

Adjektivkomposita

A semantic analysis of adjective compounds in German

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Seminari 101: Descripció i comparació de llengües

Curs 2013-2014



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Resumen

En alemán, la composición es uno de los recursos lingüísticos más utilizados para la formación de palabras. Sin embargo, no se ha prestado demasiada atención a las palabras compuestas por dos adjetivos (compuestos adjetivales). El objetivo de este proyecto se centra en examinar la formación este tipo de compuestos desde un punto de vista semántico con el fin de elaborar una propuesta de clasificación semántica. Para ello, en primer lugar, se da una visión general de las distintas clasificaciones de compuestos y de adjetivos. En segundo lugar, se extraen los compuestos adjetivales de un corpus (*COSMAS Corpus*) para identificar y obtener las posibles combinaciones entre los adjetivos. Finalmente, se analizan semánticamente los adjetivos (en base a la clasificación semántica de la gramática Duden) y se elabora la propuesta de clasificación basada en tres grandes grupos de adjetivos: relacionales, calificativos y participios. Los principales resultados nos muestran que, a pesar de haber una gran cantidad de combinaciones posibles, éstas no son aleatorias, ya que algunas combinaciones no son admitidas. También se ha observado que los adjetivos muestran ciertas tendencias en la formación de los compuestos como, por ejemplo, que los adjetivos calificativos tienen más posibilidades de combinación que los relacionales o los participios, aunque este último grupo pueda aparecer casi siempre como el segundo elemento de un compuesto adjetival.

Palabras clave: *composición, compuesto adjetival, adjetivo relacional, adjetivo calificativo, adjetivo participio*

Key words: *compounding, adjective compound, relational adjective, qualifying adjective, participle adjective*

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1. INTRODUCTION

Languages have the possibility to create new words from already existent elements in the language by means of several morphological formation processes, such as derivation, compounding, loan translation, acronyms, etc. However, one of the main universal principles of creating new words is compounding, which is one of the most remarkable and most productive word formation processes in German. According to Duden Grammatik, it originates more than the 80% of the neologisms.

Although the first constituent of a compound word can be different parts of speech (nouns, verbs, function words, etc.), this final project paper focuses on the compound adjectives in the German language, specifically the ones that are formed with two adjectives. To fulfill this goal, even if it seems simple, we must first address the notions of “compounding” and “adjective”. These points will be further elaborated in the course of the paper.

The objectives of this project are (1) to explore the properties of compound adjectives that combine two adjectival roots and the already existent classifications of compound adjectives, (3) to analyze the propensities of the combining elements involved in these compounds and the relations between the two (or the three) adjectives that form the compound and see if adjectives can combine freely without being bound by any restriction, (4) try to obtain all the possible combinations from a semantic point of view taking into account adjective categories; in other words, to see the combinations of adjectives that can form an adjective compound. Finally, (5) I will try to provide a semantic classification of adjective compounds.

There are two main reasons why I have chosen this topic. The first one is because I am really interested, not only in the morphology and the semantics of this language, but also in the different linguistic phenomena that take place in the different languages. The second reason has to do with the little research that has been done on this type of compounds. Numerous studies have investigated the German compound processes because, as previously stated, it is a highly productive form of creating new words. However, most of them have focused on the nominal compounding, because they are the most common type of compounds.

The paper proceeds as follows: firstly, the structured methodology section is presented, which contains information about the corpus and about the search query. Secondly, the theoretical background about the word formation process of compounding in German is explained, which includes the classifications of adjectives and adjective compounds already made. In the final section, I detail the analysis and specify results of adjective compounds organized by semantic adjective types and I discuss the possible combinations and patterns. Then, I suggest my own classification based on the criteria and arguments exposed in the results of the analysis. Finally, as far as possible, some relevant conclusions are drawn.

2. METHODOLOGY

In order to analyze the properties and the combinations of compound adjectives, there was a need to collect a set of data, consisting of compound adjectives formed with two or more adjectives. The data were extracted from *COSMAS¹ II Corpus web* application, a research-oriented German reference corpus from *Institut für Deutsche Sprache*. This corpus is a collection of electronic contemporary written texts in German from 1772 until now and, even though it is continually expanding, it was last updated in 2012. The texts included in the corpus come from different sources from Germany, Austria and Switzerland: newspapers, non-fiction, specialist and belletristic literature.

In total, the corpus contains 8.9 billion words and is composed of 113 corpora, organized in 10 archives. However, the research was done in *Archiv Tagged-C*, which is based on 26 corpora from *Archiv W*, the main archive of the corpus (40% of the texts in *Archiv W* were labelled with grammatical tags and formed *Archiv Tagged-C*). Thus, *Archiv Tagged-C* is morphologically and syntactically tagged and allows search queries by parts of speech and the position of the elements. This corpus, which includes 6.473.537 texts and was last updated in 2012, was edited and published by *DeReKo* (the *Deutsches Referenzkorpus*).

The reasons for using *COSMAS II Corpus* are because of its wide collection and diversity of texts it contains, but above all because it is morphologically tagged, so that search queries regarding the grammatical categories and morphological analysis were possible. Another reason is the institution that is behind the project, a reference in the field of German linguistics. . Because of the frequent use and productivity of adjective compounds in written formal texts, the presence of a press section in the corpus was an additional point in favor of this corpus.

To analyze the different types of compound adjectives, firstly three or more simple adjectives were chosen from each category the classification that will be discussed in the following section. Since the adjectives were the examples proposed by the classification, they are supposed to be the prototypical ones, that is, the ones that have the main characteristics of each category. Furthermore, I added two or three more that were illustrative for each group in my view. Secondly, the search query applied to every adjective was the following:

¹ It stands for Corpus Search, Management and Analysis System.

(&adjective &w0 adjective*) /w0 MORPH(A)

Example of use: (&warm &w0 warm*) /w0 MORPH(A)

Other settings had to be adjusted: the “Komposita” box in the lemmatization search options had to be ticked and the option “Groß-/ Kleinschreibung beachten für 1. Zeichen” (“case-sensitive in the first character”) had to be activated. As you can see in Figure 1, the result was a series of compound adjectives (formed by two or more adjectival roots) distributed in two lists; one where the adjective was the first part of the compound and another where it was the second element. In the case of *warm* (“hot”), the corpus listed all the compounds beginning with *warm* and all the compounds ending with *warm*. However, the results were not always accurate and therefore were manually selected.

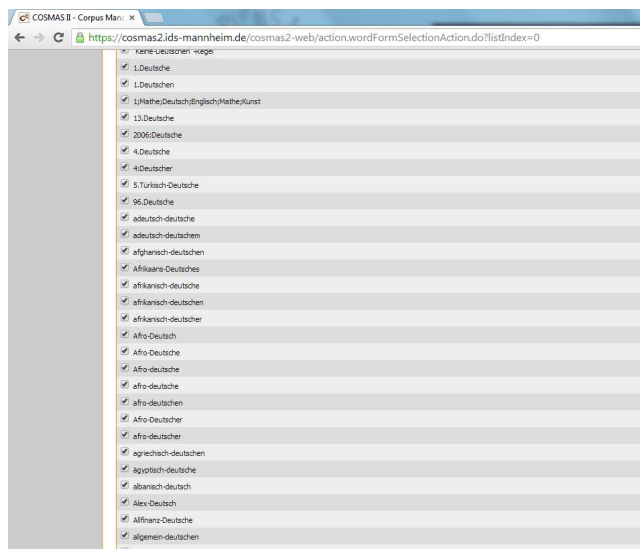


Figure 1: Results from the corpus

Moreover, the corpus system enables to see each and every word in the context of the items found, as well as the frequency in the corpora. Except in a few specific cases where the meaning was not clear, consulting the context or the frequency was not necessary. Finally, from all the lists, the adjective compounds were analyzed and classified into different formation patterns and combinations. The most relevant examples are shown at the end of the paper (Appendix A).

As a final note, I had some trouble in the search process, which was solved by contacting a member of the corpus staff, who kindly sorted them out. Concretely, I could not edit the search query to look only for compound adjectives.

3. BACKGROUND

In order to go into depth on the details and the understanding of *Komposita*, the next chapter contributes to a better comprehension of the compounding process and the compound words. The first section presents general information of compounds and the second provides an overview of the classifications already made (not only on compound words but also on adjective compounds), and the criteria they are based on, so that it will give us an insight into their structure and role. In order to fulfill the final objective of the present paper that is to obtain the possible combinations of adjectives that can happen in a compound, the final section includes an overview of adjective typology from a semantic perspective.

3.1 Compounding in German

Generally speaking, a compound word (*Komposita* in German) is “a union of two or more words, either with or without a hyphen. It conveys a unit idea that is not as clearly or quickly conveyed by the component words in unconnected succession.” (GPO, 2008; 95). I will omit the other way in which complex words can come about: “groups of words that frequently co-occur in speech that come to be perceived as single units” (according to Haas, 2012; 2). As the author quotes from Eisenberg (2004), this second type is traditionally not considered “compounding”. It is also important to consider that the lexical items in a compounding process should be free forms, that is, they should be independent and have meaning on their own. Hence, elements that are not attested as independent words are not considered to form a compound in this paper.

In a German compound word, the second word is usually the root word (*Grundwort*), which is complemented by the first one in several ways. Notice that the two (or three) forms combined can be either simple (for example, *Buch*) or complex, which at the same time can be a compound itself (*Buchpreis*) or, as adjectives, can have affixes like *un-* (*unklar*) or *-heit* (*Schönheit*). However, grammatical flexion cannot appear in the first constituent of a compound (*roter Wein- Rotwein*) (Steinbach, 2007). Furthermore, in German two (or three) items might be put together without problems (the spelling is both necessary and sufficient condition for a compound in German), whereas in other

languages there are formation rules or the idea is expressed by a clause, like in most English cases.

Let us consider why this type of formation process is so productive. First of all, the main use of compounding is to extend the lexicon, as well as to name new or already existing realities which socially seem inappropriate (euphemisms). Moreover, as stated in Seijo (1978), there are the four main reasons: the limited quantity of suffixes that the German language has at its disposal to form adjectives; the possibility to express a complex idea with as few as possible words; the analogy principle, that is, forming new adjectives by taking a compound adjective as an example (*Schneeweiss: Michweiss, Blütenlilienweis*; “snow-white”: “milk-white”, “sparkling white”); and the stylistic language function. However, I disagree with the first reason, because actually there are many suffixes that can form adjectives in German: *-bar, -e(r)n, -er, -fach, -haft, -icht, -ig, -isch, -lich, -los, -mäßig, -sam, -abel/-ibel, -al/-ell, -ant/-ent, -ar/-är, -esk, -iv, -oid, -os/-ös* (Steinbach, 2002).

3.2 Typology of compound words in German

The body literature in compound words shows that numerous classifications of compound adjectives (and compounds, in a more general perspective) can be sorted on the basis of the core of theoretical linguistics fields: syntax (the syntactic relationship, the notion of “head²”...), semantics (logical relationship between the elements, the resulting meaning...), morphology (the number of constituents, the grammatical category...) and phonology (the prosodic type, the stressed syllable...). Since this analysis can generally apply to all types of compound words (and not only to adjective compounds), in this chapter, I firstly review the most remarkable groupings of compound words in general and then I focus on the adjective compounds typology.

3.2.1 Classifications of general compound words

Even though there are a huge variety of compound words categorizations, I have found that most all authors have some concepts in common, regardless of the classification

² The term “head” refers to the most important unit in the linguistic structure that syntactically dominates the compound.

label and the terminology they use. The first and the main distinction that they make is the difference between determinative compounds (*Determinativkomposita*) and copulative compounds (*Kopulativkomposita*).

In determinative compounds, the second constituent determines the first one, not only semantically, but also morphologically. This means that, although both constituent parts of the compound can be from a different grammatical category, the grammatical category of the whole unit is determined by the second constituent. For example, *Tomatenrot* (“tomato red”) is compounded by a noun (*Tomaten*) and an adjective (*rot*) as the second element. As a result, the compound is an adjective. In semantic terms, the set of entities denoted by the compound is a subset of the entity that the second constituent denotes. For instance, *Tomatenrot* is a type of *rot* and *Winterwanderung* is an excursion (*Wanderung*) made in winter (*Winter*). Consequently, the two constituents of a *Determinativkomposita* cannot be interchangeable without changing the unit meaning. Duden die Grammatik (2009) adds that the first element (called *Bestimmungswort* or *Determinants*) is subordinated to the second constituent (*Grundwort* or *Determinantum*).

In contrast, the constituents that form a copulative compound³ must be from the same grammatical category. Due to the equivalent semantic weight in the unit, the constituents in this sort of compounds are supposed to be interchangeable (*süß-sauer*, *sauer-süß*; “sweet-and-sour”). However, in agreement with Pittner (2005) and Donalies (2011), it is not clear that it can be so in all cases, because sometimes they have an established order. Nevertheless, these will not be considered in this paper, due to space and scope constraints.

There are other authors that vary in this main typology, adding or completely changing the categorization. For example, Alexander Florin (2002) suggests another type of compounds, apart from determinative and copulative compounds: the feature compounds, which describe an entity by its features. And Bernd Sieberg (2006) specifies two types of determinative compounds concerning their morphology: (1) a noun + an adjective or participle form (*randvoll*, “brimful”; *sonnenstrahlend*,

³ These are also called coordinative compounds in some classifications (Bergische Universität Wuppertal, 2008; Detmold, 2013).

“sunbeam”; *wassergekühlt*, “water-cooled”) and (2) adjective + adjective (*sozialpolitisch*, “sociopolitical”).

Moreover, Bauer (2001) adopts a completely distinct categorization and specifies three types of compounds. The first one describes people and places, such as *Kinocafé* (*kino* “cinema”) or *Radiowecker* (“radio alarm clock”). The second group is *Dvanda* (from Russian, “two and two, pair”), which fundamentally describes the relationships between countries or nationalities (*Österreich-Ungarn*, “Austria-Hungarian”). The third subclass, called *brat-sestra* (“siblings”) in Russian cannot be found in the German language, but the concepts can also be expressed like *geld und gut* (literally “money and goods”), *Feuer und Flamme* (“fire and flame”).

Elke Donalies (2011) makes a similar division to the general classification made above, but he also considers reduplication (*Reduplikation*) and contamination (*Kontamination*) as compounding formation processes. The first one consists of interjections and onomatopoeias, such as *Mischmasch* (from the verb *mischen*, “to mix”). An example of contamination would be *Kamedar*, which can also have a “copulative reading” (“*sowohl Kamel als auch Dromedar*”; “not only a camel but also a dromedary”). Yet, these compound processes are not taken into account in my analysis, since the resultant compound words are not adjectives.

From a semantic standpoint, some linguists agree with the view of Duden die Grammatik (2009) that divides determinative compounds into *Nicht-rektionskomposita* (they have free interpretable meaning) and *Rektionskomposita* (the second element establishes the meaning). However, this division does not apply to copulative compounds, since their constituents are semantically arranged and can be rewritten with *and* or *between* (*schwarz-weiße Katze*, *Katze*, *die Schwarz und weiß aussieht*; a black-and-white cat; a cat, that looks black and white).

Some other linguists suggest their own classifications with diverse criteria that lead to different classifications between them. For example, Steinbach (2007) supports a categorization of nominal compounds (taken from Frandrych & Thurmair, 1994) based on the semantically-logical relationship (thematic roles) between the elements, which presents categories like constitution (“is composed of”), situation (“is in”), instrument (“it works with the help of”), etc. Bernd Sieberg (2006) also takes the logical

relationships into account like locative, causal, instrument, finality or consequence relations.

Alexander Florin (2002) makes a division of copulative compounds with regard to four semantic criteria: the “interchangeability”, the semantic dominant constituent, the paraphrase and the preference of interpretation. The first two criteria have already been mentioned above and the third one corresponds to the possible reformulation of a compound (*zweirädrig*, *zwei Räder habend*; “two-wheeled”, “to have two wheels”). However, the last criterion shows us that, when a compound has ambiguous interpretations, syntax cannot disambiguate them leaving then the choice of interpretation to the speaker. Therefore, we can see that the interface between syntax and semantics is not clear-cut, as there is a certain degree of overlap between these two linguistic areas.

Accordingly, many authors and institutions, like Bergische Universität Wuppertal (2008) or Donalies (2011), make the following semantic-syntactic distinction: *exozentrische Komposita* (exocentric compounds) and *endozentrische Komposita* (endocentric compounds), taking as a starting point the criteria of the compound syntactic head introduced in the previous section. Unlike in the exocentric compounds, which have an external meaning, the meaning of an endocentric compound is inferable from the sum of the meaning of the constituents.

3.2.2 Classifications of adjective compounds

In agreement with Sara Conti (2006), “compound adjectives as a category have not received a systematic treatment so far”. Hence, as we have already seen with compound words classifications, a wide range of typologies and distinctions can also be found for this type of compounds. On the one hand, specialists frequently consider adjective compounds to be in one (or the two) main groups of compound words that we have already seen (determinative and copulative compounds).

On the other hand, their views differ. For example, Elke Donalies (1996) includes adjective compounds in the copulative compounds group and he further identifies two subtypes of adjective compounds: color compounds (*Farbkomposita*) and compounds that describe people, like *amerikanisch-israelisch* (“American-Israeli”). However, Anna

Machanova (2006) includes adjective compounds in both groups, even though she morphologically identifies subgroups, such as adjective+adjective (*altkug, dunkelrot*; precocious, dark red) or adjective+ participle, like *hochbegabt* (highly skilled).

A tendency towards a morphological classification of these kinds of compounds has been observed. For instance, in Wahrig (2002) the following categorization is made: “adjective+adjective or participle” and “substantive+adjective/ participle”. Furthermore, Lohde (2006) proposes a morphological analysis concerning the formation process that each element undergoes. The following possibilities result: both elements are simple units (*hellwach*, “wide awake”), one element is simple but the other one is a derived adjective (*silbrig-weiß*, “white silver”), both are derived adjectives (*römisch-katholisch*, “Roman Catholic”), the first element is in its superlative form and the second adjective can be in the comparative form (*kleinstmöglich*, “smallest possible”), the second element is a participle (*hochgespannt*, “high, extreme”) and, finally, the second element is a participle that often combines with a superlative form (*bestbezahlt*, “best-paid”).

Another morphological classification is suggested by Walter Jung (1971), who groups three types of adjective compounds (in the determinative compound group). The first group consists of compounds formed by two adjectives and also the color adjectives (*dunkelrot*). The author admits that the latter type of case can be confused with copulative compounds. The combination of the second group is a substantive followed by an adjective and the third group includes combinations consisting of an adjective followed by a participle (*russischsprechend*, “Russian-speaking”). We should highlight that Jung considers the adjectives in the last group as adverbs, since they are complementing a verb form.

In contrast to this view, Sara Conti (2006) takes Hellinger’s classification of participial compounds into account. Relying on a semantic-syntactic criterion (the syntactic context and the role played by the first element), considers these participial forms as adjectives, as well as Peth Gergely (2006), who supports the idea that verbal participle forms that have lexicalized and function as an adjective.

In terms of semantics, Ulrich Engel (1996) differentiates three classes of adjective compounds (in the main group of copulative compounds): a group that establish a relation between two areas (*deutsch- englisch*, “German-English”), a group that imply the notion of “*sowohl als auch*” (“not only, but also”), like *blau-weiß* (blue-white), and

a third group that denotes a mix, a nuance or a shade (*blaurot*; purple, blue and red). Duden die Grammatik also makes the two last distinctions, but they are called additive (*and*) and medial (*between*) compounds.

Finally, Vladimir Z. Jovanovic (2007), without losing sight of morphological features, also takes a semantic view of adjective compounds classifying them by what they refer to: color, physical and mental qualities, parts of the body, objects associated with people, etc.

3.3 Semantic classifications of adjectives

First of all, the notion of adjective should be clear. In accordance with Merriam-Webster Dictionary (2004), an adjective is:

“a word belonging to one of the major form classes in any of numerous languages and typically serving as a modifier of a noun to denote a quality of the thing named, to indicate its quantity or extent, or to specify a thing as distinct from something else.”

In addition, an adjective can define and complement concrete and abstract objects, as well as generate metaphorical extensions. For example, *Das ist sehr schwer* (“this is very hard”) and *Ich habe eine anstrengende Zeit gehabt* (“I had a very hard time”). In German, adjectives have declination suffixes in most cases and in the three genders (feminine, masculine and neuter).

Particular emphasis should be given to participle forms, as they have the possibility to function as adjectives and, therefore, it makes them accountable for adjective compounds formation. However, not all specialists have the same point of view, since they cannot stand alone and appear outside the compound word. For the purpose of this paper, I consider participle forms as adjectives, because they can have the same properties and functions, even though they are formed on the basis of a verb, i.e. *Partizip I* and *Partizip II* in German⁴.

Having clarified the notion of adjective and in order to identify and examine the semantics and the formation of compound adjectives, we should first review the

⁴ There are two types: *Partizip I* and *Partizip II*, depending on the verb inflection of the participle form in German.

literature regarding the different semantic classifications of adjectives with one main objective: make the decision of choosing the most appropriate classification, on which the analysis is going to be based.

As expected, many interpretations of adjectives have been found, since they can be divided into different linguistic points of view and on the basis of heterogeneous criteria. Nevertheless, keeping in mind the project aim of analyzing the compounds in semantic terms, only semantic approaches are presented and characterized below. As a consequence, some points in common in their criteria and classifications have been detected.

An example of a semantic view would be the one from Anne Arold (1997), who makes a division on the basis of the dominant features resulting space adjectives, body adjectives, light/color adjectives, mental/physical adjectives, clothing adjectives and general adjectives. A similar division is made by Dixon (2004), but he suggests three semantic types of property concepts that can be applied to adjective classes: core semantic type (dimension, age, value, and color), peripheral semantic type (physical property, human propensity and speed) and semantic type in large adjective classes (difficulty, similarity, qualification, quantification, position and cardinal numbers).

Tim Phillips (n.d.) bases his classification on a different criterion: the position of the adjective in relation to the noun that it describes, giving as a result the two following groups: predicative adjectives and attributive adjectives. The first ones appear to the right of the noun, whereas attributive adjectives appear directly to the left of the noun. Moreover, Fernández López (2010), in spite of using different terms (qualifying and classifying adjectives), makes a similar division from a slightly different standpoint: the situation of the adjective in a nominal phrase. He goes beyond the superficial structure of the sentence and adds more syntactic features to each group. On the one hand, qualifying adjectives have an intensifying purpose, are more subjective and have the function of describing, rating and commenting, that is, they make a subjective contribution to the meaning. On the other hand, classifying adjectives are more objective, have an extensive or a restrictive purpose, and their function is to define, to differentiate or to enclose the meaning of the noun being described.

Another categorization is Robert Saxer's (2013), who characterizes adjectives in accordance with what they denote: adjectives that manifest human characteristics

(*dumm*, “dumb”; *stark*, “strong”), features (*laut*, “loud”; *warm*, “warm”), dimension (*lang*, “long”; *kurz*, “short”), valuation (*gut*, “good”; *falsch*, “wrong”) and states (*gesund*, “healthy”; *hungrig*, “hungry”).

A more interesting approach is suggested in the grammar from Helbig/ Buscha (1991), where adjectives are characterized from two different positions. The morphological division depends on whether they have declination, comparative or superlative forms and on which complement they take. Under these categorizations, several subclasses are distinguished: qualitative adjectives, color adjectives (*Fabradjektive*); numeral adjectives (*Zahladjektive*); spatial adjectives (*Lokaladjektive*) such as *unter*, *inner*, *dortig* (“under”, “inside”, “local”); relational adjectives (*Bezugadjektive*), like “*der orthographische Fehler*” (“the orthographical error”) or “*die väterliche Wohnung*” (“the paternal apartment”); origin adjectives (*Herkunftsbezeichnungen*), which refer to a place or a continent; material adjectives (*Stoffadjektive*), like *metallen*, *golden* or *steinen* (“metallic”, “gold”, “stony”); and temporal adjectives (*Temporaleadjektive*), an example of which would be *heutig* (“today’s”).

A much more exhaustive and precise classification is presented by Lee (1994) and adds a few more subclasses: property adjectives (*Besitztadjektive*), material adjectives (*Stoffadjektive*), quantity adjectives (*Mengeadjektive*), spatial adjectives (*Raumadjektive*), temporal adjectives (*Zeitadjektive*), belonging/ affiliation adjectives (*Zugehörigkeitsadjektive*), instrumental adjectives (*Instrumentativa*), correspondence or equivalence adjectives (*Entsprechungsadjektive*), action adjectives (*Handlungsadjektive*), referential adjectives (*Bezugadjektive*), reason adjectives (*Kausativa*), equating adjectives (*Gleichsetzungsadjektive*), gradable adjectives (*Gradadjektive*), modal adjectives (*Modaladjektive*), event adjectives (*Vorgangsadjektive*) and comparable adjectives (*Vergleichsadjektive*).

As stated above, similar classification tendencies between authors have been observed. These are the cases of Ulrich Engel (2009), Uwe Helm Petersen (2007). Engel specifies five of the following classes: quantity adjectives, referential adjectives, qualifying adjectives (material and participle adjectives fall into this group), classifying adjectives and origin adjectives (they manifest the precedence). With different terminology and slightly different subgroups, Uwe Helm Petersen (2007) suggests the following types of adjectives: *Evaluierer* (“evaluators”), that describe things, processes or characteristics

emotionally or evaluating, positive or negative; *Beschreiber* (“descriptors”), that describe without the speaker’s opinion, they are objective, *Klassifikatoren* (“classifiers”), which classify things into classes; and *Numerative* (“numerals”), that denote quantity or order.

Finally, Anna Machanova’s interpretation (2006) and Duden die Grammatik (2009) are the same, which seems that Anna Machanova strictly follows the categorization of Duden. According to the latter, there are four main groups of adjectives, regarding their semantic, that can be subdivided into smaller categories. For the sake of clarity, this classification is presented in a more schematic form and organized:

(1) Qualifying adjectives (*qualifizierend Adjektive*); subdivided into color (*Farbe*), form (*Form*), taste/smell (*Geschmack/Geruch*), sound (*Ton*), surface (*Oberfläche*), temperature (*Temperatur*), esthetics (*Ästhetik*), morals (*Moral*), intellect (*Intellekt*), spatial dimension (*Räumliche Dimension*), temporal dimension (*Zeitliche Dimension*) and truth/validity (*Wahrheitsgehalt*).

(2) Relational adjectives (*relationale Adjektive*); subdivided into geography (*Geographie*), country/nation/language (*Staat/Volk/Sprache*), religion (*Religion*), epoch (*Epoche*), job/occupation (*Beruf*), field (*Bereich*), material (*Stoff*), point in time (*Zeitpunkt*) and spatial position (*Räumliche Lage*).

(3) Quantifying adjectives (*quantifizierend Adjektive*): this group deals with determined quantities (*bestimmte Menge*), undetermined quantities (*unbestimmte Menge*) and ordinal numbers (*bestimmte Folge*).

(4) Participle adjectives: they are also called participle adjectives (*adjektivisch gebrauchte Partizipien*) and, as we have already seen, there are two types: *Partizip I* and *Partizip II*.

4. SEMANTIC ANALYSIS OF ADJECTIVE COMPOUNDS

In the following chapter, the choice of a classification will be argued and a semantic approach of adjective compounds will be discussed. First, in section 4.1, I will present the classification that I have chosen and give the reasons in favor of this particular classification, and then I outline some miscellaneous changes that had to be made. In section 4.2 the results of the analysis are reported and, finally, a semantic classification of adjective compounds is suggested.

4.1 Chosen classification

Having analyzed and revised the many contrasting views of compound words and adjective compounds in section 3.1, I have not found any classification that takes the adjectives semantic category into consideration. Consequently, the analysis in the present paper will be based on morphological criteria, but above all, on semantic criteria. Morphology is necessary to make the distinction between the general compound group and the adjectival compounds in the sense that an adjective compound has to be composed of one adjective at least. In this case, we are concretely looking for and analyzing the adjective compounds that are formed by two adjectives. With this in mind, semantics play the most important role, as the combinations are examined under the types of adjectives they consist of.

After examining and evaluating the semantic classifications of adjectives in section 3.3, I have chosen the classification of Duden die Grammatik (2009) as a framework to analyze the adjective compounds. Before discussing the reasons for this choice, although the typology has already been explained briefly in the previous section, I will go through this classification into more detail specifying the subgroups and showing the same examples of each group that also appear in the grammar book (Duden die Grammatik, 2009):

(1) Qualifying adjectives (*qualifizierende Adjektive*):

- Color (*Farbe*): *rot* (red), *grün* (green), *hell* (light), *dunkel* (dark).
- Form (*Form*): *eckig* (angular), *rund* (round), *quadratisch* (square), *oval* (oval), *weit* (vast), *breit* (wide), *lang* (long), *hoch* (tall), *bergig* (hilly).
- Taste/smell (*Geschmack/Geruch*): *süß* (sweet), *sauer* (sour), *bitter* (bitter).

- Sound (*Ton*): *laut* (loud), *leise* (low), *piepsig* (squeaky), *schrill* (jarring).
- Surface (*Oberfläche*): *rau* (rough), *glatt* (smooth), *uneben* (uneven), *weich* (soft), *hart* (hard).
- Temperature (*Temperatur*): *kalt* (cold), *warm* (warm), *heiß* (hot).
- Esthetics (*Ästhetik*): *schön* (nice), *hässlich* (ugly), *ekelhaft* (disgusting).
- Morals (*Moral*): *gut* (good), *schlecht* (bad), *böse* (angry), *durchtrieben* (crafty).
- Intellect (*Intellekt*): *klug* (smart), *dumm* (stupid), *witzig* (funny).
- Spatial dimension (*Räumliche Dimension*): *hoch* (high), *breit* (wide), *tief* (deep), *dick* (fat), *flach* (flat).
- Temporal dimension (*Zeitliche Dimension*): *früh* (early), *spät* (late).
- Truth/validity (*Wahrheitsgehalt*): *angeblich* (alleged).

(2) Relational adjectives (*relationale Adjektive*):

- Geography (*Geographie*): *afrikanisch* (African), *asiatisch* (Asian), *kontinental* (Continental).
- Country/nation/language (*Staat/Volk/Sprache*): *englisch* (English), *französisch* (French), *spanisch* (Spanish).
- Religion (*Religion*): *katholisch* (Catholic), *evangelisch* (Protestant), *islamisch* (Islamic).
- Epoch (*Epoche*): *römisch*, *mittelalterlich* (medieval), *romanisch* (Romanic), *romantisch* (romantic), *ehemalig* (former).
- Job/occupation (*Beruf*): *ärztlich* (medical), *polizeilich* (police), *richterlich* (judicial).
- Field (*Bereich*): *wirtschaftlich* (economic), *staatlich* (state, national), *technisch* (technical), *wissenschaftlerisch* (scientific).
- Material (*Stoff*): *golden* (gold), *hölzern* (wooden).
- Point in time (*Zeitpunkt*): *heutig* (today's), *gestrig* (yesterday's), *letztjährig* (last year's).
- Spatial position (*Räumliche Lage*): *dortig* (local), *vordere* (front), *linke* (left).

(3) Quantifying adjectives (*quantifizierende Adjektive*):

- Determined quantities (*bestimmte Menge*): *viel* (a lot), *wenig* (little, few), *unzählige* (innumerable), *andere* (other).

- Undetermined quantities (*unbestimmte Menge*): *eins* (one), *zwei* (two), *drei* (three), *hundert* (hundred).
- Sequences (*bestimmte Folge*): *erste* (first), *zweite* (second), *dritte* (third), *hunderste* (hundredth).

(4) Participle adjectives (*adjektivisch gebrauchte Partizipien*):

- *Partizip I*: *suchend* (seeking), *verschwindend* (missing), *einladend* (inviting), *belastend* (incriminating).
- *Partizip II*: *gesucht* (wanted), *verschwunden* (missed), *eingeladen* (invited), *belastet* (incriminated).

The principal reason for using this classification is the global view that it gives, as it does not have so many subdivisions like other classifications seen before. Another reason is the institution supporting this classification, because it is a reference in the German linguistics world. In addition, there is a relevant and practical reason for using this classification: most adjectives can be arranged into these types. In contrast, I find that some classifications would be either too general, like the one suggested by Robert Saxer (2013), or too detailed for the purpose of this paper, such as the one proposed by Lee (1994).

However, Duden's classification does not perfectly match with the data collected from the corpus. Therefore, having examined and studied the set of data, I suggest that some miscellaneous changes need to be done in the sense that two new groups should be added and another subgroup could be eliminated. On the one hand, I consider including a category where the body-related adjectives could fall into. For example, the adjective *köpfig* ("headed"), which can form combinations like *rundköpfig* ("bullet-headed"), do not fit in any of those subgroups, even though they should be in the relational adjectives category. In addition, I have observed another type of adjective that could not be classified into any subgroup: political adjectives, that is, adjectives related to politics and ideology. An example would be *anarchisch* ("anarchist"), *demokratisch* ("democratic") or *kapitalistisch* ("capitalistic").

On the other hand, I find that adjectives related to jobs and occupation (*richterlich*, "judicial"; *ärztlich*, "medical", etc.) could be omitted, because I have observed that not only do they occur occasionally, but also that they could be redistributed into other

categories, mainly the one of adjectives relating to a field, like *wirtschaftlich* (“economic”) or *technisch* (“technical”). Thus, adjectives like *ärztlich* (“medical”) or *polizeilich* (“police”) could be related to an area (of work) as adjectives like *psychologisch* (“psychological”) or *psychotherapeutisch* (“psychotherapeutic”) are related to a science field or job. In short, when analyzing the adjective types, I have realized that the boundaries between these two types are not clear enough to split the group into two categories.

Some other clarifications regarding the types of adjectives that are considered in the analysis should be made about the inclusion and exclusion of four adjective types: quantifying adjectives, intensifying adjectives, participle adjectives and double adjectives. First of all, I have only analyzed three of the four types that the clarification includes; for the purpose and extent of this paper, I have left out the quantifying adjectives.

Secondly, I have not taken into account intensifying adjectives as part of a compound word (they are called *Steigerungskomposita* in German), which include forms like *super-* (“super”), *voll-* (“full”), *hoch-* (“high”) or *tief-* (“deep”)⁵, although some specialists, like Ludmila Klara (2009) or Sara Conti (2006) do consider them in their classifications. The main reason why is that they have the function to strengthen and boost the meaning of the second constituent. Thus, they do not contribute to the semantic meaning of the adjective compound and might suppose a bias for the set of data extracted from the corpus and the resulting classification.

Thirdly, as has been already mentioned (see section 3.3), I have considered participle forms as adjectives, because they can have the same properties and functions, which means above all that they decline like all adjectives when they complement a noun and they semantically contribute to the description of the noun they are adjunct to.

Finally, although some authors (Fleischer&Barz 1995; Donalies 2005) have categorized double adjectives like *tief-tief* (“deep-deep”) or *grau-grau* (“grey-grey”), in the present analysis they can be found in the adjective category they denote. For instance, the

⁵ *Hoch*, *tief* and some other adjectives can have the intensifying function here described or can have semantic weight. In this analysis, they are only considered when having semantic meaning in the compound.

second case (*grau-grau*) is classified as an F+F compound (color adjective + color adjective).

4.2 Results of the analysis

The focus of this section is to present and discuss the results obtained on adjective compounds from the *COSMAS II Corpus*. The analysis is based on the possible combinations found between the adjective types in the sense that, when a single example of an adjective compound was found, the combination was viable. By way of illustration, if a compound is formed by a color (F) and a morals adjective (M), such as *hellheiter* (“light and cheerful”), the combination F+M is possible. Something more needs to be said about the presentation of the results: when exemplifying, sometimes it is not possible to translate the adjective compound into English, because they almost always express an idea which might not be transferable into other languages. Hence, the translation of each adjective is separately provided, so that a general meaning can be inferred.

So as to simplify the findings and make them clearer, the results have been divided into the three semantic groups of adjectives, based on the chosen classification (Duden die Grammatik, 2009): qualifying adjectives, relational adjectives and participle adjectives. Each section is elaborated from the point of view of each adjective type and, consequently, some combinations are emphasized and given more attention in one section or another.

Furthermore, the combination forms found in the corpus data are displayed in two tables in the appendices, giving a more precisely view of the combination possibilities. See Appendix B for relational and participle adjectives and the table in Appendix C for qualifying adjective combinations. More examples of each possible compound are reported in the Appendix A, also sorted by the three main groups.

4.2.1 Qualifying adjectives

As for qualifying adjectives, findings have shown that all of them can form a compound with an adjective from the same semantic category. For instance, an adjective denoting

moral can always be combined with other moral adjectives (*böse-ironisch*, “angry-ironical”; *böse-wichtig*, “angry-important”) or an intellect adjective can always form combinations with other intellect adjectives (*witzig-beschaulich*, “funny-peaceful”; *dumm-schwatzhaft*, “foolish-talkative”).

As can be inferred from the Appendix C, I have perceived a clear tendency of qualifying adjectives to combine with qualifying adjectives, rather than with relational adjectives. On such occasions, temperature adjectives show a lot of possible combinations in the first position (*kaltmödisch*, (“cold and fashionable”); *warm-feucht*, “warm and damp”; *warmfarbig*, (“warm and colorful”); *kaltaktiv*, “cold and active”; etc.), despite not being possible with spatial dimension adjectives and truth and validity adjectives.

Moreover, compounds formed by any qualifying adjective in the first position and an esthetic, moral or intellect adjective in the second position have been found to be always possible. Let us consider some examples: *wärmsensibel* (“warm and sensitive”), which is a combination of a temperature adjective and an esthetic one; *nass-fröhlich* (“wet and cheerful”), where a surface adjective and a moral adjective are combined; and *flach-dekadent* (“flat and decadent”), formed by an intellect adjective and an adjective related to spatial dimensions.

In addition, all qualifying adjectives can combine with participle adjectives (in the second position), either with *Partizip I* or *Partizip II* (*rosa-gepunktet*, “pink-spotted”; *schrill-hämmern*, “jarring and throbbing”; *leise-verspielt*, “quiet and playful”; etc.) in exception to truth and validity adjectives. Regarding this group of adjectives, I have found that they show the fewest number of possible combinations when they are in the first position, because they only appear with moral adjectives (*möglichstluftig*, “possible and airy”), country/nation/language adjectives (*möglichenarabischen*, “possible and arabic”), taste/smell adjectives (*möglichst-geschmacklos*, “possible and bland”), *Partizip II* (*sicher-gestellt*, “sure and arranged”) and adjectives from the same category, like *sichestmöglich* (“sure and possible”).

In contrast, I have noticed that spatial and temporal dimension adjectives are the ones that can form fewer combinations when they are the second constituent of the compound. However, when they appear in the first position, they can form a higher number of combinations. For instance, they can combine with epoch adjectives (*früh-*

byzantinisch, “early-Byzantine”), sound adjectives (*frühmusikalisch*, “early and musical”), moral adjectives (*spät-wirksam*, “late effective”), and so on.

As for the most productive adjectives either in the first or second position, color adjectives are the ones that offer the widest range of possible combinations. For example: *rot-schwarz* (“red and black“), *rot-schlammig* (“red and muddy”), *rosa-silbern* (“pink and silver”), *hellräumig* (“bright and roomy”), *hellschriftig* (“bright and written”), *dunkel-funktional* (“dark and functional”), etc. What is more, temporal and spatial dimension adjectives can combine, interestingly, with the same type of relational adjectives when they are the first constituent. Take the case of *tief* (spatial dimension adjective) and *früh* (temporal dimension adjective): both can form a compound with color adjectives (*tiefgelb*, “yellow deep”; *frührot*, “early red”), morals adjectives (*tiefmelancholisch*, “deep melancholic”; *frühfunktionell*, “early functional”), intellect adjectives (*tiefensympathisch*, “deep likeable”; *frühautistisch*, “early autistic”), etc. This is probably due to their semantics, since they are the only qualifying adjectives that express a dimension.

What has also been observed is the lack of some combinations. Particularly, I have not found any case of combinations, where spatial position adjective (*hoch*, *breit*, *tief...*⁶) is the second part of the compound or where a sound adjective like *laut* or *leise* combines with any relational adjective. Besides, I have not found any compound formed by an adjective denoting a form (as the first constituent) and a color or a material adjective, which is quite unusual from my point of view, because the three groups semantically describe physical features.

Finally, according to what has been said in the previous section (4.1), I propose the addition of two subgroups⁷: body-related adjectives and political adjectives (adjectives regarding politics and ideology). The main reason for doing so is that I have observed that both types are quite common and manifest combinations with different other adjectives. In the combinations with qualifying adjectives, findings have shown that, on the one hand, political adjectives can be found in the second position of a compound, when the first element is a sound adjective (*schrill-anarchisch*, “jarring and anarchical”), spatial dimension adjective (*tief-demokratisch*, “deep democratic”), an

⁶ The respective translation is provided in section 4.1.

⁷ They should be added in the relational adjectives (see section 4.2.2), but they are also considered here because of their possibility to form compounds with qualifying adjectives.

intellect adjective (*witzig-anarchisch*, “funny and anarchical”) or a temporal dimension adjective (*spätrepublikanisch*, “late republican”). On the other hand, adjectives related to parts of the body in a second position can form a compound with some qualifying adjectives, regarding color (*dunkeläugig*, “dark-eyed”), form (*rundköpfig*, “bullet-headed”; *rundgesichtig*, “round-faced”), taste or smell (*sauerbödig*, “sour and bodily”), sound (*schrill-nasal*, “jarring and nasal”), surface (*glattfüßig*, “smooth and feet”), and spatial dimensions (*flachnasig*, “flat-nosed”; *flachköpfig*, “flat-headed”; *breitfüßig*, “wide-feet”; *breitbeinig*, “wide-legged”).

4.2.2 Relational adjectives

From the examples analyzed, we can affirm that, in general, relational adjectives are less combinable than qualifying adjectives, that is, they display fewer combinations than the first group. For instance, not all of them can form a compound with participle adjectives (*Partizip I* or *Partizip II*). Nevertheless, all of them can form a compound with an adjective from the same semantic category, except from adjectives denoting a point in time, which do not appear as the second constituent of a compound. Sometimes, the combination with an adjective of the same semantic category is the only possibility of combination a group of adjectives might have (in the relational adjectives cases, i.e. not considering the qualifying adjectives occurrences). This is the case of epoch, material and spatial position adjectives.

Some differences and similarities with qualifying adjectives combinations have been detected. On the one hand, unlike qualifying adjectives, they have more or less the same possible combinations with both groups of adjectives (relational and qualifying adjectives); they do not show a tendency toward a particular group. On the other hand, like in qualifying adjectives, there are some cases where specific combinations have not been found. For instance, unless combined with an adjective of the same semantic type, adjectives denoting a point in time, like *letztjährig* (“last year’s”) and occupation adjectives, such as *richterlich* (“judicial”), have not been found to appear in the second position of any compound (in relational adjectives group). Furthermore, truth/validity adjectives were not found in the second position of a compound in the group of relational adjectives.

It has been perceived that morals adjectives (in the second position) can form a compound with all type of relational adjectives (*afrikanisch-festlich*, “African-festive”; *islamisch-korrekt*, “Islamic-correct”; *römisch-kanonisch*, “Roman-canonical”, *polizelich-repressiv*, “police-repressive”; etc.). In short, they have many combination possibilities, whereas other adjective classes show a more restricted combination context. For instance, taste and smell adjectives only appear in the second position when combined with material adjectives (*golden-knusprig*, “gold and crispy, crusty”). And the same holds for adjectives that denote form or shape, which can only form adjective compounds with geography adjectives (*asiatisch-scharf*, “Asiatic-sharp”); and spatial dimension adjectives, which only combine with spatial position adjectives, from the relational adjective group (*vorderen-seitlichen*, “front-lateral”).

Interestingly, adjectives related to geography, country/nation/language, religion and epoch can form compounds combined between these same types. In other words, each of these groups can combine with any other adjective from these classes. Take the examples of *afrikanisch-christlich*, *römisch-lateinisch* and *evangelisch-koreanisch*. The first one, which means “African and Christian”, is a combination of a geography adjective and a religion adjective. The second one means “Roman and Latin” and is formed by an epoch adjective and an adjective related to n country/nation/language. The last example (“Evangelic and Korean”) is formed by a religion and a geography adjective.

Besides, the analysis has shown that, when field adjectives (*Bereich*) are the second constituent of a compound, they have a high number of possible combinations (*asiatisch-medizinischem* “Asiatic and medical”; *römisch-ethnographischen*, “Roman-ethnographic”; *hölzern-mundartlich*, “wooden-dialectical”; etc.), being only not possible with material adjectives, spatial position adjectives and adjectives denoting a point in time. In contrast, it has been noticed that epoch adjectives do not have many possible combinations when they are the second part of a compound, since they combine only with country/nation/language (*englisch-gotisch*, “English-gothic”), religion adjectives (*islamisch-mittelalterlich*; “Islamic-medieval”) and geography adjectives (*europäisch-kolonialistisch*; “European-colonial”).

As for the subgroups and modifications that I have previously proposed, no relational adjectives have been found to combine with a body-related adjective (the latter in the

second position), whereas adjectives regarding politics and ideology can combine with some types of relational adjectives: the ones related to geography (*asiatisch-kommunistisch*, “Asiatic-communist”), country/nation/language (*englisch-nationalistisch*, “English-national”), religion (*islamisch-demokratisch*, “Islamic-democratic”), epoch (*römisch-zentralistisch*, “Roman-centralistic”) and field (*staatlich-kommunistisch*, “state-communist”).

4.2.3 Participle adjectives

With respect to participle adjectives⁸, in agreement with Petho Gergely (2006), the results show that this type of adjectives has a wide range of combination possibilities (*kaltduschend*, “cold-showering”; *evangelisch-reformiert*, “Evangelic-reformed”; *wissenschaftlich-aufgeklärt*, “scientific-enlightened”; *frühankommend*, “early-coming”; etc). Concretely, any participle adjective can appear as the second part of the combination in all compounds formed with a qualifying adjective (with the exception of truth/validity adjectives). However, it is not so with relational adjectives, where they display a bit more restricted context of application. For example, spatial position adjectives and job/occupation adjectives were not found in any combination with a participle adjective.

It is also relevant to distinguish between the two types of participle adjectives by terms of use: *Partizip II* forms tend to have higher number of combinations than *Partizip I*, which means that it occurs more frequently in second position. While *Partizip II* has the possibility to appear as the second constituent with almost every relational adjective (*romantisch-bezaubernd*, “romantic-enchanting”; *staatlich-organisiert*, “state-organized”; *goldengeflügelt*, “golden-winged”; *nächtlich-erleuchtet*, “nightly-illustrious”; etc.), *Partizip I* shows more restrictions. In addition, *Partizip II* adjectives was not found as the first constituent neither with a relational adjective, nor with a qualifying adjective. In contrast, in *Partizip I* cases, only one possible combination was found, where it was the first constituent of the compound: with a morals adjective (*einladend-offen*, “inviting and opened”).

⁸ They are also called participial compound adjectives.

As a final point, the combinations among participle adjectives have been examined more closely. *Partizip II* can form a compound with any type of participle adjectives in the second position, either with a *Partizip I* adjective (*gespielt-triumphierend*; “feigned-triumphant”) or with a *Participle II* (*gespielt-verschämt*; “shy-played”), but it has not appeared in any other cases in the first position. With reference to *Partizip I* adjectives, they combine only with another *Partizip I* (*spielend-lernend*, “playing and learning”).

4.3 Proposal of classification

Having examined the different types of adjectives and the combinations that occur between them, I have seen that the distinctions in each main group (i.e. relational, qualifying and participle adjectives) are quite specific. Even more, the subclasses of each main group have already been discussed and detailed in previous sections. Therefore, I consider that a semantic classification of adjective compounds arranged by the subclasses of each group would be too specific and require much more detail than expected for the extent of the project. Thus, I hereby suggest a semantic classification based on the three main groups of adjectives. As a result, six subgroups are distinguished and some examples of each class are given below:

- 1) Relational adjective + Relational adjective: *evangelisch-koreanisch* (“Evangelic-Korean”), *spanisch-wallonisch* (“Spanish-Walloon”), *polizeilich-volkstümlich* (“police-traditional“), etc.
- 2) Qualifying adjective + Qualifying adjective: *dunkelkalt* (“dark and cold”), *rundkörnig* (“round-grained”), *leise-komisch* (“quiet-strange”).
- 3) Participle adjective + Participle adjective: *spielend-lernend* (“playing and learning”), *gespielt-verzückt* (“played-ecstatic”).
- 4) Qualifying adjective + Relational adjective / Qualifying adjective + Relational adjective: *nächtlich-dunkel* (“nightly dark”), *hellgold* (“bright gold”), *wissenschaftlich-populär* (“scientific and popular”).
- 5) Participle adjective + Relational adjective / Relational adjective + Participle adjective: *wirtschaftlich-berufsbildend* (“economic and professional-building”), *spanisch-folkloristisch* (“Spanish-folkloric”), *englisch-dominiert* (“English-dominated”).

6) Qualifying adjective + Participle adjective / Participle adjective + Qualifying adjective: *bitter-brennend* (“bitter and scorching”), *nassgelegt* (“wet laid”), *rosa-gebraten* (“pink and roasted”).

In short, this classification takes into consideration the semantic types of the semantic typology in Duden die Grammatik (2009), showing the different possibilities and types of adjectives that combine together. Despite not being a much detailed classification, it can give us an idea of the semantics of adjective compounds and its formation.

5. CONCLUSIONS

In short, this study aimed to offer new insight on adjective compounds, exploring their properties and analyzing the combining elements that form these types of compound words in terms of semantics. Since any semantic classification of adjective compounds had not been made, the final objective of this paperwork was to propose a semantic classification of this type of compounds. Broadly, the objectives of this project have been achieved.

Basically, the main important findings that have been found could be summarized as the following: adjectives do have some restrictions when forming adjective compounds (not all of them can combine with all types), qualifying adjectives generally have more possible combinations than relational or participle adjectives, even though the latter group can almost always appear as the second constituent of an adjective compound. In addition, some combinations were not found, whereas some adjective groups can form compounds with any adjective type.

Furthermore, it has been observed that there is a high quantity of possible combinations between the various semantic adjective types. As a consequence, it should be stated that neither a generalization of the patterns in adjective compounds, nor a detailed classification of the compounds (in accordance with the semantic Duden's classification) could be obtained. However, a more general classification could be made and some significant conclusions have been drawn.

Some final notes about the project should be made. On the one hand, this study provides a brief review of the compound words classifications in German and, at the same time, it might contribute to the understanding of adjective compounds in German and their formation process. It also provides a new classification of adjective compounds, which have not been deeply studied.

On the other hand, limitations of the study should also be considered here. Because of the scope and extent of this paper, it should be mentioned that, due to the small collection of data, some formations and patterns may have been unintentionally left out. In addition, the search query was applied to the most prototypical and representative adjectives (which might be also the most frequent ones), but naturally, not to all adjectives in the German language. All this means is that some combinations of

adjectives may be missing from the total language point of view, since the data was extracted from only an archive of the wide *COSMAS II Corpus* was analyzed. Nevertheless, the part of the corpus analyzed was selected for its representativeness.

In closing, while much research has already been done about the word formation process of compounding (not only in the German language, but in most languages), much more research work can probably be carried out on adjective compounds. For example, I would find it very interesting to know the reasons why some adjectives can combine with particular groups, and contrastive research would also be relevant. In addition, a further semantic classification that takes into account the subgroup distinctions could also be made in future research work.

6. REFERENCE SECTION

Hentschel, E. (2010). *Deutsche Grammatik (Hrsg.)*. Berlin: Walter de Gruyter.

Pons Online-Wörterbuch (n.d.). Retrieved June 7, 2014, from <http://de.pons.com/>.

Merriam-Webster's collegiate dictionary (n.d.). Retrieved June 4, 2014, from <http://www.merriam-webster.com/>.

Institut für Deutsche Sprache (2013). Retrieved May 14, 2014 from <http://www.ids-mannheim.de/org/>.

Institut für Deutsche Sprache (2012). *Cosmas II Corpus*. Retrieved April 30, 2014 from <http://www.ids-mannheim.de/cosmas2/>.

Oxford University Computing Services (2007). *The British National Corpus*, version 3. Retrieved April 30, 2014 from: <http://www.natcorp.ox.ac.uk/>.

U.S. Government Printing Office (2008). *The GPO Style Manual*. Retrieved May 14, 2014 from <http://www.gpo.gov/fdsys/pkg/GPO-STYLEMANUAL-2008/pdf/GPO-STYLEMANUAL-2008.pdf>.

Fleischer, W., & Barz, I. (1995). *Wortbildung der deutschen Gegenwartssprache*. Tübingen: Max Niemeyer.

Engel, U. (1996). *Deutsche Grammatik* (3rd ed.). Heidelberg: Julius Groos.

Steinbach, M., Meibauer, J., Demske, U., Geilfuß-Wolfgang, J., Pafel, J., Ramers, K. H. et al. (2002). *Einführung in die germanistische Linguistik*. Stuttgart, Weimar: Metzler.

Steinbach, M., Meibauer, J., Alberth, R., Girnth, H., Hohenberger, A., Kümmerling-Meibauer, B. et al (2007). *Schnittstellen der germanistischen Linguistik*, Stuttgart, Weimar: Metzler.

Seijo, M. A. (1978). Sobre la composición del adjetivo en alemán. *Anuario de estudios filológicos*, 1, 207-228. Available from <http://dialnet.unirioja.es/servlet/articulo?codigo=58421>.

Pümpel-Mader, M., Gassner-Koch, E., Wellmann, H. (1992). *Deutsche Wortbildung. Fünfter Hauptteil: Adjektivkomposita und Partizipialbildungen*. Berlin: Walter de Gruyter.

Cambridge University Press (n.d.) *Cambridge Dictionaries Online*. Retrieved June 2, 2014 from <http://dictionary.cambridge.org/es>.

Helm, U. (2007). 11. Adjektiv & Adjektivgruppe. In U. Helm (Ed.) *Sprachbeschreibung*. Retrieved May 5, 2014 from <http://static.sdu.dk/mediafiles//B/3/2/%7BB3209210-4D91-4767-BC4B-1AAABB1CA3A1%7D11%20Adjektiv%20und%20Adjektivgruppe.pdf>.

Machánová, A. (2006). *Adjektive in der Sprache der deutschen Märchen* (Doctoral dissertation, Masaryk University, 2006). Retrieved from https://is.muni.cz/th/94120/ff_m/.

Helbig, G. & Buscha, J. (1991). *Deutsche Grammatik: ein Handbuch für den Ausländerunterricht* (14th ed.). Berlin: Langenscheidt.

Philips, T. (n.d.). *Adjective Endings in German: Self Directed Study Guide*. Retrieved May 7, 2014 from http://clasfaculty.ucdenver.edu/tphillips/grammar/adjective_endings.pdf.

Fernández, J. (2010). *Spanische Grammatik: Adjektivstellung beim Substantiv*. Retrieved May 7, 2014 from <http://www.hispanoteca.eu/>.

Hallonsten, P. (2012). *Semantic types and prototypical adjectives and adverbs* (Doctoral dissertation, Stockholm University, 2012). Retrieved from http://www.ling.su.se/polopoly_fs/1.99116.1346331417!/menu/standard/file/Hallonsten_Halling_Pernilla.pdf.

McIntyre, A. (2010). *Handout 3: compounding* [class handout] Department of Linguistics, University of Neuchâtel, France. Retrieved May 10, 2014 from <http://www3.unine.ch/files/content/sites/andrew.mcintyre/files/shared/mcintyre/3.comp.comp.pdf>.

Mikulová, A. (2008). *Expressive Adjektivische Komposita* (Doctoral Dissertation, Masaryk University, 2008). Retrieved from http://is.muni.cz/th/74787/ff_m/diplomova_prace.txt.

Pittner, R. J. (2005). *Wortbildung des Deutschen*. Retrieved April 20, 2014 from <http://www.ruhr-uni-bochum.de/germ-ling/gk/05.pdf>.

Šmidaitė, L. (2013). Zur Übersetzung von deutschen Adjektivkomposita ins Litauische. *Studies About Languages*, 23, 62-69. <http://dx.doi.org/10.5755/j01.sal.0.23.5698>.

Öhl, P. (2008). *Lexicon & Wortbildung*. Retrieved April 15, 2014 from http://oehl.gesuis-info.de/CV/Kurse/BU_Wuppertal/08_WiSe/GK_Linguistik/09_Lexikon&Wortbildung.pdf.

Fagan, S. (2009). *German: A linguistic introduction*. Cambridge: Cambridge University Press. Available from Cambridge Database.

Hadiati, C. (2011). A morphological analysis of English compound. *Leksika*, 5(1), 1-9. Available from <http://jurnal.unimus.ac.id/index.php/lensa/article/view/182>.

Knipf-Komlósi, E. & Rada, R. & Bernáth, C. (2006). *Aspekte des Wortschatzes*. Budapest: Bölcsész Konzorcium. Retrieved from <http://vmek.oszk.hu/04900/04913/04913.pdf>.

Lee, S-M. (1994). *Untersuchungen zur Valenz des Adjektivs in der deutschen Gegenwartssprache : die morphosyntaktische und logisch-semantische Bestimmung der Ergänzungen zum Adjektiv*. Frankfurt am Main : Peter Lang.

Arold, A. (1997). Contingency of Word-Formation and Semantic Features of German Adjectives. *Journal of Quantitative Linguistics*, 4 (1-3), 30-34. doi: 10.1080/09296179708590076.

Frank, M. (2013). *Argumentieren in syntaktischen und morphologischen Fragestellungen: Steigerungs- und Kopulativkomposita*. Retrieved April 23, 2014 from http://data9.blog.de/media/169/7505169_bc612fa78d_d.pdf.

Sieberg, B. (2006). *Adjektivkomposita im Deutschen und Portugiesischen und Vorläge ihre Didaktisierung*. Retrieved April 23, 2014 from <http://ler.letras.up.pt/uploads/ficheiros/artigo5901.pdf>.

Balci, Y. (2007). Möglichkeiten der Intensivierung von Adjektiven im Deutschen. *Paper presented at the X. Türkischen Internationalen Germanistikkongress*. Turkey: Konya.

Donalies, E. (1996). Über kopulative Verb- und Adjektivkomposita. *Zeitschrift für Germanistische Linguistik*, 24 (3), 273-286- Available from <http://ids-pub.bsz-bw.de/frontdoor/index/index/docId/776>.

Bauer, L. (2004). Adjectives, compounds and words. *Nordic Journal of English Studies* 3, 7-22. Available from <http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.111.5697>.

Haas, F. (2012). *Motivating an English-German contrast in word-formation*. Retrieved April 15, 2014 from http://www.personal.uni-jena.de/~fo45nar/files/einander_paper.pdf.

Saxer, R. (2013). *Grammatik Deutsch- Die Grundlagen*. Retrieved May 5, 2014 from http://media.uni-klu.ac.at/OpenCourseWare/Deutsch%20als%20Fremdsprache/GRAMMATIK_idt.pdf.

Gergely, P. (2006). *Vorlesung Lexikologie: Wortbildung der Adjektive und Adverbien* [class handout]. Department of German Linguistics, University of Debrecen, Germany. Retrieved May 5, 2014 from <http://193.6.132.75/lexikologie/handout8.pdf>.

Klara, L. (2009). *Ist steinreich auch steinreich? Adjektivische Steigerungskomposita des Gegenwartsprache und ihre Akzentuierung* (Doctoral Dissertation, Ludwig-Maximilians-Universität München, 2009). Retrieved from http://edoc.ub.uni-muenchen.de/12328/1/Klara_Ludmila.pdf.

Detmold, G. (2013). *Historische Wortbildung: Kopulativkomposita* [class handout]. Department of Neuere Philologien, Goethe-Universität Frankfurt, Germany. Retrieved April 10, 2014 from https://www.uni-frankfurt.de/fb/fb10/KogLi/Lehrstuehle/Lehrstuhl_Weiss/Mitarbeiter_innen/C_-Detmold/Lehrveranstaltungen/Kopulativkomposita-5_11.pdf.

Jovanović, V. (2007). Dominant semantic properties of adjectival compounds in English. *Linguistics and Literature*, 5 (1), 19-30. Retrieved 17 April, 2014 from <http://facta.junis.ni.ac.rs/lal/lal2007/lal2007-03.pdf>.

Marchall, G. Prosodik und syntaktisch-semantische Struktur deutscher Komposita. *Deutsche Grammatik im europäischen Dialog*, 1, 1-11. Available from <http://krakau2006.anaman.de/>.

Öhlschläger, G. (2009). *GZS: Verbindungen von Substantiv bzw. Adjektiv mit Adjektiven* [class handout]. Institut für Germanistik, Leipzig University, Germany. Retrieved 17 April, 2014 from <http://www.uni-leipzig.de/~oehl/SS09SemWortbildungReferat090609GruppeI.pdf>.

Conti, S. (2006). *Compound Adjectives in English: A descriptive approach to their morphology and functions* (Doctoral Dissertation, University of Pisa, 2006). Available from <http://etd.adm.unipi.it/>.

Steinbach, M. (2011). *Grammatik der deutschen Gegenwartssprache: Wortbildung*. Retrieved April 14, 2014 from <http://www.staff.uni-mainz.de/steinbac/Lehre/Grammatik/Wortbildung.pdf>.

Öhlschläger, G. (2011). *Einführung in die germanistische Sprachwissenschaft: Wortbildung* [class handout]. Institut für Germanistik, Leipzig University, Germany. Retrieved 17 April, 2014 from <http://www.uni-leipzig.de/~oehl/WS1011VorlesungEinfuehrungVI.pdf>.

7.1 Appendix A: Examples of the combinations

7.1.1 Qualifying adjectives

Color adjectives:

F+ F: *rot-weiß, hellpurpur*
F+ Fo: *dunkelsämig, dunkellockig*
F+ To: *dunkelmelodiös*
F+ O: *rot-schlammig, dunkelfeucht*
F+ T: *hellkuhl, dunkelkalt*
F+ Ä: *hellstimmig, dunkel-kräftig*
F+ M: *rot-würdig, hellwach*
F+ I: *dunkel-troztig, dunkel-forschend*
F+ RD: *dunkel-beweglich, hellräumig*
F+ W: *rot-verdächtig*
F+ B: *dunkel-funktional*
F+ So: *rot-gold, rot-metallisch*
F+ Z: *dunkelheutig*
F+ P1: *hellleuchtend, rosaleuchtend*
F+ P2: *dunkelgeröstet, rotgekleidet*

Form adjectives:

Fo+ Fo: *eckig-kantig, rundeckig*
Fo+ O: *rundkörnig,*
Fo+ Ä: *eckig-rustikal,*
Fo+ M: *quadratisch-gut, quadratisch-praktisch*
Fo+ I: *runddiplomatisch*
Fo+ RD: *quadratisch-flach*
Fo+ W: *grössmöglich, kürzestmöglich*
Fo+ E: *rundgotisch*
Fo+ Z: *rundmonatlich*
Fo+ P1: *rundlegend*
Fo+ P2: *eckigerneuert, rundenbasiert*

Taste and smell adjectives:

QG+ F: *bitter-braun, bitterschwarz*
QG+ Fo: *bitter-scharf*
QG+ QG: *essigsauer, sauersüß, sauerwässrig, bitter-nussig, bitter-säuerlich*
QG+ O: *bitter-cremig, bitterhart*
QG+ T: *bitterkalt*
QG+ Ä: *bitter-grotesk, bitter-realistisch*
QG+ M: *bitterfröhlich, bitterkomisch*
QG+ I: *bitter-trotzig, bitter-humorig, bitter-ernst*
QG+ So: *bitter-metallisch, sauertöpferisch*
QG+ P1: *bitter-brennend*
QG+ P2: *sauerverdient*

Sound adjectives:

To+ F: *schrillbunt, schrillatonal*
To+ To: *leise-laut*
To+ O: *piepsig-zart, leise-zart*
To+ Ä: *schrill-grotesk, schaurig-schön*
To+ M: *leise-emotional, schrill-hysterisch, schrill-schaurig*
To+ I: *leise-eindringlich*
To+ W: *leisestmöglich*
To+ P1: *schrill-scheppernd, leise-pirschend, leise-hämmernd*
To+ P2: *leise-verspielt*

Surface adjectives

O+ F: *nassbunt, nassdunkel*
O+ QG: *glattschalig, glatt-würzig*
O+ O: *nass-feucht, nassglatt*
O+ T: *nasswarm, nasskühl*
O+ Ä: *glatt-glamourös, glatt-abstrakt*
O+ M: *nass-fröhlich, nasstraurig*
O+ I: *glatt-gespannt*
O+ W: *weichstmöglich*
O+ B: *nass-chemisch*
O+ So: *glatt-steinig*
O+ P1: *glattglitzernd, glattglänzend*
O+ P2: *glattgebügelt, glatt-gefährdet*

Temperature adjectives:

T+ F: *kaltgrau, kaltonig, warmgelb*
T+ Fo: *warm-füllig*
T+QG: *kalt-knackig, warm-würzig*
T+ O: *warmweich, kaltfeucht, warmfest*
T+ T: *warmkalt, warmtrocken, kaltheiß*
T+ Ä: *warmblütig, kaltmodisch, warmherzig*
T+ M: *wärmelastig, kalt-klar, kältetolerant*
T+ I: *kaltherzlich, kalt-autoritär*
T+ ZD: *warmzeitlich, kaltzeitlich*
T+RG: *kalt-kontinental, kalt-ozeanisch*
T+ B: *kalt-kriegerisch, wärmetechnisch*
T+ So: *kalt-metallisch*
T+ P1: *kaltlächend, warmduschend, kalthärtend*
T+ P2: *kaltgewonnt, kalt-geräuchert, warmgefeiert*

Esthetics adjectives:

Ä+ F: *schön-düster, schönfärberisch, hässlich-braun, hässlich-lila*
Ä+ Fo: *schön-gross, hässlich-schräg*
Ä+QG: *hässlich-dumpf*
Ä+ O: *schön-schlicht, hässlich-hart*
Ä+ T: *hässlich-kalt, schönkalt*
Ä+ Ä: *schön-exotisch, schön-altmodisch, hässlich-glamourös, hässlich-schön*
Ä+ M: *schön-schwierig, hässlich-brutal, hässlich-hämisch*
Ä+ I: *schön-verrückt, schön-traurig, schön-sentimental*
Ä+ W: *schönstmöglich*
Ä+ B: *schönstättisch, schönwissenschaftlich, schönfilmerisch*
Ä+ P1: *hässlich-hinkend, schönerklingend*
Ä+ P2: *schön-getrunken, schön-chirurgiert, schöndekoriert*

Morals adjectives:

M+ F: *schlechtgefärbt*
M+ T: *böse-kalt*
M+ Ä: *schlechttrassig*
M+ M: *böse-ironisch*
M+ I: *böse-freundlich, schlechtausgebildet*
M+ W: *billigstmöglich, schnellmöglich*
M+ B: *schlechttheoretisch*
M+ P1: *schlechtdenkend*
M+ P2: *schlechtbezahlt, schlechthinformiert, bösegenommen*

Intellect adjectives:

I+ F: *witzig-farbkraeftig, witzig-bunt*
I+ Fo: *witzig-eckig, witzig-locke,*
I+QG: *witzig-unappetitlich, witzig-bitter, witzig-wuerzig*
I+ To: *witzig-musikal*
I+ Ä: *dumm-sexy, witzig-aesthetisch*
I+ M: *dumm-blöd, dumm-genial, klug-polemisch, klugsinnig*
I+ I: *dumm-dreist, dumm-gläubig*
I+ W: *charmantestmoeglich*
I+RG: *witzig-tiefsinnig*
I+ R: *witzig-skeptisch*
I+ B: *dumm-sprachlich, witzig-taenzerisch*
I+ P1: *witzig-behend, witzig-karikierend*
I+ P2: *dumm-gehalten, kluggemacht*

Spatial dimension adjectives:

RD+ F: *tief-dunkel, flachsgelb*
RD+ Fo: *tiefründig, tiefengeometrisch, flachwellig, breit-pyramidal*
RD+ To: *tief-klanvoll, tief-melodisch*
RD+ O: *breitsandig, breitbuschig*
RD+ Ä: *flach-dekadent, tiefhaesslich*
RD+ M: *flach-funktional, breit-gemuendlich, tiefensuggestiv*
RD+ I: *breit-redselig, tief-ernst*
RD+ RD: *flachdachig, tieffinnig, tiefenraeumlich*
RD+ZD: *tieffrequent*
RD+ W: *flachmoeglichst, breitmoeglichst*
RD+ RG: *flachalpine, tiefprovinziell*

RD+ S: *tiefamerikanisch*
RD+ R: *tieftheologisch, tiefkatholisch*
RD+ E: *breit-romantisch, tiefmittelalterisch*
RD+ B: *tief-bautechnisch, tiefen-psychologisch, tiefenphilosophisch*
RD+ So: *breitgold, breitstein, tiefgoldig*
RD+Z: *breit-winterlich, tief-herbstlich, tief-naechtlich*
RD+ P1: *tiefberuehend, flachgehend*
RD+ P2: *tiefausgeschnitten, flachgebaut*

Temporal dimension adjectives:

ZD+ F: *fruehrot*
ZD+ Fo: *frueh-hoch, spaetzyklisch*
ZD+ To: *fruehmusikalisch*
ZD+ Ä: *frueh-punkig, fruehkarnevalistisch, spaet-bloehend*
ZD+ M: *frueh-aufklarisch*
ZD+ I: *frueh-froehlich, frueh-kindlich*
ZD+ ZD: *frueh-zeitig, spaethistorisch*
ZD+W: *baldmoeglich*
ZD+ RG: *frueh-eidgenoessisch, frueharabisch*
ZD+ S: *frueh-keltisch, spaet-arabisch*
ZD+ R: *frueh-christlich, spaetjuedisch*
ZD+ E: *frueh-byzantinisch, frueh-eisenzeitlich, spaet-klassizistischen*
ZD+ B: *spaatstudentisch, fruehmilitaerisch, spaetexilisch, spaetklinisch*
ZD+ So: *spaatbronze*

ZD+ Z: *früh-sommerlich, früh-morgendlich, früh-abendlich*

ZD+ P1: *frühankommend, frühaustrreibend*

ZD+ P2: *frühpensioniert, frühverstorben*

Truth/validity adjectives:

W+ QG: *möglichst-geschmacklos*

W+ M: *möglichluftig*

W+ W: *sichestmöglich*

W+S: *möglischenarabisch*

W+ P2: *sicher-gestellt*

7.1.2 Relational adjectives

Geography adjectives:

RG+ F: *afrikanisch-bunt*

S+ Fo: *afrikanisch-scharf*

RG+O: *continental-trocken*

RG+ T: *kontinental-gemäßigt*

RG+ Ä: *asiatisch-minimalistisch, asiatisch.schrill*

RG+ M: *asiatisch-klar, afrikanisch-festlich*

RG+ I: *asiatisch-freundlich, afrikanisch-schwungvoll*

RG+RG: *asiatisch-sibirisch, afrikanisch-amerikanisch, kontinentalskandinavisch*

RG+ S: *afrikanisch-arabisch, kontinentalspanisch, asiatisch-semitisch*

RG+ R: *asiatisch-buddhistisch, afrikanisch-christlich*

RG+ E: *europäisch-kolonialistisch*

RG+ B: *afrikanisch-kulinarisch, asiatisch-medizinisch*

RG+ ZD: *europäisch-zeitgenössisch*

RG+ P1: *asiatisch-wirkend, asiatisch-zurückhaltend*

RG+ P2: *asiatisch-inspiriert, asiatisch-beeinflusst*

Country/nation/language adjectives:

S+ F: *englisch-schönfärberisch, englisch-rot*

S+ To: *englisch-klingend, spanisch-melodiös*

S+O: *englisch-trocken*

S+ Ä: *englischstämmig*

S+ M: *spanischkundig, englischlastig, englisch-diplomatisch*

S+ I: *spanisch-feurig*

S+RG: *spanisch-britisch, englisch-ägyptisch*

S+ S: *spanisch-arabisch, englisch-anglikanisch, spanisch-schwäbisch*

S+ R: *spanisch-jüdisch, spanisch-sephärdisch*

S+ E: *spanisch-neugotisch, englisch-barock, spanisch-kolonial*

S+ B: *englisch-phonetisch, spanisch-jazzig, spanisch-umgangssprachlich*

S+ P1: *spanisch-schprechend*

S+ P2: *englischbegeistert, spanisch-gehaucht, englisch-dominiert*

Religion adjectives:

R+ To: *katholisch-musikalisch*

R+ M: *islamisch-korrekt, islamisch-autoritär*

R+RG: *katholisch-irisch, evangelisch-dänisch, katholisch-albanisch*

R+ S: *evangelisch-deutsch, islamisch-arabisch, evangelisch-augsburgisch*

R+ R: *evangelisch-katholisch, islamisch-christlich, islamisch-orthodox*

R+ E: *evangelisch-calvinistisch, islamisch-mittelalterisch*

R+ B: *katholisch-philosophisch*

R+ P1: *christlich-verzeihend*

R+ P2: *katholisch-uniert, katholisch-geprägt, islamisch-motiviert, evangelisch-altreformiert*

Epoch adjectives:

E+ F: *romantisch-grün*

E+ To: *romantisch-musikalisch, romantisch-melodiös*

E+ M: *römisch-mystisch, römisch-kanonisch*

E+ I: *romantisch-ernst*

E+ ZD: *römisch-abendlich, römisch-antik*

E+RG: *römisch-europäisch, römisch-syrisch*

E+ S: *römisch-germanisch, romanisch-lateinisch, romanisch-deutsch*

E+ R: *römisch-orthodox, römisch-katholisch, römisch-jüdisch*

E+ E: *romanisch-barock, romanisch-frühgotisch, römisch-karolingisch*

E+ B: *römisch-ethnographisch, römisch-rechtlich*

E+ P1: *romantisch-bezauernd*

E+ P2: *romantisch-basiert*

Job/occupation adjectives:

BF+ M: *polizeilich-repressiv*

BF+ BF: *ärztlich-therapeutisch*

BF+ B: *polizeilich-administrativ, polizeilich-juristisch, polizeilich-militärisch*

Field adjectives:

B+ O: *wissenschaftlich-trocken*

B+ T: *wissenschaftlich-kalt*

B+ M: *wissenschaftlich-amüsan, wissenschaftlich-erzieherisch, wirtschaftlich-pragmatisch*

B+ I: *wissenschaftlich-ernst*

B+ ZD: *wissenschaftlich-historisch*

B+RG: *wirtschaftlich-national, staatlich-komunal*

B+ R: *wissenschaftlich-katholisch, staatlich-muslimisch, wissenschaftlich-skeptisch*

B+ B: *wirtschaftlich-wissenschaftlich, wissenschaftlich-akademisch, wirtschaftlich-administrativ, wissenschaftlich-technologisch*

B+ P1: *wissenschaftlich-belehrend*

B+ P2: *wissenschaftlich-basiert, wissenschaftlich-aufgeklärt, staatlich-organisiert*

Material adjectives:

SO+ F: *golden-bunt, silbern-grünlich, goldenrot, silbern-hell, silbern-schwarz*

SO+ QG: *golden-knuspig*

SO+ T: *golden-warm*

SO+ Ä: *golden-funkelnd, silbernglänzend*

SO+ M: *hölzern-urig, hölzern-hilflosen*

SO+ SO: *silbern-metallisch, silbern-golden*

SO+ B: *hölzern-mundartlich*

SO+ P2: *goldengeflügelt*,
goldenbewehrt

“Point in time” adjectives:

Z+ F: *nächtlich-blau*, *nächtlich-dunkel*,
nächtlich-bunt

Z+ T: *nächtlich-kühl*

Z+ Ä: *gestrig-angegraut*, *nächtlich-*
neblig

Z+ M: *heutig-herausfordernd*,
nächtlich-geheimnisvoll. *Nächtlich-*
sehnsuchtvoll

Z+RG: *heutig-westlich*

Z+ P2: *nächtlich-erleuchtet*

Spatial position adjectives:

RL+ M: *linke-rein*

RL+ RD: *vorderen-seitlich*

RL+ RL: *innerlink*

7.1.3 Participle adjectives

Partizip I adjectives:

P1+ M: *einladend-offen, spielendleicht,
einladend-verheißungsvoll*

P1+P1: *spielend-lernend*

Partizip II adjectives:

P2+ P1: *gespielt-triumphierend*

P2+P2: *gespielt-verzückt, gespielt-
verschämt, gespielt-empört*

7.2 Appendix B: Relational adjectives

The adjectives in the left column are the first constituent in the compound and the adjectives first line in the table are the second constituent.

	F	Fo	QG	To	O	T	Ä	M	I	RD	ZD	W	RG	S	R	E	Bf	B	So	Z	RL	P1	P2
RG	•	•			•	•	•	•	•		•		•	•	•	•		•				•	•
S	•			•	•		•	•	•				•	•	•	•		•				•	•
R				•				•					•	•	•	•		•				•	•
E	•			•				•	•		•		•	•	•	•		•				•	•
Bf								•									•	•					
B					•	•		•	•		•		•		•			•				•	•
So	•		•			•	•	•											•				•
Z	•					•	•	•					•										•
RL								•		•											•		
P1								•														•	
P2																						•	•

F: Farbe (color)

Fo: Form (form)

QG: Geschmack/Geruch (taste, smell)

To: Ton (sound)

O: Oberfläche (surface)

T: Temperatur (temperature)

Ä: Ästhetik (esthetics)

M: Moral (morals)

I: Intellekt (intellect)

RD: Räumliche Dimension (spatial dimension)

ZD: Zeitliche Dimension (temporal dimension)

W: Wahrheitsgehalt (truth, validity)

RG: Geographie (geography)

S: Staat/Volk/Sprache
(country/nation/language)

R: Religion (religion)

E: Epoche (epoch)

BF: Beruf (job, occupation)

B: Bereich (field)

So: Stoff (material)

Z: Zeitpunkt (point in time)

RL: Räumliche Lage (spatial position)

PI: Partizip I

PII: Partizip II

7.3 Appendix C: Qualifying adjectives

The adjectives in the left column are the first constituent in the compound and the adjectives first line in the table are the second constituent.

	F	Fo	QG	To	O	T	Ä	M	I	RD	ZD	W	RG	S	R	E	Bf	B	So	Z	RL	P1	P2
F	•	•		•	•	•	•	•	•	•		•						•	•	•		•	•
Fo		•			•		•	•	•	•		•				•				•		•	•
QG	•	•	•		•	•	•	•	•										•			•	•
To	•			•	•		•	•	•			•										•	•
O	•		•		•	•	•	•	•			•						•	•			•	•
T	•	•	•		•	•	•	•	•		•		•					•	•			•	•
Ä	•	•	•		•	•	•	•	•			•						•	•			•	•
M	•					•	•	•	•			•						•				•	•
I	•	•	•	•			•	•	•			•	•		•			•				•	•
RD	•	•		•	•		•	•	•	•	•	•	•	•	•	•		•	•	•		•	•
ZD	•	•		•			•	•	•		•	•	•	•	•	•		•	•	•		•	•
W			•					•				•		•									•

F: Farbe (color)

Fo: Form (form)

QG: Geschmack/Geruch (taste, smell)

To: Ton (sound)

O: Oberfläche (surface)

T: Temperatur (temperature)

Ä: Ästhetik (esthetics)

M: Moral (morals)

I: Intellekt (intellect)

RD: Räumliche Dimension (spatial dimension)

ZD: Zeitliche Dimension (temporal dimension)

W: Wahrheitsgehalt (truth, validity)

RG: Geographie (geography)

S: Staat/Volk/Sprache

(country/nation/language)

R: Religion (religion)

E: Epoche (epoch)

BF: Beruf (job, occupation)

B: Bereich (field)

So: Stoff (material)

Z: Zeitpunkt (point in time)

RL: Räumliche Lage (spatial position)

PI: Partizip I

PII: Partizip II

