman conquest by William the Conqueror')

In all these examples the real agent, represented by the *durch*-phrase, can be considered as related to, or being a representative of, the group or institution denoted by the nominal base of the relational adjective.

Finally, relational adjectives in construction with event nominalizations may also function as instrumentals (*manuelle Arbeit* 'manual work'). Locative uses, in contrast, are highly marked (*Berliner Aufenthalt* 'stay in Berlin'), while directional ones are excluded (**französische Reise* 'journey to France').[13] None of these uses is possible with agent nominalizations (**manueller Arbeiter* 'manual worker', **Berliner Wanderer* 's.o. hiking in Berlin', **amerikanischer Einwanderer* 'American immigrant').

To sum up: In German relational adjectives as potential argument realizations seem to be compatible primarily with the subject role, including non-agentive subject arguments of intransitive verbs. Other argument roles, especially the object argument, are not accessible. A subject-related interpretation can be blocked by an additional agent phrase (a *durch*-phrase); an interpretative connection with the agent phrase can remain. Instrumental interpretations are possible, but locative and directional ones are either marked or ruled out, respectively.

3.4 French

French deverbal nominalization basically relies on the productive suffixes *-tion* (and its variants like *-isation, -ification, -ation, -sion*), *-age* and *-(e)ment*. In contrast to German there is, in the core grammar, no nominalized infinitive (cf. Grevisse 1993, 255). The gerund has exclusively verbal argument realization. The English gerund suffix *-ing* occurs only in loanwords (*le dancing*) and will be neglected here.

Nominalizations derived from intransitive verbs

There are strong parallels with both English and German regarding the use of relational adjectives as attributes of nominalizations of intransitive verbs. The adjectives can realize agentive (cf. [66]) and non-agentive subject arguments (cf. [67]).

(66) *le voyage présidentiel* ('the journey by the president'), *la participation féminine* ('the female participation'), *l'intervention policière* ('the intervention by the police')

(67) *la défaillance humaine / le ratage humain* ('the human failure'), *le mouvement pendulaire* ('the pendular movement'), *le rayonnement solaire* ('the solar radiation'), *le développement économique* ('the economic development'), *l'éruption volcanique* ('the volcanic eruption'), *la division céllulaire* ('the cellular division'), *l'arrêt cardiaque* ('the cardiac arrest')

Recall that in German and English we have compounds competing with, or even replacing, relational adjectives with nominalizations of non-agentive verbs, cf. (27),

---

13   For an explanation cf. Eichinger (1982, 134f.). The directional use is attested in 18th-century German, compare the title of Goethe's travelogue *Die italienische Reise* ('Italian Journey').

(42), (43) and (48). N-N compounds, which are peripheral anyway, have no comparable semantic pattern.[14] Bound *de*-constructions are in many cases also forbidden (cf. Wandruszka 1972, 179), so only referential possessive constructions compete with the relational adjective-noun construction:

(68) *le rayonnement solaire – *le rayonnement de soleil – le rayonnement du soleil*
     ('solar radiation')

(69) *la division céllulaire – *la division de céllule – la division des céllules*
     ('cell division')

Nominalizations derived from transitive verbs

As in English and German, nominalizations of French transitive verbs allow relational adjectives to relate to the subject (agent) argument:

(70) *la répétition filiale du comportement maternelle* ('the repetition of maternal behavior by the daughter'), *la fermeture policière de la Sorbonne* ('the closing down of the Sorbonne by the police'), *la persécution judiciaire des criminels* ('the judicial persecution of criminals'), *l'observation féminine des élections* ('the observation of elections by women'), *la revendication populaire de réunification* ('people's demand of reunification')

In (70) the object argument is realized by a referential *de*-phrase following the relational adjective. A realization as a non-head in an N-N compound is excluded (cf. Note 14). However, in contrast to German there are lots of instances where the relational adjective seems to permit an object-related interpretation:

(71) *l'élection présidentielle* ('the presidential election'), *l'éducation infantile / enfantine* ('the education of children'), *l'élevage bovin/ovin/porcin* ('the bovine/ ovine/porcine breeding'), *l'exposition florale* ('the floral exposition'), *le soin capillaire/dentaire* ('the care of one's hair / the dental care'), *la production céréalière/électrique/charbonnière/laitière* ('the production of cereals/electricity/ coal/milk'), *la pollution environnementale* ('the environmental pollution'), *la protection maternelle et infantile* ('the protection of mothers and children'), *la planification/renovation/destruction urbaine* ('the urban planning/renovation/ destruction'), *la revendication salariale* ('the wage demands')

Unlike in German, where the semantic opposition between the two expressions in (54) is explained by the fact that the relational adjectives are clearly subject-related, the corresponding French nominals are somewhat ambiguous:

(72) *l'éducation parentale* (agent/?patient) *des enfants* (patient/?agent)
(73) *l'education infantile / enfantine* (agent/?patient) *des parents* (patient/?agent)

_____

[14]   As mentioned by Rohrer (1977, 85) the subject-argument of nominalizations derived from intransitive verbs cannot be realized as the non-head of a N-N compound, as e.g. in **coucher-soleil* instead of *coucher de soleil* ('sunset'). Objects in nominalizations based on transitive verbs are excluded in general as well. Rohrer (1977, 87) mentions only very few examples like *prevention-incendie* ('fire prevention').

Object-related adjectives are themselves in competition with *de*-phrases. Again, bound *de*-phrases are quite rare, at least with singular nouns:

(74) *l'élection *de / du président* ('the election of the president'), *la rénovation de *(la) ville* ('the renovation of the city'), *la pollution *d'environnement / de l'environnement* ('the pollution of the environment')

(75) *le lavage de dents* ('the teeth brushing')

Most of the examples with object-related readings are (more or less) fixed expressions or collocations. They denote the object resulting from a process (*la production céréalière* 'the [amount of] produced cereals'), the general procedure to do a thing (*le lavage dentaire* 'the recurrent procedure/habitude/task of cleaning one's teeth') or some institutionalized measure/activity (*la protection maternelle* 'the maternal protection').

    Note also that even object-related adjectives are possible, though rare, in construction with agent nominals (cf. Wandruszka 1972, 47), which are mainly derived by the suffix *-eur* or the participle suffix *-ant*:

(76) *l'acquéreur immobilier* ('the purchaser of property'), *le directeur commercial* ('the sales manager'), *l'assistante médicale* ('the [female] medical assistant'), *le planificateur urbain* ('the urban planner'), *le transplanteur cardiaque* ('the surgeon performing cardiac transplantations')

The corresponding event nominals are usually available (*l'acquisition immobilière*, *la transplantation cardiaque*, etc.), but there is not necessarily a correspondence in the other direction (**le protecteur maternel*). For several of the object-related examples, the link to the nominal base is quite loose: There is no French noun stem, but only a Latin or a Greek one (like Latin *urb-* 'city', *medic-o/u* 'medical doctor', Greek *kard-ia* 'heart') and moreover the adjective can be associated with more than one nominal concept: So *médical* can mean 'what is related to medicine' or 'what is related to medical doctors/a medical doctor' (cf. Trésor 1985, 566f.).

    Analogously to English, relational adjectives in construction with event or agent nominals may occur as instrumentals (*la perception oculaire* 'the ocular perception', *le travailleur manuel* 'the manual worker'), locatives (*la randonnée insulaire*, 'the insular hiking', *le randonneur montagnard* 'the mountain hiker') and directionals (*l'expédition polaire* 'the polar expedition', *le voyageur lunaire* 'the moon traveller').

    To summarize, in French relational adjectives are primarily compatible with the subject role. However, object-related uses occur as well, primarily in construction with event nominals but also, to a lesser degree, with agent nominals. In addition, instrumental, directional and locative roles of relational adjectives can be found with both types of nominalizations. There are strong restrictions on the use of bound prepositional attributes (or N-N compounds) in both subject and object argument positions. These expressions, therefore, do not constitute a systematic alternative to relational adjective-noun constructions.

4. Summary and conclusion

Summing up, we have arrived at three basic observations in the course of our comparative examination of adjective-noun constructions. First, object-related readings appear to be more restricted than subject-related readings, being found only in French and English. Second, if possible at all, object-related readings are more or less confined to those constructions where the denominal head noun denotes a result state or object. Subject-related readings, in contrast, are also admissible with process nominalizations. Third, we have seen that both a subject-related and an object-related reading may always be overridden by the addition of an appropriate agentive or possessive phrase.

As for the second observation, an analogous claim with respect to Spanish and Italian can already be found in Bosque and Picallo (1996, 356-9). Their explanation for the relevant distinction consists basically in assuming that the requirements for argument satisfaction (or 'theta-role discharging') are simply less constrained with state nominals than with process nominals. We could think of a functional motivation for this assumption along the following lines: Crosslinguistically, it can be observed that deverbal nouns tend to realize their arguments syntactically either in a more 'verb-like' or in a more 'noun-like' fashion (Comrie 1976; Koptjevskaja-Tamm 1993). In the first case, the form of an argument tends to follow the morphosyntactic subcategorization requirements of the underlying verb. In the second case, it tends to be realized like a typical noun modifier. Now, result nominals denoting states or objects are certainly more noun-like than process nominals in terms of their semantics: states and objects are more time stable entities than events, and thus closer to the ontological type of what nouns prototypically refer to. That may explain why result nominalizations allow their object arguments to be realized by a category, viz. adjectives, that is typical of noun modifiers but inadmissible for verbal arguments. In contrast, the types of PPs realizing arguments in nominalizations either contain semantically vacuous prepositions (e.g. English *of*, German *von*, French *de*), which is why they are semantically most similar to NPs, or their preposition is indicative of agentive phrases (e.g. English *by*, German *durch*, French *par*) that also occur with verbal passive constructions.[15]

The question now remains why there appears to be no comparable restriction on the subject argument position of nominalizations. As we have seen, even process nominalizations allow their subject argument position to be realized by relational adjectives. Proposals to account for this asymmetry can also be found in the literature (cf. Kayne 1981, 111; Giorgi / Longobardi 1991, 125-9; Bosque / Picallo 1996, 355-6). They more or less amount to saying that subjects are exempt from any such restrictions because of their being 'external arguments,' which,

---

[15] Another line of argument would be following Grimshaw (1990, chap. 3) in claiming that result nominals do not have an argument structure in the first place. But see Ehrich and Rapp (2000) for a more sophisticated position on the question of argument structure with respect to different types of nominalizations.

among other things, implies that they are not strictly subcategorized by the verbal head but by the verb phrase as a whole (cf. Kayne 1981, 111). We do not want to go into this argument here. It should be noted, however, that comparable asymmetries between subject and object arguments in nominalizations are not hard to find. For example, in Slavonic languages personal adjectives show a clear preference to realize subject arguments, while object argument positions are more likely to be satisfied by possessive genitives (cf. Corbett 1987). In English, we see that in verbal gerunds the subject may optionally occur as a possessive genitive while the object has to be realized as a plain NP. A functional explanation for these types of asymmetry may start from the idea that object arguments are more relevant for event constitution than subject arguments. This holds equally for process and result state nominalizations. A state cannot exist on its own but only as being a state of something; likewise, a process necessarily involves an 'undergoer' (a patient or theme), but not necessarily an agent, as the existence of processes denoted by nominalizations based on non-agentive verbs shows (e.g. *development*). It may therefore be the case that the categorial requirements for the realization of objects are stronger than those for subjects. That is to say, objects must be realized by prototypically 'thing' denoting phrases.

Next there is the question of why object-related adjectives are possible in French and English at all. Note that object-related interpretations are prohibited not only in German, but also in Russian (cf. Mezhevich 2002) and Hungarian. There is no doubt that French and English share these constructions because of their common Latin heritage. In Latin, as in Greek, they instantiated a widely used pattern, a relational adjective often being used 'in exchange' to an attributive genitive (cf. Kühner / Stegmann 1914, 208). Thus, we frequently find structures like *popularis admiratio* 'popular admiration', where the adjective substitutes a *genetivus subiectivus*, but also such as *enumeratio oratoria* ('enumeration of speakers'), *frumentaria largitio* ('donation of cereal') with the adjective occurring in lieu of a *genetivus obiectivus* (cf. Kühner / Stegmann 1914, 209ff.). The same applies to constructions with the adjective functioning as a directional or locative, which are equally common in Latin (*iter Brundisinum* 'journey to Brindisi').

The Romance languages inherited this pattern from Latin, and English, in turn, inherited or borrowed it from French. Occasionally, there are counterparts in English and French of the relevant Latin relational-adjective noun construction, witness *popular admiration/admiration populaire* or *cereal donation/donation céréalière*. Note that in English, the pattern has not been fully extended to the native vocabulary, since non-native relational adjectives are not attested in this type of construction. For example, along with *canine breeding* we do find *dog breeding*, but not *doggish breeding*, though *doggish* may be perfectly well used in a relational sense in other contexts.

Let us now turn to our last point, i.e. the question of why any thematic interpretation of relational adjectives may be overridden by the addition of appropriate agentive or patientive phrases. One solution could be to assume that in such cases the semantic contribution of the adjective shifts from argument realization to a

classification of the event. For example, in a construction like *medical examination by Dr. Jones* the role of the adjective can be described as specifying a special type of examination (a medical one, as opposed to, say, a judicial one). However the problem with this proposal is that in cases like *colonial administration of India* the most plausible reading would rather be 'administration of India as a colony'. In other words, what the adjective specifies here is not the event denoted by the nominal, but the semantic role of the object argument. Importantly, the next to last example could be analyzed in exactly the same way, viz. as meaning 'examination by Dr. Jones in his role as a medical doctor'. Now if we look at adjective-noun constructions that do not involve agentive or patientive phrases, we see that the analysis applies even here. These constructions, too, can be understood in such a way that the adjective specifies the semantic role of the respective subject or object argument while a 'true' referential argument remains contextually implicit. What distinguishes examples like *colonial administration* from *colonial administration of India*, then, is the mere fact that the otherwise implicit argument has become explicit in the latter case. Note that this analysis also accounts for agent nominalizations with subject-related adjectives like *female worker*. Examples of this type can be interpreted with the adjective specifying the agent role provided by the underlying verb and the referent of the denominal noun itself filling that role. The price one has to pay for the proposed unified analysis, however, is that relational adjectives can no longer be said to fill an argument position *sensu strictu*. But this we would rather consider a benefit.

Works cited

Bally, Charles (1932/1965). *Linguistique générale et linguistique française.* Fourth edition. (First edition published in 1932.) Bern: Francke.

Bollée, Annegret (2002). *Französische Wortbildung: Vorlesung gehalten im WS 1995/1996.* Edited by Priv.-Doz. Dr. Carlo Milan. Bamberg: Otto-Friedrich-Universität Bamberg. Fakultät Sprach- und Literaturwissenschaften. Fachbereich Romanistik.

Bosque, Ignacio and Carme Picallo (1996). "Postnominal Adjectives in Spanish DPs." *Journal of Linguistics* 32, 349-85.

Comrie, Bernard (1976). "The syntax of action nominalizations: a cross-linguistic study." *Lingua* 40, 177-201.

Corbett, Greville G. (1987). "The morphology/syntax interface: Evidence from possessive adjectives in Slavonic." *Language* 63, 299-345.

Dornseiff, Franz (1964). "Das Zugehörigkeitsadjektiv und das Fremdwort." Franz Dornseiff, *Kleine Schriften. Band 2. Sprache und Sprechender,* Leipzig: Koehler and Amelang, 221-34.

Ehrich, Veronika and Irene Rapp (2000). "Sortale Bedeutung und Argumentstruktur: *ung*-Nominalisierungen im Deutschen." *Zeitschrift für Sprachwissenschaft* 19, 245-303.

Eichinger, Ludwig M. (1982). *Syntaktische Transposition und semantische Derivation: Die Adjektive auf -isch im heutigen Deutsch.* Tübingen: Niemeyer.

Eisenberg, Peter (2004). *Grundriß der deutschen Grammatik. Band 1: Das Wort*. 2. Auflage. Stuttgart and Weimar: Metzler.

Fabb, Nigel (1998). "Compounding." Andrew Spencer and Arnold M. Zwicky, eds. *The Handbook of Morphology,* Oxford and Malden, MA: Blackwell, 66-83.

Giorgi, Alessandra and Giuseppe Longobardi (1991). *The Syntax of Noun Phrase: Configuration, Parameters, and Empty Categories.* Cambridge and New York: Cambridge University Press.

Grevisse, Maurice (1993). *Le bon usage.* 13e édition, rev., ref. par André Goosse. Paris and Louvain-la-Neuve: Duculot.

Grimshaw, Jane (1990). *Argument Structure.* Cambridge, MA and London: MIT Press.

Huddleston, Rodney D. and Geoffrey K. Pullum (2002). *The Cambridge Grammar of the English Language.* Cambridge and New York: Cambridge University Press.

Kayne, Richard S. (1981). "ECP Extensions." *Linguistic Inquiry* 12, 92-133.

Koptjevskaja-Tamm, Maria (1993). *Nominalizations.* London and New York: Routledge.

Kühner, Raphael and Carl Stegmann (1914). *Ausführliche Grammatik der lateinischen Sprache. 2. Teil: Satzlehre.* 1. Bd. 2. Aufl. Hannover: Hahnsche Buchhandlung. (Reprograf. Nachdruck Wiss. Buchgesellschaft: Darmstadt 1997).

Leitzke, Eva (1989). (*De*)*nominale Adjektive im heutigen Englisch: Untersuchungen zur Morphologie, Syntax, Semantik und Pragmatik von Adjektiv-Nomen-Kombinationen der Typen* atomic energy *und* criminal lawyer*.* Tübingen: Niemeyer.

Levi, Judith N. (1978). *The Syntax and Semantics of Complex Nominals.* New York et al.: Academic Press.

Marchand, Hans (1969). *The Categories and Types of Present-Day English Word-Formation: A Synchronic-Diachronic Approach.* 2nd, completely revised and enlarged edition. München: Beck.

Mezhevich, Ilana (2002). "English Compounds and Russian Relational Adjectives." Morrison, Geoffrey S. and Les Zsoldos, eds. *Proceedings of the North West Linguistics Conference 2002.* Calgary: Simon Fraser University Linguistics Graduate Student Organization, 95-114.

Rohrer, Christian (1977). *Die Wortzusammensetzung im modernen Französisch.* Tübingen: Narr.

Thiele, Johannes (1981). *Wortbildung der französischen Gegenwartsprache.* Leipzig: Verlag Enzyklopädie.

Tresór (1985). *Trésor de la langue française: Dictionnaire de la langue du XIXe et du XXe siècle* (*1789-1960*). Tome onzième. Gallimard: Paris.

Wandruszka, Ulrich (1972). *Französische Nominalsyntagmen: Relationsadjektivkonstruktion, 'Subst. + Subst.'-Kompositum, Präpositionalsyntagma.* München: Fink.

EKKEHARD KÖNIG

Temporal prepositions in English and German: A contrastive study

Abstract: This paper gives a short overview of the main contrasts in the structure, meanings and uses of temporal prepositions in English and German. It is shown, in particular, that the deictic components of many prepositions and their uses in English (*ago*, *come*, *since*, *in*, etc.) are absent in their German counterparts. Among the lexical differentiations made in only one language special attention is given to the one between the two prepositions *by* and *until* in English, both of which are generally translated by the preposition *bis* in German. It is shown that this differentiation in English and its absence in German have a number of interesting consequences for the translation of time adverbials from one language into the other.

1. Introduction

Even in official texts written by foreign learners with a high competence in English the following error occurs very frequently:[1]

(1) (*)*Let me have your abstracts until the first of May.*

Of course, this sentence is neither ungrammatical nor semantic non-sense. The problem is that it does not express what the writer wants to say, i.e. specify a deadline for submitting abstracts. What the sentence (1) says instead is that the speaker wants to keep the abstracts until the beginning of May, with the additional implication that s/he will hand them back after the date specified. The correct version of what the speaker or writer meant to express is obtained by substituting the preposition *by* for the preposition *until*, and the cause of the problem is that neither German nor French – nor many other languages for that matter – have lexical differentiations analogous to the lexical distinction between *by* and *until* in English. Both of these expressions correspond to *bis* in German:

(2) *Let me have your abstracts by the 1st of May.*
(3) *Schicken Sie mir Ihre Abstracts bis zum 1. Mai.*

---

[1] In a recent report of a European research project, whose identity shall not be revealed, this type of error occurred as often as seven times.

The following contrastive study deals with such and other contrasts in the systems of temporal prepositions in English and German. We will analyze their semantic structure, their interaction with tenses and their typical polysemies in the two languages. It will be shown that in addition to the expected range of parallel distinctions and structures in the two genetically related languages we also find a large number of contrasts, whose juxtaposition provides new insights into the relevant subsystems of both languages. Whenever this is possible and useful our comparisons will also include other languages and thus present a more general picture. After some introductory remarks on basic properties of prepositions we will first make an attempt to subclassify temporal adverbs and the prepositions that may form part of them and then go on to discuss a few contrasts, in particular the major stumbling block in the correct use of temporal prepositions in English, viz. the contrast between *by* and *until* as translational counterparts of German *bis*.

2. Some introductory remarks about prepositions

Prepositions are generally regarded as one of the major lexical categories, together with nouns, verbs and adjectives (cf. Chomsky 1970). Like these other three lexical classes they can be the head of endocentric projections, i.e. prepositional phrases (*the following day* vs. *on the following day*). Like verbs they can govern case and just like nouns they may form phrases that can be focused in cleft constructions. It is also a well-known fact, however, that in contrast to these three other categories, the class of prepositions is a very heterogeneous one and straddles the line between the lexical system and the grammatical system of expressive devices. In the course of the historical development of a language, prepositions may replace case markers (the dative is replaced by *to,* the genitive is replaced by *of*) and their meaning is often very general and abstract. In other words they may manifest properties more characteristic of grammatical elements than of lexical elements.

Both nouns (cf. German *zeit*, *kraft*, *zwecks*, *laut*, *trotz*, *falls*, *angesichts*, etc.) and verbs (cf. English *concerning*, *considering*, *during*, *notwithstanding*, *come*, *ago*, etc.) may provide the sources for their historical development. Prepositions and postpositions, which follow rather than precede their complement noun phrase, are subclasses of the more general category of "adpositions". Postpositions are a marginal phenomenon in both English and German. *Notwithstanding* and *ago* are possible candidates in English and *zuliebe* is a potential candidate for such a subclass in German.

It has often been pointed out that there is a close relationship between prepositions, conjunctions and conjunctional adverbs (conjuncts). Members of these three lexical classes are in complementary distribution, differing only in the constituents they combine with: NPs (or DPs) in the case of prepositions, subordinate clauses in the case of conjunctions and main clauses in the case of conjuncts. Given this complementarity, it should not come as a surprise that we find similar forms (English *because*, *because of*) or even the same form for a specific semantic

type in all three cases. Such formal identity can be observed in the use of *since*, *before* and *after* in English (cf. [4]). There is not a single case of such complete identity in German.

> (4) a. *He arrived well before noon.* (preposition)
>   b. *He had left before I could talk to him.* (conjunction)
>   c. *He had done this before.* (conjunct)

As far as their meaning is concerned, prepositions can be classified into several subgroups: (a) local prepositions, (b) temporal prepositions and (c) those expressing other adverbial relations (cause, condition, concession, purpose, etc.). Prepositions that are more or less exclusively used as case markers (English *to*, *of*; French *de*, *à*) typically derive from local propositions. Temporal prepositions typically derive from the local use of the same expression, since time is generally conceptualized as space (cf. Haspelmath 1997). This phenomenon can be observed in both English and German, and in fact in a wide variety of languages:

> (5) Engl.:   *at noon, on Monday, in the year 2010, before dawn, by the end of the month, around noon, over the weekend, many months ahead*, etc.
>   Germ.:   *um drei, am Montag, im Jahre 2010, vor Sonnenaufgang, über die Jahre, innerhalb einer Woche, auf ein paar Minuten*,[2] etc.

As is shown by these examples, the general conceptualization of time as location is identical in the two languages, whereas the individual (by now 'dead') metaphors are not. Purely grammatical uses of prepositions also typically derive from local meanings:

> (6) Engl.:   *the language of description, the language under description, something is in motion, he is at work, Bill is on duty*
>   Germ.:   *Karl ist bei der Arbeit, er ist auf Arbeit/Montage, Karl ist am Lesen, er steht unter Beobachtung*

The claim that these different uses of local prepositions in English and in German manifest different conceptualizations and therefore also different worldviews, as it is often made within the framework of Cognitive Linguistics, is a highly problematic one, since the relevant metaphors are 'dead' and cannot easily be revived. That these expressions may have been semantically motivated at some time of their historical development is a different matter.

2. Subclasses of temporal adverbials and temporal prepositions

Just like adverbials in general, temporal adverbials can also be divided into subclasses on the basis of semantic criteria. In contrast to the general classification of adverbials into categories like 'local', 'temporal', 'causal', 'conditional', 'concessive',

---

[2]   This is an instance of a special construction in which the preposition *auf* is combined with noun phrases denoting a brief interval or an activity which requires only a minimal temporal investment (*auf ein Stündchen*, *auf ein Wort*, *auf einen Sprung*, *auf ein Glas*, etc.).

however, the criteria usable for the subclassification of temporal adverbials do not necessarily lead to disjoint classes, but may also provide cross-classifications.

The following semantic criteria and dimensions of meaning can be used for the subclassification of temporal adverbials (cf. Schopf 1984, 117ff., Schopf 1987). Those that are of specific interest to us are the ones that do not only apply to an adverbial (or a PP) as a whole, but also to the prepositions that are a constituent thereof.

(i)   Deictic vs. non-deictic
       (e.g. *two days ago*, *the other day*, *in two years time* vs. *before sundown*)
(ii) Anaphoric vs. non-anaphoric
       (*in the meantime* vs. *the first Monday of September*)
(iii) Time-span vs. point-in-time
       (*during the day*, *over the past few years* vs. *at noon*)
(iv) Duration vs. frequency (*for two hours* vs. *several times*)
(v)   Frame vs. event quantification
       (*on three occasions he actually kissed her* vs. *he kissed her twice*)

This list is by no means a complete one. There are many other criteria and dimensions that could be used. Moreover, there also seems to be a hierarchical relationship between certain dimensions. The anaphoric/non-anaphoric dimension is a further subdivision of the non-deictic class:

(7)   time adverbials (point-in-time, time-span, etc.)

              deictic   non-deictic

                      anaphoric   non-anaphoric

Anaphoric time adverbials, in turn, seem to be further classifiable in terms of anteriority (*before*), simultaneity (*at the same time*, *meanwhile*) and posteriority (*afterwards*). Durational adverbials may denote the beginning (*from now on*, *since last year*), the duration (*for three hours*, *from Monday to Saturday*) and the endpoint of a time period (*until Friday*). Or, to mention another well-known distinction, there is the opposition between duration (*Zeitdauer*) and temporal requirement (*Zeitbedarf*) that plays a role as a diagnostic for the differentiations of *aktionarten*. States and processes may combine with durational adverbials,[3] whereas events combine with the second group (*He worked/did it for hours – He wrote/did it in a week.*). These dimensions of meaning, however, cut across the two dimensions of context-dependence given above, so that we get something like the picture represented in (7).

---

[3]   The German counterpart of the durational non-anaphoric lexical unit *for* in English is the adjective *lang* (*drei Stunden lang*). Note that the cognate form *long* in English is restricted to the context of cyclic time periods like 'day', 'night', 'month', 'year' and only occurs with a preceding quantifier *all* (*all day/night long*).

3. Some German-English contrasts

The deictic meaning of a time adverbial can be due to various components of such constituents: to an adverb (*until now*), to an adjective (*next week*, *last year*) or to a preposition (*ago*, *since*). In contrast to English, there are no deictic prepositions in German. Thus a number of distinctions in the meaning and use of temporal prepositions between the languages under comparison can be found along the deictic/non-deictic dimension. The best known of those differences is probably the lack of a differentiation in German equivalent to the distinction between *ago* and *before* in English. Both of these prepositions translate as *vor* into German. *Ago* is deictic and identifies the moment of utterance as the point from which one has to count backwards. *Before*, by contrast, takes a point given overtly in the context as a point of departure for the specification of anteriority:

> (8) a. *two years ago – vor zwei Jahren*
>   b. *two hours before sundown – zwei Stunden vor Sonnenuntergang*
>   c. *two years ago today – heute vor zwei Jahren*

Note that constructions like (8c), which specify a more precise distance from the moment of utterance, are the exact mirror image of their translations into German. The distinction between a deictic and a non-deictic preposition of anteriority is a common phenomenon in Romance languages (It. *due anni fa*, Fr. *il y a deux ans*).
   Another well-known case of a deictic preposition is *since*, in contrast to German *seit*, which identifies the beginning point of a time-span that goes up to and includes the moment of utterance.

> (9) a. *He has lived in this country since 2001.*
>   b. *He had lived in United States since 1990 and now he was thrown out.*

Note that the use of *since* in a past perfect context indicates that the situation is described from the perspective of the subject referent. In contrast to German *seit*, *since* is not licensed in a past tense context:

> (10) a. *Er wohnte seit langer Zeit/Ostern in Berlin.*
>   b. **He was staying in Berlin since Easter.*

The preceding examples illustrate another difference between English *since* and its counterpart *seit* in German. *Seit* can specify a time span by either identifying the beginning point of an interval or the interval itself, whereas only the former possibility is open for *since*.
   A somewhat more marginal case of a deictic preposition is the deverbal preposition *come*, which can only refer to a time interval after the moment of utterance. Here again we find sensitivity to deictic properties not observable in German:

> (11) a. *Come Monday it will be all right.*
>   b. *I am seventeen come Sunday.*

In German the prepositions used in non-future contexts (*an*, *in*, *um*) have no deictic components and are also used in futurate contexts.[4]

In some cases deictic restrictions are not relevant for a lexeme, i.e. not for a preposition in all its readings, but only for some of them (i.e. for a lexical unit). *In* is such a preposition and the reading at issue is the one found in examples like *in time*, as in the famous line from John Cleese *"He will be an invaluable member of our faculty and in time a valuable one"*. This preposition has a number of temporal uses. Analogously to *ago*, in may identify a point-in-time by specifying its distance from the moment of utterance, but in contrast to *ago* the point is located in the temporal domain after the moment of utterance.

(12)   *In two years time we will be in Beijing.*

So far there is no contrast to German. The preposition *in* may, however, also combine with the bare noun *time* and then have a translation like *mit der Zeit* or *allmählich* in German:

(13)   *He will be a useful member of our faculty and in time a very valuable one.*

The reading at issue is no 21 in the *Longman Dictionary of Contemporary English*, where it is glossed as 'after a certain period of time, especially after a gradual process of change and development'. In contrast to the related expression *mit der Zeit* in German, *in time* is excluded from past time contexts, as is shown by the following translational problem:

(14)   a. *Mit der Zeit erhärtete sich der Verdacht.*
       b. *In the course of time/as time went on/ ?as time went by/*in time the suspicion was confirmed.*

4.   German *bis* and its counterparts in English

There are both local and temporal uses of German *bis*. The former use, exemplified by (15), will not concern us here:

(15)   a. *Ich begleite dich bis zum Bahnhof.*
       b. *I will accompany you as far as the station.*

Nor will we consider combinations of prepositions like *bis zu* or *bis auf*. The focus of the following remarks will be exclusively on the contrast between *until* and *by* pointed out above.

(16)   a. *You can have my bike till Sunday.*
       b. *Du kannst mein Rad bis Sonntag haben.*

---

4   In Swedish there is a general deictic distinction between prepositions denoting time intervals: *i* is used for intervals before the moment of utterance and *på* for intervals after that point of orientation:

(i) *Vad gjorde du i söndags?* 'What did you do on Sunday?'
(ii) *Vad ska du göra på söndag?* 'What will you do on Sunday?'

(17)   a. *Let me have it back by Monday.*
         b. *Bis Montag musst du mir es wieder zurückgeben.*

Before we provide an analysis of the opposition in English and identify the criteria for the correct choice of translational equivalents in German, we would like to briefly broaden out our comparative perspective. A quick cross-linguistic search carried out by us has shown that both the situation found in English and that found in German are frequently found elsewhere. Among the languages which can use the same expressions in both contexts we also find Bosnian-Croatian-Serbian (*do*), Mandarin (*dào*) and (modern as well as biblical) Hebrew *ad* (cf. König 1974, Mittwoch 2001).[5] This cross-linguistic observation shows that the two uses of German *bis* and those of their counterparts in the other languages must share certain semantic properties. The double use of the relevant forms cannot be a coincidence. On the other hand, there are languages that differentiate between two forms, just as English does. Norwegian (*innen – inntil*) Swedish (*innan – tills*) and Finnish (*mennessä – asti, saakka*). In each case the counterpart of *by* is mentioned first.

(18)   *Näyttely   on avoinna   ensi   kesään   saakka/asti.*[6]
        exhibition is   open   next   summer.ILL   until
        'The exhibition will be open until next summer.'
(19)   *Ensi   perjantaihin   mennessä   asia   on   ratkaistu.*
        next   Friday   by   matter   is   settled
        'By next Friday the matter will have been dealt with.'

These observations show that there must be a clear semantic difference between the two uses of German *bis* and those of their counterparts, as well as between *by* and *until* in English. What we are therefore looking for is a semantic analysis that explicates both the shared features and the differences.

   There is one obvious contrast between these two examples: *until* identifies a time span by specifying its end-point, whereas *by* identifies a point-in-time and can roughly be paraphrased by 'at the time given/at the very latest/before or at'. Whereas *until* specifies the endpoint of a continuous interval during which some state of affairs is the case, *by* specifies the latest possible point at which something must be the case, i.e. has started. As a consequence of this distinction the two prepositions differ in their combinatorial properties. *By* cannot easily combine with durative verbs like *endure, keep on, last, remain, stay* (cf. [20a]) and is generally incompatible with sentences which exclude punctual adverbials. *Until*, by contrast,

---

5   There are, of course, also languages where the relevant distinction cannot be clearly expressed by a lexical opposition. In French *jusqu'à* corresponds to *until*, but there is no simple lexical counterpart for *by*. A sentence like (2) would thus be translated into French as follows:

   (i) *Envoyez-moi vos résumés avant le 1 mai /(le 1 mai au plus tard).*

6   It is probably of interest to note in this context that Finnish *asti* and *saakka* may translate both *until* and *since*. There is, however, never a problem of ambiguity since Finnish uses different case markings to differentiate between a reference to 'all time points up to t_1' (illative) and 'all time points from t_1 on' (elative).

cannot occur in sentences with transitional event verbs like *stop*, *cease*, *arrive*, *leave*, *die*, *win*, etc. (cf. [20b]). Moreover, this preposition is generally incompatible with sentences in the Progressive (cf. [20c]).

(20)   a. **By 9 o'clock John stayed in the library.*
       b. **John arrived until 9 o'clock.*
       c. **Mary was dancing until the music stopped.*

In other contexts both *by* and *until* are acceptable so that we get minimal pairs like the following:

(21)   a. *The restaurant will be open by eleven.*
       b. *The restaurant will be open until eleven.*

In our specific case there is a clear semantic contrast, i.e. the contrast between opening time (21a) and closing time (21b). Note, however, that there are other contexts where the contrast between the two temporal prepositions is not similarly dramatic. The first of the following sentences specifies a stretch of time during which difficult problems were dealt with. In providing the endpoint of that stretch it also introduces a contrast with what will follow, as indicated by the continuation. The sentence with *by now* specifies the endpoint of a development and thus the beginning of a new state.

(22)   a. *Until now we have dealt with the most difficult problems.*
       b. *From now on we can be more relaxed.*
(23)   *By now you will have understood the most difficult problems.*

A further interesting observation on the semantic contrast between the two temporal prepositions is that sentences with one can be paraphrased by sentences employing the other. The relevant paraphrases crucially involve negation. As is shown by the following examples, a sentence with an external negation (i.e. a sentence where the temporal preposition is within the scope of the negation) is equivalent to a sentence with the other preposition where only the predicate is negated:

(24)   a. *The restaurant will* NOT *be open by eleven.*
       b. *The restaurant will be not-open (= closed) until eleven.*
(25)   a. *The restaurant will* NOT *be open until eleven.*[7]
       b. *The restaurant will be not-open (= closed) by eleven.*

This equivalence between the external and internal negation of two sentences which differ only in one expression (a preposition in our case) is reminiscent of the equivalence between the relevant negations of sentences with universal and existential quantifiers, mentioned in any introduction to formal logic:

(26)   a. $\sim(\forall x)\, f(x) \equiv (\exists x) \sim f(x)$
       b. $(\forall x) \sim f(x) \equiv \sim(\exists x)\, f(x)$

---

[7]   The capitalization of *not* is meant to indicate stress.

The following English sentences illustrate this equivalence between two ways of negating the quantifiers of predicate logic:

> (27) a. *Not everybody speaks English.* ≡ *Some people do not speak English.*
> b. *Nobody likes snakes.* ≡ *There is not anybody who likes snakes.*

The equivalence between our sentences with *by* and *until* can therefore be regarded as a special case of this general phenomenon of "duality" and the meaning of sentence pairs like (21a/b) can roughly be analysed as follows:[8]

> (28) a. future $[(\forall t)t' \leq t \leq 11$ At(be-open (restaurant), t)]
> (i.e. The restaurant will be open at all times from a contextually given point *t'* up to and including eleven.)
> b. future $[(\exists t)t' \leq t \leq 11$ At(be-open (restaurant), t)]
> (i.e. There is a point-in-time *t* whose value ranges between a contextually given time *t'* and eleven such that the restaurant will be open at that point.)

This analysis explicates our intuition that the meanings of *by* and *until* must be very similar – as is reflected in the fact that some languages do not distinguish two forms – and that they are also different , since there is a lexical distinction in many other languages.

There are some other, minor differences connected with the lexical contrast we have just discussed. In those cases where German *bis* combines with *jetzt*, i.e. when the time span indicated by a preposition goes up to the moment of utterance, there are a few other translational options in English:

> (29) *To this hour/so far/up to/until now no major spokesman has publicly reprimanded Olmert.*[9]

A far more interesting contrast, however, shows up in connection with English *by*. As was pointed out above in our analysis of examples like (20), *by* in combination with the appropriate predicates may denote a development that has reached a certain state at the point-in-time given.

> (30) a. *By that time I was feeling absolutely exhausted.*
> 'Inzwischen fühlte ich mich völlig erschöpft.'
> b. *If you don't know me by now, you will never know me.*
> 'Wenn Du mich jetzt noch nicht kennen gelernt hast ...'
> c. *It was dark by the time we reached Paris.*

---

8   There are many cases of such dual pairs in languages. Pertinent examples in English are *may/can – must*; *already – still*; *because – although*, etc. Note also that Dutch draws a distinction between a universal (*gedurende*) and an existential counterpart (*tijdens*).

9   The time adverbials in (29) are very similar, though not completely identical in meaning. *Until now*, for example implies a change at the moment of speech that is not implied by *up to now* or *so far*.

   (i) *Until now we have kept our meetings secret.*
   (ii) *Up to now we have kept our meetings secret.*

'Es war schon dunkel, als wir Paris erreichten.'

Such examples, which do not always permit the translation *bis* in German and are sometimes more appropriately translated by *inzwischen*, by *schon* or by *noch*, reveal a subtle difference between temporal *by* and its normal German counterpart *bis*. The implication of a gradual development cannot be expressed by *bis*.

5. Negation of duration

There is nothing remarkable about the fact that sentences with adverbials of duration can be negated. This is possible in both English and German, as is shown by the following parallel examples in the two languages:

(31)   a. *John did not stay until the very end.*
         b. *John ist nicht bis zum Ende geblieben.*
(32)   a. *I did not talk for two hours.*
         b. *Ich habe nicht zwei Stunden lang geredet.*
         c. *O.k., I won't touch anything until the police are here.*

It is a well-known fact that there are at least two uses of negations: denials and the assertion of a situation in terms of a negative statement. The examples in (32) are denials of a claim to the contrary and here the two languages are completely parallel. The selectional restrictions between time adverbial and predicate are exactly the same as in the corresponding affirmative sentences: predicates denoting states or processes are licensed and event-denoting predicates are excluded. There is, however, a second use of such sentences in English, which has no parallel in German. In these cases *until* does combine with punctual and event-denoting predicates and together with the preceding negation the preposition translates as the focus particle *erst* into German:

(33)   a. *John does not start working until 9 o'clock.*
         b. *John beginnt erst um 9 mit der Arbeit.*
(34)   a. *John did not arrive until Monday.*
         b. *John kam erst am Montag an.*

The basic difference between constructions of type (31) above and those of type (33)/(34) is that the latter do not only imply the non-occurrence of the relevant activity, state or event up to the point given, but also an instantiation of the relevant event at the point-in-time given, i.e. a change from negative to positive. Thus (33a) implies that John starts work at nine o'clock and (34a) implies that John arrived on Monday. The opposition generally found in English between two ways of specifying duration, i.e. by specifying a time-span (*for*) and specifying the end point of an interval (*until*) is also found in sentences of type (33), as is shown by the following examples. Again the combination of negation and preposition translates as *erst* into German:

(35) a. *The movie won't start for another hour.*
b. *Der Film beginnt erst in einer Stunde.*
(36) a. *He won't be here for another week.*
b. *Er kommt erst in einer Woche.*

Looking at such sentences from the perspective of German, we can say that *erst* translates as *not...until* if it precedes an expression denoting a point in time and as *not...for* if it precedes an expression denoting a time-span.

There is a rich and controversial literature on the relationship between constructions of type (31)/(32) and those of type (33)-(35), which involves such questions as the possibility of analysing the latter compositionally, whether we have to assume one or two meanings of *until*, what the scope of negation is, how these two constructions are disambiguated, etc. (Karttunen 1974; Mittwoch 1977, 2001; König 1991; Declerck 1995; Swart 1996). I will refrain from giving a detailed summary of this discussion and only mention a few important points.

The most basic difference between the examples in (31)/(32) and those in (33)-(36) is a difference in the relative scope of negation and time adverbial. That two scope-bearing elements may differ in their relative scope is a wide-spread and well-known phenomenon. In our particular case of (31a) negation takes wide scope over the rest of the sentence and is thus interpreted as a denial of the rest of the sentence. Its basic semantic structure can thus be represented as follows:

(37)   ~ [*until the very end* [*John stayed at the party*]]

The sentences in (33)-(36), by contrast, can only be interpreted if we assume a reversal in the order of the two operators (cf. Mittwoch 2001):

(38)   *Until nine o'clock* [~ [*John starts work*]]

The interpretation of (31)a. on the basis of (37) is unproblematic. These sentences are simply denials of the corresponding affirmative sentences. The problem is to get the positive interpretation of (33)b. (i.e. 'John starts work at nine') from the narrow-scope negation and the durational adverbial as indicated in (38b). The most plausible analyses given in the literature are based on the assumption that the temporal delimitation of a negated situation will typically imply that the positive situation occurred after the end of the interval:

(39)   until t [~ [p]] → p at/after t

This implication probably started out as a Gricean (conversational) implicature and became a conventional one of frequent use. The whole process probably started out in ambiguous cases like the following:

(40)   *John won't be here until seven.*

This sentence can be interpreted both as a denial of the corresponding positive assertion and as an assertion that John will turn up at seven but not before. In many cases the positive implication can still be cancelled. Our sentence could be continued as follows:

(41)   *And I am not even sure that he will turn up later.*

This shows that we may still be dealing with a conversational implicature. On the other hand, there are many contexts that seem to indicate that the positive implication – which then requires a translation of *not … until* by *erst* – cannot be denied. These are typically contexts which indicate that a speaker has the requisite knowledge to make a positive assertion for a time after the relevant interval:

(42)   *I had no idea until two days ago.*

Furthermore this change in the status of the positive implication is also clearly revealed in specific syntactic contexts, such as clefting or fronting, which exclude the weaker interpretation:

(43)   a. *Not until he wanted to pay did he realize that his money was gone.*
       b. *It was not until he wanted to pay that he realized that his money was gone.*
       c. *That night she was strained, but she had a good night and it was not for several days that she broke down again.*

The correct translation of *not…until* thus depends on the scope of negation and the status of the positive implication. With a wide-scope negation the translation is completely parallel: *nicht … bis*. With narrow scope negation, the translation depends on the status of the positive implication. If it is purely a matter of implicature we also have to opt for the literal translation. Moreover, even in a case like (44), where the positive implication is presented like an afterthought, a literal translation is possible:

(44)   *Ich hatte keine Ahnung, bis vor zwei Tagen.*

In those constructions were the positive implicature is really a conventional one *erst* is the correct translation. Note that the development of durational sentences with a narrow-scope negation to positive sentences is observable in English with both types of durational adverbials, i.e. those that indicate the final boundary of an interval (*until t*) and those that measure the duration (*for a certain interval*). Both sentence types require translations with *erst* into German, as is shown by (33)/(34) and (35)/(36). In other words, the gap created in English by the absence of a differentiation between two exclusive focus particles like *nur* and *erst* in German is filled by reanalysing combinations of negation and prepositions as focus particles.

6. Concluding remarks

Our short confrontation of temporal adverbials in English and German has shown that the two subsystems are largely organized in a parallel fashion. There are, however, some contrasts in the deictic and non-deictic meaning of prepositions as well as in the different encoding of closely related semantic distinctions. It was shown, moreover, that the meanings of temporal prepositions in the two languages

under comparison differ only along very specific dimensions (deixis, specification of intervals, type of quantification, etc.). A lack of a differentiation parallel to the one between *by* and *until* in English creates learning problems for speakers of many other languages. In summarizing some earlier work (König 1974), I hope to have also shown that the two temporal prepositions *by* and *until* express different, though related, meanings. These two prepositions form a dual pair and each can thus be paraphrased with the help of the other and a negation with the appropriate scope.

Works cited

Chomsky, Noam (1970). "Remarks on nominalization." R.A. Jacobs and P.S. Rosenbaum, eds. *Readings in English Transformational Grammar*. Waltham, MA: Ginn and Co., 184-221.

Declerck, Renaat (1995). "The problem of not … until." *Linguistics* 33, 51-98.

Haspelmath, Martin (1997). *From Space to Time: Temporal Adverbials in the World's Languages.* (Lincom Studies in Theoretical Linguistics, no 3.) Munich and Newcastle: Lincom Europa.

Karttunen, Lauri (1974). "Until." *CLS* 10, 284-97.

König, Ekkehard (1974). "The semantic structure of time prepositions in English." *Foundations of Language* 11, 551-64.

— (1991). *The Meaning of Focus Particles.* London: Routledge.

Mittwoch, Anita (1977). "Negative sentences with *until*." *CLS* 13, 410-7.

— (2001). "Perfective sentences under negation and durational adverbials." Jack Hoeksema et al. eds. *Perspectives on Negation an Polarity Items*. Amsterdam: Benjamins, 265-82.

Schopf, Alfred (1984). *Das Verzeitungssystem des Englischen und seine Textfunktion*. Tübingen: Niemeyer.

— , ed. (1987). *Essays on Tensing in English. Vol. I: Reference Time, Tense and Adverbs*. Tübingen: Niemeyer.

Swart, Henriëtte de (1996). "Meaning and use of *not…until*." *Journal of Semantics* 13.3, 221-63.