

### Investigating cross-linguistic constraints on adjectival and adverbial premodification. A corpus-based study of English and German.

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Combinatorial constraints are commonly assumed in linguistics to be either based on the grammatical system of a language or to be idiosyncratic constraints on the combinatorial properties of individual lexical items and not extensible in any systematic way to larger subsets of the vocabulary. Thus, the required complements of verbs are an example of a constraint of the former type, while the latter type of constraint is instantiated by lexical collocations which are commonly assumed to be individual and idiosyncratic co-selections of lexical items and are generally treated as a usage phenomenon. There are, however, subsets of the lexicon that display striking combinatorial constraints or, rather, combinatorial requirements, over and above singular lexical combinatorial preferences which are not modelled by the grammatical rules of the language. Such constraints can be shown to hold across larger subsets of the lexicon but are neither explicable as co-selection preferences of individual lexical items nor as constraints imposed by the grammatical rules of a language. Such constraints are found to govern, for instance premodification requirements of a subset of attributive adjectival past participle (APP) - noun combinations. It has thus been observed that for reasons yet to specify, the following noun phrases – comprised of an adjectival element plus head noun – are felt to be unacceptable unless further qualified by an appropriate premodifier:

- |                                     |   |
|-------------------------------------|---|
| (1) (a) ? <i>a built house</i>      | (a') <i>a newly built house</i>           |
| (b) ? <i>ein gebautes Haus</i>      | (b') <i>ein neu gebautes Haus</i>         |
| (c) ? <i>a born child</i>           | (c') <i>a recently born child</i>         |
| (d) ? <i>ein geborenes Kind</i>     | (d') <i>ein kürzlich geborenes Kind</i>   |
| (e) ? <i>a footed dancer</i>        | (e') <i>a light footed dancer</i>         |
| (f) ? <i>ein füßiger Tänzer</i>     | (f') <i>ein leichtfüßiger Tänzer</i>      |
| (g) ? <i>a prone routine</i>        | (g') <i>an accident prone routine</i>     |
| (h) ? <i>ein trächtiger Verlauf</i> | (h') <i>eine unfallträchtiger Verlauf</i> |

In a paper on adjectival passives, Levin, Rappaport (1986: 634) observe that „some APPs sound peculiar unless qualified, for reasons that are not entirely clear”. The unacceptability and unnaturalness of the non-premodified examples in the left column is, indeed, neither explicable based on grammatical rules nor is it attributable to singular idiosyncrasies of individual items. What makes this phenomenon so interesting is precisely the fact that it must be explained in terms different from other lexical or grammatical phenomena. This paper attempts to pursue this issue in terms of the information content of these phrases and their constituents. It also addresses the question what influence the information structure of utterances has on linguistic constraints, on the one hand, and discusses the language user’s sensitivity to constraints on the amount of information comprised in an utterance on the other. Another aspect that is of interest in the context of this phenomenon is whether the constraints observed in the English data can also be shown to hold cross-linguistically in other languages which would allow statements about the universal validity of the constraint across languages. Surprisingly, relatively few studies have addressed this issue so far (e.g. Grimshaw & Vikner, 1993; Ackerman & Goldberg 1996), and none, to my knowledge, have made use of corpus evidence, especially in more than one language. This paper reports findings on this phenomenon based primarily on examples from two corpora of English and German, the British National Corpus (BNC) and the tagged subsection of the COSMAS corpus collection of contemporary German at the IDS (Institut für Deutsche Sprache) in Mannheim, Germany. The paper investigates premodification constraints based on a corpus study of English and German. It addresses the following questions:

- 1) what properties of this type of structure and its constituents lead to this (obligatory) premodification requirement?
- 2) does this type of constraint allow for generalisations across a wider range of data beyond adjectival past participle plus noun phrases?
- 3) what does this type of constraint tell us about the interplay of language structure and world knowledge?
- 4) can this constraint be shown to hold cross-linguistically in other languages e.g. German?

The paper traces the premodification requirement in the examples above to the information content of the constituents involved and hypothesizes that the language user’s world knowledge about the

properties of the head noun referent governs the amount and type of information that can be meaningfully contributed by an attributive adjective. This reasoning is in line with Ackerman & Goldberg's (1996: 28) conclusion that "APPs can only occur if they are construable as predicating an informative state of the head noun referent."

Based on a corpus-study of the phenomenon just outlined, the paper investigates the mechanisms responsible for the premodification requirement by a comparison with similar structures that do not require obligatory premodification. The paper also attempts to extend the findings to related structures besides those containing an adjectival past participle. A comparison of English and German examples of this type of phrase seeks to establish the cross-linguistic validity of the postulated premodification constraint.

The paper postulates a pragmatic motivation for the above mentioned constraints on premodification. This postulate is based on the observation that the provision of a surplus of information by the attributive adjective violates pragmatic constraints such as conversational maxims (Grice 1975) on the informativeness of an utterance. More precisely, it is postulated that it is an overlap of information comprised in the adjectival and the noun constituent which results in a level of redundancy that renders the examples above unacceptable unless further qualified by an appropriate premodifier. Redundancy, which is defined here as a surplus of information, is standardly assumed to be recovered by a reduction of the information provided. Paradoxically, in the structure under study here, the redundancy is recovered by providing additional information by means of a premodifier that further qualifies the information provided by the noun phrase in order to establish an informative state. The paper raises the question how our knowledge of the world leads to or result in constraints on what can be or has to be expressed explicitly, which types of information are perceived to be redundant and how avoidance of redundancy is reflected in constraints on or requirements of premodifying elements in the above mentioned types of structures.

### 1. The nature of the pattern under study

The paper is specifically concerned with the premodification requirements of a subset of English and German phrases of the basic pattern:

obligatory premodifier (adverb, adjective, noun) + adjective + noun

As it became apparent in the course of the study that the constraints investigated originally for APP plus noun phrases are also found in at least one other type of phrase of the above mentioned basic structure, namely obligatorily premodified desubstantival adjectives, it was decided that the following patterns should be analysed:

- I. premodifier + adjectival past participle (APP) + noun:
  - (2) (a) *a newly built house*
  - (b) *ein neu gebautes Haus*
- II. premodifier + desubstantival adjective (DesubstAdj) + noun
  - (3) (a) *a light footed dancer*
  - (b) *ein leichtfüßiger Tänzer*

The following sets of examples illustrate the phenomenon for pattern I. (examples (4) and (6)) and II. (examples (5) and (7)) in German and English respectively:

- |   |   |
|---|---|
| (4) (a) <i>a nobly born orphan</i>                                | HH1 ('a) ?a born orphan                 |
| (b) <i>a British born woman</i>                                   | EA1 ('b) ?a born woman                  |
| (c) <i>freshly baked bread</i>                                    | C8S ('c) ?baked bread                   |
| (d) <i>especially designed dashboard</i>                          | J1T ('d) ?a designed dashboard          |
| (e) <i>a lightly built rugby player</i>                           | CL2 ('e) ?a built rugby player          |
| (f) <i>one of the most injury-prone cricketers in the country</i> | CBG ('d) ?a prone cricketer             |
| (g) <i>the guilt ridden middle classes</i>                        | CE6 ('d) ?the ridden middle classes     |
| (h) <i>the traffic ridden part of Argyle Street</i>               | GWL ('d) ?the ridden part of Argyle St. |
| (i) <i>a naked, angst ridden, shorn haired young man</i>          | ART ('d) ?a ridden, haired young man    |
|   |   |
| (5) (a) <i>to arrive empty handed</i>                             | (a') *to arrive handed                  |
| (b) <i>a hard headed woman</i>                                    | (b') *a headed woman                    |
| (c) <i>a scatter-brained person</i>                               | (c') *a brained person                  |
| (d) <i>a thick leafed plant</i>                                   | (d') *a leafed plant                    |
| (e) <i>a hot-blooded character</i>                                | (e') *a blooded character               |

- |  |                              |
|--|------------------------------|
| (6) (a) ein <i>neugeborenes</i> Baby         | (a') *ein geborenes Baby     |
| (b) <i>frisch gebackenes</i> Brot            | (b') *gebackenes Brot        |
| (c) ein <i>schlank gebauter</i> Spieler      | (c') *ein gebauter Spieler   |
| (d) ein <i>verletzungsanfälliger</i> Spieler | (d') ein anfälliger Spieler  |
| (e) ein <i>kurzhaariger</i> Mann             | (e') ein haariger Mann       |
|  |                              |
| (7) (a) eine <i>starrköpfige</i> Frau        | (a') *eine köpfige Frau      |
| (b) eine <i>leichtsinnige</i> Person         | (b') *eine sinnige Person    |
| (c) eine <i>dickblättrige</i> Pflanze        | (c') ?eine blättrige Pflanze |
| (d) eine <i>dickstämmige</i> Birke           | (d') ?eine stämmige Birke    |
| (e) ein <i>heißblütiger</i> Charakter        | (e') *ein blütiger Charakter |

While the phrases in the first column of example sets (4) - (7) are well-formed and perceived to be natural, acceptable and grammatical, the examples in the second column are mostly perceived as non-acceptable, unnatural and deviant in some unspecified way. The only difference between the phrases in the first column and those in the second column lies in the presence or absence of a premodifying element. It is thus reasonable to seek for an explanation of the perceived unacceptability of the non-premodified phrases in the role of the premodifying element and to ask why these phrases should require premodification in order to be rendered acceptable. After all, as the following examples show, other phrases of the same structure, APP/DesubstAdj plus noun, exist which are perfectly acceptable without premodification:

- (8) (a) It is now a *declared policy* of many governments and international agencies that the only vehicle for such preparation is 'education, education, education', ...  
 (b) A *balanced diet* includes a variety of foods from all 5 food groups.  
 (c) [...] that grew out of the post-World War I settlement of the *broken Ottoman Empire*.  
 (d) The *born loser*. (Comic title)  
 (e) A *married father* of three.  
 (f) He scored his first *headed goal*.  
 (g) *headed notepaper*  
 (h) a *hung parliament*
- (9) (a) ..., denn ab 11:30 gibt es *gebackenen Fisch* auf dem Fest.  
 (b) Die *getötete Person* ist circa 1,80 m groß.  
 (c) *gehackte Kräuter*  
 (d) Ein *verheirateter Vater* dreier Kinder.  
 (e) Es ist der *erklärte Wunsch* der Parteien ....  
 (f) eine *ausgewogene Diät*.

Contrasting these sets of examples in (8) and (9) with the previous sets of examples raises the issue what exactly the difference is between those adjectival past participle/desubstantival adjective plus head noun phrases that do require premodification to be rendered acceptable, and those that do not require premodification. Two previous studies offering explanations of this type of structure and premodification requirement are discussed in the next section.

## 2. Previous studies: an event structure account versus a non-redundancy account

In a paper on English adjectival past participles, Ackerman & Goldberg (1996: 17-30) postulate that it is the amount of information provided by an expression rather than the event structure of the verb underlying the APP that gives the relevant clue to the unacceptability of the above mentioned phrases unless they are premodified. Ackerman & Goldberg conclude that "adjectival past participles can only occur if they are construable as predicating an informative state of the head noun referent" (ibid.: 28). Another previous study (Grimshaw & Vikner 1986) of adjectival past participles which is critically discussed in Ackerman & Goldberg (ibid.: 19-20) traces the premodification requirement of adjectival past participles based on creation verbs to the event structure of the verbs underlying the adjectival past participles. This event structure account argues that the underlying creation verbs display an event structure with two subevents, a process and a state and that as the APP only serves to "identify" the state subevent, the process subevent must be specified by the adverb premodifier. As Ackerman & Goldberg (ibid.) correctly observe, this event structure based account would have to be assumed to hold for all verbs with this event structure, i.e. for all accomplishment verbs, not just for creation verbs. Yet, many change of state verbs such as *broil*, *cool* etc. can be used without obligatory premodification without being rendered unacceptable.

In this light, Ackerman & Goldberg's account based on the observed redundancy of the non-premodified phrases appears more plausible and also has the advantage of promising to cover a wider

range of data. Building on the notion of redundancy introduced by Ackerman & Goldberg (ibid.), this paper explores the impact of the information content of the constituents in the phrases under study on the level of redundancy

It will therefore be argued in this paper that the requirement of an obligatory premodifier in a subset of the data can be attributed to the information content of the expressions under study and the knowledge of the semantic frameworks of the constituents that the language user (has). It will be demonstrated, furthermore, that while on the one hand redundancy is avoided in language and information processing and is usually recovered by omission of redundant information, we are dealing here with an example in which the redundancy of the adjective plus noun phrase is recovered by an added premodifier. This premodifier, in turn, is rendered obligatory by the fact that the plain combination of adjectival past participle / desubstantival adjective plus noun expresses a non-informative and therefore non-permissible state.

### 3. The semantic nature of the structures under study

As was already indicated, the motivation for the required premodification of the adjective plus noun phrases above lies in the semantics of the adjective and the noun, and specifically in the knowledge of the language user about the inherent properties of the head noun referent and the information contributed by the attributive adjectival modifier. It will thus be necessary to give a characterisation of the semantic content of the noun in relation to the information provided by the adjectival constituent. APPs are best characterised as denoting resultativity, i.e. a state resulting from an action or event described by the verb they are derived from. Syntactically, they function as adjectival elements modifying nouns or pronouns or as predicative adjectives. Desubstantival adjectives are in so far related to adjectival past participles and parallel in this context as they fulfil the same syntactic function. They likewise denote a state or property of their referent.

The head nouns of these phrases denote either a referent or object that is, in a sense, the end-point or result of the property introduced by the APP (*a newly born baby* → ‘having been born is an inherent property of a baby’), or that has the property introduced by the adjective as an inherent property, or a referent, object or artefact (*a hard-headed woman* → having a head is an inherent property of a woman, hence, we cannot speak informatively of a headed woman). There thus appears to be an overlap of information between the adjectival past participle / desubstantival adjective and the head noun, i.e. the adjectival modifier provides information about its head noun referent which is already tacitly understood by the language user. The non-premodified adjectival constituent thus provides a surplus of information that is deemed uninformative and therefore perceived to be redundant and unacceptable by the language user. Based on this observation a pragmatic motivation for the perceived unacceptability of the non-premodified and the requirement of a premodifier in a subset of these structures is postulated.

The next section introduces a classification of the types of relations between adjectival constituent and head noun which will serve as a basis for the following discussion of the semantic and pragmatic reasons for the obligatoriness of the premodification in these phrases.

### 4. Classification of the data

In general terms, it may be said that premodification of the adjectival constituent, APP or DesubstAdj, in the examples quoted here seems to be the rule rather than the exception even though some of the following adjectival past participle/desubstantival adjective plus noun phrases will occasionally be found without a premodifying element. These cases are, however, heavily dependent on some kind of contrastive context. It also must be stressed that dependence of the acceptability of many of the phrases below on the premodifying element is often a matter of degree rather than a matter of absolute decisions. In this section, a set of phrases from the BNC and the Cosmas corpus is classified according to the role of the adjectival constituent in relation to the head noun it modifies. The classification is based on Bartsch (forthcoming, 2003).

1) Adjectival element denotes an inherent property of the modified head noun

In the first type of phrase in this classification, the adjectival element denotes an inherent property of the modified head noun. In these examples, an adjective which is obligatorily premodified denotes an inherent property of the noun it modifies. For example, in the phrase

(10) (a) *fearlessly built* industries

the adjectival past participle *built* denotes the fact that industries as a man-made artefact must, inherently, be built in order to come into existence. Even in the example

- (11) (a) the *thickly carpeted* mountainside  
 (b) (...) statt üppiger Vegetation nur *spärlich bewachsenen* Untergrund

the DesubstAdj *carpeted* metaphorically denotes the fact that a mountainside is assumed to have some kind of layered natural covering (e.g. moss, grass etc.). In this case, the particular selection of adjective is a metaphorical extension indicating the quality of the covering. In the German example, the information provided by the adverbial premodifier that the *ground* is *sparsely* covered makes the phrase sound more natural, even though it has to be said that the German phrase is also acceptable without the premodifier, arguably at the expense of its naturalness.

A number of subtypes of this structure are distinguishable in the corpus data:

### 1.1) Construction / shape / configuration:

In this subtype, the adjective refers to the construction, shape or configuration of the head noun referent.

- (12) (a) [...] I guess that the *slightly askew likes* of Strangelove should be welcomed with open charms. CHB  
 (b) Working as I do for a *technically based industry*, I hope I may be forgiven for believing that almost anything can be achieved through technology, [...]. EA8  
 (c) [...] that when a *lightly built eight-stone person* runs around on a hard surface, his/her knees suffer a momentary weight equivalent to three-quarters of a ton with each step ASD  
 (d) Matchsticks almost fell out stepping back awkwardly like a *badly constructed puppet*. CEC  
 (e) After 1970 the *newly created Department* of the Environment, [...]. G05  
 (f) [...] a surprisingly *hard-edged collection* of songs. C9K  
 (g) These fossil seeds are preserved in a relatively *coarse-grained sandstone*. AMM  
 (h) [...] in fact a very *fine-particled clay*, Montmorillonite. C97  
 (i) I was astonished when we began walking down the now *weed-strewn path* to feel a familiar feeling of fear and expectation. CE9
- (13) (a) Das erste *privat gebaute Gefängnis* Deutschlands steht in [...].  
 (b) [...] dort den köstlichen Duft *frisch gebackener Plätzchen* schnuppern, [...].  
 (c) [...] der auch Inhaber des *neu geschaffenen Neurochirurgie-Lehrstuhls* ist [...].

### 1.2) States of development / creation / preparation

The following phrases denote states of natural development and man-made creation or preparation. These are felt to be intrinsic to the object denoted by the head noun and can therefore only be addressed explicitly when this information is sanctioned by further modification and specification of the nature of the properties. Thus in the first two examples, (a) and (b), it is obvious that a son or an animal would have been born or bred in order to come into existence as a living being. The information that a son, or indeed a living being, is born or an animal bred is, by itself, redundant and therefore not permissible in this construction. Yet, as soon as qualification is added in the form of a specification of the circumstances of the birth of the son or the breeding of the animal, the expression is sanctioned as providing new and relevant information.

- (14) (a) Here two men, a ship's officer and a *gently born* younger *son* sent from England to make his way in the world, are involved in certain events [...]. EC8  
 (b) [...] in most sheep rearing countries (although not Australasia or Japan); transmissible mink encephalopathy, occurring in rare outbreaks in *captive bred animals* on mink farms, mainly in North America; chronic wasting disease of captive mule deer and elk, seen in North America; [...]. EC7  
 (c) [...] preventing certain grievances from developing into *full fledged issues*. G1G  
 (e) Shostakovich's First Violin Concerto is a more *rough-hewn affair*. A5E  
 (f) [...] Ruth privately thought – there were *freshly baked rolls*, split and filled with ox-tongue. CB5  
 (g) Ockleton pointed in turn at a *broadly built man* smiling conventionally towards the camera [...]. H8T

The German examples are slightly less clear-cut. Example (a) below is also permissible without the premodifier, example (b) must be judged differently because it is a metaphorically extended meaning, but example (c) corresponds to the mechanisms already explained for the English examples above; we can neither speak of a *schultrig gebauter Mann* ('shouldered built man') nor of a *gebauter Mann* ('built man') without further specification.

- (15) (a) [...] das von seiner Frau *nichtehelich geborene Kind* zu adoptieren.  
 (b) in relativ *altbackener Kleidung*  
 (c) der *breitschultrig gebaute Mann*

## 2) inalienably possessed parts:

This set of examples comprises adjectival elements referring to inherent and inalienably possessed parts of – mostly – living beings, i.e. humans, animals, plants. The part denoted as a property or part of the living being is perceived to be an intrinsic part of this living being. So much so, in fact, that mentioning this part explicitly requires the provision of further information in order to be sanctioned as new and relevant information. This type of the structure is one of the most frequent and reliable instantiations of obligatory premodification. It rests on the knowledge of language users regarding parts of living beings which is part of language users' world knowledge. Such world knowledge is much more inseparable from purely linguistic knowledge than has been suggested at times in linguistic research. As will be shown below, this is an important factor in accounting for the obligatoriness of the premodification of the adjectival elements in these examples.

### 2.1) inalienably possessed body parts

In these examples, the adjectival element functions as a modifier to a noun denoting an inseparable part of a living being (human, animal, plant) that is inherent or inalienable to its owner. In the example:

- (16) (a) a harshly-faced person

the adjective *faced* denotes an inherent and, in fact, inalienable part of the human being, i.e. a *person* inherently has a *face* which is an inalienable part of his or her physiology. When the adjective *faced* is used in the context of a human being, it is tacitly understood that every human being has a face, in fact, so much so that this detail must not be mentioned explicitly unless there is good reason to do so. Good reason for mentioning such attributes or properties is the provision of additional information about the inherent part which goes beyond the mere statement of the existence of this part. Thus, stating about a human being that he or she has a face is only permissible if this information is further specified beyond what is already known as part of the language user's knowledge of the properties of living beings. In each of the examples below, the adjectival constituent must be further premodified because the combination of the information provided by the desubstantival adjective plus the head noun is, by itself, redundant. The premodifier contributes the information that recovers the unacceptable and unnatural redundancy of the non-premodified expressions.

- (16) (b) And it reached her; in a totally unwelcome manner she seemed trapped in a web spun by golden eyes, a *harshly boned* face, a sensual mouth that often hid its humour. HA7  
(c) The house was very mucky and rotting food spilled in the side alley next to it which attracted the most *bleary-eyed* flea-ridden dogs. H9G  
(d) [...] Mrs Beattie and Mrs Friar could hardly be classed as neighbours and even the most *cock-eyed* optimist would never even hope that they might even begin to be pleasant to each other. ATE  
(e) [...] spend the rest of my life playing it, thickened with doleful dirges, vainly trying to lay the trauma, my only satisfaction the *ashen faced*, *staring eyed* audiences staggering out at the end of performances, primed, and ready to carry on the good work. A6C  
(f) Nuggett is the *hot headed* one. K20  
but: But in the 86th minute of a frantic Roman derby, he produced a stunning *headed goal* as the game ended 1–1. CEP  
Ballpoint pen and carbon-paper suffice for 'one-off' letters written on donated *headed notepaper*.HHP

The two last phrases under (16)(f) show that the phrase can also be used without premodification under the condition, as instantiated in these examples, that the adjectival past participle be used in a sense that does not overlap with tacit information language users already have about the head noun referent. In this case the phrase *headed goal* is used not in the sense 'goal with a head' parallel to 'person with a head', but in the sense 'goal scored with or by means of the head'. The expression is thus non-redundant and does therefore not require an obligatory premodifier. The same is true of the phrase *headed notepaper* in which the adjective *headed* contributes an informative state about the notepaper, namely that it has a printed header. This is a property that is not inherent to or prototypically assumed of notepaper; thus, the information provided by the adjectival constituent of the phrase is not redundant and does therefore not require premodification in order to be rendered informative.

- (17) (a) die unterschiedlichen Pigmente *blauäugiger, hellhäutiger Menschen*  
(b) ein *bleichgesichtiger Mensch*  
(c) *Barfußig* und im Schlafrock parodiert ....  
(d) ein *fahlgesichtiger junger Mann*  
(e) ein *kurzhaariger Mann*

### 2.2) inalienably possessed plant parts

These examples are analogous to the examples of inalienably possessed body parts in 2.1) above. They refer to parts of plants such as branches, leaves and the trunk that are perceived to be inalienable,

characteristic, prototypical parts of plants. Because a tree is assumed to have these parts, mentioning them explicitly as parts of a tree is redundant to the proficient language user unless this information is sanctioned by further specification.

- (18) (a) "A slight sudden puff of breeze lifted a *thickly leafed* branch in front of her and she saw two figures, framed by the foliage at the instant their lips met [...]" H9H  
 (b) *double-, five-, many-branched* (OED 2nd: *branched* ppl. a.)  
 (c) Sprinting across it, he reached a particularly *thick-trunked* tree at the farther edge. HJD
- (19) (a) Gelbrandige Spielarten bleiben *buntblättrig*, wenn man den grünen Mittel [...]  
 (b) [...] *vierblättrige* Kleeblätter aber zerstörte ...  
 (c) Und daß neben dem Waldvögelchen die *breitblättrige* Stendelwurz schon einen g[...]

### 3) cognition, perception, communication:

This category comprises adjectival elements referring to abilities and properties of the head noun referent that are associated with cognitive skills, with perception and communication. In some cases, e.g. spoken, voiced, it is difficult to decide whether speech or the voice is a part of the human body (in which case these examples would have had to be classified under 2.1) above or whether they belong to the more abstract category of cognition, perception and communication. This latter interpretation was given preference because the voice or the capacity for speech is not a part of the human body in the same way that e.g. the limbs and head are.

#### 3.1) cognitive and perceptive skills and properties

This first set of examples comprises phrases with adjectival constituents that refer explicitly to cognitive abilities (e.g. *minded*) or perceptive skills (e.g. *sighted*; *-sichtig*). Most examples found in the BNC refer to distinctly human skills and properties.

- (20) (a) He was *humble minded* and never forced his opinions down other people 's throats. EVH  
 (b) In view of the *deeply felt* resentment at the reign of Bayezid I on part of at least the more pious elements of the state, [...]. H7S  
 (c) One was the detestation by the *liberally oriented* of religious paternalism, a mild form of anti-clericalism. A07  
 (d) Ernest Gowers, a very *far-sighted* man, had no hesitation in suggesting a separate council for Scotland and this is what happened; [...] K5M  
 but: the *sighted* UFO

- (21) (a) [...] nur die *weitsichtige Entscheidung* der Regierung kann schlimmere Folgen abwenden

#### 3.2) communicative faculties

A subtype of the type this type of pattern refers to the human faculties in the context of verbal communication. Again, it is interesting to note that a person would be said to be just 'spoken' in the sense of having the faculty of speech because speech is obviously perceived as an inherent human faculty.

- (22) (a) (...) and this time an *impeccably spoken man* replied, albeit with another question. CRE  
 (b) An initially *kind-voiced woman* took down my details (...) CAG

- (23) (a) [...] der *vieltimmige Chor* der Waldvögel.

### 4) affected states

This last set of examples involving obligatory premodification of adjectival past participles denote affected states or physical conditions.

- (24) (a) The most *seriously-affected areas* are Scotland, Wales and the Pennines. J2V  
 (c) [...] the reasons for the supposedly *violence-prone nature* of the UMW, [...] G1H  
 (d) This problem was to make it the most *accident-prone routine* in Tiller history. B34  
 (e) *Bed ridden patients* at St Mary 's A St Mary Abbots Hospital [...]. KCN  
 (g) [...] a large number of the rural population [...] are *poverty stricken*. AN3
- (25) (a) die von der Hochwasserkatastrophe *am härtesten betroffenen Gegenden*

In some of these examples, e.g. (24) and (25) (a) and (b), it is not entirely clear that the premodifier is obligatory. The following modification of sentence (a) without the premodifier seems to be permissible without sounding unnatural or providing redundant information:

(a') The *most affected areas* are Scotland, Wales and the Pennines.

J2V

A brief note on the level of establishment of this premodification pattern in both English and German might not be out of place: Looking at the structural types of the phrase pattern under study, it is interesting to note that the constraint on premodification is deeply entrenched in the language, indeed. So much so, in fact, that many of the premodifier plus adjectival constituent combinations are spelled not as two separate words anymore, but are hyphenated or even spelled as one word. German has a speciality here in linking some of the premodifiers to the adjectival past participles by means of a so-called Fugen-s (e.g. *verletzungsanfällig – injury-prone*), but as this feature is not specific to the pattern under study, the phenomenon will not be discussed any further here. It is interesting, however, that there is a strong indication that many of these phrases are becoming lexicalised as so-called complex participles which are spelt with a hyphen or as one word and many of which have an adjectival constituent that cannot be directly derived from an underlying verb. Here are some examples:

- (26) (a) rough-hewn, accident-prone, weed-strewn  
(b) altbacken

It should be mentioned explicitly that both English and German also allow different types of premodification such as attributively premodifying temporal or circumstantial clauses providing the same type of information as attributive premodifiers, however, these alternative structures are not the concern of this study.

The examples discussed under 1.) - 4.) in this section as instantiations of an obligatory premodification requirement are only some of the most prominent ones discovered. More research might still lead to subtler classifications, but the classification undertaken here serves to illustrate the different areas of mostly tacit conceptual knowledge that the language user brings to the interpretation of such expressions. It is this knowledge of the proficient – an obviously knowledgeable – language user that leads to the perceived redundancy of the adjectival past participle / desubstantival adjective plus noun patterns when used without premodification. The language user's tacit knowledge about prototypical and inalienable properties of a human body or other living beings or the processes by which living creatures and artefacts come into existence render redundant information unnatural and unacceptable. Only by adding premodification can phrases such as the ones discussed above be recovered to an informative and therefore acceptable state. Language users have strong intuitions of the amount and types of information they will accept as informative and permissible and reject such expressions that violate this requirement. The examples discussed in this paper have given but a small glimpse of the extent to which conceptual knowledge influences and shapes linguistic combinatorial requirements. Conceptual knowledge brings about a combinatorial requirement that is neither covered by the grammar nor by the collocational co-selection requirements of the language. An interesting question is thus, how allegedly extralinguistic information on this type of constraint can be incorporated in linguistic theory. The next section proposes a solution.

### **5. Recovering redundancy: pragmatic constraints on attributive modification**

As was already indicated, pragmatic constraints are postulated to play an important role in the establishment of collocations alongside lexical constraints. But why should the human language user be bothered by being provided a surplus of information? After all, is it not helpful and does it not ensure successful communication and information processing if as much information as possible is provided? The answer is: yes and no. On the one hand, it is, of course, true that communication can only succeed if the utterance made is sufficiently informative to be decodeable; on the other hand, communication can fail if too much, i.e. superfluous, information is provided. Sufficient information thus must be interpreted as: enough information, but not too much information. Linguistic communication is not normally maximally redundant and language systems can be shown to avoid redundancy, and what is true of elements in the language system (e.g. completely synonymous words) is also true of units of information and communication. This observation lies at the heart of Grice's (1975) conversational maxims. Grice formulated a set of maxims that can be applied to the constraints discussed in this paper. The redundancy which results from talking about *\*built houses*, *\*born babies*, *\*surfaced tables*, *\*faced persons*, *\*trunked trees*, *\*gebaute Häuser*, *\*geborene Babies*, *\*blättrige Bäume*, *\*haarige Männer* etc.



violates at least the conversational maxims of quantity and relation of Grice's *Cooperative Principle* (CP) (Grice 1975: 45-46) which entails – among other things – the following requirements:

- QUANTITY: 1. Make your contribution as informative as is required (for the current purposes of the exchange).  
2. Do not make your contribution more informative than is required.
- RELATION: Be relevant.

By explicitly speaking of *\*a built house* and *\*a born child*, of *\*a surfaced table* and *\*a faced person* information is provided that exceeds the information required for the exchange. It makes the expression redundant and therefore non-informative. At the surface, it actually makes the utterance more informative than is required because the information provided about the head noun by the APP or the desubstantival adjective can be assumed to be known by every competent member of the linguistic community. As the Cooperative Principle rests on the prerequisite that every participant in a linguistic exchange observes this principle and its maxims, it can be expected by every participant in an exchange that by modifying a noun by means of an adjective, new and potentially interesting information is provided. Stating the obvious without further qualification violates the maxim that a contribution should not be more informative than required. The information supplied by the adjectival past participle or the desubstantival adjective in the expressions discussed above is not only more informative than required, stating the obvious tacitly insinuates that the speaker either does not know the rules of conversation or violates them intentionally in the assumption that the person he/she communicates with does not know things that are obvious.

These examples are strong evidence for the postulate that in the case of this type of expression pragmatic constraints have an influence on the type and amount of information that can be introduced felicitously into an utterance.

## 6. Cross-linguistic validity of the constraint

An issue raised at the beginning of this paper is concerned with the question of the cross-linguistic validity of this type of constraint on premodification. In other words, does this constraint on premodification hold for parallel expressions in other languages? The corpus study of English and German has been able to show that the constraint does indeed hold in both languages and can thus be assumed to be valid in both languages. However, there are also differences which have to be addressed here. From the small set of examples discussed here, it looks like the English and German data generally adhere to the same principles, however, there are, as yet unsystematic differences which might indicate that different linguistic communities perceive of different types of information differently. There are, first of all, cases such as in the German examples (6)(d) and (e) above in which German permits for the non-premodified use of the following examples:

- |         |  |      |  |
|---------|--|------|--|
| (6) (d) | ein <i>verletzungsanfällig</i> er Spieler<br>an <i>injury-prone</i> player | (d') | ein <i>anfällig</i> er Spieler<br><i>*a prone</i> player |
| (e)     | ein <i>kurzhaarig</i> er Mann<br>a <i>short-haired</i> man                 | (e') | ein <i>haarig</i> er Mann<br><i>*a haired</i> man        |

In the first example, German can speak of a *prone player* (*anfällig*er Spieler) which covers unspecifically all sorts of injuries, illnesses and other afflictions that can affect a player. In the second example, the lexical collision of *\*haired* with the already established adjective *hairy* prevents the use of the adjectival past participle form per se, the form *-haired* is permissible in combination with an appropriate premodifier. These examples are not permissible in English without premodification. In a small number of cases, native speaker informants of both languages were asked to pass judgement over certain phrases which yielded interesting responses mostly corroborating the corpus findings and attempting telling explanations of the fact that a phrase was or was not perceived acceptable. An interesting intercultural difference was for example the fact that none of the English speakers would permit in any context the phrase *\*a killed person*, whereas German speakers did not have any problems motivating contexts in which the phrase *eine getötete* Person could be used. There were a few other examples in which phrases were likewise found acceptable without premodification in German, but never in English. The premodified counterexamples were deemed acceptable by both group of speakers, but as the group of native speaker informants was small and by no means representative, further research with native speaker informants will have to be carried out before definite statements can be made about potential intercultural differences concerning the phrases under study in the two languages.

## 7. Conclusion

This paper has attempted to show in how far constraints, or requirements on premodification in a set of phrases of the basic structure premodifier plus adjectival past participle / desubstantival adjective plus head noun are shaped by the tacit conceptual knowledge that the language user brings to the processing of language. It could be shown that such constraints shape obligatory structural requirements that are clearly not covered by either the grammar of the language nor the collocational co-selection requirements of the individual lexical item. It has furthermore become clear that an explanation of the type of premodification requirement exemplified in this paper is best attempted on the basis of the information content of the phrase constituents and the ensuing redundancy if the adjectival past participle or desubstantival adjective is not premodified. It has been possible to show that findings on the premodification requirements of adjectival past participles can also be extended to other, similar types of qualifying adjectives for which similar models of explanation can be employed. As postulated, the same mechanisms based on conceptual knowledge and avoidance of redundancy govern premodification requirements both in English and German such that the question of the cross-linguistic validity of the constraint can be answered affirmatively for the two languages studied comparatively. Only some of the aspects underlying this phenomenon could be discussed here. More comparative studies are needed to investigate the alternative ways of resolving redundancy in these and similar structures. Further research must be extended to other languages and other patterns in order to establish the impact of conceptual knowledge on linguistic structures on a broader cross-linguistic basis. A question that remains unresolved and will continue to pose a challenge to linguistics is the question how this type of constraint which is obviously based on factors that have been deemed extra-linguistic by many approaches to language is to be incorporated in linguistic theory.

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### Corpora:

**British National Corpus:** <http://www.hcu.ox.ac.uk/BNC/>

The corpus comprises 100 mio. running words of contemporary British English.

The three letter code accompanying each BNC example in the text refers to the source text from which the example was taken.

**The Cosmas Corpus Collection** at the IDS (Institut für Deutsche Sprache) in Mannheim, Germany (<http://www.ids-mannheim.de/kt/corpora.shtml>): The corpus used for the German examples in this study is the tagged subsection of the Cosmas Corpus at the IDS (Institut für Deutsche Sprache), Mannheim, a morpho-syntactically annotated subcorpus of contemporary German. This morpho-syntactically annotated subcorpus consists of a public section of the LIMAS corpus plus four years of newsprint of the German newspaper *Mannheimer Morgen* (years 91 + 94 + 95 + 96). The corpus comprises 18.22 Mio. running words.