Corpus-based investigations on German support verb constructions
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1. Introduction

Support verb constructions like *to take a risk* or *to set into motion* are composed of a verb component (*to take, to set*) and a noun component (*risk, motion*). The noun component is typically a nominalization of a verb or an adjective. The verb component is semantically reduced, when compared to its main verb meaning. The construction as a whole is closely related to the derivation basis of the noun component (*to risk or to move*); this base verb or adjective mainly determines the semantics and the argument structure of the whole construction. This specific type of complex predicate formation has always been a challenge for natural language processing and machine translation. The nomenclature for these constructions includes "support verb constructions", "light verb constructions", "nominalization verb constructions", "function verb constructions", or "verbo-nominal constructions". In this paper we will use the term "support verb constructions" (SVC) for the construction as a whole, "support verb (SV)" for the verb component and "predicative noun" (PredN) for the noun component.

Contemporary German grammars describe SVCs as complex predicates with characteristic morphosyntactic and semantic features. However, most of these features are presented on the basis of linguistic tests exemplified by context-free sentences. In this paper we report on several corpus-based case studies, in which some of these features were evaluated on the basis of the DWDS corpus (Geyken, this volume). Our main objective is to demonstrate the importance of investigating the properties of Support Verb Constructions on a broad empirical basis and the need to consider the textual context of these constructions.

The paper is structured as follows: In the next section, we will briefly discuss the properties that distinguish SVCs from typical idioms on the one hand, and from typical "free" syntagmatic constructions on the other. In section 3, we present several case studies that explore factors which influence the morphosyntactic flexibility of SVCs. It is generally assumed that morphosyntactic constraints in predicative nouns are caused by the lack of referentiality of these nouns. The results of our case studies suggest that this mono-causal explanation is not sufficient to explain the data. In section 4, we will evaluate another assumption concerning SVCs, namely, that SVCs are interchangeable with their semantically corresponding base verbs. Thus, *Hilfe leisten* ('to provide help') and *helfen* ('to help') could be mutually exchanged. However, our study shows that the choice between SVCs and their corresponding base verb constructions is not as arbitrary as has been assumed in the past: in many cases the substitution of one construction type with the other leads to a shift of meaning, requires considerable syntactic restructuring, or is not possible at all. On the basis of our corpus examples, we will try to systemize some of the factors that influence the interchangeability of support verb and base verb constructions. The aim of this case study is to state the properties of the two construction types and their stylistic and functional benefits more precisely. This is a step towards a discourse-oriented perspective on SVCs, which will complement studies on their syntactic and semantic properties.

2. German SVCs: characteristic properties and subclasses

A great variety of syntactic and semantic criteria have been proposed to distinguish SVCs from verbal idioms on the one hand and from regular syntagmatic constructions on the other. Although these criteria do not always result in clear-cut classifications, researchers in the field agree that typical SVCs have specific characteristics that differ from those of typical idioms and from those of regular syntagmatic constructions. In the following, we will illustrate these characteristics by comparing two SVCs—(1) and (4)—with two idioms—(2) and (5)—and two regular syntagmatic constructions—(3) and (6).

(1) *Peter tritt in Verbindung mit dem Minister.*
lit. 'Peter steps in contact with the minister'
(-> 'Peter gets in contact with the minister.')

(2) *Peter tritt dem Minister auf den Schlips.*
lit. 'Peter steps the minister on the tie'
(-> 'Peter treads on the minister's toes').

(3) *Peter tritt auf den Eimer.*
(-> 'Peter steps on the bucket.')

(4) *Peter trifft eine Entscheidung.*
(-> 'Peter takes a decision.')

(5) *Peter trifft den Nagel auf den Kopf.*
(-> 'Peter hits the nail on the head')

(6) *Peter trifft die Zielscheibe.*
(-> 'Peter hits the target.')

(1) and (4) represent two types of SVCs: in (1) the PredN forms part of a prepositional phrase; we will henceforth refer to this SVC subclass as PP-SVC. In (2) the PredN is the head noun of a direct object; I will henceforth refer to this SVC subclass as DO-SVC. Both types differ from typical idioms on the one hand and from regular syntagmatic constructions on the other hand with regard to three aspects: semantic compositionality, component substitution, and morphosyntactic flexibility.

2.1. Semantic compositionality

The principle of semantic compositionality implies that the meaning of an expression is a function of both the meaning of its parts and the syntactic rules combining them. This principle can be straightforwardly applied to regular constructions like (3) and (6). Typical idioms like (2) and (5), by contrast, cannot be compositionally analyzed: the meaning of the typical idiom (2) is not a function of the meaning of *treten* ('to step') and *Schlips* ('tie'). Instead, the meaning is assigned to the construction as a whole. Typical SVCs like (1) and (4) have been characterized as "semi-compositional"[1]: they may be analyzed as being composed of the meaning of the PredN (*Verbindung, Entscheidung*) and the meaning of the SV (*treten, treffen*). However, the meaning of the SV is not identical to the meaning of the homonymous

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[1] Langer 2005.

main verb (as used in (3) and (6)), but is said to be "semantically reduced" or "light"[2]. In some SVCs, the SVs contribute specific semantic or grammatical features such as aspect or causality: an SV like *treten* in (1) may be described as "inchoative"[3], the SVs *bringen* and *versetzen* as "causative"[4]. SVs like *finden* or *erhalten* express a passive paraphrase of the main verb that is the derivation basis of the PredN[5]. Other SVs, like *treffen* in (3), do not contribute such specific features.

2.2. Component substitution

In regular constructions, words can often be replaced by synonyms without affecting the truth conditions of the sentence. In sentence (3), the substitution of *Eimer* ('bucket') by its synonym *Kübel* ('pail') will not substantially change the meaning of the sentence. In typical idioms, by contrast, such an exchange of synonyms affects the truth conditions: sentence (2) has both an idiomatic and a standard compositional sense, with the idiomatic sense being strongly preferred. When we exchange the noun *Schlips* by its synonym *Krawatte*, the resulting sentence *Peter tritt dem Minister auf die Krawatte* will lose its idiomatic sense[6]. At first glance, SVCs seem to behave like free constructions. PredNs of SVCs may be replaced by semantically close nouns without affecting the meaning. E.g., we can substitute the PredN *Verbindung* in sentence (1) by the semantically close *Kontakt*. However, this substitutability in SVCs is not as unrestricted as in free constructions like (3) or (6). In particular, the PredNs may not be freely combined with support verbs of the same semantic type: although the SVs *bringen* ('to bring') and *setzen* ('to put') are both causative SVs (see above), the PredN *Brand* ('fire') can be combined only with *setzen*, the PredN (*zum*) *Ausdruck* ('into expression') only with *bringen*—the constructions *in Brand bringen* and *zum Ausdruck setzen* are stylistically infelicitous. However, substitution restrictions for SVCs differ in their semantic consequences from those for idiom components: the replacement of *Schlips* with its synonym *Krawatte* in sentence (2) leads to the loss of the idiomatic sense of this sentence and, thus, to a change of its truth conditions. The replacement of *setzen* by *bringen* in the SVC *in Brand setzen* results in sentences like *Hans bringt das Haus in Brand* ('Hans brings the house on fire'), which—although they sound odd in German—have the same truth conditions as their stylistically felicitous counterparts.

2.3. Morpho-syntactic flexibility

In contrast to regular syntagmatic constructions like (3) and (6), components of typical idioms and of SVCs are subject to morphosyntactic constraints. This can be seen in the examples below where the noun components vary in number, determiner (zero, definite, indefinite, negation with *kein* ('no'), and the presence of an adjective.

Determiner variation:

(1)   *Peter tritt mit dem Minister* * **in die** *Verbindung /* ***in eine** Verbindung/ ? **in eine enge** Verbindung*
        'Peter gets * in the contact /* in a contact / ? in a close contact with the minister'

(2)   * *Peter tritt dem Minister auf* **einen** *(a) Schlips.*
    * 'Peter steps the minister on **a** tie'

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[2] Grimshaw/ Mester 1988 und Sag / Baldwin et. al. 2001.
[3] E.g. v. Polenz (1987: 173), Helbig/Buscha (1994: 92).
[4] E.g. Grundzüge (1981: 436), Polenz (1987: 172f), Helbig/Buscha (1994: 103).
[5] E.g. Polenz (1987: 174). Helbig/Buscha (1994: 105).
[6] But see discourse conditioned cases of lexical substitutions (Stathi, this volume).

(3)   *Peter tritt auf **einen** Eimer.*
      'Peter steps on **a** bucket'

(4)   *Peter trifft **die** Entscheidung.*
      'Peter makes **the** decision.'

(5)   * *Peter trifft **einen** Nagel auf den Kopf.*
      * 'Peter hits **a** nail on the head'

(6)   *Peter trifft **eine** Zielscheibe.*
      'Peter hits **a** target'

Negation with *kein* ('no'):

(1)   *Peter tritt mit dem Minister * in **keine** Verbindung ? in **keine** enge Verbindung.*
(2)   * *Peter tritt dem Minister auf **keinen** Schlips.*
(3)   *Peter tritt auf **keinen** Eimer.*
(4)   *Peter trifft **keine** Entscheidung.*
(5)   * *Peter trifft **keinen** Nagel auf den Kopf.*
(6)   *Peter trifft **keine** Zielscheibe.*

Number variation (noun component is set in plural form):

(1)   **Peter tritt mit den Ministern in **Verbindungen.***
(2)   **Peter tritt dem Minister auf die **Schlipse.***
(3)   *Peter tritt auf die **Eimer**.*
(4)   *Peter trifft **Entscheidungen**.*
(5)   **Peter trifft die **Nägel** auf die **Köpfe**.*
(6)   *Peter trifft die **Zielscheiben**.*

Adjectival modifier (noun component is modified by an adjective):

(1)   ? *Peter tritt in eine **enge** Verbindung mit dem Minister.*
      ? 'Peter gets in **close** contact with the minister'

(2)   * *Peter tritt dem Minister auf den **roten** Schlips.*
      * 'Peter steps the minister on **the red** tie'

(3)   *Peter tritt auf den **schmutzigen** Eimer.*
      'Peter steps on the **dirty** bucket'

(4)   *Peter trifft eine **klare** Entscheidung.*
      'Peter makes a **clear** decision'

(5)   * *Peter trifft den **rostigen** Nagel auf den Kopf.*
      * 'Peter hits the **rusty** nail on the head'

(6)   *Peter trifft die **blaue** Zielscheibe.*
      'Peter hits the **blue** target'

Table 1 shows that free constructions like (3) and (6) are completely flexible, while noun components in the typical idioms (2) and (5) are fixed: number or determiner variations result

in loss of the idiomatic reading. The same effect results when the noun components are modified by an adjective[7].

	determiner variation	determiner *kein*	Number variation	Adjective modifier
PP-SVC (1)	- (?)	-	-	?
Verbal idiom (2)	-	-	-	-
„Free" construction (3)	+	+	+	+
DO-SVC (4)	+	+	+	+
Verbal idiom (5)	-	-	-	-
„Free" construction (6)	+	+	+	+

Table 1: variation and modification of SVCs, verbal idioms, and free syntagmatic constructions

It should be noted that the two types of SVCs we distinguished earlier behave differently: the PP-SVC in (1) is syntactically more restricted than the DO-SVC in (4), which is completely flexible. In the following section, we investigate the morphosyntactic flexibility of these two SVC subclasses on the basis of corpus data.

2.4. Support verb constructions and function verb constructions

Two lines of research on SVCs can be distinguished that have influenced work on related German phenomena.

(1) A dominant approach in French linguistics, computational linguistics and machine translation[8] focuses on the predicative noun, e.g., on the question as to how the arguments of the PredN are integrated in the subcategorization frame of the SVs. This paper adopts the terminology ("support verb constructions" as a term for the construction as a whole, "support verb" for the verb component and "predicative noun" for the noun component) of this line of research, which will be referred henceforth as *SVC line*.

(2) Another line of research evolved in German linguistics. It was motivated by a wholesale condemnation of SVCs as bad style or bureaucratic officialese in German style manuals. This negative view was based on the implicit assumption that SVCs were just stylistically inferior equivalents of corresponding base verb constructions. The early proponents of this view aimed to refute this assumption of synonymy and to show that many SVCs have their own syntactic and semantic properties[9]. One subclass of SVCs seems especially well suited to justify the distinction, namely those SVCs where the SV contributes specific semantic or

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[7] Modification is possible in cases, in which an idiomatic component is re-interpreted figuratively. Cf. the examples for „metaphorical idioms" in Krenn/Erbach (1994: 370ff) and Stathi, this volume).
[8] E.g. Gross (1981), Danlos (1992), Krenn & Erbach (1994), Schwall & Storrer (1994). Recent works on German are Ulrich 2002, Langer (2004, 2005), and Heid (2005).
[9] Daniels 1963, v.Polenz 1963, Engelen 1968, Klein 1968.

grammatical features, such as *in Verbindung bringen* ('bring into contact/relation' = 'link/ associate/relate'), *in Bewegung versetzen* ('to set into motion'), *Anerkennung finden* ('find recognition' = 'be recognized'). Peter von Polenz coined the term "Funktionsverbgefüge" ('function verb constructions' = FVC) for this subclass; the verb components are called "function verbs" (FV) [10]. The focus of interest of this line of research (henceforth called *FVC line*) was on the semantic features of the FVs; these features have been described in various German grammar books[11].

The two lines of research consider different types of SVC subclasses as prototypes:
- In the SVC line, the prototypical cases are DO-SVCs, i.e. constructions in which the PredN is the head noun of a direct object. PP-SVCs, i.e. constructions in which the PredN forms part of a prepositional phrase, are regarded as special cases[12].
- In the FVC line, the reverse holds: although the category "function verb" is semantically motivated (see above), it turns out that most FVCs are PP-SVCs, as in example (1) above. Thus, PP-SVCs are considered to be prototypical cases by the FVC line.[13]

The results of our tests for morphosyntactic flexibility (cf. Table 1) revealed that the PP-SVC in (1) is more restricted than the DO-SVCs in (4). The case studies in the following section suggest that these differences between the DO-SVC subclass and the PP-SVC subclass are systematic. Thus, it is not surprising that the two lines make contradictory claims about the morphosyntactic flexibility of PredNs in SVCs. However, both approaches assume that morphosyntactic flexibility is influenced by a feature of the PredN called "referentiality"[14]. And both agree on the criteria for test for referentiality of the PredN. A non-referential PredN cannot be replaced by an anaphoric pronoun, modification with adjectives or relative clauses is quite restricted, number and determiner are fixed, and negation with *kein* is ruled out[15]. The SVC line argues that PredNs are typically used referentially. The FVC approach, by contrast, claims that PredNs in typical FVCs lack referentiality. These contradictory assumptions can be traced back to the fact that different types of SVCs are regarded as prototypical.

The following section explores, on the basis of corpus data, the factors that have a systematic influence on the morphosyntactic flexibility of SVCs. The case studies suggest that the notion of "referentiality" is not suffcent to explain the variability in the morphosyntactic behaviour of the PredNs.

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[10] V. Polenz (1963: 26f). The superclass of FVC that covers more or less the same set of constructions than the term "support verb construction" in the SVC-strain is called "nominalization verb construction" (Nominalisierungsverbgefüge) in this terminology (cf v. Polenz (1987: 170).

[11] E.g. Grundzüge (1981), Helbig/Buscha (1994), Eisenberg (1999), Zifonun et. al. 1997, Eroms (2000). Recent works on German SVC in this strain are Elsayed 2000 or Seifert 2004.

[12] E.g. Langer (2004: 185ff) treats PP-SVC in a subsection titled „special cases and borderline cases".

[13] Some authors confine themselves on PP-SVC, e.g. Engelen 1968, Eisenberg 1999.

[14] Cf. for the SVC-strain Langer (2005: 174ff); for the FVC-strain Grundzüge (1981: 441f), Helbig/Buscha (1994: 95f).

[15] Compare the assumptions in the tests in Langer (2005: 175f) with the tests in e.g. Helbig/Buscha (1994: 97ff).

3. Morphosyntactic variation of SVC subclasses

The previous section stated that both approaches to German SVCs explain morphosyntactic constraints on PredNs in terms of their lack of referentiality. This explication is quite plausible for noun components in typical idioms: the noun components in idioms like *jemandem auf den Schlips treten* ('to step on s.o.'s tie') and *den Nagel auf den Kopf treffen* ('to hit the nail on the head') do not refer in their usual way to objects of the universe of discourse (a tie or a nail), but form part of a complex predicate that cannot be further compositionally analyzed. Since *Schlips* does not refer to an object (a tie), there is no relevance for the semantic opposition between singular and plural or between definite and indefinite determination, nor can an adjectival modifier (e.g.*roter Schlips*) be interpreted as usual. It is furthermore plausible that a non-referring noun component cannot function as an antecedent of an anaphoric pronoun.

The crucial question is whether non-referentiality is equally suited to explain the morphosyntactic behaviour of SVCs. It is not obvious why the PredN *Verbindung* in (1) does not refer to the same type of entity as in occurrences without an SV, e.g. in *Er bestreitet seine Verbindung zum Minister* ('he denies his connection to the minister'). Nor is it evident that the PredN in (1) and the PredN in (4) (*eine Entscheidung treffen* 'to make a decision') differ in their referentiality: both PredNs form part of complex predicates that can be analyzed semi-compositionally (in the sense explained in section 2). However, as the results in Table 1 show, the flexibility of the PredN in (1) is quite restricted, while the PredN in (4) is fully flexible. Apparently, the morphosyntactic variation of PredNs is influenced by more than one factor and has to be further investigated in empirical and corpus-based studies.

When we compare the two SVC examples (1) and (4)

    (1)   *Peter tritt in Verbindung mit dem Minister*.
    lit.   'Peter steps in contact with the minister'
    (->   'Peter gets in contact with the minister.')

    (4)   *Peter trifft eine Entscheidung*.
    (->   'Peter takes a decision')

we find that they differ in two respects:

(a) In the SVC in (1), the PredN forms part of a PP; thus, it belongs to the constructional subclass of PP-SVC. The SVC in (4) realized its PredN in direct object position and, thus, belongs to the DO-SVC subclass.
(b) The SV in the SVC (1) contributes an aspectual meaning (inchoative) to the base verb. It belongs therefore to the function verb sub class discussed in section 2. This is not the case with the SVC in (4).

In our corpus-based case studies, we examine the influence of these two factors in more detail.

3.1. Corpus and evaluation criteria

The corpus used in our case studies is the DWDS Kerncorpus[16] (Geyken, this volume). The case studies in this section were conducted on the basis of the online version of the corpus in 2005[17]. In all studies, we checked all hits found by the search tool and removed "noisy examples" like (7), in which *Hilfe* and *leisten* occur in the same sentence, but do not constitute the SVC *Hilfe leisten*. The remaining hits will be referred to as "instances" in this paper.

Both approaches propose similar syntactic tests to determine the referentiality of the PredNs. These tests generally involve a specific syntactic transformation, e.g. the substitution of the PredN by a question word or a pronoun. Such tests are applied to constructed sentences and evaluated for their grammaticality on the basis of the linguist's intuition. But some of the tests can equally be applied to corpus data. For our case study, we chose the following criteria, which can be observed in text corpora:

- Determiner variation: definite, indefinite, zero determiner, others (possessives, quantifiers). In many PP-SVCs the article is contracted with the preposition, as in *zur Anwendung bringen*[18]. We count these cases as definite.
- Negation with the determiner *kein*: we counted the corpus instances in which the PredN was negated with *kein*.
- Number variation: some PredNs in our case studies do not vary in number independent of whether or not they form part of an SVC: *Unterricht*('class'), *Beachtung* ('attention'), *Anerkennung* ('recognition'). For the other nouns, we assumed the singular to be the unmarked case and only counted the plural instances.
- Adjective modification: we collected all instances in which the PredN was modified by one or more adjectives. Corpus instances with more than one adjectival modifier were counted only once.
- Antecedent of a relative pronoun: we counted all instances in which the PredN was further modified by a relative clause.
- Antecedent of an anaphoric pronoun: we counted all instances in which the PredN was resumed by an anaphoric pronoun in the subsequent text. We use this as a corpus-based equivalent for tests in which the PredN is substituted by a pronoun[19].

3.2. Case study 1: PP-SVCs vs. DO-SVCs

The aim of the first case study is to assess the influence of the construction type on morphosyntactic flexibility. We compared two SVC pairings in which the same PredNs (Kontakt, *Verbindung*) occur both as PP-components (*in Verbindung treten*, *in Kontakt treten*) and as direct objects (*Kontakt halten*, *Verbindung halten*).

Table 2 shows the results of the corpus study. It turns out that the DO-SVCs are much more flexible with respect to number and determiner variation than the PP-SVCs. With regard to adjectival modification, however, we found no significant differences.

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[16] Available online: http://www.dwds-corpus.de.
[17] I want to thank Nadja Astrachabova, Birgit Reuter, and Nicole Wilkens for their help in providing and analysing the data.
[18] In PP-SVCs this type of contraction is typically obligatory, i.e. a contracted form as <u>zur</u> cannot be replaced by *zu der*.
[19] E.g.: Grundzüge (1981: 442), Helbig/Buscha (1994: 98), Langer (2005: 175).

	hits	instances	Plural	definitre article	indefinite article	negation kein	adjectival modifier
in Verbindung treten	205	186	0	0	2 (1%)	1 (0,5%)	29 (15,6%)
in Kontakt treten	20	18	0	0	0	0	5 (27.8%)
Verbindung halten	87	55	4 (7.3%)	21 (45.5%)	2 (3.6%)	0	10 (18.8%)
Kontakt halten	92	59	7 (11.9%)	10 (16.9%)	3 (5%)	1 (1.7%)	25 (42.4%)

Table 2: Morphosyntactic flexibility of PP-SVCs vs. DO-SVCs

3.3. Case study 2: FVCs vs. non-FVCs

The question arises whether the different degrees of flexibility are due to the fact that the SV *treten* ('step') belongs to the function verb subclass. Differently put: are PredNs in FVCs generally more restricted than in other SVCs? This question motivates our second case study, where we investigate DO-SVCs that are assigned to the function verb subclass, because they are equivalents of passive forms[20]: *Anerkennung finden* ('to find recognition' = 'to be recognized'), *Beachtung finden* ('to find attention' = 'to be noticed'). We compared these with two DO-SVCs, namely *Unterricht erteilen* ('to hold class') and *Hilfe leisten* ('to render assistance'). These do not belong to the FVC subclass because they are interchangeable with the base verbs of the respective PredNs, i.e. *helfen* ('to assist') and *unterrichten* ('to teach') (cf. section 4). We evaluated determiner variation, negation with *kein*, adjective modification, and the instances where the PredNs occurrs as an antecedent for a subsequent relative or anaphoric pronoun. The results in Table 3 indicate that there are no significant differences between the FVCs and the non-FVCs, suggesting instead that it is the construction type that primarily determines the flexibility of the PredNs. The semantic features cited to distinguish the FVC subclass apparently have no systematic effects. This conclusion is confirmed by the comparison of the DO-SVC *Anerkennung finden* with the PP-SVC *zur Anerkennung gelangen* ('to gain recognition'): both are members of the FVC subclass, but, as shown in Table 3, differ significantly in their flexibility.

The analysis of *zur Anerkennung gelangen* confirms one observation of our first case study: although number and determiner variation of the PP-SVC subclass is highly restricted, a considerable set of PredN instances are modified by an adjective. This is striking, since both types of restrictions are explained by the same type of feature, namely non-referentiality of the respective PredNs. Obviously, not all diagnostics for referentiality behave in the same manner.

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[20] E.g. Helbig/Buscha (1994: 84f), Krenn/Erbach (1994: 373).

	hits	instances	definite article	indefinite article	negation *kein*	adjectival modifier	relative clause	anaphoric pronoun
Anerkennung finden	340	249	37 (14.9%)	9 (3.6%)	11 (4.4 %)	114 (45%)	11 (4.8%)	1 (0.4%)
zur Anerkennung gelangen	65	14	-	1 (7.1%)	0	7 (50%)	0	0
Beachtung finden	358	310	37 (11.9%)	8 (2.6%)	19 (6.1%)	141 (45.5%)	11 (3.5%)	1 (0.3%)
Unterricht erteilen	158	122	36 (29,5%)	7 (5,7%)	2 (1,6%)	34 (27,9%)	12 (9,8%)	2 (1,6%)
Hilfe leisten	377	310	16 (5,2%)	11 (3,6%)	14 (4,5%)	85 (27,4%)	24 (7,7%)	1 (0,3%)
Absage eteilen	87	82	3 (3,7%)	75 (91,5)	1 (1,2%)	42 (51,2%)	1 (1,2%)	0

Table 3: Morphosyntactic flexibility of FVCs vs. non-SVCs

3.4. Case study 3: idiomatic SVCs

In order to find out more about the effects of referentiality, we examined in a third case study four SVCs that are generally assigned to the subclass of "lexicalized" or "idiomatic" SCVs[21]: *Folge leisten* ('to follow suit'), *in Verzug kommen/geraten* ('to get delayed'), *in Abrede stellen* ('to deny'). Unlike the examples that we investigated in the other case studies, these SVCs cannot be analyzed semi-compositionally as being composed of a PredN and a semantically "light" SV. Rather, their meaning is assigned to the construction as a whole, as in *in Abrede stellen*, *Folge leisten*. In other cases, a lexicalized PredN, like *in Verzug* ('in delay'), may be combined with various FVs (*sein, bleiben, gelangen, bringen*). For these SVCs the claim that their PredNs lack referentiality is more plausible than with semi-compositonal SVCs. Thus, one would expect them to reveal all the characteristic restrictions of non-referentiality. The results of our case study, documented in Table 4, confirm this.

Two points are noteworthy:
  (1) The DO-SVC *Folge leisten* is less restricted that the PP-SVCs *in Abrede stellen* and *in Verzug geraten/kommen*. However, *Folge leisten* is much more restricted than the semi-compositional DO-SVCs *Hilfe leisten*, *Unterricht erteilen* (cf. Table 3), and *Kontakt/ Verbindung halten* (cf. Table 2). When the PredN is not used referentially, the particular construction type seems less relevant.
  (2) In contrast to the semi-compositional PP-SVCs *in Verbindung/Kontakt treten* and *zur Anerkennung gelangen*, the PredNs in the idiomatic SVCs are rarely modified by adjectives.
Both findings indicate that the restrictions in non-idiomatic SVCs cannot be explained in terms of the same properties as those of idiomatic SVCs. At least two factors interact: the

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[21] E.g. Elsayed (2000: 68ff), Seifert (2004: 61ff).

referentiality of the PredN and the type of construction in which it occurs. Regarding determiner and number variation, PP-SVCs are generally more restricted than DO-SVCs, but they may be modified by adjectives. Idiomatic and highly lexicalized SVCs show all types of restrictions typically associated with non-compositional verb-noun collocations, including restrictions on adjectival modification.

Construction	hits	instances	definite article	indefinite article	Determiner *kein*	adjectival modifier	relative clause	anaphoric pronoun
Folge leisten	387	297	0	1 (0.34%)	12 (4.04%)	2 (0.67%)	0	0
in Abrede stellen	217	217	0	0	0	0	0	0
in Verzug geraten	13	13	0	0	0	0	0	0
in Verzug kommen	14	14	0	0	0	0	0	0

Table 4: Morphosyntactic flexibility of idiomatic SVCs

3.5. Case study 4: adjectival modifiers of predicative nouns

Proponents of both lines of research that we sketched earlier have noticed that adjectives modifying PredNs can be paraphrased by corresponding adverbs modifying the entire SVC[22]. English examples cited in Langer (1994: 197) are:

(7) *Mary makes frequent mistakes*.
(8) *Mary makes mistakes frequently*.

A German example of this type is instance (9), in which *Folge leisten* is modified by the adjective *unbedingt* ('unconditional'):

(9) *Das Lazarettpflegepersonal untersteht speziell dem Chefarzt, zu dessen Lazarett es überwiesen ist, das Begleitpersonal den die Krankentransporte leitenden Ärzten und hat deren Anordnungen **unbedingte Folge** zu **leisten***.
'The military nursing staff is subordinate to the head physician and assigned to his hospital, the ambulance staff to the doctor in charge of the emergency transport; both must **unconditionally** follow the respective doctor's orders.'
Körting, Georg Friedrich, Unterrichtsbuch für die weibliche freiwillige Krankenpflege, Berlin: Mittler 1907

This sentence may be paraphrased by sentence (9'), in which *unbedingt* ('unconditionally') is an adverbial modifier of the SVC as a whole:

(9') *Das Lazarettpflegepersonal untersteht speziell dem Chefarzt, zu dessen Lazarett es überwiesen ist, das Begleitpersonal den die Krankentransporte leitenden Ärzten und hat deren Anordnungen **unbedingt Folge** zu **leisten***.

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[22] Heringer (1968: 321), Langer (1995: 181).

We found five corpus instances like (10), in which *unbedingt* is used adverbially. Apparently, adverbs seem to be even more usual than adjectival modifiers in this case.

(10) *Reklamewagenführer und Plakatträger haben den Weisungen der Aufsichtsbeamten unbedingt* **Folge zu leisten**.
'Drivers of advertising trucks and poster carriers must unconditionally follow the supervisor's instructions.'
Reklame und Messe, in: Berliner Tageblatt (Morgen-Ausgabe) 03.03.1905, S. 6

However, the adverb paraphrase is not always equivalent to the sentence with the adjective. This is illustrated in Krenn/Erbach (1994: 393) by comparing (11) with (11'):

(11) *Peter macht dumme Vorschläge*.
'Peter makes stupid suggestions.'
(11') *Peter macht dumm Vorschläge*.
'Peter stupidly makes suggestions.'

Sentence (11) states that Peter's suggestions are stupid, while (11') says that the suggestions are made in a stupid manner or that Peter's making suggestions is stupid. (11) and (11') are, thus, not semantically equivalent.[23]

Construction	instances	Instances with adjectival modifier	equivalent with adverb	not equivalent
Folge leisten	297	2	2 (100%)	0
Anerkennung finden	249	114	77 (67.5%)	37 (32.5%)
Beachtung finden	310	141	82 (58.2%)	59 (41.8%)
in Verbindung treten	186	29	16 (55.2%)	13 (44.8%)
in Kontakt treten	18	5	2 (40%)	3 (60%)
Verbindung halten	55	10	3 (30%)	7 (70%)
Kontakt halten	59	25	17 (68%)	8 (32%)
Unterricht erteilen	122	34	8 (23,5%)	26 (76,5%)
Hilfe leisten	310	85	29 (34,1%)	56 (65,9%)
Absage erteilen	82	42	37 (88,1%)	5(11,9%)

Table 5: Semantic equivalence between adjectival and adverbial modifiers

In our forth case study, we examined the relation between adjectival modifiers and adverbs in more detail. We investigated the SVC instances of our previous studies in which the PredN was modified by an adjective. For all of them we constructed a paraphrase in which this

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[23] Other examples are given in v. Pottelberge (2001: 320f).

adjective is realized as an adverb and checked whether the two sentences are semantically equivalent. The results are presented in Table 5.

In this study, corpus evidence was combined with a linguistic transformation. The decision as to whether the resulting sentence is semantically equivalent was made by semantic intuition. The results show that a considerable number of sentences with adjectival modifiers are not semantically equivalent to sentences with adverbs.

In the following section, we will see that these findings are also crucial for the question of whether an SVC may be replaced by the corresponding base verb construction or not: when adjectival modifiers and adverbs are semantically equivalent, it is also feasible to paraphrase the SVCs by their corresponding base verbs. The adjectival modifiers of the PredN are then realized as adverbs in the base verb sentences. Paraphrasing may require considerable restructuring for the other cases, as is illustrated by example (12):

> (12) *(...) auf der Kriegsschule in Lemberg hatten wir einen alten Feldkurat Przihoda, der einerseits ein etwas wunderliches Deutsch sprach, andererseits aber **tschechischen Unterricht erteilte.***
> '(...) who, on the one hand, spoke somewhat whimsical German but then **gave Czech lessons**.'
> Sandac-Malecki, Friedrich von, K. und K., in: Vossische Zeitung 02.03.1930, S. 28

> →(12') *(...) der einerseits ein etwas wunderliches Deutsch sprach, andererseits aber **tschechisch Unterricht erteilte***.
> '(...) who, on the one hand, spoke somewhat whimsical German but then **gave lessons in Czech**.'

The adjectival modifier in (12) can only be interpreted in the sense that Czech language is the subject that is taught. By contrast, the adverb *tschechisch* ('in Czech') in (12') is interpreted as specifying the language in which the lessons are given. Thus, (12) and (12') clearly differ in their truth conditions. The same semantic shift occurs when the SVC is paraphrased by a base verb construction, as in (12''):

> →(12'') *(...) der einerseits ein etwas wunderliches Deutsch sprach, andererseits aber **tschechisch unterrichtete***.
> '(...) who, on the one hand, spoke somewhat whimsical German but then **taught in Czech**.'

A semantically appropriate paraphrase of (12) would only be (12'''):

> → (12''') *(...) der einerseits ein etwas wunderliches Deutsch sprach, andererseits aber **Tschechisch unterrichtete***.
> '(...) who, on the one hand, spoke somewhat whimsical German but then **taught Czech**.'

In (12''') *Tschechisch* is realized as the direct object of *unterrichten*; thus, it occurs as an argument of the base verb and not as an adverb.

4. Comparison of support verb constructions with their corresponding base verb constructions

The focus of interest for researchers from the FVC line has been on describing systematically how function verbs modify aspect and voice. Since sentence pairs like (13) vs. (13') and (14) vs. (14') do not reveal differences in voice or aspect, SVCs of this type have been more or

less neglected by these researchers. The choice between one or the other type of construction is regarded as being a matter of stylistic choice.[24]

(13) *Paul erteilt Unterricht an der Grundschule*.
'Paul gives lessons at the primary school.'

(13') *Paul unterrichtet an der Grundschule*.
'Paul teaches at the primary school.'

(14) *Die Nachbarn leisteten beim Löschen des Feuers Hilfe*.
'The neighbors provided assistance in putting out the fire.'

(14') *Die Nachbarn halfen beim Löschen des Feuers*.
'The neighbors assisted in putting out the fire.'

But what does "style" mean in this context? Apparently, it is not a choice between a colloquial vs. a more elaborate style, as is often the case when choosing between a typical idiom ("kick the bucket") and a simple synonymous verb ("die"). The differences between SVCs and their corresponding base verb constructions (henceforth BVCs) are more subtle. When comparing pairings of SVCs and their BVCs, like (13) vs. (13') and (14) vs. (14'), one would even assume that the choice between an SVC and its corresponding base verb construction (BCV) is arbitrary, and that an SVC can easily be replaced by a semantically equivalent BVC[25] and vice versa. This assumption that many SVCs are interchangeable with main verbs, passives of main verbs, or adjective-copula constructions is in fact shared by both lines of research. We now report on a case study that evaluates this assumption by investigating SVCs and their corresponding base verb constructions in unconstructed, naturally occurring discourse[26]. For our study, we chose the following pairings of SVCs and BVCs:

Absage erteilen – absagen ('to give a rejection – to reject')

Hilfe leisten – helfen ('to provide assistance' – 'to assist')

Unterricht erteilen – unterrichten ('to give class' – 'to teach /instruct')

Wirkung ausüben – wirken ('to have an effect' – 'to work')

One important criterion for the choice of these pairings was the existence of corpus sentences in which both types of constructions may be mutually exchanged without any problem[27].

Absage erteilen	87
absagen	1611

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[24] E.g. v. Polenz (1987: 170).

[25] It should be noted that in a synchronous description of SVCs, not all PredNs can be analyzed as being derived from base verbs or adjectives (see e.g. the examples of "idiomatic SVCs" in section 2). But in this section, we will focus on SVCs with PredNs that are apparently derived from base verbs.

[26] This study is described in more detail in Storrer 2006.

[27] It should be noted that not all support verb constructions have such a base verb alternative. On the one hand, there are idiomatic or highly lexicalized constructions like *in Abrede stellen* or *in Verzug kommen* in which derivational basis of the predicative noun is no longer transparent. On the other hand, function verbs like *setzen* and *bringen* systematically convey additional features (see section 2.4). Consequently, constructions with such support verbs differ from their base verbs exactly in these additional features.

Hilfe leisten	377
helfen	15402
Unterricht erteilen	158
unterrichten	3199
Wirkung ausüben	390
wirken	21701

Table 6: SVC and BVC hits in the DWDS

Table 6 lists the number of hits that we found in the DWDS core corpus for the SVC and BVC pairings.[28] On this basis we investigated whether the base verb constructions may be replaced by the corresponding SVC (cf. section 4.1.) and whether the SVC may be replaced by its corresponding base verbs (cf. section 4.2).

4.1. Replacing base verb constructions by support verb constructions

Given the large number of hits with base verb constructions, we decided to sample the data. For each of the base verbs—*unterrichten, wirken, helfen*—we prepared five files containing 50 hits from different decades. For *absagen* we prepared one smaller file with 25 hits in order to arrive at a more constant variation with regard to the chronological distribution for the 20th century. In a preparatory step, we eliminated "noise" (false positives) and sentences in which the base verb occurred as a participle modifying a noun (like *helfende Hand 'helping hand', gut unterrichtete Kreise 'well-informed circles'*). The number of remaining hits, henceforth called"BVC instances", is listed in Table 7.

BVC	hits	BVC instances
absagen	225	210
unterrichten	250	247
helfen	250	214
wirken	250	247

Table 7: Instances in BVC sample files

For all BVC instances we checked using semantic intuition whether and under what condition the base verb may be replaced by its corresponding SVC. In doing so, we soon discovered that all base verbs have multiple senses and that, of all the pairings, the corresponding SVC is specialized in only one of these senses. Consequently, many BVC instances would considerably change their meaning when paraphrased by the corresponding SVC; some BVC instances are not interchangeable at all.
In the following, we want to illustrate this observation on the basis of the dictionary entries in the "Wörterbuch der deutschen Gegenwartssprache" (WDG—Dictionary of Contemporary German)[29].

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[28] This case study was based on a previous offline version of the DWDS Kerncorpus that slightly differs from the current online version used in the case studies of section 3. It was conducted in connection with a talk that I held on the symposium "Collocations in the Lexicon" (Berlin, September 2003). My thanks go to Alexander Geyken, Gerald Neumann, and Claudia Sassen, who helped me in providing and analyzing the data.
[29] The articles are taken from the online version of the "Wörterbuch der deutschen Gegenwartssprache" (WDG), that is online available on http://www.dwds.de/woerterbuch.

The WDG lists two senses for the verb *unterrichten*:

WDG-Online entry of *unterrichten*:

(1) jmdn. u. jmdm. Unterricht geben ['to teach']

(2) sich, jmdn. über, von etw. u. sich, jmdn. über, von etw. in Kenntnis setzen, sich, jmdn. über etw. informieren, orientieren [' to inform']

Only sense (1), which translates into 'to teach' corresponds semantically to the meaning of the derivationally related SVC *Unterricht erteilen*. Instances like (15) in which the BVC is used in sense (2) which translates into 'to inform' can, therefore, not be paraphrased with *Unterricht erteilen*. If one wants to paraphrase sense (2) by an SVC, the appropriate one would be *in Kenntnis setzen*.

(15) *Ebenso kamen ihm Mitglieder der römischen Gemeinde entgegen, die bereits über seine Ankunft **unterrichtet** waren.*
'Likewise, members of the Roman parish, who were already informed about his arrival, met up with him.'
Baus, Karl, Von der Urgemeinde zur frühchristlichen Großkirche, Freiburg i. Br. [u.a.]: Herder 1962

Two main meanings are listed in the WDG for the verb *absagen*:

WDG-Online entry of *absagen*:

(1) etw. Geplantes nicht ausführen

(1a) eine Veranstaltung nicht stattfinden lassen ['to cancel']

(1b) jmdm. seine Verhinderung mitteilen, Ggs. zusagen ['to reject']

(2) geh.: sich von etw., jmdm. lossagen: ['to break away']

Meaning (2) is stylistically marked as "formal"; it occurred only twice in the sample files that we investigated. Meaning (1) has two senses with different subcategorization and argument frames. Sense (1a) has a direct object slot, which is filled by a THEME argument, denoting an entity or event that is cancelled; in example (16) it is the appointment for a riding lesson. Sense (1b) has an indirect object slot, which is filled by the RECIPIENT of the rejection. The SVC is specialized in this sense (1b); base verbs used in this sense may be straightforwardly paraphrased by the SVC. In contrast, paraphrasing BVCs used in sense (1a), i.e. *absagen* in the sense of 'to cancel', results in a considerable shift of meaning, as can be illustrated with example (16):

(16) *Du versäumst morgen deine Reitstunde, hast du sie schon **abgesagt**?*
'You will miss your riding lesson, did you already cancel it?'
Kafka, Franz, Amerika, München: Wolff 1909 [1911/1914]

(16') *(...) hast du ihr (= der Reitstunde) schon eine Absage erteilt?*
'(…) did you already refuse it ("it" = the riding lesson))?'

When *absagen* in (16) is replaced by *Absage erteilen* in (16'), it is interpreted in the sense of 'to refuse', and not in the sense of 'to cancel'. The reason for this is that the SVC *Absage erteilen* has developed a specific meaning in the course of its lexicalization, namely 'to refuse' (see 4.2. below). When the THEME argument of the base verb ('to cancel') is filled in the indirect object slot of *Absage erteilen*, this specific sense is triggered, and the indirect

object is interpreted as an object of a refusal and not as an object of a cancellation. We will come back to this problem in 4.2.

The examination of *helfen* and *wirken* confirms our finding that the SVC is specialised in just one sense of the polysemous base verb. In the case of *Unterricht erteilen*, this specialization already occurs in the course of the nominalization process: *Unterricht* is the proper nominalization of sense (1, ['to instruct']); the appropriate nominalization for sense (2, ['to inform']) would be *Unterrichtung*. In cases like *Wirkung ausüben* and *Hilfe leisten*, the nominalizations have a "broader" meaning when occurring outside the SVC. The meaning is only restrained when the PredN forms part of the SVC. In the case of *Absage*, the nominalization has even developed a meaning (= 'to refuse') that cannot be expressed at all with the derivationally related base verb *absagen*.

Because the SVCs are semantically more specific, they can only be used for paraphrasing those BVC instances that have the sense in which the SVC specializes. The paraphrasing of BVC instances occurring in other senses either results in considerable shifts of meaning or is not possible at all. Our case study revealed that in all cases less than 50% of the BVC constructions occurred in senses compatible to the SVC sense (cf. Table 8). Only these instances can be paraphrased by the corresponding SVCs without any problems.

BVC	BVC instances	SVC paraphrase is possible
absagen	210	63 (= 30%)
unterrichten	247	113 (= 46%)
helfen	214	77 (= 36%)
wirken	247	108 (= 43%)

Table 8: SVC paraphrases of BVC instances

Due to their semantic specifity, SVCs are well suited to disambiguate polysemous verbs in dictionary entries. This can be observed in the dictionary entry of *unterrichten* in which the two senses are disambiguated by the support verb constructions *Unterricht geben* and *in Kenntnis setzen*.

But not only lexicographers profit from the semantic specifity of support verb constructions. In discourse, the semantic specifity of the SVC can be used to establish rhetorical relations of elaboration and specification. In our data we found several examples like (17) in which the base verb *unterrichten* is taken up again and elaborated by the SVC *Unterricht erteilen*.

(17) *Systematisch **unterrichten** heißt im Gerätturnen einen planvollen, geordneten, wissenschaftlichen **Unterricht** zu **erteilen***.
'In apparatus gymnastics systematically teaching means giving a well-planned, well-ordered scientific instruction.'
Borrmann, Günter / Mügge, Hans, Gerätturnen in der Schule, Berlin: Volk u. Wissen 1957

The base verb in (17) is used in an SVC compatible sense and can, thus, be replaced by the corresponding SVC. However, such a replacement destroys the rhetorical effect that is obtained by elaborating the unspecific BVC by means of the unambiguous and syntactically modified SVC. Thus, the example shows that even in those instances in which an SVC paraphrase is semantically adequate, the choice of one or the other construction might not be arbitrary. The set of sense compatible BVC instances contains many examples in which an

SVC paraphrase is only possible at the cost of considerable changes in the sentence structure. An example of this type is (18), in which the base verb is coordinated with another main verb.

(18) *Deshalb **unterrichten** oder „moderieren" in Bochum nicht nur Hochschuldozenten, sondern auch Manager und Unternehmensberater.*
'Therefore, not only university docents, but also managers and executive consultants **teach** or "moderate" in Bochum.'
Tanja Stelzer, Pfarrer zu Managern, in: DIE ZEIT 04.03.1999, S. 80

This sentence must be considerably restructured when the base verb is replaced by the SVC.

4.2. Replacing support verb constructions by base verb constructions

In the previous section, we investigated the conditions for the substitutability of the base verb constructions with the corresponding SVCs. In this section, the question is put the other way around: we tested all pairings for whether, and with what effects, the SVC may be replaced by the respective base verbs. Since the number of SVC hits is much smaller than the number of BVC hits (cf. Table 6 above), we manually examined all SVC hits in order to eliminate "noise" (false positives) and hits in which the SV occurs as a participle modifying the PredN (e.g. *der erteilte Unterricht* 'the lessons given'). The results of this step are listed in Table 9. In all remaining instances, we replaced the SVC by its semantically corresponding base verb and checked the two sentences are semantically equivalent.

Construction	hits	SVC instances
Absage erteilen	87	**82**
Hilfe leisten	377	**310**
Unterricht erteilen	158	**122**
Wirkung ausüben	390	**275**

Table 9: SVC instances

As shown in section 4.1., all SVCs are specialized in exactly one sense of their corresponding base verbs. One would, thus, assume that all SVC instances could be interchanged with these base verbs without any change in meaning. However, our study did not confirm this assumption. For many of our SVC instances it proved hard or even impossible to find an appropriate base verb paraphrase. We will now illustrate some cases where substitution causes problems, arguing that these problems have three different causes: (1) lexicalization, (2) discourse cohesion, and (3) PredN modifiers.

4.2.1. Lexicalization

In the process of lexicalization, an SVC tends to develop specific subsenses or form characteristic collocations. Not all of them can be expressed by the base verb. One example is the very specific subsense that *Hilfe leisten* has in example (19):

(19) *Für die Kippe am Reck ist eine Hilfeleistung an Beinen und Rücken zweckmäßig. Wie aber wird an sprunghohen Geräten, bei schwierigen Übungen und Abgängen **Hilfe geleistet**?*
'When doing the roll on the horizontal bar, it is advisable to use an aid for the legs and the back. But how can assistance be provided for difficult exercises and landings form high parallel bars?'
Borrmann, Günter / Mügge, Hans, Gerätturnen in der Schule, Berlin: Volk u. Wissen 1957

Hilfe leisten in (19) expresses the special type of assistance (holding or supporting the gymnast) that is provided in the context of gymnastics. In our corpus, we found five instances of this special subsense of *Hilfe leisten*. Although the use of the base verb is possible and would be interpreted properly, the appropriate expression for this subsense is *Hilfe leisten* and not *helfen*.

Another example is the collocation *erste Hilfe* ('first aid') which we found in 25 instances of *Hilfe leisten*. None of the instances of *erste Hilfe leisten* ('to give first aid') can be paraphrased with *helfen*.

An even more complicated example is *Absage erteilen*. We already discussed in section 4.1. that *Absage erteilen* may only paraphrase one subsense of *absagen*: sense (1b) (= 'to reject') in which the indirect object slot is filled by the RECIPIENT argument. When this sense is paraphrased by the SVC, the RECIPIENT argument of the base verb is transferred to the indirect object slot of *Absage erteilen* and can then be properly interpreted.[30] In contrast, the semantically related subsense (1a), i.e. *absagen* in the sense of 'to cancel', cannot be paraphrased by the SVC (cf. example (16) in 4.1.). This is due to the fact that, in the course of its lexicalization, the nominalization *Absage* has developed three senses, all of which are explained in the WDG as follows:

> WDG-Online entry of *Absage*:
>
> **(1): abschlägiger Bescheid, Ggs. Zusage: eine (telegrafische) A. erhalten** ['rejection']
>
> **(2) geh. Zurückweisung: jmdm. eine (entschiedene, scharfe, unmißverständliche) A. erteilen; eine A. (Ablehnung) an jeglichen Nationalismus** ['refusal']
>
> (3) Rundf. Varieté Schlußwort nach einer (künstlerischen) Darbietung, Ggs. Ansage: die A. machen, geben ['a farewell/closing statement']

For sense (3) we found no instances in our corpus. Sense (1) of *Absage* corresponds to sense (1b = 'to reject') of *absagen* and can, thus, be paraphrased by the base verb. The problematic instances are SVCs like (22), in which *Absage* is used in the sense (2) of 'refusal'. In such instances the direct object is filled by a THEME argument expressing the object of the refusal, in example (20) the NP *dem Krieg* ('the war').

(20) *Das Manifest verlange nicht nur Frieden für das deutsche Volk, sondern sei gleichzeitig ein Appell an alle Völker, dem Krieg eine endgültige **Absage zu erteilen**.*
'The manifesto not only demands peace for the German folk, but it is simultaneously an appeal to all people to reject the war.'
Deutsche Demokratische Republik gegründet, in: Berliner Zeitung 08.10.1949, S. 1

Paraphrasing instances like (20) by the base verb *absagen* leads to a considerable shift in the meaning. The THEME argument of *Absage* (2) could be interpreted in one of two ways. It will either be filled in the direct object slot of *absagen* in the sense of (1a = 'to cancel') and consequently be interpreted as being the object of the cancellation:

(20') (…) *den Krieg absagen* ('to cancel/ to call off the war')

---

[30] Peter sagt dem Freund ab ('Peter cancelled (s.th.) on his friend') → Peter erteilt dem Freund eine Absage ('Peter sent his friend a cancellation').

Or, it will be filled in the indirect object slot of *absagen* in the sense of (1b = 'to reject') and will consequently be interpreted as being the RECIPIENT of the rejection:

(20'') (…) *dem Krieg absagen* ('to reject the war')

In both cases, the base verb paraphrase is not adequate: It either differs considerably from the meaning of the SVC or it violates sortal restrictions and cannot be interpreted correctly. Thus, instances of *Absage erteilen* in sense (2) cannot be paraphrased by the derivationally related base verb *absagen*.

4.2.2. Discourse Cohesion

Discourse cohesion is another factor bearing on the interchangeability of BV and SVC. In our data we found several examples like (21), where the PredN is the antecedent of an anaphoric pronoun in the subsequent discourse.

(21) *Den Kindern soll nur **Hilfe geleistet** werden, wenn sie **sie** benötigen. **Sie** erfolgt durch Fragen, die die Jungen und Mädchen anregen, in der Richtung des Handlungsablaufes weiterzudenken.*
'One should only **provide assistance** to the children when they need **it. It** (**this assistance**) can take the form of questions that encourage the boys and girls to think ahead in the chain of action.'
Brumme, Gertrud-Marie, Muttersprache im Kindergarten, Berlin: Volk u. Wissen 1966

From a purely semantic point of view, the SVCs in such instances are equivalent to their corresponding base verbs. From the perspective of discourse cohesion, however, the SVC cannot be replaced by the BVC: when the PredN is removed, the subsequent pronouns can no longer be resolved.

In other cases, like in example (22), the PredN component of the SVC is itself an anaphoric pronoun that is co-referent with the subject of the subsequent clause, namely *der Unterricht*.

(22) *Der **Unterricht** kann nicht gewissermaßen parallelisiert werden, so daß auf die eine Seite die Fachdisziplinen, auf die andere die allgemein bildenden Gegenstände gestellt werden; er muß unter einem einheitlichen Gesichtspunkte **erteilt** werden.*
'**The lessons** cannot be effectively parallelized in a way that places specialized academic disciplines on the one side and the general subjects on the other; **they** must be **give**n from one consistent perspective.'
Oberbach, Johannes, Zur Errichtung einer Handels-Mittelschule in Berlin, in: Vossische Zeitung 02.03.1911, S. 1

(22')→ (…) *es muss unter einem einheitlichen Gesichtspunkt unterrichtet werden.*
'(…) one has to teach from one consistent perspective.'

The version with the corresponding BVC *unterrichten* is only possible when the pronoun filling the subject slot is replaced by an impersonal subject, as in (22'). The parallel construction of the two subsequent clauses in (22) cannot be preserved in the BVC version (22').

4.2.2. Modification of the PredN by an adjective

The investigation of adjectival modifiers in this case study confirms the results of the case studies reported in section 3: a considerable number of PredNs are modified by adjectives in our corpus SVC instances (cf. Table 10).

SVC	SVC instances	modified by an adjective
Hilfe leisten	310	85 (27.4 %)
Unterricht erteilen	122	34 (27.9 %)
Wirkung ausüben	275	196 (71.3 %)
Absage erteilen	82	42 (51,2 %)

Table 10: PredN modified by adjectives

In the case of *Wirkung ausüben* ('to have an effect'), such a modification is in fact more often the rule than the exception. For the present case study, the relevant question is: how is the adjectival modifier affected when the SVC is replaced by the corresponding BVC? In the previous section, we discussed that in some cases adjectives modifying PredNs may be paraphrased by adverb modifiers (cf. examples (7), (8), and (9) in section 3). When adjectival modifiers and adverbs are semantically equivalent, it is also feasible to paraphrase the SVCs by its corresponding BVCs. The adjectival modifiers of the PredN are then realized as adverbs in the base verb sentences. But as shown in section 3, only a subset of the PredN modifiers can be substituted by adverbs (cf. the results of case study 4 in Table 5). Consequently, only the corresponding subset of SVCs can be rephrased in a straightforward way by BVCs. For the other cases, rephrasing may require considerable restructuring; this was demonstrated by example (12) in section 3.

All in all, the comparison of the SVC-BVC pairings we examined revealed that their mutual substitution has in many cases negative effects on the cohesion of the discourse and/or requires considerable changes in the construction of the sentence. In most cases, the two types of constructions are not arbitrary stylistic alternatives that convey the same meaning. Instead, both construction types offer characteristic options for structuring information and for modifying the sentence perspective. Since these options overlap partially SVC and BVC can easily be exchanged in some cases. In many cases, though, it is impossible to change the construction without affecting the information structure of the discourse.

5. Conclusion and outlook

Section 2 showed that SVCs form a class of multi-word units that differs both from typical idioms and from typical free syntagmatic constructions with respect to three properties: semantic compositionality, component substitution, and morphosyntactic flexibility. In comparing typical examples in section 2, we argued that morphosyntactic flexibility is determined not only by the referentiality of the PredN, but also by the type of construction the PredN occurs in. SVCs that realize their PredN in the direct object slot (DO-SVCs) seem to be generally more flexible than SVCs where the PredN occurs with a preposition (PP-SVCs). In section 3 we showed how our corpus-based case studies confirm these findings. The systematic differences between the two kinds of SVCs explain the apparent contradictory claims resulting from linguistic diagnostics presented by two lines of research. The French line regards DO-SVCs as the prototype; morphosyntactic flexibility is thus claimed to be the unmarked case. The German line considers PP-SVCs as prototypes and views morphosyntactic flexibility as exceptional. Our case studies show that not all features that are traced back to the feature referentiality behave alike. We found that adjectival modification is frequent even in constructions that are quite restricted with respect to determiner variation. We also found that the claim that adjectival modifiers in SVCs can be paraphrased by corresponding adverbs (Mary makes frequent mistakes <-> Mary makes mistakes frequently) only applies to a subset of our corpus instances. In other cases, adjectival modifiers and adverbs are not semantically equivalent. All in all, the results of our case studies on the morphosyntactic flexibility of PredNs suggest that the feature of referentiality alone is not

suited to explain the data. Rather, our results indicate that two independent factors interact: the type of construction and the referentiality of the noun component. On the one hand, PP-SVCs are generally much more constrained in number and determiner variation than DO-SVCs. But both construction types may be modified by adjectives. On the other hand, idiomatic SVCs are restricted to both flexibility and modification. This holds true no matter, if the nouns occur in a direct object slot or with a preposition. When grouping support verb constructions according to their typical constraints, a cross-classification along these two independent factors seems to be more adequate than a simple partition in referential and non-referential constructions.

The results of our case study in section 4 indicate that the choice between support verb constructions and their corresponding base verbs is not as arbitrary as has been assumed in the literature. For many applications, e.g. text generation, machine translation and style checking, it would be desirable to describe systematically which factors favor one or the other type of construction. Our case study demonstrates that such applications require the investigation and comparison of both types of construction on the basis of corpus examples, i.e., in an authentic discourse context. Although large digital text corpora are now available, the comparison in our case study still required a lot of manual and time-consuming analysis. For future analyses it would be desirable to have a specialized workbench where the corpus occurrences can be further filtered, linguistically annotated (e.g., with respect to the presence or absence of modifiers and determiners) and sorted into different files (e.g., files for different base verb or SVC senses, or for different types of substitution difficulty).

6. References

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