

Dieter Kastovsky
Perspektiven der lexikalischen Semantik
Beiträge zum Wuppertaler Semantikkolloquium
vom 2. - 3. Dezember 1977

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Leonhard Lipka

Methodology and representation in the study of lexical fields

This paper discusses various approaches to the study of fields and the terminology used in them. A distinction between LEXICAL FIELD and WORD-FIELD is suggested as a consequence of the application of linguistic methods to the analysis of the language of linguists. It is claimed that word-fields proper should be homogeneous, should not contain complex lexical items, and should be established on the basis of objective procedures. The complementary nature of representation by means of diagrams and of matrices is stressed. In this connection, the status of semantic components and semantic features is briefly considered.

1. Terminology

In her book *Semantic fields and lexical structure* Lehrer (1974: 22) gives the following implicit definition of *lexical field*:

The analysis of a lexical field includes the relationship of words that contrast paradigmatically (all belonging to one part of speech), and those of other parts of speech that are related morphologically and semantically, for example the relationship between *fly* and *wing* or *tutor*, *tutorial*, and *tuition*.

As a working definition of a semantic field she uses the following (1974: 1):

A semantic field is 'a group of words closely related in meaning, often subsumed under a general term'.

In what follows, I shall specify, by means of hierarchical diagrams and a matrix, the use of a number of related terms by several linguists and will further distinguish my own usage from the terminology employed by Lyons in his recent book *Semantics* (1977).

1.1. Discussing the history of field-theory, Lyons (1977: 251) distinguishes the LEXICAL FIELD, or WORTFELD, the CONCEPTUAL FIELD, or SINNFELD, and the SEMANTIC FIELD, or BEDEUTUNGSFELD. He assumes (252) that field-theory is concerned with the analysis of sense, and deplores (267) the lack of "a more explicit formulation of the criteria which define a lexical field than has yet been provided". He makes the following distinction between a semantic and a lexical field¹ (268):

Lexemes and other units that are semantically related, whether paradigmatically or syntagmatically, within a given language-system can be said to belong to . . . the same (semantic) field*; and a field whose members are lexemes is a lexical field*. A lexical field is therefore a paradigmatically and syntagmatically structured subset of the vocabulary.

This distinction will be formalized later on. In his article on the typology of what he calls CHAMPS LEXICAUX, Coseriu (1975: 30) uses the term CHAMP LEXICAL as an equivalent of the English LEXICAL FIELD and the German WORTFELD. However, for Coseriu a LEXICAL FIELD is necessarily a paradigmatic structure of

¹ Lyons uses an asterisk following an item for introducing technical terms in order to distinguish these from superficially identical ordinary words. Collocations may be interpreted as belonging to the "other units".

what he calls the primary vocabulary, i.e. syntagmatic relations and complex lexical items are not included in the denotation of the term. Baumgärtner (1967) in his classical article "Die Struktur des Bedeutungsfeldes" rejects the term WORTFELD, because he defines the subject of his study as concerning meaning relations, not lexical relations. As for myself, I have used the English term WORD-FIELD (1972: 191 ff.) with regard to verb-particle constructions such as *add up*, *double up*, *gum up*, *roll up*, *sweep up*, *yoke up*, whose common semantic features can be captured by an archilexeme *gather*. This procedure was in accordance with Coseriu's and Geckeler's use of the German term WORTFELD, although the question of whether such verb-particle constructions are simple lexemes remains unresolved².

1.2. The terminology used by Lyons can be seen under Figure 1. It should be added that I am here using the term LEXEME in the same way as Lyons does, to denote both simple and complex lexical items made up of lexical morphemes. The distinctions drawn by Lyons are made clear with the help of a tree diagram and additional binary features. This technique has the advantage of showing clearly both the hierarchical structure and the semantic content of Lyons's terminology.

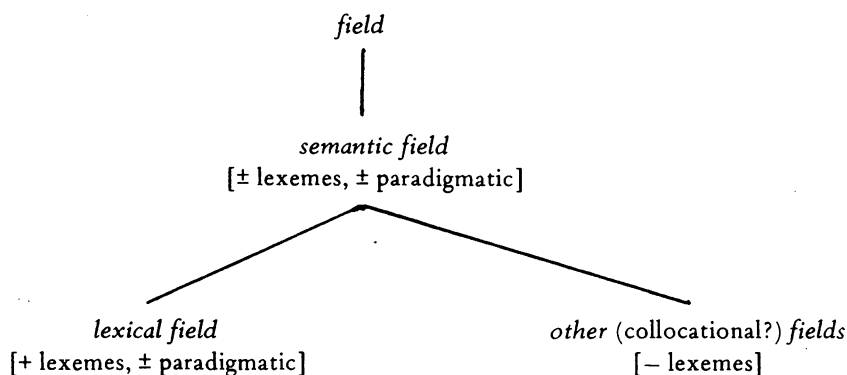


Figure 1

1.3. The different terminology suggested here is seen from Figure 2. Again, the notation with a tree diagram shows the hierarchical relationship between the different terms, while the additional binary features characterize their specific semantic content. A comparison of the two figures reveals the different status of superficially identical technical terms, consisting of either simple lexemes or collocations, and of the English compound WORD-FIELD introduced in my own terminology.

² Cf. Lipka (1971) for a discussion of such borderline cases between lexical semantics and word-formation and their varying intermediary status.

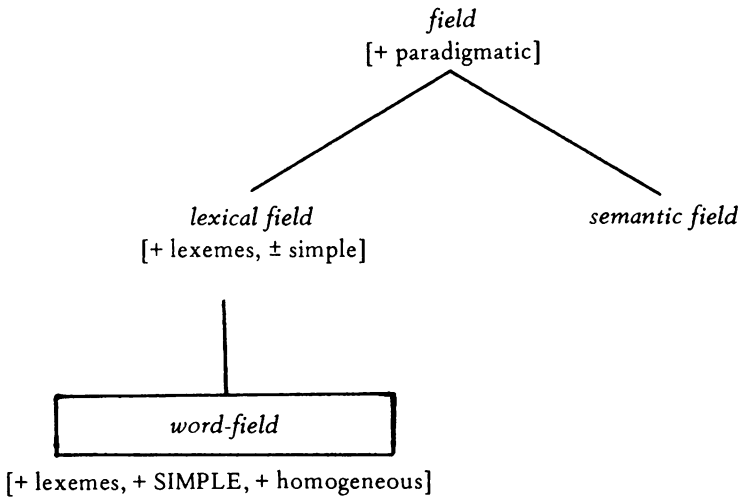


Figure 2

As is apparent from figure 2, the WORD-FIELD is here regarded as a subclass of a LEXICAL FIELD, with the additional requirements that it consist of simple lexemes and is homogeneous with regard to regional, temporal, and register variation (Coseriu's "diatopisch, diaphasisch, diastratisch"). The simplicity criterion is in accordance with Coseriu's and Geckeler's definition of the WORTFELD. The problem of the homogeneous nature of a BEDEUTUNGSFELD is mentioned in Baumgärtner (1967: 192) but left open. My proposal for a terminological distinction of various fields can be seen from the matrix in Figure 3.

lexemes/ collocations	paradigmatic	lexemes	simple	homogeneous
<i>field</i>	+	○	○	○
<i>semantic field</i>	+	-	○	○
<i>lexical field</i>	+	+	○	○
<i>word-field</i>	+	+	+	+
<i>linear</i> <i>hierarchical</i> } <i>field</i>	+	○	○	○

Figure 3

The matrix is not to be understood as an attempt to classify fields, as it is to be found, for example, in Coseriu's proposal for a typology of word-fields in Coseriu (1975). It is rather intended to show that in linguistic terminology, as in everyday language, we can draw distinctions either by using simple or complex lexemes, or by using syntagmatic modifications of a head by a modifier. I disagree with Coseriu who sees a difference between the language of linguists and ordinary language in this respect. There is further a continuum, or scale, or cline, ranging from any modifier plus head on the one end to idioms on the other end of the scale, both synchronically and diachronically. This can be represented in the following way:

CONTINUUM:

modifier/head – familiar collocation – fixed collocation – compound – idiom.

With regard to field-theory, this scale may be illustrated³ by the technical terms:

linear field – *semantic field* – *lexical field* – *word-field*.

There is no equivalent to the pole "idiom"; the "compound" is represented by the lexicalized term WORD-FIELD⁴.

For a comparison of homonymous and related terms I will make use of a notational convention introduced by Kutschera (n. d.: 144). To distinguish Frege's use of BEDEUTUNG from the different sense in linguistics, he introduces a capital F as a subscript. In the survey in Table 1, B stands for Baumgärtner, C for Coseriu, L for Lyons and Li for Lipka. It will be immediately clear that superficially identical terms, also across languages, do not denote identical referents. On the other hand, very different terms are used for referring to the same phenomenon as can be seen from the following table:

*semantic field*_L = SEMANTIC FIELD_{Li} = *Bedeutungsfeld*_B

*lexical field*_L ≠ LEXICAL FIELD_{Li} ≠ *lexical field*_C (= *Wortfeld*_C)

*lexical field*_C = WORD-FIELD_{Li} = *champ lexical*_C (= *Wortfeld*_C)

*superordinate lexeme*_L = ARCHILEXEME_{Li} = *Archilexem*_C

Table 1

The application of linguistic methods – in this case semantic analysis and the apparatus of field-theory – to linguistic terminology, is, in my opinion, unfortunately neglected to a large extent in the literature. There are some rare exceptions however. As one example, let me quote Cruse (1975: 28) who, in his article on hyponymy, draws attention to the fact that his newly introduced term TAXONYM is itself a hyponym of the term HYPONYM.

3 Thus *linear field* consists of modifier/head, while *word-field* is a compound.

4 For my use of the term *lexicalized*, and the nominalization *lexicalization*, cf. Lipka (1977).

2. Methodology

In the following discussion of methodology in field-theory, I shall be mainly concerned with hierarchical fields, which in Coseriu's typology belong to polydimensional fields. However, some linear or unidimensional fields will also be considered⁵.

2.1. Let us now turn to the criteria and definition of fields. As can be seen from the matrix in figure 3, in my terminology all types of field, whether semantic, lexical, or word-field, are defined as paradigmatic structures. The distinction between LEXICAL FIELD and WORD-FIELD is necessary, if we want to establish LEXICAL GAPS in the narrow sense of this term. The claim that a gap in the lexicon exists can only be made for the primary vocabulary, i.e. simple lexical items, if one considers word-formation as a productive process. A potential gap would be closed at any time by a complex lexeme. However, gaps in a wider sense can also be established within the frame of a lexical field.

The members of a field must satisfy the following two conditions, which can be regarded as criteria for the definition of a field:

1. They must be in direct opposition in the same syntactic slot, and
2. they must have at least one specific semantic component in common.

In view of the discussion in the literature, an additional qualification seems necessary:

3. field-membership must be established by objective procedures.

A few comments on the three principles will not seem out of place. It follows from the first criterion that members of a field have to belong to the same syntactic class. This means that identical word-class is a defining criterion. In the case of semantic fields containing combinations of modifier plus head, the syntactic class of the head is criterial. From the above criteria we conclude that for example transitive and intransitive verbs cannot belong to the same field, although they may belong to closely related fields, such as the words for cooking discussed in Lehrer (1974).

The second criterion can be further specified with the help of examples. The common specific semantic component [Human] can be said to delimit a field, which may be regarded as being in opposition to another field represented by the archi-lexeme *animal*. The latter can be viewed as a multiple taxonomy in Leech's (1974: 107) sense. The field *animal* is obviously made up of a number of smaller fields, which in Coseriu's terminology could be called microfields as opposed to the larger macrofield. The conjunction of several components for the definition of a field can be seen in the example discussed later, of *chair*, *bench*, etc. which all have in common the

5 In the English summary of his article, Coseriu (1975: 30) distinguishes between UNIDIMENSIONAL and POLYDIMENSIONAL fields. In the paper itself, the corresponding French terms UNIDIMENSIONNEL and PLURIDIMENSIONNEL are used, which stand for the two major subclasses of CHAMPS. Coseriu (1975: 47) represents these and many further subclasses with the help of a tree diagram.

features [Artifact], [Piece of furniture] and [For sitting]⁶. It should be noted in passing that I do not here make a terminological distinction between COMPONENT, for larger semantic elements, and FEATURE, for minimal distinctive elements, as I had suggested in Lipka (1972: 35). I here use both terms largely synonymously, with no claim for indivisibility for either (see also 5.).

With regard to the third requirement, I would claim that for hierarchical fields a paraphrase relationship and its evaluation by more than a single speaker is an objective procedure for the delimitation and structuring of lexical fields.

2.2. Delimitation can be regarded both under the aspect of the extension of a field, and the internal delimitation of its members. Externally, the field is clearly delimited by either an archilexeme or, in its absence, the intersection of features of certain lexemes yielding a common set of features. Internal delimitation, i.e. a decision on the membership of particular lexemes, is more difficult. The general claim that the field should be homogeneous, is upheld; however, idiolect and other variations are more difficult to grasp. There are no sharp borderlines, and the problems related to the distinction between centre and periphery in lexical structure also might be considered.

2.3.1. I shall now discuss some methods of field-study in various approaches. Let us first look at some tests for hyponymy proposed in the literature. For the testing of taxonyms, a subclass of hyponyms, Cruse (1975: 28) uses the following test frame:

A(n) X is a kind of Y.

Formula 1

The same formula is used by Lyons (1977: 292) to establish proper hyponymy. Lyons (1977: 294) points out, however, that:

Verbs, adjectives, adverbs and other parts of speech cannot be inserted into the formula 'x is a kind of y' without prior nominalization*.

He therefore discusses a number of other structures which reveal hyponymy, especially certain types of question. He ends up with the following types of sentence, containing nouns, verbs, and adjectives, that are parallel in structure:

- (1) A *cow* is an animal of a certain kind.
- (2) To *buy* something is to get it in a certain way.
- (3) To be *friendly* (to someone) is to be nice (to someone) in a certain way.

Sentences (1) to (3) obviously all have the structure of definitions, a fact Lyons does not mention. However, they differ from ordinary dictionary definitions in that the crucial final part, marked by a broken line, remains unspecified. The kind or way,

6 Cf. Nida (1975: 71). The use of the term FEATURE does not necessarily presuppose the claim of binarism; cf. Lyons (1977: 322-324), Lipka (1972: 42-61).

in which the hyponym differs from the archilexeme is not defined. We shall return to this point presently.

Lyons (1977: 299) further distinguishes proper hyponymy from quasi-hyponymy, a relationship between lexemes which must not be confused with Cruse's (1975: 30) "pseudo-hyponymy". For Lyons "quasi-hyponymy" is a relation of hierarchical lexical structure. It differs from proper hyponymy in that superordinate terms, i.e. archilexemes, are lacking and have to be replaced by general words of a different word-class. For example, *red*, *green*, and other similar adjectives are dominated by the noun *colour*; *round*, *square*, *oblong*, etc. by the noun *shape*; and *sweet*, *sour*, *bitter* have a superordinate noun *taste*. According to Lyons, this can be demonstrated by using the following questions:

- (4) Was it red or (of) some other *colour*?
- (5) What *shape* was it, round or square?
- (6) What kind of *taste* has it got?

Such quasi-archilexemes remind one of quality nouns such as *length*, *goodness*, *hotness*, etc. used by Ljung and Cruse in their discussion of antonymy. For them, antonyms and scales are linear structures. Although Lyons certainly has a point, I would rather treat antonyms, scales and multiple taxonomy as linear lexical fields. Quasi-archilexemes such as *colour*, *shape* and *taste* and others such as *sex*, *age* certainly play a great role in structuring the vocabulary. They must be taken into account when incompatibility is discussed, and are therefore often incorporated in matrix representations of lexical fields under the term DIMENSION (as in Figure 9).

2.3.2. Let us now return to the test-formula for taxonyms and proper hyponymy used by Cruse and Lyons (Formula 1). It is already to be found in Baumgärtner's (1967: 193 f.) article from which the following quotation is taken:

Es wird allgemein behauptet, daß ein Bedeutungsfeld erst dann vorliegt, wenn es die Komponentenstruktur der Lexeme darbietet, für die es gilt. Der Komponentenstruktur liegt die umfassende Relation 'X ist ein Y' zugrunde, die sich unformell durch Sätze wie 'Schlendern ist ein müßiges, bequemes, langsames Gehen' oder 'Gras ist eine stielige, schneidbare Pflanze' verdeutlichen läßt.

If the test-formula is changed slightly, but crucially, it will provide more than a mere test for hyponymy, namely a procedure for finding out the specific kind of relationship, and thereby discovering and justifying semantic components. The formula must be changed in the following way and used as the basis for paraphrase evaluation, a procedure whose importance Baumgärtner stresses throughout his article:

$$X \text{ is(t) } \underset{a}{\text{ein}} \quad (\quad) \text{ Y.}$$

Formula 2

Formula 2 can be used for English and German and leaves a slot open for a modifier.

2.3.3. The formula provides a means of establishing semantic components, if X can be replaced in the same syntactic slot by a modifier + Y, and if competent speakers in their evaluation consider the two resulting sentences paraphrases. The following example from Baumgärtner can demonstrate the usefulness of this procedure:

- (7) Der Mann *läuft* über die Straße = X.
 (8) Der Mann *geht* (schnell) über die Straße = () Y.

The modifier in parentheses corresponds to *in a certain way* in example (2). If the two sentences (7) and (8) are considered paraphrases by competent speakers, Baumgärtner (1967:182) states:

kann nun das Adv-Lexem *schnell* von einem objektsprachlichen Element zu einem metasprachlichen Element umgewandelt werden, d.h. in den Rang einer semantischen Komponente . . . erhoben werden.

As I stated in my book (1972: 42): "this is one of the rare remarks in the literature about how we actually discover certain components or semantic features". Unfortunately, this statement is still rather relevant, since the transition from object-language to metalanguage has not been widely discussed until recently. I still think that Baumgärtner's proposal is an extremely important one, and will make use of the procedure in an example later on.

3. Examples of lexical fields

I think the most sensible way of illustrating what has so far been discussed is by giving concrete examples. I will concentrate on hierarchical fields.

3.1.1. As my first example, I will use a section of Baumgärtner's diagram for the field represented by the archilexeme *sterben* in slightly modified form. The example (Figure 4) is not a micro-field, but an incomplete version of the macro-field *sterben* in which English equivalents are compared.

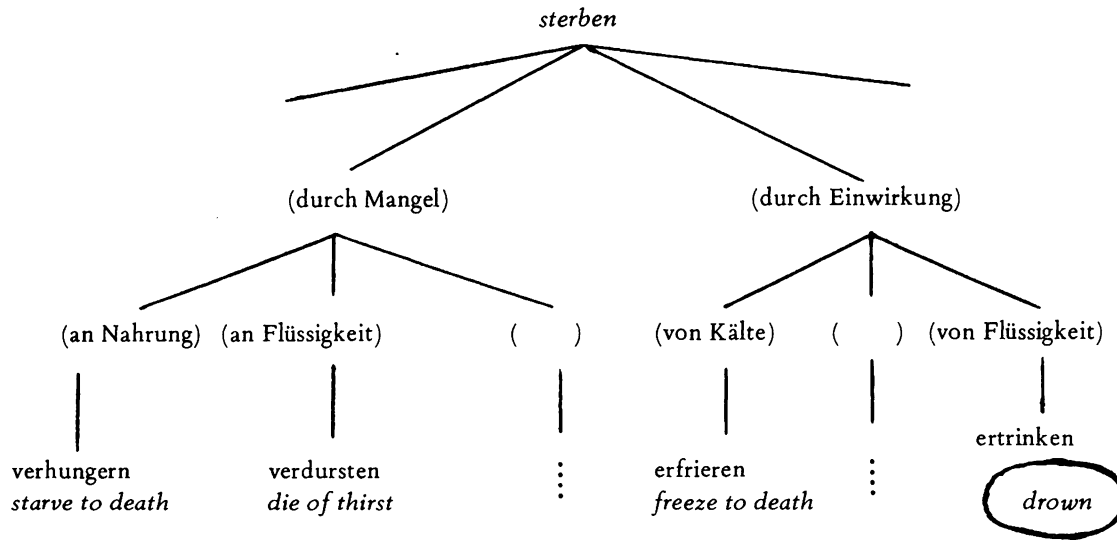
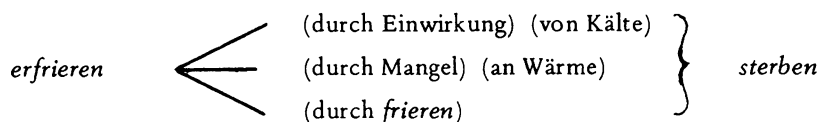


Figure 4

Let me point out that *drown* is the only simple word in English which is a true equivalent of the German lexemes in this lexical field. All German lexemes are result verbs, also termed accomplishment verbs or conclusive verbs. English verbs such as *starve*, *choke*, *bleed*, *freeze*, *burn*, are all non-conclusive, and therefore periphrastic analytical constructions have to be used.

If we follow the path from the archilexeme to the hyponym, a paraphrase of the hyponym results, such as *erfrieren*, which is defined as *sterben* (durch Einwirkung) (von Kälte). However, as you may deduce from Figure 4, there are also two further possible paraphrases, and at the same time definitions, of *erfrieren*, namely: (durch Mangel) (an Wärme) *sterben* and (durch frieren) *sterben*. The threefold semantic analysis of *erfrieren* based on the three possibilities of paraphrasing this item can be represented in the following way:



The substitution of paraphrases in an identical syntactic slot is based on the equivalence of the internal relationship between semantic components and external syntagmatic modifications.

We are now faced with the dilemma of having to choose between the paraphrases, a question Baumgärtner does not discuss. I suggest the following criteria for a choice between the alternatives: 1. the naturalness and acceptability of the paraphrase, and 2. the preferable configuration of the field. Fields should be organised and represented with a maximum of simplicity and generalisation. Furthermore there is obviously a word-formative relationship between *frieren* and *erfrieren* as there is between the noun *Hunger* and the verb *verhungern*. As the noun *Hunger* can be semantically analysed as (Mangel) (an Nahrung), so the verb *frieren* can be related to the state of either *Einwirkung von Kälte* or *Mangel an Wärme*, which are equivalent. This is to show that derivative morphological relationships may contribute to semantic analysis within lexical fields⁷.

3.1.2. As opposed to the preceding example, the next hierarchical field (Figure 5) to be discussed is not a lexical field, but a word-field as defined at the beginning of the paper, since it exclusively consists of simple lexical items. The field represented by the archilexeme *strike* is to be regarded as a micro-field contained within the larger

7 Cf. the analysis of verb-particle constructions such as *chop down* (a tree), *beat out* (the dust), *burn up* (rubbish) and German verbal compounds such as *aufschrauben*, *festbinden*, *tot-schlagen* as deverbal derivatives in Lipka (1972: 115-127).

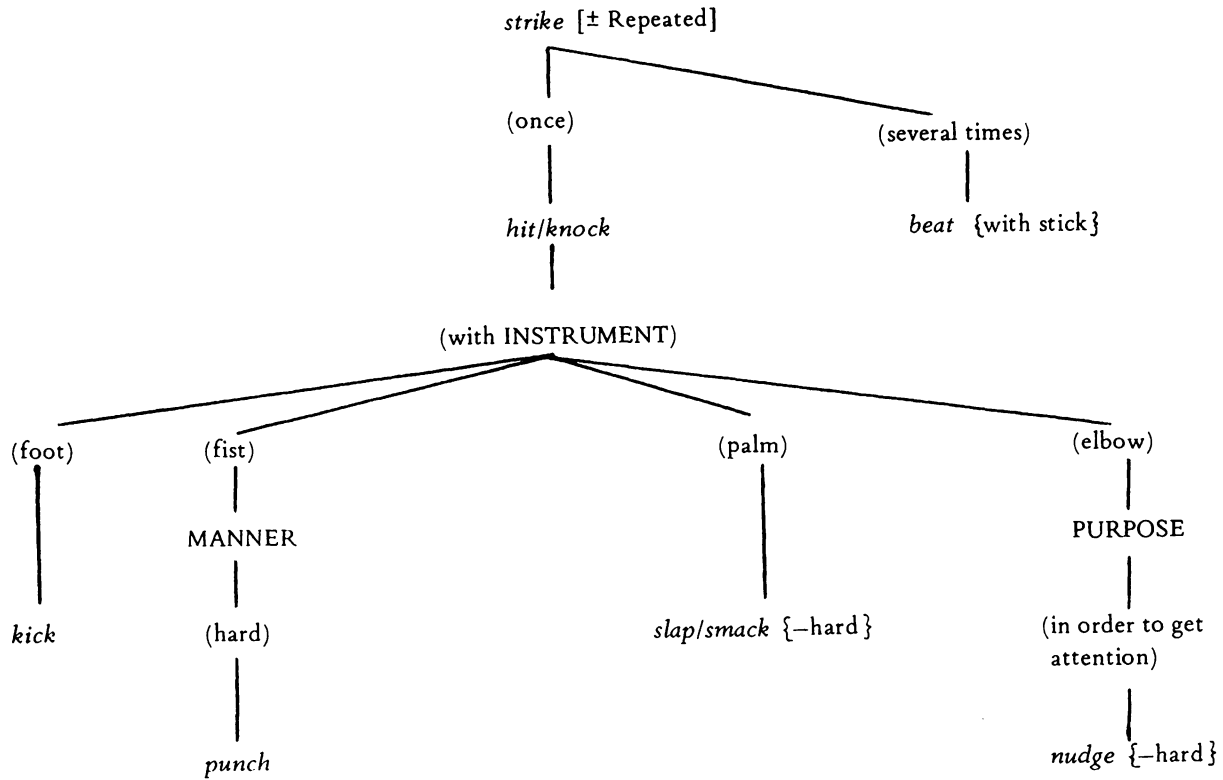


Figure 5

macro-field of contact-verbs⁸, which may perhaps be represented by the archilexeme *touch*, defined and paraphrased as '(cause to) be in contact with'. Other verbs belonging to this macro-field will be *stroke*, defined in the *Oxford Advanced Learner's Dictionary* as 'pass the hand along a surface, usually again and again'. All the definitions used as a basis in the following have been taken from this dictionary, because I believe that a short and elementary dictionary is more likely to capture the basic meaning of lexemes in isolation. I did not, however, use the definitions given there in a mechanical way, when constructing the micro-field *strike*. For example, although *strike* is defined by *hit* and vice versa, the paraphrased definition of *strike* as 'give a blow or blows to' as opposed to the paraphrase for *hit*, which does not contain a plural form, has resulted in a semantic feature [\pm Repeated] attributed to *strike* but a feature [$-$ Repeated], equivalent to a component (once), in *hit*. *Beat* contains [+ Repeated] and an optional component {with a stick} marked by {}. This notation is adopted from Lehrer (1974: 84). In constructing the word-field in Figure 5, I basically followed Baumgärtner's method, with several modifications.

The most important modifications of Baumgärtner's manner of representing fields are the following. I have used capitals for very general categories such as INSTRUMENT, MANNER, PURPOSE, which do not appear in the paraphrase if we follow the path from archilexeme to hyponym. I have also added semantic features in some places for further specification, such as obligatory distinctive features in square brackets, and optional, supplementary features in braces, following the notational convention introduced by Lehrer.

At this point I should like to mention that two further words belonging to the macro-field *touch*, namely *pull* and *push*, need a very specific type of component or semantic feature. If they are defined as containing the components *touch* (PURPOSE: motion) and distinguished by a feature [\pm Proximate], then this last component may be termed a deictic semantic feature, because it refers to orientation with regard to the position of the referent of the grammatical subject⁹. Finally, I want to point out that there are no German equivalents to the English hyponyms of *hit*, which all have to be rendered by phrases like *einen Fußtritt geben*, *einen Faustschlag geben*, *einen Klaps geben*.

3.1.3. Since the comparison of fields across languages is in my opinion one of the most fruitful results of field-theory, I will now discuss one last example of hierarchical fields in connection with the problem of lexical gaps. Figure 6a and Figure 6b represent two sections from the macro-fields *horse* and *Pferd* which, however, are not micro-fields.

8 Cf. Fillmore (1970: esp. 125); Leisi (1975: 46, 53 f., 57, 69, 96 fn. a); Lehrer (1974: 25, 180 f.). In the *Concise Oxford Dictionary* the verb *slap* is defined as 'strike (AS) with palm of hand' (my emphasis, LL). Things worn on the foot (e.g. *boot*, *skate*) may be mentioned in collocations with *kick*.

9 For this feature cf. Lipka (1972: 67, 110, 178).

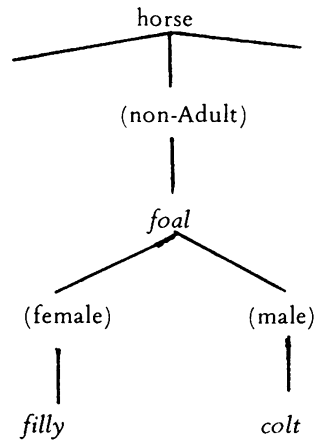


Figure 6a

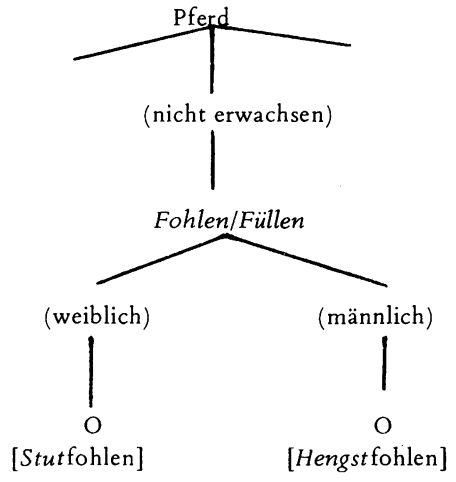


Figure 6b.

Several problems can be illustrated with the help of these two examples. First of all, if we compare *filly* and *colt* to *Fohlen* und *Füllen* in German, we find that the latter in present-day German are unspecified with regard to the dimension sex, and the German word-field therefore contains two gaps, which Baumgärtner would call "Spezifizierungslücken". However, in the technical language of horse-breeders, there is a definite need for this distinction, and it is therefore made on the basis of syntagmatic modification by using complex lexemes. In a lexical field, which is neither restricted to simple lexemes nor requires homogeneity, we would therefore have no gaps in this case.

The second remark is only implicitly contained in the example. In the macro-fields *horse* and *Pferd*, the distinction between female and male is obviously made also in other positions within this field. We therefore have a classical case of cross-classification, which demonstrates the inadequacy of the strictly hierarchical representation by means of a tree-diagram. It is this very deficiency of hierarchical trees which motivated Chomsky to introduce binary features into syntactic theory. In some respects, a matrix representation of lexical fields is therefore superior to tree diagrams, since it does not contain the need for strict hierarchical classification¹⁰.

3.2. The example in Figure 7 is taken from Nida (1975: 71) and slightly modified. A French equivalent which goes back to an analysis given by Pottier has been extensively discussed in the literature.

	<i>chair</i>	<i>bench</i>	<i>stool</i>	<i>hassock</i>	(= <i>pouf</i>)
1. for 1 person vs. for more	+	-	+	+	
2. with a back	+	±	-	-	
3. with legs	+	+	+	-	

Figure 7

Nida, in his comments (73), points out that *seat* differs from *chair* in that it requires an object with a fixed position. From this remark it should be clear that *seat* could not be used as an archilexeme for the whole field, since it contains an additional distinctive component which is not inherent in the other lexemes in Figure 7. These are therefore not hyponyms of *seat*. However, for a matrix representation, this is not a problem. Nida (72) further draws attention to the fact that the lexemes *chair*, *bench*, *stool* and *hassock* require what he calls "supplementary components" when they occur in "various settings (both practical and linguistic)". In other words, he therefore states that linguistic and extra-linguistic context plays a considerable role

¹⁰ However, if the repeated occurrence of the same component or feature at various places in a single tree is permitted, a matrix is not preferable in this respect.

in the semantic interpretation of specific lexical items. This is one of the main difficulties of field-theory and lexical semantics in general, because in context-free analysis abstraction is made from a number of semantic aspects.

3.3. I will not discuss linear fields in any detail. Let me mention only that gradable and non-gradable antonyms – the latter treated under the heading “complementaries” and “converses” by Lyons – should be included here. I must stress, however, that converses should in my opinion not be considered fields at all, since one of their defining criteria is the interchange of the syntactic frame in which they appear. They can therefore not be opposed to each other in the same syntactic slot¹¹.

4. Representation

Let me now deal with the question of representation of lexical fields under its general aspect. As far as I can see, there are basically only two ways of representing lexical fields, namely by means of diagrams and by means of a matrix.

4.1. Graphic representation of lexical fields is usually made either with the help of boxes, something Nida (1974: 86) labels “space diagram”, by means of tree diagrams, and in one instance I know of by means of a radial diagram (Leisi, 1973: 102). Basically, the three possibilities are therefore the following:

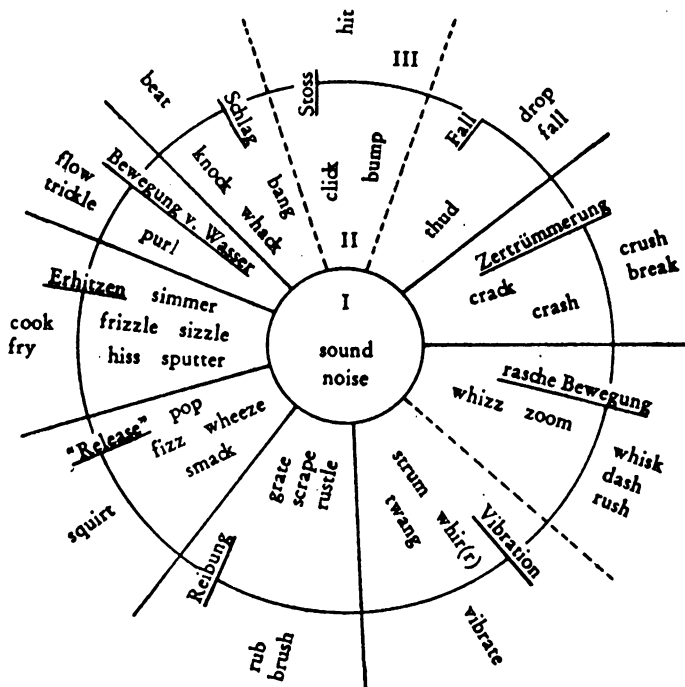
box (space) diagram – tree diagram – radial diagram.

Box diagrams or space diagrams are used both in Lehrer (1974) and Nida (1975) alongside with other means of representation, in particular matrices. In my opinion, the former are most adequate for simple representation both of hierarchical and linear fields, in particular when multiple taxonomies and hierarchies are concerned. With gradable antonyms, a notation as developed in Cruse (1975: 291) seems most appropriate.

There are various kinds of tree diagram employed for the structuring of hierarchical fields in the literature. We can basically distinguish two types, namely labelled or unlabelled diagrams. Nida uses both types, the former having the labels either on the nodes or on the branches linking the nodes. The type of labelled diagram Baumgärtner uses, which I have also used and modified in section 3, has the advantage of clearly marking metalinguistic units, i.e. semantic components. With this notation, the distinction between what Baumgärtner calls “Generalisierungslücke” and “Spezifizierungslücke” can be demonstrated in a consistent fashion. Furthermore, the method allows a clear and lucid arrangement of lexemes and their relationship, which is particularly suited for didactic purposes.

4.2. A radial or circular diagram is used in Leisi (1973: 102) for the representation of the field of sound words, as can be seen in Figure 8.

¹¹ For a discussion of antonyms, the reader is referred to Cruse (1975) and the papers by Cruse and Geckeler in this volume.



- I Bedingung nur akustisch; Ursache beliebig
 II Bestimmtes Geräusch *und* bestimmte Ursache
 III Nur Ursache bestimmt; Geräusch irrelevant; also nicht mehr zum Geräuschfeld gehörig

Figure 8

The most important principle for the structuring of this field is the cause or source of sound. This way of representing a field has the advantage of demonstrating the distinction between the centre and the periphery of a field. It is basically an onomasiological, referential structuring.

4.3. Matrix representations of lexical fields have the advantage of not requiring strict hierarchical classification. This is most welcome in cases where hierarchical ordering does not exist. But even for fields with a hierarchical structure, matrices may be used to advantage because they may contain a considerable amount of detail. They further allow the inclusion of certain dimensions, such as sex, age, shape etc., which are indispensable for the capturing of the relationship of incompatibility¹². The example in Figure 9, adapted from the *Funkkolleg Sprache* (1973: 59), may demonstrate how this can be done.

¹² The introduction of general categories such as INSTRUMENT, MANNER, PURPOSE in Figure 5 amounts to the inclusion of dimensions in tree diagrams.

Dimension		Sex			Colour	Age	etc.
lexemes features		Male	Female	castrated			

Figure 9

In general, the complementary nature of representation by means of diagrams and of matrices must be stressed. The purpose for which the representation is required will be relevant for the choice made.

5. Semantic features

In 2.1. it was claimed that the members of a field must have at least one specific semantic component in common. The definition and delimitation of lexical fields and word-fields – and naturally also of semantic fields – therefore usually depends on the concept of semantic component or semantic feature. These two terms were not distinguished in 2.1. It is now time for a few more remarks concerning semantic features. Since the subject is further discussed in other papers in this volume (cf. the contributions by Sprengel and Weniger), I will not take it up in greater detail.

5.1. I have used semantic components as well as binary semantic features throughout this paper. I would like to stress the point that I consider both as theoretical constructs whose postulation has to be justified theoretically and empirically. In my opinion, semantic tests will be needed, as well as evidence from paraphrase evaluation and morphological derivational relationships for the establishment of such metalinguistic units¹³. A binary feature notation for semantic elements affords great economy in the metalanguage. However, it is not unproblematic. It is not well suited for the representation of scalar oppositions and multiple taxonomy, and the problems arising for components such as [Male] and [Female] have been discussed repeatedly in the literature¹⁴.

5.2. A proper matrix representation of lexical fields requires a binary feature notation, although examples may be found in the literature (Lehrer 1974: 63) where features and components are combined. Semantic features may be classified on the basis of various, partly overlapping, criteria. According to the choice of these criteria, a cross-classification will result. The following informal survey is not an attempt at an exhaustive treatment of the subject. The distinctions might be captured with the help of either a tree diagram or a matrix, but I will not attempt to do so.

It seems to me that at least the following kinds of features will have to be distinguished in a theoretically and descriptively adequate theory of semantics:

1. Distinctive features, e.g. [\pm Human].

These are the most important components since they function directly in opposition to distinguish lexical items. The criterion for establishing this class of features is clearly functional. Distinctive features correspond to Nida's (1975: 33) **DIAGNOSTIC COMPONENTS**.

13 Cf. Lipka (1972: 33-37, 42-61), Lipka (1975: 216-219).

14 For multiple taxonomy and hierarchy cf. Leech (1974: 107, 115); for the opposition male/female cf. Lipka (1972: 36, esp. fn. 21) and Lyons (1977: 322-325).

2. Connotative features.

They will have to be used to capture differences such as those between *horse* and *steed*, or between *strike* and *smite* (see 3.1.2.). Such features are an inherent part of the lexeme and dictionaries normally use labels such as archaic, or literary, or humorous, to mark items containing such features. Since their presence or absence distinguishes items, as in the examples just mentioned, they are clearly also distinctive features. The criterion relevant for setting up this group is their lesser importance, the rather marginal character of such features. The same criterion also applies to the following class of features, which are also not central but rather peripheral.

3. Inferential features.

This group is supplementary as is the preceding one. However, as opposed to the latter, the former are not inherent, as connotative features are. Inferential features, in my use of the term, arise from contextual influence. They are therefore not distinctive elements contained in an item, but may acquire this function in the course of time. Nida's (1975: 72) example of *stool*, which "suggests . . . conviviality, if the context is a *bar*", may illustrate inferential features. Such features are also termed non-criterial by some authors (Leech 1974: 123) and are normally included in dictionary definitions preceded by the label "usually". Another example of an inferential feature would be the component (no work) in Leech's (1974: 123) example of semantic change *holiday*.

4. Relational features.

They are indispensable in the analysis of lexemes such as *father* or *son*. Bierwisch has investigated them carefully in various papers. As with the previous class of features, syntagmatic influence is important here. This criterion, i.e. the relevance of co-text, is even more important in the next group.

5. Transfer features.

In the sense Weinreich defines them, viz. for example that the verb *drink* contains a feature <- Solid> transferred to its object, they may be used to capture metaphorical processes. They are less restrictive and more active in semantic interpretation than SELECTION RESTRICTIONS.

6. Deictic features.

As already mentioned (see 3.1.2.), features such as [\pm Proximate] may explain differences between *pull* and *push*, but also between *come* and *go*, or *now* and *then*. Since they explain such oppositions, they are clearly distinctive features. The criterion for setting up this class of features is a pragmatic one, because it depends on the orientation of the users of linguistic signs.

6. Conclusions

The above remarks provide only a tentative account of the subject of semantic components and the classification of features. Furthermore, I am fully aware that a number of important problems concerning methodology and representation in the study of lexical fields have only been touched.

6.1. I will mention some of them in the hope that further study will provide acceptable solutions. Among the most prominent questions that remain is the interdependence of paradigmatic and syntagmatic relations in lexical structure. The influence of context and the problems related to idiolect and linguistic variation in general are other areas which must be further investigated.

6.2. As the most important result of this study, I consider the clarification of terms and methods used in this area of linguistic research. I hope to have shown the need for a distinction between LEXICAL FIELD and WORD-FIELD and the usefulness of the application of linguistic methods to the language of linguists, and I hope to have illustrated how some objective procedures may be fruitfully employed for the analysis and representation of lexical fields. Field theory seems most promising in my opinion in its application to contrastive linguistic analysis.

Institut für Englische Philologie
der Universität München
Schellingstr. 3 RG
8000 München 40
BRD

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