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## **A Model for Describing Speech Act Verbs The Semantic Base of a Polyfunctional Dictionary**

### **Abstract**

In this paper we present a new approach to lexicographical design for the description of German speech act verbs. This approach is based on an action-theoretical semantic conception. The several conditions for linguistic action provide the basis for the elaboration of the central semantic features. The systematic relationship of these features is reflected in the organization of a lexical database which allows various possibilities of access to different types of lexical information.

In the following paper we shall give an outline of the semantic framework for describing speech act verbs, i. e. verbs of communication, with the practical goal of a semantical database for a (dictionary of) synonymy of German speech act verbs which enables the user not only to find a list of synonymous verbs but also enables him to gain an insight into the semantic relations between the words.

The semantic framework is based on

- (i) a set of conditions for performing speech acts as the relevant domain of reference
- (ii) the introduction of a notion of situation, or better type of situation

The performative as well as the descriptive use of the verbs can be reduced to their fundamental dependency on the situations in which they are used: on the one hand with regard to the possibility of the action itself, and on the other hand with regard to the possibility of their designation. For both ways of use the relevant aspects of the situation constitute the necessary conditions.

### **1. The first approach: the global frame of a general type of resource situation**

All expressions belonging to the set of speech act verbs are characterized by a common semantic base which consists in the fact that they can be used to refer to a certain type of situation which can be roughly described as following: a speaker utters something to a hearer (in the sense of the addressee) with a certain intention. This type of situation is defined for the case of default by different roles: the role of the speaker, the role of the

hearer, and the role of the utterance with its content, or more technically spoken: with its propositional content. In addition to these roles there is a fourth one: the role of the communicative attitude of the speaker. Altogether the four roles constitute a general type of resource situation which characterizes the semantic invariant of the set of speech act verbs (for details see under 4.):

### General type of resource situation

S = role of the speaker
H = role of the hearer
U/P = utterance with its propositional content
A(S) = speaker's communicative attitude

Figure 1

## 2. The elements for special types of resource situation

The general type of resource situation will serve as a base for further semantic differentiations: its different roles can be assigned to different attributes (slots) marked by different values (fillers). The attributes in question are the following:

- (1) for the utterance: the attribute of the propositional content
- (2) for the communicative attitude of the speaker, the attributes:
  - the propositional attitude
  - the intentional attitude (speaker's intention)
  - some further presuppositions of the speaker which constitute the world of interaction from the view of the speaker

By assigning these attributes to the roles of the general type of resource situation it will be possible to build up special types of resource situation which constitute the frame for classifying subsets of speech act verbs.

For the attribute of the propositional content of the utterance there are three options:

- the type of event (*Geschehen*) with the values: state (*Zustand*), event (*Ereignis*), action (*Handlung*), and some other state of affairs (*beliebiger Sachverhalt*)

- in the case of the event being an action, the attribute of the reference of agents with the values: speaker (e. g. *to promise*), hearer (e. g. *to order*), speaker & hearer (e. g. *to propose*), some other persons
- the attribute of the reference of time with the three values: past (e. g. *to blame*), present, future (e. g. *to request*)

For the attribute of the propositional attitude of the speaker there are five options:

- the epistemic attitude
- the voluntative attitude
- the attitude of grading
- the evaluative attitude
- the emotive attitude

Epistemic attitudes are characterized by the predicates *take for true* (*für wahr halten*), *know* (*kennen*):

S takes for true: P	(e. g. <i>to assert</i> )
S does not take for true: P	(e. g. <i>to lie/deny</i> )
S takes for true: P' can be supplemented to P	(e. g. <i>to ask</i> )

There would be a possibility of marking the difference of meaning of *to lie* and *to deny* with regard to the attribute of epistemic attitudes by differentiating the scope of negation: for *to lie* the scope of negation is the attitude 'take for true', for *to deny* the scope of negation is the content of the attitude: P. The reason for this differentiation could be seen in the fact that with *to lie* P is supposed and non-P presupposed, whereas with *to deny* P is presupposed and non-P supposed. In other terms: in the case of *to deny* it is necessary that P has been the subject of a foregoing utterance. This aspect is marked by the attribute 'position of the utterance in the course of communication' (s.b.). The same is also valid for the voluntative attitudes ('S does not want: P' and 'S wants: not P') and some of the presuppositions of the speaker ('not expectable: P' and 'expectable: not P'; 'not in the interest of S/H: P' and 'in the interest of S/H: not P').

S knows: P	(e.g. <i>to inform</i> )
S does not know: P	(e.g. <i>to ask</i> )

Voluntative attitudes are characterized by the predicate *to want* (*wollen*):

S wants: P	(e.g. <i>to request</i> )
S does not want: P	(e.g. <i>to warn/to forbid</i> )

The speaker's attitude of grading is characterized by the predicate *to grade* (*finden*):

S grades: P	(e.g. <i>to judge</i> )
S grades: not P	?

The speaker's evaluative attitudes are characterized by the predicate to evaluate *good/bad* (*gut/schlecht finden*):

S evaluates: P good	(e.g. <i>to praise</i> )
S evaluates: P bad	(e.g. <i>to disapprove</i> )

The speaker's emotive attitudes are characterized by the predicate *to feel* (*empfinden*):

S feels (anger, joy, sorrow) with regard to P	(e.g. <i>to lament</i> )
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The intentional attitudes (speaker's intention are characterized by the predicate *to want* (*wollen*):

S wants: H does P	(e.g. <i>to request</i> )
S wants: H does not P	(e.g. <i>to forbid</i> )
S wants: H does R	(e.g. <i>to ask</i> )

S wants: H takes for true: P	(e.g. <i>to assert</i> )
S wants: H does not take for true: P	(e.g. <i>to deny</i> )

S wants: H knows: P	(e.g. <i>to inform</i> )
S wants: H does not know: P	(e.g. <i>to conceal?</i> )

S wants: H grades: P	(e.g. <i>to judge</i> )
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S wants: H evaluates: P good/bad	(e.g. <i>to disapprove</i> )
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S wants: R	(e.g. <i>to ask</i> )
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S wants: Q	(for institutional states of affairs: e.g. <i>to baptize</i> )
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S wants: H knows: Ø (S) (Ø marks a propositional attitude)	(e.g. <i>to promise</i> )
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For the attribute 'world of interaction' from the view of the speaker there are the following options:

- position of the utterance in the course of communication with the values: initial (*to ask*), reactive (*to deny*), re-reactive (*to insist*)
- speaker's presuppositions about the situational state of affairs:

expectable ( <i>erwartbar</i> ): P	(e.g. <i>to warn</i> )
not expectable: P	(e.g. <i>to request/to admonish</i> )
in the interest of S: P	(e.g. <i>to request</i> )
not in the interest of S: P	(e.g. <i>to forbid</i> )
in the interest of H: P	(e.g. <i>to request</i> )
not in the interest of H: P	(e.g. <i>to warn</i> )
H takes for true: P	(e.g. <i>to refuse</i> )
H does not take for true: P	(e.g. <i>to assert/to maintain</i> )
H knows: P	(e.g. <i>to ask</i> )
H does not know: P	(e.g. <i>to inform</i> )
H evaluates: P good	(e.g. <i>to praise</i> )
H evaluates: P bad	(e.g. <i>to insult</i> )
H feels (anger, joy, sorrow) with regard to P	(e.g. <i>to comfort</i> )
H is able to do: P	(e.g. <i>to request</i> )
H is able to do: R	(e.g. <i>to ask</i> )

Additional to the speaker's presuppositions about the state of affairs there are some special conditions concerning the role constellations of the speaker and the hearer, e.g. authority, privateness, official state, etc., and some more features of institutional settings. These attributes of the world of interaction are far from being systematically predicted, they depend to a very high degree on the social and institutional organization of a linguistic community.

### 3. The efficiency of the semantic framework

The presented framework can be used in three respects:

- it enables lexical paradigms (lexical fields) of a given language to be generated
- it enables the state of lexicalization of a given language to be demonstrated — i.e. it has a considerable heuristic value for the study of lexical gaps in the area of communicative expressions
- it enables contrastive studies of different languages in respect of their states of lexicalization

### 4. The relations between different types of resource situations

The general type of resource situation represents a kind of semantic core or constant for speech act verbs. All components of the description of speech act verbs represent a special part of the knowledge about linguistic action. The general type of resource situation includes the most central and basic elements of linguistic action, it is, so to speak, the necessary condition of linguistic action as a basic domain of reference for speech act verbs. All speech act verbs can be subsumed to this type. Thus the general type of resource situation is at the top of the hierarchical order.

The special types of resource situations are on the next lower hierarchical level. In each of these types is organized a subset of speech act verbs that refers to the elements of this type. The constituents of the general type of resource situation are specified and structured within the special types by means of various attributes and attribute values: propositional content of the utterance, speaker's attitudes (propositional attitudes, intentional attitudes) and the world of interaction from the speaker's view. With the help of these specifications one is able to describe different types of situations in which specific kinds of communicative acts take place. We refer to these communicative acts with specific verbs, and we can describe the conditions of use of these verbs with the help of the data in the relevant special type of resource situation. A speaker in a discourse situation makes reference to relevant aspects of the resource situation, because it is the background knowledge of speech acts to which we refer with the help of communicative expressions. For that reason a classification of speech act verbs partly resembles a classification of speech acts. But within a speech act classification an answer, for instance, is a normal assertion. It only becomes an answer by being embedded in a specific communicative situation. Just this situation-based view is the preferred way we look at speech act verbs.

Thus the types of resource situation represent our conceptual knowledge about communication. This knowledge concerns linguistic action as a whole

and, of course, the reference to several communicative activities. All speech act verbs are characterized as belonging to one or several types of resource situation and as lexical entries. A lexical entry for each of the speech act verbs entails the following positions: syntactical content (argument structure), meaning, detailed descriptions of the conditions of use, possible synonyms (as a graded relation, which may be weaker or stronger, taking into account the special contexts of the verbs), antonyms (in relation to different aspects of the verb), comment and examples and references. Thus one can obtain very different sorts of information.

On the one hand you can obtain systematic information about the relevant cognitive structures underlying the use of communicative expressions. Tendencies of lexicalization can be shown in connection with this information. On the other hand you can obtain detailed information about single verbs, about their specific conditions of use and about their possible use as synonyms (including the reasons for this possibility). Furthermore you can obtain information on the relations between the several types of resource situation and thereby information on the relations between the several speech act verbs. Thus you have a real polyfunctional dictionary at the end, which can be used for different purposes.

### **5. The lexicographical design**

In order to represent the semantical framework as a lexicographical database a special computer programme has been developed (Rapid Prototype Programme). This programme enables the user to get access to different kinds of lexical information.

First the user can start from the general type of resource situation as represented by the first screen at the beginning of a working session (cf. Fig. 2);

In a first step of a working session the attribute values for special resource situations can be filled in. A list of predefined values is attached to each subgroup. This list has to be checked in regard to the members of speech act verbs. A list of predefined values of the attribute 'Geschehenstyp' can be found on the right side of the screen (cf. Fig. 2). By marking one of the terms it is integrated into the attribute field.

```

XXXXX Institut für deutsche Sprache XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
X      S                               Sprecher                               X
X      H                               Hörer                               X
X      Sa|P|                           ALLGEMEINER                       X
X      E(S)                             REKURSSITUATIONSTYP           X
X                                                                                               X
X      SPEZIELLER REKURSSITUATIONSTYP           (1)                               X
X
X  1) Propositionaler Gehalt:                Typ:                               X
X                                           Geschehenstyp:                       X
X                                           Zeitbezug:                            X
X                                           Rollenbezug:                            X
X                                                                                               X
X                                                                                               X
X  2) Einstellung des S zu P:                Primär:                               X
X     Propositionale Einstellung             Sekundär:                              X
X                                                                                               X
X  3) Sprecherabsicht                       Situierung:                           X
X     Intentionale Einstellung              Rollenspezifik:                       X
X                                                                                               X
X  4) Interaktionswelt aus der              Institutionenspezifik:                 X
X     Sicht von S                           Vorannahmen -primär:                 X
X                                           - sekundär:                           X
X                                                                                               X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

```

Figure 2

(1) Here the new type of resource situation in work has to be filled in.

The following screen (cf. Fig. 3) shows a case of choosing predefined values for the attributes: the special type of resource situation Repr.lüg (representative.lie).

```

XXXXX Institut für deutsche Sprache XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
X      S                               Sprecher                               X
X      H                               Hörer                               X
X      Sa|P|                           ALLGEMEINER                       X
X      E(S)                             REKURSSITUATIONSTYP           X
X                                                                                               X
X      SPEZIELLER REKURSSITUATIONSTYP           Repr.lüg                               X
X
X  1) Propositionaler Gehalt                Typ: Mitteilungsgehalt: P             X
X                                           Geschehenstyp: beliebig              X
X                                           Zeitbezug: beliebig                  X
X                                           Rollenbezug: beliebig                X
X                                                                                               X
X  2) Einstellung des S zu P                Primär: s hält nicht für wahr: P     X
X     Propositionale Einstellung             Sekundär:                              X
X                                                                                               X
X  3) Sprecherabsicht                       S will: H hält für wahr: P         X
X     Intentionale Einstellung              X                                     X
X                                                                                               X
X  4) Interaktionswelt aus der              Situierung: initial                  X
X     Sicht von S                           Rollenspezifik: keine                X
X                                           Institutionenspezifik: keine          X
X                                           Vorannahmen -primär: H hält nicht für wahr: P X
X                                           - sekundär:                           X
X                                                                                               X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

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Figure 3

On the next screen you get a list of verbs belonging to the special type of resource situation together with a short semantic description (cf. fig. 4).

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XXXXXXXXX Institut für deutsche Sprache XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
X
X
X REKURSSITUATIONSTYP: Repr.lüg X
X
X Gt(P): beliebig Rb(P): beliebig X
X Zb(P): beliebig X
X E(S.P) -prim: S hält nicht für wahr: P X
X -sek : X
X A(S): S will: H hält für wahr: P X
X Sit : initial Va-prim: H hält nicht für wahr: P X
X Rol : keine -sek : X
X Inst: keine X
X
X SAV-Menge: X
X
X anflunkern belügen erschwindeln lügen X
X anlügen beschwindeln flunkern vorflunkern X
X anschwindeln erflunkern irreführen vormachen X
X beflunkern erlügen irreleiten vorschwindeln X
X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

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Figure 4

For each of these verbs you can get a lexical entry with the information mentioned in 4. Starting the research from a single verb (lemma) you can get the semantic information the other way round. Thus you have two fundamental ways of research: from the conceptual framework to the linguistic expressions and vice versa.

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