Perspectives on Language in Performance

Studies in Linguistics, Literary Criticism, and Language Teaching and Learning

To Honour Werner Hüllen
on the Occasion of His Sixtieth Birthday

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Prototype Semantics or Feature Semantics: An Alternative?*

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1. Definitions

Over the last few years, a new approach to lexical meaning has devel-
oped, which may be labelled Prototype Semantics (hereafter PS). It has
arisen mainly under the influence of psychological research into the
nature of human categorization. Rosch (1977) and Rosch/Mervis (1975)
are possibly the most significant publications in this field. This al-
ternative semantic theory sees itself as being in opposition to Aristo-
telian Semantics, which Fillmore (1975) has labelled "checklist theo-
ries of meaning". Other linguistic roots can be seen in empirical in-
vestigations into the denotative structure of English nouns, as sum-
marized in Labov (1978). Recent contributions to PS are the articles
by Lakoff, Posner, Tversky, and Givón in Craig (1986), with Lakoff
(33-36) distinguishing different "types of prototypes". At first sight,
there is a very considerable difference between PS and the classical
feature theory of semantics. We will see in the following whether it
is a viable alternative, as Fillmore (1975) claims.

1.1. To answer this question, we first have to look at some explicit
definitions of prototypes. In general, 'prototypes' can be defined as
best examples of a category or "the clearest cases of category member-
ship" (Rosch 1978: 36). The following six definitions each focus on
different aspects of this phenomenon. Thus, Rosch/Mervis (1975: 575)
first define 'prototype' very vaguely as:

    1. "the abstract representation of a category".

Their second definition (1975: 575) emphasises the point of view of
comparison (as in definition 6). Prototypes are therefore:

    2. "those category members to which subjects compare items when
       judging category membership".

Rosch (1977: 2 f., 46) speaks of cognitive prototypes. These are de-
fined as:

    3. "perceptually salient points in the domain (around which cate-
       gories form)", and
    4. "the objects which most strongly reflect the attribute struc-
       ture of the category as a whole".

Here, the cognitive and perceptual aspect is obviously relevant. At
the same time, prototypes are regarded as structured categories, in

which attributes play a role. The cognitive aspect is also stressed
in Coleman/Kay (1981: 27), who say that a semantic prototype:

5. "associate[s] a word or phrase with a prelinguistic, cognitive
   schema or image"; they also claim that
6. "speakers are equipped with an ability to judge the degree to
   which an object... matches this prototype schema or image".

Their notion of schema is not precisely defined. At any rate, it is
not identical with the concept used in some publications on text lin-
guistics (e.g. de Beaugrande (1980: 164, 171 ff.), de Beaugrande/
Dressler (1981), where it is considered as a dynamic sequence or 'pro-
gression').

1.2. All definitions of prototypes quoted so far are concerned with
the psychological, categorial comprehension of the world, i.e. the
extralinguistic classes of referents or denotata. We can therefore
consider and define PS as a referential, or denotative semantics. This
approach is to be distinguished from language-immanent semantic theo-
ries, such as e.g. Coseriu's or Lyons' theory.

Now words are not simply names for independently existing extralinguis-
tic objects. The relationship between language and extralinguistic
reality is far more complex. The categories for our perception of the
world are only created by individual languages, as classes of denotata.
According to Leisi (²1985: 15), the different ways of drawing bounda-
ries and dividing up the same extralinguistic world in two languages
A and B can be represented as follows:

(1)

Sprache A	Wort1	Wort 2	Wort 3
außersprach-liche Welt			
Sprache B	Wort 1'	Wort 2'	Wort 3'
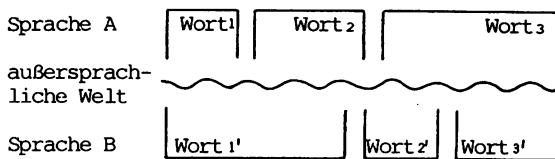
Leisi's theory can also be described as referential or denotative se-
mantics. Before turning to some classical examples of prototypes, let
us look at some further parallels between this approach and Leisi's
theory. Leisi (²1985: 57) starts out from some relational norms ('Be-
zugsnormen'), including a species-norm ('Speziesnorm'). By this he un-
derstands an implicit comparison with an average representative of a
species. For example, he says that a pencil 75 cm long may be des-
cribed as 'enormous', while a ski of the same size would be 'tiny'.

Another important concept in Leisi's theory of meaning is his condi-
tions for the use of words ('Gebrauchsbedingungen') (see 4. below). In
connection with PS, Leisi's ('1985: 38, 40) two complementary defini-
tions of meaning are also relevant. For him, meaning ('Bedeutung') is:

a) "Ein Bezug zwischen der Lautgestalt und allen Gegenständen einer
   bestimmten Kategorie (...einer Menge von Gegenständen)", and

b) the meaning of a specific word: "die Bedeutung des Wortes A...
   ist identisch mit den Bedingungen, unter denen die Lautgestalt
   des Wortes A... in der Zeigedefinition verwirklicht werden darf".

Leisi therefore starts - as do the psychologists Rosch and Mervis -
from a set, a category of extralinguistic referents, which are related
to the form of a word (definition a). Membership in such a category
depends on certain conditions (definition b).

2. Some Classic Examples

I now wish to illustrate PS by integrating some classic examples
which are treated in Rosch (1977), (1978), Rosch/Mervis (1975), and
Leech ('1981) into the theory. As when dealing with definitions, I
will again contrast some model examples of PS with parallel cases in
Leisi ('1985: 37).

2.1. The category BIRD is said to be characterized by the following
'attributes', as represented in (2): 'certain SIZE, SHAPE, lays eggs,
has feathers, has wings, can fly, etc.'. In both the diagram and the
text, categories and semantic dimensions (like SIZE) are symbolized
by capitals, prototypical representatives are in italics, and impor-
tant attributes are indicated. In (2) there is an interdependence bet-
ween 'has wings' and 'has feathers' on the one hand and 'can fly' on
the other. This last attribute is missing for example with the ostrich,
the penguin, and the chicken. From the point of view of size and shape,
sparrow, robin, and swallow can be regarded as prototypical representa-
tives of the category.

(2)

BIRD
- owl, flamingo
- sparrow, robin, swallow
- (ostrich, penguin, chicken)

certain SIZE, SHAPE
lays eggs
has feathers ⌐
has wings   ⌐ inter-
can(not) fly ⌐ dependence
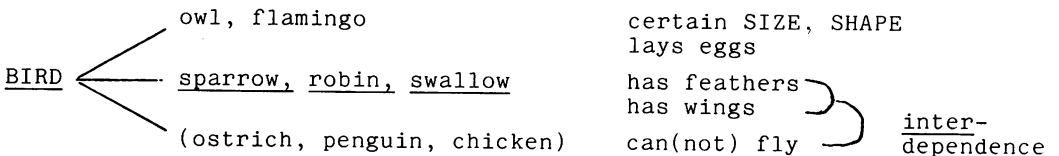
Several attributes from this category, such as 'laying eggs' and 'having a beak', may occur in conjunction in completely different other categories. This is demonstrated by the Australian platypus, also called a duckbill or duckbilled platypus. Although it has a beak or bill like that of a duck, and lays eggs, it is furry and suckles its young.

In the category DOG, the Alsatian (or German shepherd) is generally considered to be the prototype. Other representatives, like the St. Bernhard and the Pekinese, are rather on the periphery of the category. On the other hand, the retriever again belongs to the prototypical kernel. This class of dogs is not determined by a specific breed, but by its function. Thus, FUNCTION also can be a relevant attribute for prototypicality. The irrelevance of biological attributes in this case is apparent from this definition of retriever in the LDCE: 'Any of several types of specially bred middle-sized hunting dog, trained to bring back shot birds'. All this is summarized in the following diagram:

(3)

```
              St Bernard, Pekinese          SIZE, SHAPE
            ╱
DOG ◄───────── Alsatian (= German Shepherd)  barking, tail-wagging
            ╲
              retriever                      FUNCTION
```
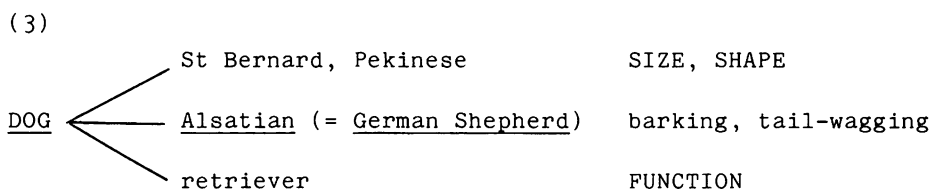
In the category FISH, the members trout and herring are normally counted as prototypes, while eel and octopus are often said to be on the border of the category (Leech ²1981: 84; but cf. also guppy - a viviparous fish - , whale, plaice, seahorse, and starfish). Rosch/Mervis (1975: 573, 578 f.) discuss empirical, psychological research into the category FURNITURE. The experiments show that chair and table are prototypical, while radio and vase are not. For these experiments attributes such as for example 'has legs' were used. Similar tests for the category VEHICLE show that car and truck belong to the prototypical kernel, while raft and elevator do not. Here, attributes like 'you drive it' were employed (1975: 576).

2.2. In his 'Praxis der englischen Semantik', Leisi investigates the etymologically related words Turm and tower and illustrates his discussion with the following, simplified six types of building (²1985: 37):

(4)
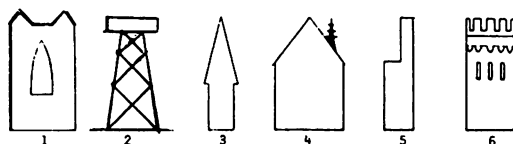
The conditions of use in German and English are different, although FORM and POSITION play a role in both languages. The objects of type 3 and 4 cannot be denoted in English by <u>tower</u>. Instead the words <u>steeple</u>, <u>spire</u>, <u>turret</u>, or <u>pinnacle</u> must be used. As opposed to Leisi's description, <u>Turm</u> would not be used in German for type 4, but rather <u>Türmchen</u> or the technical term <u>Fiale</u>. According to Leisi (²1985: 45), the use of <u>tower</u> requires that the denotatum be not pointed and start from the ground.

These positive and negative conditions of use of Leisi obviously correspond to the relevant attributes of PS. On the other hand, both can be identified with the features of structural and generative lexical semantics, although the proponents of PS do not admit this. Before returning to this problem, let us look at another field (in the non-technical sense) favourable to PS.

3. The Denotation of Some Container Terms

In a highly interesting and stimulating article entitled "Denotational Structure", Labov (1978) reports on several empirical investigations of the use of container terms like <u>cup</u>, <u>bowl</u>, <u>glass</u>, etc. A number of controlled experiments with informants were carried out and evaluated statistically. The aim of Labov's study was to explore the "conditions for the denotative use of <u>cup</u>, <u>bowl</u>, <u>glass</u>, and other container terms" (1978: 221). This formulation reminds one strongly of Leisi's conditions for use ('<u>Gebrauchsbedingungen</u>').

3.1. Labov is not primarily interested in the prototypical kernel of categories, but rather in their boundaries. He therefore approaches categories not from the inside, but rather from the outside, from their periphery. In his opinion, category boundaries have been largely neglected in previous research. His experiments are designed to question the assumption that sharp and rigid boundary lines exist between categories. For this purpose, Labov makes use of 'continuous series' of objects, normally presented in the form of illustrations. The influ-

ence of context is taken into account. First the subjects in the ex-
periments were asked to name items without any particular context.
In a second experiment they were asked to assume that the containers
were filled with coffee, food, soup, or flowers, or that they saw some-
one stirring in sugar with a spoon or drinking out of them.

Besides diameter, height, and shape, Labov also introduced material
(e.g. china or glass) as a variable. The examples (5b) and (5c) are
extremes of the relationship between height and diameter. This ratio
of height to width proved relevant for the distinction between cup
and bowl. (5a) shows the prototypical proportion for the use of cup.
The prototype for mug is represented by (5d). The following illustra-
tion (Labov 1978: 222) demonstrates the relevance of SHAPE and of the
presence or absence of a handle for some container terms:

(5)

CUP   vs.   MUG

                                                        handle

    a)   b)   c)   d)

            e)   f)   g)

        BOWL   TUMBLER
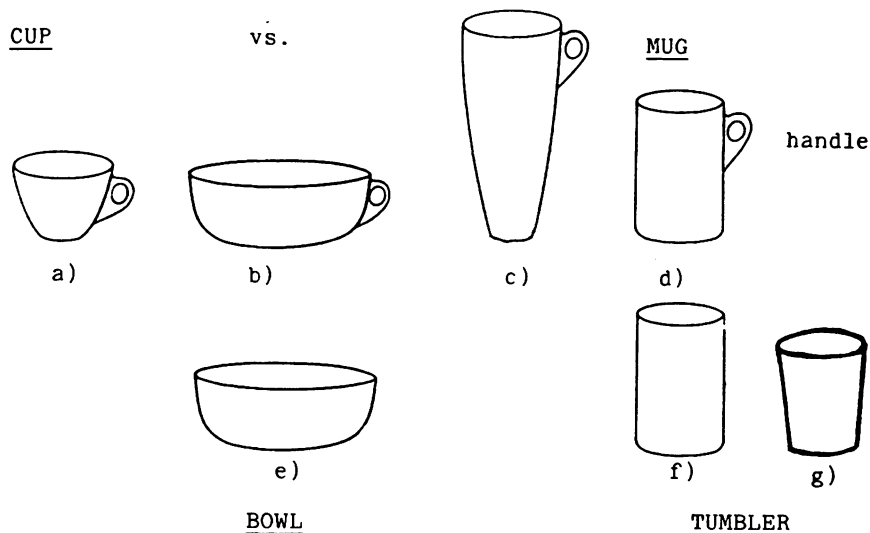
In general, according to Labov's findings, the following factors or
parameters are relevant in distinguishing container terms: shape, pro-
portion, material, function, handle, etc. These 'parameters' can be
identified with the 'attributes' of PS.

Labov shows convincingly that the boundaries between cup and bowl are
vague and that context plays an important role. In spite of increasing
width, a container like e.g. (5b) is still called a cup if it is filled
with coffee. The presence or absence of a handle also has considerable
influence. Labov (1978: 223) arrives at the conclusion that referential

or denotational boundaries have two fundamental properties: They are
1. vague and 2. mutually interdependent. By interdependence Labov means
that variables like height, width, or function are not isolated and
independent of each other.

It can be claimed that for the prototypical cup (5a) 100 % of the sub-
jects would always use cup. In this, according to Labov (1978: 221),
the ratio of height to width is 0.68. The prototypical shape for MUG
is (5d), that of BOWL and TUMBLER are (5e) and (5f). The latter are
identical to (5b) and (5d), but do not have a handle. A tumbler may al-
so be conical, like figure (5g), but it must have a flat bottom.

3.2. Labov (1978: 229-231) briefly discusses Boortien's study of bot-
tles. He states that "the prototypical bottle... appears to be a glass
object with a narrow opening and a neck one-third the width of the bot-
le" (1978: 231). I will here extend this discussion and contrast the
categories BOTTLE and DECANTER. This, in my opinion, demonstrates both
the problem of boundaries discussed by Labov and the usefulness of
the concept of prototype. In addition, it illustrates the concept of
'family resemblances' which is the title of Rosch/Mervis (1975). Con-
sider the following illustration:

(6)

BOTTLE   vs.   DECANTER
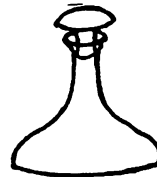
a)   b)   c)   d)

Obviously, all vessels or containers in (6) have a great deal in com-
mon. Consequently, the definitions of decanter in LDCE and COD 7 both
contain the superordinate term bottle. On the other hand, the proto-
typical DECANTERS (6b) to (6d) have attributes in common, such as 'with
a stopper', which are missing in the category BOTTLE. They further have
in common the FUNCTION 'for decanting'. The verb to decant is defined
in LDCE as:

> "To pour (liquid, esp. wine) from one container into another,
> esp. so as to leave all the undrinkable parts (sediment) in
> the first container".

It cannot be denied that a category of containers like <u>DECANTER</u>, whose
function is tied up with the consumption of Mediterranean wines like
sherry or port, which contain a considerable amount of sediment, is
a highly culture-specific category. A society which forbids alcoholic
drinks for religious reasons will not develop such artifacts or lin-
guistic signs for their denotation.

3.3. The names of natural objects as well, such as certain classes of
living beings, are by no means independent of language and culture. As
mentioned above in 1.2., the phenomena of the extralinguistic world are
not in themselves structured by independent, sharp boundaries. Although
there may be certain universal kernel areas as a focus, as for example
with colour words, the structuring of extralinguistic reality is in the
last resort performed by linguistic categorization. A few examples,
some of which are quite well known, will demonstrate this type of or-
ganization.

4. Language- and Culture-Dependent Categorization

In the following I will not restrict myself, however, to natural phe-
nomena. This would obscure the fundamentally culture-dependent cate-
gorization of the complete extralinguistic world. It would also intro-
duce divisions between examples from the same language.

4.1. My first examples, summarized in (7), are from Chinese, as dis-
cussed in Leisi (^{2}1985: 14) and Leech (^{2}1981: 26).

(7)

```
        sheep              cup                table
       /                  /                  /
yang  <        beizi ---- mug      zhuozi  <
       \                  \                  \
        goat               glass             desk
```
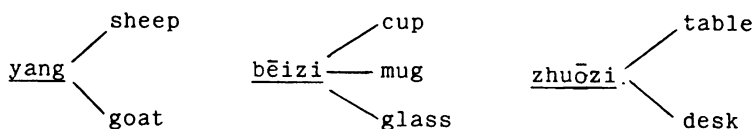
The Chinese category <u>yang</u> includes both <u>sheep</u> and <u>goat</u>, <u>beizi</u> covers
the English categories <u>cup</u>, <u>mug</u>, and <u>glass</u>, and finally <u>zhuozi</u> includes
both <u>table</u> and <u>desk</u>. From the Chinese point of view, English is over-
differentiating by its much finer categorization.

On the other hand, French <u>fleuve</u> and <u>rivière</u>, as well as German <u>Strom</u> and <u>Fluß</u>, converge in the English category <u>river</u>, as represented in (8). French and German distinguish between a 'river flowing into the sea' and a 'tributary river'.

(8)   (9)


```
                  fleuve/Strom                          ape (Menschenaffe)
river                                   Affe
                  rivière/Fluß                          monkey (Äffchen)
```
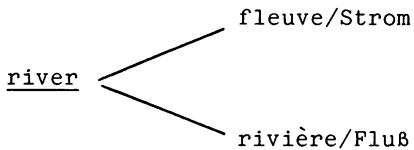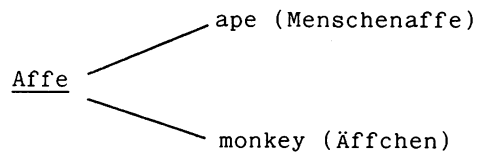
In contrast to this example, the German category <u>Affe</u> is more comprehensive, since it includes the English <u>ape</u> and <u>monkey</u>. For the differentiation between these two categories, the attributes 'with or without tail' and SIZE play a role. Prototypical membership in the category APE may be assigned to: <u>gorilla</u>, <u>chimpanzee</u>, and <u>gibbon</u>. With regard to relative size the OALD even gives average size in centimetres. In addition, this dictionary and the LDCE give illustrations. These are more suitable for recognizing prototypes of the individual classes of apes than are the two indeterminate and relative attributes.

It has been known for a long time that the German category <u>Schnecke</u> is further differentiated in the simple primary vocabulary of English and French into <u>snail</u> and <u>slug</u>, <u>escargot</u> and <u>limace</u>. Simple lexical items do not exist in German for this distinction any more than for <u>ape</u> and <u>monkey</u>. If they need to make a distinction, German speakers have to take recourse to complex lexemes such as <u>Weinbergschnecke</u>, <u>Nacktschnekke</u>, <u>Menschenaffe</u>, and <u>Äffchen</u>.

4.2. At this point I should like to digress briefly and at the same time illustrate the advantages of PS and the disadvantages of a Feature Semantics (hereafter FS) which only makes use of obligatory features. I will here use 'feature' in a wide sense, without distinguishing between 'components' and 'features' (but cf. Lipka 1979: 194). Fillmore (1978: 153) points out that the English verb <u>to</u> <u>climb</u> - and therefore the category of action denoted by it - could be assigned the two components 'clambering' and 'ascending' in an FS approach. However, according to Fillmore both components or attributes need not necessarily be present at the same time, but may be optional. This can be demonstrated by the following sentences:

(10a) The monkey is climbing down the flagpole

(10b) The snail is climbing up the flagpole.

Fillmore (1978: 153) states: "The prototype has two criteria, but either one of them can be missing". Thus, PS cannot only be applied to nouns, denoting objects, but also to verbs, denoting actions. As in FS, the verb climb has two criteria, attributes, or components, but in PS one of the attributes may be absent in a specific case.

Fillmore (1978: 153) sums up his argument in the following way: "the prototype semantics makes it possible to talk about a central or nuclear sense of a word, and then, if necessary, about the various weightings of the individual criteria that go into specifying the prototype. The checklist semantics on the other hand is embarrassed by fuzziness and degrees of category membership".

It is obvious that the concept of prototype may be more easily applied to natural classes, noun classes and the categorization of objects than to verbs and more abstract categories (Craig 1986). In principle, however, this is by no means impossible. The notion may be brought to bear on the old problem of parts of speech (Lipka 1971). Thus the prototypical syntactic class of noun will have all the four attributes Crystal mentions in his discussion of the problem (Lipka 1971: 234 f.): 'subject-function', inflection for number, article, 'morphological indication', while more peripheral members of the category will not. Within the word class 'adjective', a central class of words will satisfy all criteria, such as attributive and predicative position, gradability, morphological characteristics (e.g. -ous, -ish, etc.) and the existence of antonyms, while other adjectives will not. The central or prototype adjective is furthermore stative and denotes an inherent property.

4.3. Fillmore's example brings us to verbal categories, as they are illustrated in the following diagram:

(11)

essen   with chopsticks (Asia)

to eat   <   EAT ———— prototype (Europe): with knife,

fork, and spoon

fressen   (peanuts, apples) with fingers
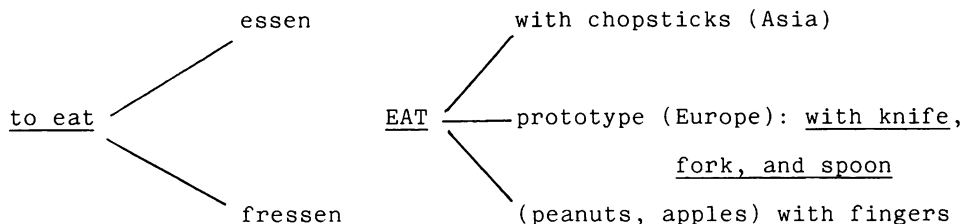
Here we could speak of an overdifferentiation in German, namely into
essen vs. fressen, but we could also speak of specification gaps in
English. It is true that fressen may be rendered to some extent by
to guzzle. However, dictionaries define this verb as 'eat o r drink
greedily', which means that we have a convergence of fressen and saufen
in this English category. At any rate, the different verbs demonstrate
clearly the fact of language- and culture-dependent categorization.

The wider English category EAT obviously denotes very different kinds
of activity. The prototypes for these are clearly different in Asia
and in Europe. In the East, eating with chopsticks is the rule, while
in Europe eating with knife and fork or spoon is the norm. The eating
of peanuts with the fingers, or of apples and pears from the hand,
is not a prototypical activity and belongs to the margin or periphery
of the category EAT. All this goes to show that prototypes can equally
be applied to verbs, not only to nouns, and are not universal, but lan-
guage-dependent.

4.4. A further example of culture-dependent categorization, with dif-
ferent prototypes in Europe and Asia, is shown in the following illus-
tration:

(12)

a)   b)
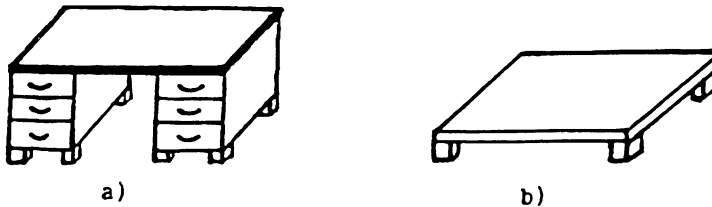
Both the complex lexeme Schreibtisch and the simple item desk represent
a category of artifacts whose prototype is characterized by the attri-
bute 'with drawers'. These are missing in object (12b). It can never-
theless be categorized as a Schreibtisch, as was done in a recent exhi-
bition of Japanese art in Munich. In order to understand this, we have
to realize that the traditional activity of writing in the East is car-
ried out differently than in Europe. Therefore, both artifacts are ap-
propriate to their FUNCTION 'for writing'. In China and Japan writing
was traditionally performed sitting cross-legged or on one's heels,
with a brush.

Other examples of the appropriateness of artifacts for their FUNCTION are the different types of decanter in (6), with their glass stoppers. Functionality is particularly striking in (6d), the so-called ship's decanter, whose prototypical shape, with an extremely low centre of gravity, is particularly well suited to the conditions on a ship.

4.5. Obviously, a category like that of DECANTER contains further prototypical subcategories. Thus, for example, (6c) with its square shape, is a typical spirit decanter. Within the category of TUMBLER, the subcategory of whisky tumbler is distinguished by normally being decorated or ornamented. In the examples just quoted, subcategories are denoted by complex lexemes which represent hyponyms of their determinatum. From correspondences like ape/Menschenaffe, snail/Weinbergschnecke, desk/Schreibtisch it can clearly be seen that this linguistic process, as well as the finer categorization itself, is culture- and languagedependent, relative, and non-universal. Finally, this is also demonstrated by the paraphrase 'tributary river' for German Fluß.

5. A Feature Analysis of Container Words

I would now like to return to the description and analysis of container words and consider mainly the account given in Lehrer (1974: 85 f.).

5.1. Beyond the examples already discussed, Lehrer investigates a considerable number of other interesting words from this field. She uses five parameters for the distinction of words, namely: 1. material, 2. shape, 3. size, 4. substance used for, and 5. function (storing, etc.). Besides obligatory features, which are symbolized by square brackets, she also admits optional features, for whose notation she introduces braces. A further characteristic of her approach, which is not found in any other versions of FS, are disjunctions, symbolized by 'v'. Lehrer analyses container words in the following way:

> (13) bottle: [Narrow neck] [For something pourable {Liquid}] –
>   {Glass}
>   carafe: [Narrow neck] [For serving beverages] {Glass}
>   decanter: [Narrow neck] [For liquids {Alcoholic beverages}]
>   [For pouring v decoration]
>   cup: [Shape:..., handle] [For drinking] – cf.
>   {+s a u c e r}
>   glass: [Glass] [{For drinking} v {Cylindrical}]
>   bowl: [{For eating from v food preparation} v
>   {Shape: Half spherical}] {Utensil}.

5.2. This analysis corresponds to the one given in the description by Hansen et al. (²1985: 180 f.) of English 'Behältnisbezeichnungen'. In this treatment a matrix representation is used, which contains the binary features [sic!] <METALLIC, NARROW-NECKED, LARGE, LIQUID, STORING>. Thus for example <-NARROW-NECKED> is to be interpreted as 'weithalsig'. On the side of the matrix, two non-binary features are added, namely: "a = '<u>aus</u> <u>Glas</u>'" and "b = '<u>aus</u> <u>Plast</u>'", which obviously correspond to Lehrer's parameter MATERIAL. <u>Cup</u> is defined as 'small non-metallic wide-necked bowl (for immediate consumption of drinkables)'.

5.3. Lehrer's description deserves a few comments, which mostly also hold for Hansen et al. (²1985). Although the modification of the traditional FS by optional features and disjunctions can avoid certain disadvantages, the inadequacy of the approach for the description of concrete objects is obvious. I will not discuss in detail the specific weakness of Lehrer's description, but I will name a few. Thus, the alternative {For drinking} or {Cylindrical} for the characterization of <u>glass</u> is not really convincing or revealing. What does the optional feature {Utensil}, attached to <u>bowl</u>, mean? A feature like {SHAPE: Half spherical}, also with <u>bowl</u>, strikes one as rather naive after the discussion of Labov's research.

5.4. The case of container words makes clear already the fundamental difficulties of FS as regards the description of objects in which shape is relevant. It becomes particularly obvious when we look at the analysis of <u>cup</u> by means of an obligatory feature [Shape:..., handle], which can almost be called an admission of defeat. In the last resort, such a feature really indicates a renunciation of analysis. A verbal description of SHAPE - even if it were given - is clearly insufficient. Also the proportion, i.e. the relationship between height and width must be captured in some way, as we have seen. Incidentally, neither Lehrer, nor the experimental work reported on by Labov, nor even most dictionary definitions mention an important contextual attribute, namely the presence of a saucer. We must therefore postulate an attribute 'saucer'. Such contextual attributes which can be identified with variable, optional semantic features, are not used in most work on FS.

6. Problems with Feature Semantics

With these remarks on Lehrer's feature analysis of container words, we now turn to general points of criticism leveled against the concept of semantic feature.

6.1. The most comprehensive and detailed account of the problems of FS that I know of is to be found in Sprengel (1980). He discusses questions

of discovery procedures for features ('Merkmale', in a wide sense),
their circular definition, their metalinguistic status, lexical vague-
ness, the distinction between linguistic and encyclopedic knowledge,
the hierarchy and concatenation of features, and finally, their univer-
sality and psychological reality. Not all of his arguments carry the
same conviction. Nevertheless, his approach is on the whole balanced
and does not result in a rejection of FS.

In this connection, it should perhaps be mentioned that (in addition
to work in TG) a feature analysis has been proposed for function words,
like English pronouns, prepositions, and quantifiers, e.g. by Thorne,
Strang, Fillmore, and Leech.

6.2. In the following, I would like to summarize the most important
general arguments against FS, especially those advanced in recent pub-
lications. The attacks are often directed against the so-called 'Aris-
totelian Semantics', or in Fillmore's formulation, against the 'check-
list theory of semantics'. In such publications FS is usually charac-
terized globally with the following points. It is said to involve:

1. clear category boundaries,
2. features as discrete properties,
3. yes/no-decisions on the presence of features, and
4. equal status of all features (no weighting).

As opposed to this, Coleman/Kay (1981) and Geeraerts (1984), for ex-
ample, stress the advantage that only PS can explain:

1. vague, continuous category boundaries (fuzziness),
2. gradual category membership, resemblance,
3. categories with prototypical kernels, and
4. the different importance of attributes (weighting).

6.3. I would like to counter these claims with a modified and elabor-
ated FS, which can overcome most of the weaknesses exposed in such
criticism. In particular, the analysis of the English verb lie and the
speech act of lying denoted by it, which Coleman/Kay (1981) treat as
a model case for PS, can definitely be treated successfully within the
framework of such an FS. The diachronic analysis of Dutch data in
Geeraerts (1984) can also be managed easily within a modified FS. The
necessary modifications will be treated now.

7. Inferential Features and an Integrated View

The concept of feature is by no means, as is often claimed, unitary
and indivisible. Nothing prevents us from distinguishing various types
of feature, which are suitable for different phenomena and purposes.

Thus, for example, Meinhard (1984: 60, 64 f., 66 f.), in a paper whose general drift is similar to that of the present article, introduces a distinction between invariant, variant, and prototypical features.

7.1. In an article on semantic components of English nouns and verbs, I have set up a taxonomy of seven classes of semantic features, of which only a few are binary (1979: 194-196). I would like to summarize this typology here. On the basis of various criteria we can distinguish the following types of feature:

(14) 1. denotative (e.g. [±HUMAN] in girl vs. filly)
2. connotative (e.g. [±ARCHAIC] in steed/horse)
3. relational (e.g. [→PARENT] [←PARENT] in father/son)
4. transfer features (e.g. <-SOLID> or <2PENETRABLE> in to drink)
5. deictic (e.g. [±PROXIMATE] in come/go, now/then)
6. inferential features (e.g. {STICK} in beat, {TO GET ATTENTION} in nudge).

7.2. With the exception of the last type, inferential features, all features are also Distinctive Features (DFs). These could be regarded as a seventh, general, comprehensive type. Inferential features, which I have treated in detail in Lipka (1985), have a special status also in that they enable the linguist to capture synchronic and diachronic variation. An FS which restricts itself to obligatory features cannot explain change of meaning, because in such a framework it is impossible for features to be added or to disappear.

I have adopted the term 'inferential features' from Nida, but have developed the concept myself. The notation in braces derives from Lehrer's approach, which, as we have seen, admits optional features. Inferential features are not discrete, obligatory and inherent, but rather optional, supplementary, and dependent on linguistic and extra-linguistic context, from which they are inferred. They largely correspond to Meinhard's (1984) 'variant' features.

Dictionaries mark them by using labels such as usually, especially, often. Thus, for example the verb beat contains an inferential feature {WITH STICK} and the verb nudge an inferential feature {TO GET ATTENTION}. Container terms may have inferential features for MATERIAL, such as {GLASS} in bottle or {EARTHENWARE} in pitcher, but they may also refer to content or other attributes, such as e.g. {DECORATED} and {WINE} in decanter.

7.3. As we have seen, such features can also be regarded as attributes of prototypical categories. Indeed, I believe that features - especially if they are not obligatory - correspond to the attributes of PS. Consequently, the problems raised under 6. above are solved to a large extent in a modified FS.

However, I would not wish to conceal the fact that some difficulties remain for FS. These concern especially the simultaneous presence of contradictory features. Furthermore, the question of the internal structure of sets of features of a lexeme, which was already raised in 1966 by Weinreich (1972) with his distinction between clusters and configurations, still remains to be answered. Finally, we have seen that in the description of concrete extralinguistic objects in which shape and proportion is relevant, PS and the use of illustrations have many advantages. This is especially true for the psychological side of the perceptual categorization of the extralinguistic world. Rosch (1977: 36) has pointed out that prototypes, as unitary Gestalt-perceptions, relieve the human brain of laborious cognitive processes by providing an "efficient processing mechanism of matching to a prototype".

7.4. The great majority of our examples were taken from English and are therefore directly relevant to English lexicology. However, evidence from other languages is also indirectly necessary and useful for a description of English. Finally, the general conclusions from our theoretical discussion will have considerable bearing on the analysis of the vocabulary of any language.

If we now weigh up the advantages and disadvantages of PS and FS, we are forced to acknowledge that here - as with prototypes and features themselves - there can be no claim to absoluteness. In my opinion, we have a division of labour between two complementary approaches. Neither PS nor FS can claim that they alone can solve all problems and describe all phenomena adequately. I therefore conclude that the title of my paper is not a true alternative. The question is wrongly put: It is not PS or FS, but rather PS a n d FS. The integration of both approaches is the most urgent task of semantic theory and practice.

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