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## ***Cool, cooler, Clooney* – A corpus-based and relevance-theoretic analysis of the superlative heading construction in German**

*Cool, cooler, Clooney* – Un análisis basado en corpus desde la Teoría de la Relevancia sobre la construcción superlativa de titulares en alemán

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**Abstract:** This article focuses on the intensifying schematic construction  $[[\text{adjr}_{\text{positive}}] [\text{adjr}_{\text{comparative}}] [\text{NP}]]$  that is strongly related to headings, as our corpus analysis reveals. A characteristic of the construction is that, although it structurally exhibits the paradigm of the German adjective comparison, it has a slot for a noun phrase in the third position, where an adjective in the superlative form would normally occur (e. g., *Stark, stärker, Dante*, ‘Strong, stronger, Dante’). We analyze this construction, which we refer to as a “superlative heading”, from syntactic, semantic, and pragmatic perspectives, using 2,835 instances (tokens) from the German Reference Corpus. To explain the formal and semantic peculiarities of the construction, we consider the principle of coercion and approaches to linguistic creativity. The pragmatic effects of the construction as a genre-specific pattern are discussed from a relevance-theoretic perspective. The paper thus combines construction grammar and relevance theory.

**Keywords:** construction grammar; relevance theory; linguistic creativity; coercion; adjective comparison; corpus analysis; heading.

**Resumen:** Este artículo se centra en la construcción esquemática intensificadora  $[[\text{adjr}_{\text{positivo}}] [\text{adjr}_{\text{comparación}}] [\text{NP}]]$ , la cual está estrechamente relacionada con los títulos, tal y como se pone de manifiesto en nuestro análisis. Una característica de la construcción es que, aunque es-

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\* We would like to thank the anonymous reviewers for their constructive comments on an earlier version of the paper. The article is the result of close collaboration between the two authors; however, the two authors have dealt more specifically with different parts: Sören Stumpf is responsible for Sections 1 and 3, Fabio Mollica for Sections 2, 4 and 5.

tructuralmente presenta el paradigma de la comparación del adjetivo alemán, la construcción tiene una casilla vacía para un sintagma nominal en la tercera posición, que sería ocupado normalmente por un adjetivo en superlativo (p. ej., *Stark, stärker, Dante*, ‘fuerte, más fuerte, Dante’). Así pues, analizamos esta construcción, a la cual nos referimos como “título superlativo”, desde una perspectiva sintáctica, semántica y pragmática, usando 2835 ocurrencias (*tokens*) del Corpus de Referencia Alemán. Para explicar las peculiaridades formales y semánticas de la construcción, lo hacemos teniendo en cuenta el principio de coerción y los enfoques de la creatividad lingüística. Los efectos pragmáticos de la construcción como un patrón específico de género se abordan desde una perspectiva de la teoría de la relevancia. Por lo tanto, el artículo combina la gramática de construcciones y la teoría de la relevancia.

**Palabras clave:** gramática de construcciones; teoría de la relevancia; creatividad lingüística; coerción; comparación de adjetivos; análisis de corpus.

## 1. Introduction

This paper addresses the relation between linguistic creativity, norm (violation), and pattern formation focusing on the intensifying schematic form-meaning pair [[adj]<sub>positive</sub>] [adj]<sub>comparative</sub>] [NP]], which we call “superlative heading construction”. In this construction, the German comparative paradigm<sup>1</sup> is used, with the third position not being filled by an adjective in the form of a superlative but by a noun phrase (NP) (see (1))<sup>2</sup>. It thus challenges the recipient’s expectations by breaking with the usual syntagmatic structure of the paradigm creatively.

(1) Kalt, kälter, Kiew

Die Ukraine ist ein wintererprobtes Land. Aber die aktuellen Schneemassen haben die Menschen „völlig paralyisiert“ [...] (*Süddeutsche Zeitung*, 13/12/2012)

‘Cold, colder, Kiev

Ukraine is a winter-tested country. But the current masses of snow have “completely paralyzed” the people’

Example (1) illustrates that the construction is usually syntactically disintegrated and is used especially in headlines as the result of our analysis.

<sup>1</sup> Paradigms play an important role in language learning. For instance, native and foreign language learners can use them to practice and internalize adjective grading. For general information on paradigms, see Diewald & Politt (2022).

<sup>2</sup> In (1), the NP consists of a single expression, the proper noun, which functions as the lexical head.

It therefore has a genre-specificity that must be considered in its functional-pragmatic analysis (Nikiforidou, 2018). To describe the (emergence and use of the) construction, we therefore refer not only to constructionist concepts of linguistic creativity (Bergs, 2019; Hoffmann, 2020), but also to the cognitive-pragmatic approach of relevance theory (Sperber & Wilson, 1995). The article thus combines (cognitive) construction grammar with relevance theory (Leclercq, 2024) – a connection that has not often appeared in the literature.

The paper is structured as follows: section 2 briefly explains the system of German adjective comparison for a better understanding of the structural peculiarities of the construction. Using the German Reference Corpus, we present a corpus study on the frequency and productivity of the construction as well as on the adjectives that occur in the construction (section 3); the analysis focuses on the syntax, semantics, and pragmatics of constructs with the three adjectives that occur most frequently in the data: *hart* ('hard/tough'), *heiß* ('hot'), and *hoch* ('high'). Section 4 discusses the construction from a relevance-theoretic perspective. In section 5, the results are summarized and an outlook is given.

## 2. Adjective comparison in German: an overview

This section briefly looks at comparison (comparative and superlative) in German, which is a grammatical device that leads to the formation of a regular adjective paradigm (e. g., *kalt – kälter – am kältesten*, 'cold – colder – coldest'). As Eisenberg (2004: 390) notes, to be able to compare two entities, they must share a certain common characteristic; otherwise, the comparison is not possible. Many adjectives, based on their semantics, allow comparison to occur. In general, comparison is possible with most qualifying adjectives such as *faul* ('lazy'), *glücklich* ('happy'), and some participles, when used in adjectival function and in a metaphorical sense, such as *strahlend* ('shining'): *die strahlende Sonne* ('shining sun') vs. *strahlendes Lächeln* ('shining smile') (Engel, 1996: 560).

In grammar studies, it is usual to speak of degrees to distinguish the different gradations of a feature expressed by a given adjective. In general, a distinction is made between the positive, comparative, and superlative forms. As Gunkel, Murelli, Schlotthauer, Wiese & Zifonun (2017: 365) point out: "such forms of comparison denote values on a scale that lie above the value

of an implicit or explicitly verbalized standard of comparison” (translation by S. St. and F. M.).

1. The *positive* degree may be considered the basic or neutral form; it does not indicate any term of comparison; in essence, it is the non-comparative or non-superlative form of the adjective: *schnell* ('fast').
2. The *comparative* is formed with the suffix {er}: *schneller* ('faster'). The comparative establishes a comparison prototypically between two elements, indicating that one has more (or less) of a quality or attribute than the other.
3. The *superlative* has two forms:
  - Definite article + adjective + suffix {st}/{est}: *der/die/das schnellste* ('the fastest')
  - *am* + adjective + {sten}/{esten}: *am schnellsten* ('fastest')

The superlative expresses the highest degree of a quality or attribute among three or more things. If the comparison is between two entities, the comparative is used to express the highest degree (Duden, 2016: 380) (*Maria ist die ältere der beiden Schwestern*, 'Maria is the older of the two sisters' [comparative]; *Maria ist die älteste der drei Schwestern*, 'Maria is the eldest of the three sisters' [superlative]).

By convention, the positive, comparative, and superlative forms are indicated in a paradigm<sup>3</sup> which serves as a model for the superlative heading construction: *jung* ('young'): *jung – jünger – am jüngsten*. For our analysis, the third position, which is filled by an NP, is relevant because it functions as the superlative; it can be defined according to "CASA – A Constructionist Approach to Syntactic Analysis" as follows: it indicates that an attribute (parameter of comparison) applies maximally or minimally to an entity (comparandum)<sup>4</sup>. The standard of comparison does not necessarily have to be expressed.

<sup>3</sup> Some adjectives require the *umlaut* on the thematic vowel: *alt* ('old'): *alt – älter – am ältesten*. Other adjectives, however, present an irregular paradigm: *gut* ('good'): *gut – besser – am besten*.

<sup>4</sup> [constructicon.de/constructions/110](https://constructicon.de/constructions/110) [Access 30/04/2024].

### 3. Corpus analysis of the superlative heading construction

#### 3.1 Data and methods

Using the archive W of the German Reference Corpus<sup>5</sup>, we have compiled a list of 2,835 constructs (tokens) of the superlative heading construction, which are based on 177 different adjectives (types)<sup>6</sup>. Since the corpus is not annotated according to the part of speech, it was necessary to search for concrete adjective sequences in the positive and comparative forms (e. g., *schnell schneller*, ‘fast faster’)<sup>7</sup>. To do this, we used various lists of German adjectives: first, a list of the 100 most frequent adjectives in the German Web 2020 corpus (Sketch Engine)<sup>8</sup>, and second, two lists from the didactics of (German as a foreign) language, as teaching material aimed at foreign students often contains the most frequent and useful lexemes (in our case adjectives) of a language<sup>9</sup>. We exported the KWIC files and the full texts for the adjectives for which we could find instances of the construction from the German Reference Corpus. After manually checking the KWIC lists for false positives, we annotated the constructs with the three most frequent adjectives (*hart*, ‘hard/tough’, *heiß*, ‘hot’, and *hoch*, ‘high’) regarding formal and semantic characteristics.

#### 3.2 General overview: form and meaning/function of the superlative heading construction

As already mentioned, we collected 2,835 hits for 177 different adjectives (type-token ratio of 0.062 regarding the adjective; productivity due to the [NP] slot is of course much higher). It should be emphasized that these hits obviously depend on the lists of adjectives we searched for. It is therefore quite possible that further instantiations for the construction exist for other adjectives not considered in the search query.

<sup>5</sup> The size of the corpus is approximately 11.2 billion words [Access 30/04/2024].

<sup>6</sup> We would like to thank Janina Böhlen for her support in collecting the data.

<sup>7</sup> For instance, the search query to find *schnell* constructs is as follows: (schnell /+w1 schneller) %+w2 (am oder als).

<sup>8</sup> [www.sketchengine.eu/](http://www.sketchengine.eu/) [Access 30/04/2024].

<sup>9</sup> [deutschlernerblog.de/tag/200-wichtige-deutsche-adjektive/](http://deutschlernerblog.de/tag/200-wichtige-deutsche-adjektive/) and [www.daf-daz-didaktik.de/wp-content/uploads/2020/12/Die-wichtigsten-deutschen-Adjektive2.pdf](http://www.daf-daz-didaktik.de/wp-content/uploads/2020/12/Die-wichtigsten-deutschen-Adjektive2.pdf) [Access 30/04/2024].

The data show that certain adjectives are used more frequently in the construction than others (see table 1). By far the most frequently used adjectives are *hart* ('hard/though') (n=231), *heiß* ('hot') (n=198), *hoch* ('high') (n=196), *schnell* ('fast') (n=192), *groß* ('big') (n=182), and *gut* ('good') (n=158)<sup>10</sup>. In addition, 51 adjectives appear only once (the so-called hapax legomena), such as *brav* ('well-behaved'), *feucht* ('moist'), *hässlich* ('ugly'), *neu* ('new'), or *sparsam* ('thrifty') (hapax-token ratio of 0.018 – again only regarding the adjectives).

<i>hart</i> 'hard/though'	231 (8.1 %)	<i>cool</i> 'cool'	65 (2.3 %)
<i>heiß</i> 'hot'	198 (7.0 %)	<i>kalt</i> 'cold'	64 (2.3 %)
<i>hoch</i> 'high'	196 (6.9 %)	<i>reich</i> 'rich'	56 (2.0 %)
<i>schnell</i> 'fast'	192 (6.8 %)	<i>laut</i> 'loud'	50 (1.8 %)
<i>groß</i> 'big'	182 (6.4 %)	<i>teuer</i> 'expensive'	46 (1.6 %)
<i>gut</i> 'good'	158 (5.6 %)	<i>klug</i> 'smart'	40 (1.4 %)
<i>bunt</i> 'colorful'	84 (3.0 %)	<i>grün</i> 'green'	38 (1.3 %)
<i>dumm</i> 'stupid'	80 (2.8 %)	<i>billig</i> 'cheap'	36 (1.3 %)
<i>stark</i> 'strong'	69 (2.4 %)	<i>klein</i> 'little'	35 (1.2 %)
<i>schön</i> 'beautiful'	68 (2.4 %)	<i>eng</i> 'tight'	34 (1.2 %)

Table 1. The twenty most frequent adjectives within the superlative heading construction

Most adjectives are simplices (122 out of 177), while the others are word formations that are usually the result of derivation (e. g., *peinlich* 'embarrassing' [n=21], *günstig* 'inexpensive' [n=9], *effektiv* 'effective' [n=2]). This distribution is particularly evident if we consider not only the types but also the tokens: simplices occur in 2,662 of the 2,835 instances (93.9 %). For instance, there is only one derivate (*billig* [n=36]) among the twenty most frequent adjectives. However, this adjective is also a simplex from a synchronic point of view, as the word stem is opaque. It can be stated that the construction contains mainly morphologically simple adjectives. Therefore, the constructs have as few syllables as possible, which means that they can also be quickly perceived in headings.

<sup>10</sup> These are highly polysemous adjectives. For example, the DWDS lists five meanings for *hart*, seven for *heiß*, and eleven for *hoch* ([www.dwds.de/](http://www.dwds.de/), access 30/04/2024).

The form and meaning of the construction are based on the paradigm of German adjective comparison; they can be described as follows, using examples from our data:

Form:	[[adj] <sub>positive</sub> ]	[adj] <sub>comparative</sub> ]	[NP]
Meaning:	‘adj] <sub>positive</sub> ’	‘adj] <sub>comparative</sub> ’	‘NP is adj] <sub>superlative</sub> ’
Examples:	(2) <i>Arm</i> , ‘Poor’	<i>ärmer</i> , ‘poorer’	<i>Afghanistan</i> ‘Afghanistan’
	(3) <i>Gut</i> , ‘Good’	<i>besser</i> , ‘better’	<i>Timo Boll</i> ‘Timo Boll’
	(4) <i>Teuer</i> , ‘Expensive’	<i>teurer</i> , ‘more expensive’	<i>Telekom</i> ‘Telekom’

Figure 1. Form and meaning of the superlative heading construction with examples

The construction consists of three slots, with the first being filled with an adjective in the positive form and the second with the same adjective in the comparative. Instead of filling the third slot with the same adjective in the superlative, which would normally complete the paradigm (see section 2), an NP is used. Such a (noun) filling of the adjective comparison schema is not typical for German. According to Fillmore, Kay & O’Connor (1988: 505), the superlative heading construction is therefore “extra-grammatical” since its structure is “not made intelligible by knowledge of the familiar rules of the grammar and how those rules are most generally applied”.

Regarding the semantics of the construction, the phenomenon of coercion takes place as an accommodation of the meaning of a lexical item caused by the meaning of the whole construction (Goldberg, 1995: 159-160; Lauwers & Willems, 2011; Michaelis, 2004, 2022). In the construction examined, the use of an NP in the adjective-superlative position can be seen as a mismatch (Francis & Michaelis, 2003), which “means that speakers combine elements, that, at least theoretically, should not be compatible or combinable” (Bergs, 2019: 177). However, the coercion effect eliminates the mismatch and transfers the superlative meaning to the NP. The meaning of the [NP] slot can be paraphrased by a copula structure: ‘NP is adj]<sub>superlative</sub>’. Applying this to the examples in figure 1, we can say that Afghanistan is the poorest country (see (2)), Timo Boll is the best table tennis player (see (3)), and Telekom is the most expensive telecommunication company (see (4)). These meanings are not part of the general meaning of the nouns but are evoked by the superlative heading construction the nouns occur in. For constructs in which a proper

noun is realized, extra-linguistic knowledge about the name bearer plays a decisive role in decoding the meaning of particular context-embedded realizations of the construction (see section 4).

The structural and semantic peculiarity of the construction can also be explained by approaches to linguistic creativity. Following Sampson (2016), a distinction can be made between F-creativity (“fixed creativity”) and E-creativity (“enlarging” or “extending creativity”) (Hoffmann, 2018; Bergs, 2018). While F-creativity refers to the creation of new linguistic signs based on existing patterns and is closely related to the productivity of constructions (Barðdal, 2008), E-creativity is understood as the creation of new constructions by breaking linguistic rules. E-creativity therefore means that speakers “have the ability to go beyond their existing constructional possibilities” (Hoffmann, 2022: 266). The superlative heading construction can thus initially be categorized as a phenomenon of E-creativity, since the use of an NP instead of an adjective in the superlative position violates the regular order of the paradigm of adjective comparison. In particular, it is the mismatch and the coercion effect resulting from the mismatch that allow us to speak of E-creativity in this case (Bergs, 2019: 181). However, it must be considered that both types of creativity are closely related, as new patterns can emerge from the repeated violation of rules (E-creativity), and that the constructs that are created through the repeated rule-breaking lead to a new construction. Looking at the superlative heading construction, we can assume a gradual transition from E-creativity (creative, norm-violating modification of the paradigm of adjective comparison) and F-creativity (emergence of the productive, schematic construction [[adj]<sub>positive</sub>] [adj]<sub>comparative</sub>] [NP]). The formation of the superlative heading construction can thus be interpreted as a typical case of type entrenchment (Taylor, 2002: 274-277). The corpus data (2,835 constructs with 177 different adjectives) show that this construction is a popular and quite frequently occurring construction that can be used by journalists without breaking a grammatical rule each time. Repeated violation of norms became a new pattern.

From a functional perspective, the construction can be used for stance-taking if adjectives with positive or negative connotations are chosen (Du Bois, 2007; Merten, 2023, 2025). The NP represents the stance object, which the writers evaluate through the adjectival superlative meaning coerced by the construction. The construction is used almost exclusively in headlines (of newspaper and magazine articles), captions or at important points in text passage, for instance, at the beginning or end of a paragraph. Therefore, the



construction has genre-specificity from a discourse-functional perspective (Finkbeiner, 2024; Nikiforidou, 2018; see section 4).

### 3.3 Case studies on the constructs with *hart*, *heiß*, and *hoch*

To find out more about the characteristics of the construction, we analyzed constructs with the three most frequent adjectives (*hart* ‘hard/tough’, *heiß* ‘hot’, *hoch* ‘high’, see table 1) in more detail. The results of the quantitative-statistical analysis presented below are important to determine the (prototypical) form of the construction (and any deviations from it). Section 4 provides a qualitative and pragmatic analysis of the construction within the framework of relevance theory.

The NP is rarely expanded formally (especially by prepositional attributes). In the *hart* constructs, only 4 out of 231 instantiations are expanded, in the *heiß* constructs 17 out of 198 (see (5)), and in the *hoch* constructs 5 out of 196. Since the NP is almost never extended by attributes and is therefore formally less complex (also regarding the syllables and thus the rhythmic sequence of positive, comparative, and NP), the constructs have a simple three-part structure (or four-part structure for fillers consisting of first and last names). This simple paradigm structure is particularly suitable as an eye-catcher in headings and is easier to process cognitively than structures with more complex NP elements. The filling with a single noun also matches the expectation of the recipients, as there is also only a single adjective in the superlative position in the regular paradigm.

- (5) Heiß, heißer, Sommer in Wien? (*Die Presse*, 27/05/2017) ‘Hot, hotter, summer in Vienna’

The three elements of the construction are usually separated by a comma. In some cases, however, a different punctuation mark is placed between the comparative adjective and the NP (see table 3).

	<i>Comma</i>	<i>Dash</i>	<i>Colon</i>	<i>No punctuation mark</i>	<i>other</i>
<i>hart</i>	216	11	0	3	1
<i>heiß</i>	183	7	2	4	2
<i>hoch</i>	188	6	1	1	0

Table 3. Punctuation between [adj]<sub>I<sub>comparative</sub></sub> and [NP]

If the comparative adjective is followed by a dash or a colon (see (6)), a break is indicated between the two adjectives and the NP. This variation in punctuation highlights the NP more strongly than if it were separated from the other elements of the construction by a comma (like the two adjective forms).

(6) Heiß, heißer: Christina Aguilera (*Rhein-Zeitung*, 24/09/2003) ‘Hot, hotter: Christina Aguilera’

The punctuation that follows the constructs provides clues to the use and embedding in the context of the construction (see figure 2). For example, a line break (without punctuation) follows all three patterns with nearly the same frequency (*hart*: 26.8 % [n=62]; *heiß*: 26.8 % [n=53]; *hoch*: 23.5 % [n=53]).

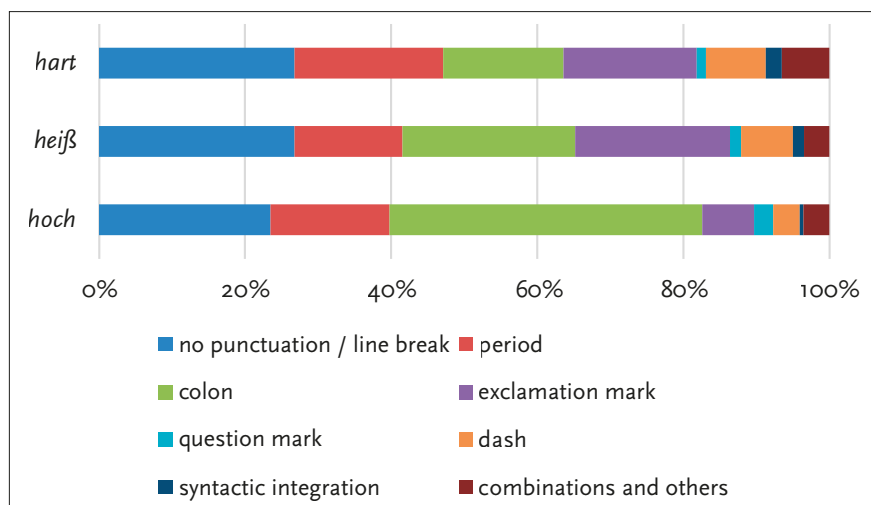


Figure 2. Punctuation marks following the superlative heading construction

However, the differences in the use of a colon and an exclamation mark are statistically significant. A colon occurs much more frequently in the case of *hoch* (42.8 %; n=84) compared to *hart* (16.5 %; n=38) and *heiß* (23.7 %; n=47) (see (7))<sup>11</sup>.

<sup>11</sup> Significance was determined using a chi-square test. Frequency of occurrence of a colon with *hoch* constructs versus *heiß* and versus *hart* constructs =  $p < .001$ .

- (7) Hoch, höher, Jamal Naji: Der sprunggewaltige Neuzugang der HSG Römerwall (Mitte) will mit seinen Mannschaftskollegen bei der HG Saarlouis den Höhenflug fortsetzen. (*Rhein-Zeitung*, 29/09/2006)

‘High, higher, Jamal Naji: The powerful new signing from HSG Römerwall (center) wants to continue his high-flying career with his teammates at HG Saarlouis’.

We are dealing here with two-part headlines consisting of the construction as a teaser and a subsequent part that uses cohesive elements (e. g., synonymous words [*der sprunggewaltige Neuzugang der HSG Römerwall*], pronouns [*seinem*]) to refer to the NP of the construction. As the data show, the headings often describe a photo that is printed in the newspaper. Almost exclusively, the photo shows a footballer who is jumping higher than his opponent and whose club is possibly at the top of the table at the time the photo was taken.

Also statistically significant is the high frequency of exclamation marks in combination with *hart* (18.2 %; n=42) (see (8)) and *heiß* (21.2 %; n=42) in contrast to *hoch* constructs (7.1 %; n=14)<sup>12</sup>. Such instances serve to emphasize the statement. The result is a two-fold intensification through the superlative construction itself, on the one hand, and the addition of an exclamation mark on the other.

- (8) Hart, härter, Dschinghis Khan! (*Spiegel-Online*, 28/05/2010) ‘Though, though, Dschinghis Khan’

From a graphemic point of view, in some constructs the NP has the same initial letter as the preceding adjective. Stylistically, this is an alliteration of the three construction elements. However, differences can be observed between the three constructional variants. In the *hart* instantiations, the NP has the same initial letter as the adjective in about 26 % of all hits (n=61); in the *hoch* instantiations, it is about 17 % (n=34) (see (9)) and in the *heiß* instantiations about 15 % (n=30)<sup>13</sup>.

- (9) Hoch, höher, Hertha (*Berliner Morgenpost*, 03/05/1999) ‘High, higher, Hertha’

<sup>12</sup> Significance was calculated using a chi-square test. Frequency of an exclamation mark with *hart* and *heiß* constructs versus *hoch* constructs =  $p < .001$ .

<sup>13</sup> The differences are statistically significant using a chi-square test; frequency of the same initial letter of the noun in *hart* constructs versus *heiß* constructs =  $p < .05$ ; in *hart* versus *hoch* constructs =  $p < .01$ .

In some instances, the NP contains phonological-morphological parts of the adjective, which usually functions as a word play. Such word plays are found significantly more frequently in *hart* (11.7 %; n=27) (see (10)) than in *hoch* (3.1 %; n=6) and *heiß* (1.5 %; n=3) instances<sup>14</sup>.

- (10) Hart, härter, Harting: Gold trotz Schmerzen (*Rhein-Zeitung*, 31/08/2011)  
‘Though, thougher, Harting: Gold despite the pain’

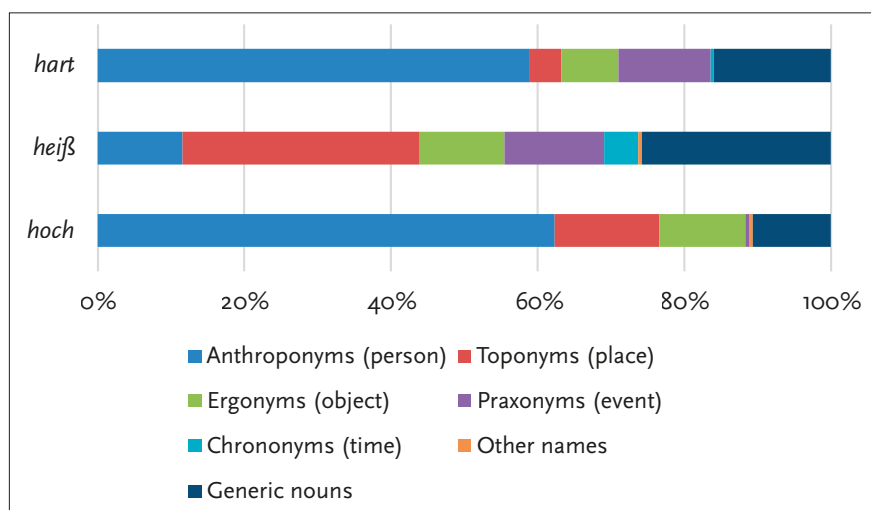


Figure 3. Status of nouns in the construction regarding proper and generic nouns

The [NP] slot is usually filled by proper nouns and less often by generic nouns (see figure 3)<sup>15</sup>. There are differences between the constructs with *hart*, *heiß*, and *hoch*, which are mainly related to the lexical semantics of the adjectives. Anthroponyms (personal names) occur significantly more frequently in the noun slot in *hart* (58.9 %; n=136) and *hoch* (62.3 %; n=122) than in *heiß* (11.6 %; n=23) instances. In contrast, toponyms (place names) are much more frequently realized in *heiß* (32.3 %; n=64) than in *hoch* (14.3 %; n=28) and *hart* (4.3 %; n=10) constructs. The use of praxonyms (event names) is also interest-

<sup>14</sup> Frequency of word plays (via chi-square test) in the *hart* versus *heiß* constructs =  $p < .001$ ; *hart* versus *hoch* =  $p < .001$ .

<sup>15</sup> The annotation is based on the typology of Nübling, Fahlbusch & Heuser (2015), whereby (recurring) events such as music festivals (*Coachella*, *Rockfield Open Air*) or sports competitions (*Kärtner Springderby*, *Swissalpine Marathon*) were also categorized as proper nouns.

ing, occurring more frequently in *heiß* (13.6 %; n=27) and *hart* (12.6 %; n=29) than in *hoch* (0.5 %; n=1) instances<sup>16</sup>.

The results show that the construction examined has an affinity to proper nouns in terms of the slot filling. This raises research questions about the interaction between constructicon and onomasticon that have not frequently been addressed in construction grammar and that should be investigated in more detail in the future.

#### 4. The pragmatic function of the superlative heading construction

This section analyzes the pragmatic function of the superlative heading construction, as inference plays a fundamental role in its understanding. The main purpose of construction grammar is to describe how the constructions of a language are organized in the *constructicon* (Diessel, 2023) to explain how speakers produce and comprehend them. We agree with Finkbeiner (2019) in advocating for a more thorough and systematic integration of pragmatic aspects within the constructionist approach to form-meaning pairs (see also Leclercq, 2024). To achieve this, we apply relevance theory (see Sperber & Wilson, 1995; Wilson & Sperber, 2012) as our theoretical framework. The primary goal of relevance theory is to explain how individuals produce and comprehend meaning in communicative contexts. Both construction grammar and relevance theory emerged from the effort to provide cognitively plausible explanations of language phenomena. Although these two models are based on “radically opposite” theoretical assumptions, it is nevertheless possible to integrate some basic principles of relevance theory into the constructionist approach, as argued by Leclercq (2024: 64-65).

To better grasp the pragmatic function of the superlative heading construction, it is essential to briefly examine the key features of newspaper headlines as well as to consider the pragmatic properties of names, particularly in relation to relevance theory, since the notion of relevance is highly beneficial in delineating the “compactness” of the superlative heading construction, which requires a series of pragmatic inferences to be properly understood.

<sup>16</sup> The differences are statistically significant according to chi-square. Anthroponyms: *hart* vs. *heiß* =  $p < .001$ , *hoch* vs. *heiß* =  $p < .001$ ; toponyms: *heiß* vs. *hoch* and *hart* =  $p < .001$ ; praxonyms: *hart* vs. *hoch* =  $p < .001$ , *heiß* vs. *hoch* =  $p < .001$ .

#### 4.1 *Newspaper headlines from a relevance-theoretic perspective*

The primary purpose of headlines is to capture the readers' attention, often by utilizing graphic elements to enable them to select content of personal interest, whether the content is read comprehensively or selectively (Ifantidou, 2009: 670; Finkbeiner, 2024: 17). As Finkbeiner (2024: 17-18) observes, not all headlines are informative in the same way; some are deliberately cryptic, but in general, from a pragmatic point of view, they serve the purpose of conveying specific messages and achieving communication objectives. Readers, in turn, interpret these headlines, inferring both their meanings and underlying goals.

Dor (2003: 696) defines newspaper headlines as “relevance optimizers” because “[t]hey are designed to optimize the relevance of their stories for their readers”. “Relevance” is understood here according to the relevance theory of Sperber & Wilson (1995: 145):

*Relevance to an individual* (comparative)

*Extent condition 1:* an assumption is relevant to an individual to the extent that the contextual effects achieved when it is optimally processed are large.

*Extent condition 2:* an assumption is relevant to an individual to the extent that the effort required to process it optimally is small.

Therefore, according to Sperber & Wilson (1995), the effectiveness of communication depends on both the *relevance of the information* conveyed and the *cognitive effort* required to process it. A message is more effective when the conveyed information is highly relevant. Relevant information generates positive cognitive effects and the meaning is directly useful or interesting to the recipient.

However, relevance theory also assumes that there is a limit to the cognitive effort a person is willing to invest in understanding a message. If the information is overly complex, vague, or requires too much mental effort to process, the recipient may not benefit from it. In other words, even if the information is potentially relevant, if it demands excessive cognitive effort, it might be considered less relevant. The concept of optimal relevance is important here. According to Sperber & Wilson (1995: 158), communication is driven by relevance maximization, which is a broader concept than just optimal relevance. Optimal relevance implies that speakers seek to maximize the relevance of their utterances, but relevance may vary depending on factors such as context,

shared knowledge, and communicative goals. A balance is achieved when the conveyed information is optimal for fulfilling communicative objectives, ensuring that the recipient comprehends the message effectively and the sender invests only the necessary amount of cognitive effort. Thus, according to Sperber & Wilson (1995), there is a balance between the relevance of the information and the cognitive effort required to process it: “The more cognitive effects a stimulus has, the more relevant it is [...] the more mental effort involved in processing a stimulus[,] the less relevant it is” (Clark, 2013: 31-32); this view corresponds to the cognitive principle of relevance<sup>17</sup>.

According to Dor (2003: 705), newspaper headlines optimize the relevance of the story for the addressees, as they are short and simple texts and minimize processing time. However, following Finkbeiner (2020), we consider it appropriate to relativize the function of headlines as relevance-optimizers, since the superlative heading construction, as we will show, in many cases requires the subsequent text for complete understanding and “can reach optimal relevance for the reader only if the reader also reads (at least part of) the text” (Finkbeiner, 2020: 149).

Dor (2003) also lists ten properties which newspaper headlines should have to be truly effective; with reference to the superlative heading construction, we emphasize the following: headlines should be short, clear (to avoid ambiguity), interesting, and not presuppose information that is not familiar to the target audience (Dor, 2003: 715). As stated by Dor (2003: 708), this list is “a set of professional intuitions, shared by news editors, concerning the properties of the ‘appropriate headline’”. However, Ifantidou (2009) criticizes this view as being too “prescriptive”, as she considers that these characteristics do not take readers’ expectations into account and do not explain how addressees actually interpret the headlines. On the contrary, for the author, creativity (together with the use of figurative language) plays a key role in headline writing since “creative style and figurative language triggers a highly inferential interpretation process” (Ifantidou, 2009: 713) that enables it to capture the reader’s attention.

Furthermore, Dor (2003) and Ifantidou (2009) affirm the autonomous character of optimally relevant headlines, which can be read as independent texts as an alternative to the text. Finkbeiner (2020) argues that this assumption only applies to headlines with an assertive format; the author analyz-

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<sup>17</sup> According to the communicative principle of relevance, an utterance arouses the expectation of optimal relevance in its recipients (Sperber & Wilson, 1995: 158).

es *wh*-headlines (e. g., *Why the hunger crisis concerns us* [Finkbeiner, 2020: 147]) and demonstrates that they are closely related to the newspaper article because “the main communicative purpose of a *wh*-headline is to direct the readers to the subsequent text” (Finkbeiner, 2020: 163).

#### 4.2 *On the relevance of the superlative heading construction*

From a relevance-theoretic perspective, it is interesting to address the following questions regarding the superlative heading construction:

- Is this a relevant construction (in the sense of Sperber & Wilson, 1995)? If yes, what role does the [NP] slot play?
- What are the cognitive effects on the recipient in processing this construction?
- What role do factors such as context, shared knowledge, and communicative goals play?
- Can this construction be considered an autonomous text, or does it need (portions of) the accompanying text?
- Overall: is it still an effective headline that has the desired effect?

Regarding the superlative heading construction, it is not possible to determine in advance whether the headline can be considered an autonomous text or whether it is also necessary to read the newspaper article to understand it. In general, two conditions facilitate or hinder its decoding:

1. The understanding of the heading depends on the element realized in the [NP] slot. As we will see, factors such as individual and shared knowledge can influence the relevance of an expression. Therefore, it is important to consider the degree of familiarity of the NP filling the slot; generally, two types can be distinguished:
  - it can be supra-regional and/or well-known, i. e., part of the shared knowledge base assumed by newspaper readers, or
  - regional and/or little known (e. g., because it is typical for a certain region or a certain group of people).
2. However, the adjective can also influence the decoding of the construction since the adjectives occurring in this structure are often polysemic.

Furthermore, in the superlative heading construction, proper nouns play a significant role. Proper nouns – whether anthroponyms (personal names), toponyms (place names), or praxonyms (event names) – are commonly used



to complete the construction (see section 3.3), giving it an evaluative and often context-specific interpretation. For example, in instantiations like *Hart, härter, Liverpool against Manchester United* ('Tough, tougher, Liverpool against Manchester United') or *Heiß, heißer, Obama* ('Hot, hotter, Obama') (see (12) and (13)), the proper nouns in the third position acquire a superlative-like quality through the coercion effect. This process forces the nouns to adopt the intensifying meaning typically carried by adjectives in comparative structures. Here, the proper nouns become the focus of evaluation, often carrying the most salient or familiar context for the reader. The cognitive relevance of these names is derived from shared knowledge or social prominence, making the headline more striking and informative to the audience<sup>18</sup>. Proper nouns in this construction also serve a pragmatic function: they evoke immediate recognition and help the reader make inferences based on background knowledge, thus reducing the cognitive effort required to process the headline. This connection to shared knowledge is crucial in optimizing relevance and ensuring that the headline communicates effectively with minimal effort from the reader.

A headline like (11) *Heiß, heißer, Berlin* ('Hot, hotter, Berlin') should not cause any decoding difficulties:

(11) Heiß, heißer, Berlin

So macht die Hitze Spaß: die kühlestn Orte, die besten Erfrischungen und Ratschläge von Ärzten (*Berliner Morgenpost*, 30/06/2010)

'Hot, hotter, Berlin

How to enjoy the heat: the coolest places, the best refreshments and advice from doctors'

Relevance theory speaks of the underdeterminacy of linguistic meaning because the interpretation of an utterance is based on the explicature and the implicature. The explicature arises inferentially from the logical form of the utterance and from the contextual elements; explicatures can be partly encoded and partly inferred. Implicatures, on the contrary, are purely pragmatic inferences (see Clark, 2013: Ch. 5-6). The correct interpretation of an expression is given by inferential processes (implicature) that can be derived from the context and cannot be ascribed to the logical form of the expression. In cases

<sup>18</sup> However, there are also cases where the proper noun is unfamiliar to the reader; for further details, see the comments on (14).

like (11), inference plays an important role. As Ifantidou (2009: 705) notes, contextual implication, which can be inferred from the input and context (even if fragmentary/reduced), is decisive in the interpretation of newspaper headlines: the addressees create ad hoc concepts (occasion-specific senses) in ad hoc contexts. Given the explicature *Heiß, heißer, Berlin* ('Hot, hotter, Berlin'), the reader, through a process of inference, deduces that the polysemic adjective *heiß* ('hot') refers to high summer temperatures. The context can play a decisive role in the correct decoding: *Berliner Morgenpost* is a local newspaper, and the reader is probably in Berlin and experiencing this period of heat. Due to the structure [[adj]<sub>positive</sub>] [adj]<sub>comparative</sub>] [NP]], it is implied that the temperatures in Berlin are very high, perhaps the highest in Germany at the time the addressee reads the newspaper headline. Therefore, such instantiations do not involve great cognitive juggling, and the addressee chooses the most accessible explanation, resulting in an overall interpretation that meets the reader's expectations of relevance<sup>19</sup>.

In other cases, the interpretation of the adjective (and thus of the whole construction) is made explicit through the extension in the [NP] slot. In (12), the NP *Liverpool gegen Manchester United* ('Liverpool against Manchester United') aids the addressees in decoding: even a reader not versed in football might infer that this is sporting competition between the two (football) teams.

- (12) Wir haben es leichter, wissen so ungefähr, was Rot ist und wie es wirkt, wirken soll. So freuen wir uns, wenn wir Schlagzeilen lesen wie: "Hart, härter, Liverpool gegen Manchester United" (*Die Presse*, 21/05/2005).

'We have it easier, roughly know what red is and how it works, should work. That's why we're delighted when we read headlines like: "Tough, tougher, Liverpool against Manchester United".'

The adjective *hart* 'hard/though' is used figuratively and refers to the fact that the match was probably intense, physically demanding, or characterized by aggressive play between the teams involved. It can also suggest that both teams gave their utmost effort to achieve victory, making the match particularly competitive. Example (12) is also very interesting since the construction is not realized as a newspaper headline; however, we have a kind of metalinguistic comment introducing it: *So freuen wir uns, wenn wir Schlagzeilen lesen wie: "Hart, härter, Liverpool gegen Manchester United"* ('So we are happy when

<sup>19</sup> Even two-part headlines like (7) do not require a great cognitive effort since the second part summarizes and/or clarifies the topic of the article.

we read headlines like: “Tough, tougher, Liverpool against Manchester United”); this further confirms the genre-specificity of this construction.

In (13), on the other hand, the forward-referring function of the superlative heading construction becomes apparent. Through a process of inference, readers understand that the adjective *heiß* is not used here, as in (11), in relation to temperature, but instead describes the attractiveness of a person (*Obama*). However, recipients only find out when they read the article that it is about Barack Obama and not his wife Michelle, who is also admired for her looks. Example (13), therefore, illustrates that the superlative heading construction does not always serve an autonomous function, as contextual implications alone are not always sufficient, so that readers must delve into the article for further understanding.

(13) Heiß, heißer, Obama

Alle Welt spricht über Michelle Obamas Oberarme – doch auch ihr Mann Barack findet Anerkennung für sein Äußeres. Ein weiblicher Fan, der den Präsidenten zufällig im Imbiss traf, lobte dessen “verdammst scharfen Körper” (*Spiegel-Online*, 14/05/2010)

‘Hot, hotter, Obama

The whole world is talking about Michelle Obama’s upper arms – but her husband Barack is also recognized for his appearance. A female fan who happened to meet the President in a snack bar praised his “damn hot body”.

In (14), however, the cognitive effort is greater, since the NP is unfamiliar, representing a person unknown to readers, a firefighter who earned the title of “Toughest firefighter in the world” in a competition.

(14) Hart, härter, Klaus Mottl

Wie aus Eisen: Ein Feuerwehrmann kämpft sich durch

Muskeln wie Stahl und ein eiserner Wille – dieser Typ ist zäh wie Leder: Klaus Mottl darf sich “Härtester Feuerwehrmann der Welt” nennen. Diesen Titel gewann der 35-Jährige im vergangenen Jahr in Mönchengladbach (*Mannheimer Morgen*, 5/06/2005)

‘Tough, tougher, Klaus Mottl

As if made of iron: A firefighter fights his way through Muscles like steel and an iron will – this guy is as tough as leather: Klaus Mottl can call himself the “Toughest firefighter in the world”. The 35-year-old won this title last year in Mönchengladbach’

In instantiations like (14), readers are unable to generate ad hoc concepts and contexts. Consequently, contextual implications do not facilitate the decoding of the headline, which is suboptimal from a relevance-theoretic perspective. Interpreting such headlines requires considerable cognitive effort, which contradicts Dor's (2003) assertion that headlines serve as relevance optimizers, as their understanding usually necessitates reading the accompanying article. Examples such as (14) do not align with the characteristics outlined by Dor (2003); they are ambiguous and feature information unfamiliar to readers. It remains unclear whether these cryptic headlines effectively arouse readers' interest and get them to engage with the article, or whether they have the opposite effect and are of no interest to the intended audience.

## 5. Conclusion

This article has analyzed the form and function of the superlative heading construction [[adj<sub>positive</sub>] [adj<sub>comparative</sub>] [NP]] (e. g., *Schlau, schlauer, Scholz*, 'Smart, smarter, Scholz') using a corpus-based approach; this is a schematic construction that employs the paradigm of German adjective comparison. However, instead of an adjective in the superlative form, the construction contains a slot for an NP in the third position, and through a process of coercion, the NP acquires the semantics of the superlative. The superlative heading construction is mainly used in newspaper and magazine headlines, in captions or in significant text passages like paragraph beginnings or endings; therefore, it is genre-specific from a discourse-functional angle. We discussed the pragmatic effects of this construction from a relevance-theoretic perspective, demonstrating that the superlative heading construction is not always relevant (in the sense of Sperber & Wilson, 1995) and cannot always be considered as an autonomous text: readers often need to delve into the article to understand it better, as contextual implications alone may not be sufficient.

The corpus analysis also revealed another construction that involves the realization of a similar pattern, albeit not identical because an adjectival phrase (instead of an NP) occurs in the third position: *billig, billiger, bald bankrott*, 'cheap, cheaper, soon bankrupt', or *brav, braver, christdemokratisch*, 'well-behaved, more well-behaved, Christian Democratic'<sup>20</sup>. Future research needs to describe the form and function of this additional construction and outline the

<sup>20</sup> The examples are taken from the German Reference Corpus.

(horizontal) relations between the two constructions to understand similarities and differences.

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