"PRIVATIVE OPPOSITION" AND LEXICAL SEMANTICS

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1.1. The central notion of structural linguistics is that of "opposition", as is already stated programmatically by Saussure, who stands at the beginning of this European linguistic tradition, cf.:

> ...deux signes comportant chacun un signifié et un signifiant ne sont pas différents, ils sont seulement distincts. Entre eux il n'y a qu'*oppositions*. Tout le mécanisme du langage [...] repose sur des oppositions de ce genre et sur les différences phoniques et conceptuelles qu'elles impliquent (1916 : 167).

Accordingly, linguistic forms and the linguistic meanings of lexical items are defined negatively on the basis of their being different from other forms and meanings. From this follows that the "signifiant linguistique [...] n'est aucunement phonique, il est incorporel, constitué, non par sa substance matérielle, mais uniquement par les différences qui séparent son image acoustique de toutes les autres" (Saussure 1916:164). The same applies to meaning: concepts "sont purement différentiels, définis non pas positivement par leur contenu, mais négativement par leurs rapports avec les autres termes du système. Leur plus exacte charactéristique est d'être que les autres ne sont pas" (Saussure 1916:162).

1.2. This axiom is the basis of Praguian phonology, the theory of phonological oppositions, and the analysis of phonemes into distinctive features as developed, among others, by Troubetzkoy (1939). Thus, the phoneme /p/ in English is characterized as 'voiceless' on the basis of its opposition to /b/, as 'bilabial' on the basis of its opposition to /t/, /k/, as 'stop' on the basis of its opposition to /f/, and as 'oral' on the basis of its opposition to /m/, etc. Hjelmslev (1943 [1963], 1958, 1959) was one of the first who realized that this type of analysis could also be applied to the semantic level of language, i.e. that the meaning of a lexical item could be analysed in terms of semantic features, which he called "content figurae". He is therefore quite appropriately regarded

as one of the founders of structural semantics.[1] On the basis of oppositions such as *man: woman*; *boy : girl*; *stallion : mare*; *colt : filly*, etc., he postulated the semantic features *MALE* and *FEMALE*, which are said to characterize the minimal meaning differences between the lexical items making up these pairs. This type of analysis is of course not restricted to animal names or kinship terms, the pet examples of structural semanticists; rather, it is assumed by the latter that this kind of semantic analysis can be generalized to the whole vocabulary.

1.3. Indeed the analysis of lexical meanings in terms of semantic features (semantic components, atomic predicates, etc.) has been adopted by many linguists of different theoretical persuasions including adherents of generative-transformational grammar, into which it was introduced by Katz/Fodor (1963). On the other hand, it has to be admitted that the theoretical status of the semantic features is far from clear. Some linguists, e.g. the generative semanticists, regard them as genuine components of the meanings of lexical items, as is evident from the use of the terms "atomic predicate" or "semantic component". Others, e.g. Coseriu or Leech, however, treat them just as convenient labels for the characterization of meaning differences between lexical items, but do not accord them any independent existence outside the oppositions from which they result, cf.:

> Da nun eine Einheit normalerweise zu mehreren anderen Einheiten in Opposition steht, und zwar jeweils durch einen anderen Unterschied (=Merkmal), gilt als Korollar des Prinzips der Opposition die Analysierbarkeit der funktionellen Einheiten in "Merkmale" oder unterscheidende Züge. [...] Dieses Korollar bedeutet allerdings nicht, daß Einheiten aus Merkmalen bestehen, oder daß sie durch Zusammensetzung von schon gegebenen Merkmalen entstehen. Im Gegenteil: Es sind die Merkmale, die durch die Gegenüberstellung von Einheiten entstehen. Funktionelle Einheiten entsprechen primär einheitlichen Intuitionen, und die Merkmale sind nichts anderes als die Unterschiede, die man an diesen Intuitionen feststellt (Coseriu 1976 : 18f.).

It is not necessary for the following to take a stand on these matters, because what will be said below about the relevance of privative oppositions for lexical semantics applies to both interpretations of the status of semantic features.

Finally, there are also quite a few linguists who for various reasons reject the use of semantic features. Instead, they account for the meanings of lexical items not in terms of metalinguistic constructs, but in terms of object-linguistic implications such as *boy → male*, *girl → female*, etc., so-called meaning postulates, which make explicit the various meaning relationships characterizing the vocabulary of a language (cf., e.g. Fodor/Fodor/Garrett 1975, Jackendoff 1972, Lyons 1977:271 ff.). The meaning of an individual item is in this case determined by all the meaning postulates into which it enters.

[1] Other sources of modern structural (lexical) semantics are the investigation of kinship terms in various languages by American anthropologists, cf., e.g., Goodenough (1956, 1965) or Lounsbury (1956, 1964), which, however, are not directly based on the parallelism between phonological and semantic analysis by which Hjelmslev had been influenced.

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It is, however, far from clear whether meaning postulates are a genuine alternative to an analysis on the basis of semantic features, or whether they will not, in the last resort, have to be regarded merely as a notational variant thereof, as is suggested by Katz/Nagel (1974: 322, 334) or Kempson (1977:190). Regardless of how this controversy is resolved — if it can be resolved at all — it is important to realize that any semantic analysis of lexical items must ultimately be based on the notion of opposition in the Saussurean sense as outlined above. This principle is, however, most in evidence in those semantic theories which make use of the concept of semantic features. It seems justified, therefore, to restrict the following remarks on the role of one of the various types of opposition adopted from phonology, viz. privative opposition, in lexical semantics to this theoretical framework, since most of the points made below will, *mutatis mutandis*, be valid for other frameworks as well. Of the various varieties of lexical semantics based on semantic features I have chosen as a starting point for the following discussion a slightly modified version of Coseriu's theory of lexical fields as outlined in Coseriu (1968, 1973, 1975, 1976).[2] This theory is of particular interest in this connection, as it emphasises the parallelism between phonology and lexical semantics (cf. Coseriu 1969:15iff., 1973: 11ff., 58ff.). Thus, Coseriu explicitly adopts the distinction between privative, gradual, and equipollent oppositions from phonology and tries to analyse semantic contrasts in terms of these oppositions. In the following, I will investigate what kinds of semantic opposition have been interpreted as privative by various linguists, and how far this interpretation is justified. Before I turn to this problem, however, a short outline of the theory of lexical fields seems to be in order.

2.1. The distinctive features of phonology result from immediate paradigmatic oppositions between phonemes. Such oppositions presuppose not only differences between the terms involved, but also a common basis, i.e. something that these terms have in common, because functional differences (distinc-

[2] For a more detailed discussion of this theory, cf. Kastovsky (1981, Ch. 4). The major modification concerns Coseriu's distinction between semantic features and "classemes"; the former operate in one lexical field only, the latter function in more than one lexical field or may differentiate two whole lexical fields from each other. This distinction is rather similar to the one between semantic markers and distinguishers introduced by Katz and Fodor (1963) and is suspect for the same reasons cf., e.g., Bolinger (1965). I have not adopted this distinction, therefore, and shall only speak of semantic features in the following.

tive features) can only be established against the background of a common basis. Thus, e.g. /p/ and /b/ differ with regard to the dimension 'voice' (i.e. voiceless vs. voiced), but share place and manner of articulation (i.e. bilabial stop). Moreover, they represent a minimal opposition, because they do not admit the insertion of a third term. The opposition /p/ : /d/, on the other hand, is not minimal, since it involves two different dimensions, viz. voice and place of articulation, so that another term, /t/, can be inserted, resulting in the minimal oppositions /p/ : /t/ and /t/ : /d/.

The same type of analysis can be applied to lexical oppositions. *Man* : *woman*, *boy* : *girl* represent minimal oppositions and involve only one semantic axis or dimension, viz. *SEX*. They result in the semantic features *MALE* and *FEMALE* specifying this dimension. The residual meanings which remain after the extraction of these features are equivalent to the meanings of the lexical items *adult* and *child*, which again form a minimal opposition constituting the dimension *MATURITY* specified by the features *ADULT* and *YOUNG*.[3] The opposition *man* : *girl*, on the other hand, is not minimal, since it involves an intersection of the two dimensions *SEX* and *MATURITY*, so that a further term, viz. *woman*, can be inserted between the terms of this opposition. This, then, yields the two minimal oppositions *man* : *woman* and *woman* : *girl*.

2.2. At this stage it seems useful to add a remark on the terminology used in the literature dealing with this type of semantic analysis. The terms "semantic feature", "sememe", "semantic component" or "atomic predicate" are usually employed synonymously to denote minimal meaning distinctions, i.e. they correspond to the distinctive features of phonology. There are, however, some exceptions to this usage. Thus, Lyons (1977:323) like many others represents the feature opposition *MALE* : *FEMALE* as ± *MALE* in analogy with the representation ± *VOICE* of phonology. He then introduces a terminological distinction between the variable "feature" *MALE* and its two possible values or "components" + *MALE* and − *MALE*. At first glance Lyons' "feature" *MALE* would seem to correspond to the "dimension" *SEX* used above, but this is not the case, since more than mere terminological variation is involved here. Lyons' analysis is based on a particular, and, as it seems, problematic interpretation of the nature of privative oppositions and the phenomenon of neutralization, as will be shown below (cf. 4.3.), so that his distinction between "feature" and "component" is also not unproblematic. Lipka (1972:35), on the other hand, distinguishes between principally minimal "features" like *MALE*, *FEMALE* and potentially complex "components" like the residual meaning of *man* and *woman* remaining after the extraction of the features *MALE* and *FEMALE*, which in fact is equivalent to the meaning of *adult*. More recently, however, he has somewhat modified this distinction (Lipka 1980: 99, 111). He now uses both terms for minimal as well as potentially complex features, and instead introduces a distinction between unmarked "components" such as *FOR SITTING* characterizing, among others, the lexical item *chair*, and binary, i.e. marked "features" such as + *MALE* and − *MALE*.

[3] Obviously, one has to assume a difference between the lexical item *adult* (as a noun) and the semantic feature *ADULT*. *Adult* involves, besides the feature *ADULT*, also the feature *HUMAN*. The metalinguistic use of lexical items as designations of semantic features must therefore not be confused with the object-linguistic meaning of these designations, although there is, without any doubt, an inherent relationship between these two levels, the nature of which is, however, far from clear (cf. Kastovsky 1981: 4.4.4.). The many unsolved problems involved in this relationship are one of the main reasons for the scepticism shown by some linguists with regard to semantic feature analysis and for the criticism of being circular.

In the following, I shall only use the term "(semantic) feature" for minimal meaning distinctions and the term "dimension" for the semantic axis constituted by them. Their metalinguistic status is indicated by the use of capitals.

2.3. As the above examples have already shown, immediate oppositions between lexical items do not at once result in a complete feature specification of these items. Rather, they produce minimal meaning differences (semantic features) and potentially complex residual meanings, which in turn have to be investigated as to their internal structure on the basis of further oppositions. Thus, the oppositions *man* : *woman*; *boy* : *girl* result in the structures *MALE*+*X* : *FEMALE*+*X*; *MALE*+*Y* : *FEMALE*+*Y*. *X* and *Y* represent the common basis of the respective oppositions, i.e. that part of the meaning which the terms of the oppositions have in common and which is equivalent to the meanings of the lexical items *adult* and *child*. The opposition of these latter yields the features *ADULT* and *YOUNG*, specifying the dimension *MATURITY*, which, incidentally, should not be confused with the dimension *AGE* underlying *old* : *young*, cf. Geckeler (1971:470ff.).

Such oppositions thus not only yield semantic features, but also constitute semantic dimensions such as *SEX*, *MATURITY*, *AGE*, *SIZE* etc., which in turn are specified by these minimal meaning differences (=semantic features). This relationship is summarized as follows by Coseriu:

> Une dimension, c'est le point de vue ou critère d'une opposition donnée quelconque... la propriété sémantique visée par cette opposition: le contenu par rapport auquel elle s'établit et qui du reste, n'existe — dans la langue respective — qu'en vertu, précisément, du fait qu'une opposition s'y rapporte, qu'il est le support implicite d'une distinction fonctionnelle (1975 : 35).

2.4. Semantic features thus characterize the internal semantic structure of an individual lexical item and at the same time specify the meaning relations existing between lexical items, e.g. hyponymy, antonymy, complement-

arity, converseness, etc. The latter in turn are the basis of the overall structuring of the vocabulary, because they constitute intermediary structures of various sizes into which lexical items sharing a common semantic denominator can be grouped. Such intermediary structures are commonly called "lexical fields" or "word fields"[4] and can be defined as lexical paradigms arising from minimal oppositions of lexical items along a semantic dimension. The semantic features shared by all lexical items of the respective field constitute its content and are called "archisememe". Since archisememes are defined as semantic units on the basis of lexical oppositions, more precisely as the intersection of the semantic features characterizing the lexical items making up a lexical field, their existence is independent of a corresponding concrete lexical realization or "archilexeme". In the case of the minimal lexical fields *man* : *woman, boy* : *girl*, such archilexemes exist in the form of *ADULT* and *CHILD*. But for the archisememe characterizing the field consisting of the temperature adjectives *hot* : *warm* : *tepid* : *cool* : *cold*, a corresponding archilexematic realization is lacking. The distinction between archisememe and archilexeme has consequences for the establishing of lexical hierarchies, of course, especially as regards the meaning relation of hyponymy existing between an archiunit and the respective subordinate lexical items. If one ties the existence of an archiunit to the existence of a corresponding lexical item, the overall structure of the vocabulary will appear to be much less regular than if one does not set up this requirement, because very often archisememes do not have a lexical expression. The distinction is quite obvious if one compares the treatment of hyponymy in Lyons (1968:453) and Lyons (1977:291ff., 299). Originally, Lyons accepted archiunits (his "superordinate lexemes") only in those cases where they have a lexical expression, i.e. where an archilexeme exists. He therefore comes to the following conclusion:

> The main point to be made about the relation of hyponymy as it is found in natural languages is that it does not operate as comprehensively or as systematically there as it does in the various systems of scientific taxonomy [...] The vocabularies of natural languages tend to have many gaps, asymmetries and indeterminacies in them. For instance, there is no superordinate term in English of which all the colour-words are co-hyponyms (1968 : 456).

More recently, however, he has loosened this rather strict requirement and talks of "quasi-hyponymy" in those cases where a superordinate term does not exist for a group of lexical items which obviously should be regarded as co-hyponyms. And from this point of view, it becomes much more likely that the vocabulary of a language should exhibit a fairly comprehensive hierarchical structuring, cf.:

[4] For a survey of the differing terminology used in the literature, cf. Lipka (1980: 93ff.).

> If we include quasi-hyponymy with hyponymy as a relation in terms of which vocabularies are structured hierarchically, the hypothesis that the vocabulary in all languages is structured hierarchically under a relatively small set of lexemes of very general sense is rather more plausible. It is a hypothesis, however, which is difficult to evaluate on the basis of the evidence that is at present available (Lyons 1977 : 299).

As a matter of convenience, however, I shall use in the following only the term archilexeme, with the understanding that it implies "archisememe and (if it exists) archilexeme". Archilexemes will also be characterized by capitals if they are quoted in this function.

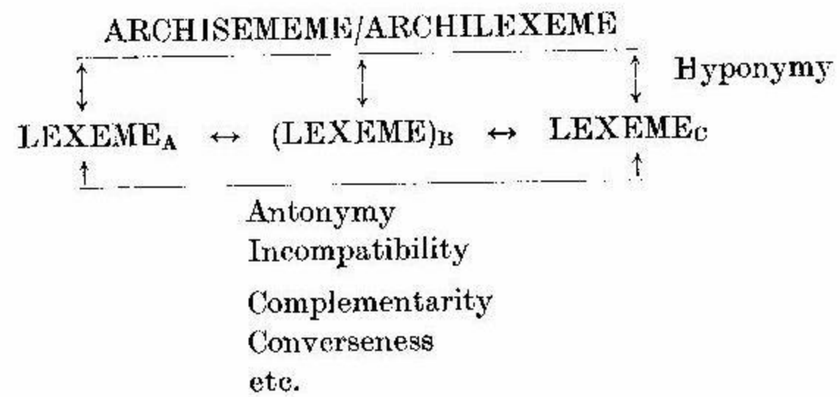
Furthermore, it should be added that very often, at least at the lowest hierarchical level, archisememes and semantic dimensions coincide, e.g. in the case of the temperature or colour adjectives.

Lexical items which can be subsumed under one archisememe/archilexeme are regarded as hyponyms, or, rather, co-hyponyms of this archiunit. Thus *boy* and *girl* are the co-hyponyms of the archilexeme *CHILD*. Since one lexical field may be included in some other field, one gets hierarchies of varying depth in the vocabulary as mentioned above.

3.1. The internal structure of lexical fields is thus determined by the type of lexical dimension underlying them, whose nature in turn is determined by the kind of opposition constituting it. These oppositions will furthermore produce different types of semantic features specifying the dimensions.

Lexical fields are in principle characterized by two basic types of relation: hierarchical and non-hierarchical ones. The former underlie the exclusively binary oppositions between an archisememe/archilexeme and each of its hyponyms, the latter characterize the oppositions between the co-hyponyms of a given archisememe/archilexeme and can be either binary or multiple. Among these oppositions, one may distinguish various formal types, e.g. privative, equipollent, gradual, polar, relative or directional ones, which in turn characterize various types of meaning relations such as hyponymy, incompatibility, ranks, complementarity, antonymy, etc., cf.:

(1)

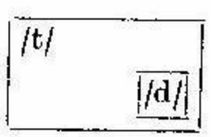


3.2. Obviously, immediate oppositions between co-hyponyms are by no means only binary, cf. *red* : *blue* : *green* : *yellow*:...; *black* : *grey* : *white*; *walk* : : *swim* : *fly*; etc. Binary oppositions like *bachelor* : *spinster*; *husband* : *wife*; *giant* : *dwarf*; *married* : *single*; *high* : *low*; *come* : *go*; *up* : *down*, etc., are, however, so frequent that Lyons quite rightly claims: "binary opposition is one of the most important principles governing the structure of languages "(Lyons 1977:271).

As has already been mentioned, structural semantics was strongly influenced by phonology. Thus, some of the types of opposition mentioned above, notably privative, gradual and equipollent oppositions, were taken over from phonology together with the notation used in phonology for their representation. In the following, I shall be concerned with the notion of privative opposition and the +/— notation frequently used to represent it both in phonology and semantics, and I shall investigate the question to what extent the notion and the notation are adequate for the description of binary contrasts in semantics.

Privative opposition in phonology is generally described as a contrastive relation between two phonemes, one of which (the marked member) contains a distinctive feature lacking in the other (the unmarked member), cf., e.g., Vachek (1966:84). The contrast is then usually represented by a +/— notation. Thus, the oppositions /d/ : /t/; /b/ : /p/; /v/ : /f/ etc. can be characterized by the feature contrast $\pm$ *VOICE*, i.e. /d/, /b/, /v/ contain a feature + *VOICE* absent in /t/, /p/, /f/. One particular characteristic of this type of opposition is that under certain conditions it can be neutralized, in which case the unmarked member is substituted for the marked member. Thus, e.g., in German, voiced consonants are not permitted in word-final position, i.e. the opposition 'voiced' : : 'voiceless' is neutralized in this position, with the unmarked voiceless member substituting for the voiced member, cf. *Rades* /ra: dəs/ : *Rates* /ra:təs/ vs. *Rad* : *Rat* /ra:t/ (the spelling is morphophonemic and does not take the phonological neutralization into account; this situation, by the way, is one of the sources of the development of generative phonology). On the basis of the neutralization phenomenon, this relationship can also be described as follows: the unmarked term includes the marked term (Cantineau 1952:28; Coseriu 1964: 151):

(2)



3.3. In phonology, this type of opposition is commonly represented by a +/— notation, e.g. $\pm$ *VOICE*. This notation was frequently adopted in lexical semantics for the representation of binary oppositions, cf. $\pm$ *MALE* instead of *MALE* : *FEMALE*, and the oppositions were then generally interpreted as privative (cf., e.g., Lyons 1977:322ff.). The decisive criterion for this interpretation in most cases seems to have been the neutralizability of the

respective opposition. But this analogy is somewhat misleading, because in semantics various types of opposition can be neutralized which in other respects differ markedly from the privative oppositions of phonology. Consequently, quite different types of opposition have been subsumed under the label of privative opposition and been represented by a +/— notation. Thus, e.g. Vachek (1966:84) has pointed out that there is a considerable difference between privative oppositions in phonology and morphology, since while in the latter case "the marked member of the opposition [...] signals the presence of a certain feature (this time, a grammatical one), the unmarked member does not signal the absence of that feature, but rather signals nothing about its presence. [...] the unmarked feature does not signal whether that particular feature is present or not." As we shall see below, this is also true of hyponymy, which has been regarded by some linguists, e.g. Coseriu, as a privative opposition coming especially close to the privative oppositions of phonology (Coseriu 1975:40). Coseriu also defines the relation of antonymy, under which he subsumes both complementarity (e.g., *male* : *female*, cf. 4.3.) and antonymy proper (e.g. *long* : *short*, cf. 4.2.), as a privative opposition, cf.:

> Les champs *antonymiques* se fondent sur des oppositions privatives (ou, plutôt, analogues aux oppositions privatives [...]), c'est-à-dire sur des oppositions du type *x*/*non-x*. Ce sont des champs bipolaires, constitués le plus souvent — au niveau de leurs oppositions de base — par deux seuls termes, dont l'un est la "négation" de l'autre; cf. par exemple fr. *bas — haut, court — long, vide — plein, étroit — large, petit — grand* (Coseriu 1975 : 38).

But then he adds the following qualification, noting that privative oppositions in semantics, although neutralizable, differ in certain respects from the privative oppositions of phonology:

> ... la négativité sémantique lexicale est [...] très différente de la négativité ("privativité") phonologique et grammaticale. En phonologie et en grammaire, la négativité, c'est l'absence d'une détermination fonctionnelle (d'un "trait distinctif") de sorte que le *non-x* est un zéro fonctionnel, tandis que dans le lexique le *non-x* est [...] un contenu "existant", ayant sa substance. [...]le *non-x* [...] est le "négatif réel", le "contraire", "l'inverso" ou le "corrélatif" de *x* (Coseriu 1975 : 39).

For him the real counterpart of the privative oppositions of phonology is therefore found "non pas dans le domaine des antonymes, mais dans celui des termes que l'on considère comme "synonymes", c'est-à-dire dans des oppositions telle que *maîtriser* [+*INTENTION*, D. K.] — *dominer* [unmarked, D. K.], *candidus* [+*LUMINOSITY*, D. K.] — *albus* [unmarked, D. K.]" (Coseriu 1975:40). This type of opposition corresponds to the relation of hyponymy as defined above, and, as we shall see presently, this correlation is rather questionable.

On the whole it seems that three different types of semantic relation have been treated as being based on a privative opposition and consequently been represented by a +/— notation by analogy with phonological privative opposi-

tions. I shall take these up in turn now to see how far this assumed parallelism is justified.

4.1.1. The first case concerns the situation where in an opposition one lexical item is marked positively by the presence of a semantic feature with regard to the dimension constituted by this opposition, while the other lexical item is neutral, i.e. unmarked for this dimension and in the event of neutralization substitutes for the marked item. If this situation is represented by a +/− notation, the minus sign has the value of mathematical zero, i.e. it indicates the absence of any value referring to the dimension in question. This describes the relation of hyponymy between an archilexeme and each of its hyponyms, which by definition contain more semantic features than the archilexeme. Thus, e.g., *munch* contains a semantic feature *WITH RELISH* specifying the dimension *MANNER*, with regard to which *chew* is neutral. This is obvious if one combines *chew* and *munch* with positively and negatively evaluative adverbs (cf. Kempson and Quirk 1971:565):

(3) a. He chewed the bacon {reluctantly / happily / angrily}.

b. He munched the bacon {*reluctantly / happily / *angrily}.

Being unmarked, *chew* permits both types of adverb, while *munch* can only co-occur with positively evaluative ones, because otherwise a contradiction would result. Consequently, *chew* does not contain any feature — *RELISH*, but is completely unspecified with regard to the dimension *MANNER*. Therefore, *WITH RELISH* has to be regarded as a singulary feature, for which a +/− notation is superfluous. This is generally true of the relation between an archilexeme and its hyponyms: the former is always neutral with regard to the semantic features additionally characterizing the hyponyms.

4.1.2. According to Coseriu, however, there is a particularly close resemblance of this opposition to the privative oppositions, because in both cases one term is marked for the presence of some property which is absent in the other term. And it is this unmarked term, e.g. voiceless /t/ or *chew* (unspecified for *MANNER*), which appears in the case of the neutralization of this opposition. But this is where the similarities end, since from a functional point of view "absence of the respective property" has different implications in these two cases. In phonology, the absence of some property, e.g. of the dimension *VOICE*, although represented as — *VOICE*, still acts like a specification on a par with + *VOICE*; in lexical oppositions of the type discussed here, "absence" is, however, equivalent to "non-specification" of the respective dimension, which is taken to be irrelevant for the meaning of the unmarked term. In other words, while the dimension is also relevant for the characterization of the unmarked term in phonology, it is not relevant for the characterization of the unmarked term in semantics in this case, which is why here the +/− notation is inappropriate.

4.2.1. The second possibility can be illustrated by the pairs *long* : *short*; *old* : *young*; *giant* : *dwarf*; *genius* : *fool*; *love* : *hate*; etc. These constitute dimensions operating as scales, e.g. *LENGTH*, *AGE*, *HEIGHT*, *WISDOM*, *AFFECTION*, etc., on which the lexical items mark opposite values, so that one could also speak of a polar opposition. Between the positive and the negative pole there is a transitional zone containing a point where neither pole is applicable, which is called "cut" by Ogden (1967). Obviously, these adjectives imply relative presence or absence of the property represented by the dimension, i.e. *long* means 'having greater length than *x*', and *short* means 'having lesser length than *x*', with *x* representing the standard against which the relative presence or absence of the dimension is measured. These oppositions are thus not only polar, they are also relative. If they are represented by a +/− notation, + and − would have their mathematical values and would refer to the property represented by the dimension. In this respect they are similar to the privative oppositions of phonology, which also denote presence vs. absence of some property. But while the latter are based on an absolute, i.e. contradictory contrast, the former represent a contrary, i.e. relative opposition, which cannot be expressed by contradictory negation, since the negation of one term does not imply the assertion of the other, cf.

(4) a. Our cat is big → Our cat is not small.
b. Our cat is not small ↛ Our cat is big.

(5) a. Richard is a genius → Richard is not a fool.
b. Richard is not a fool ↛ Richard is a genius.

This kind of relation is the characteristic of Leech's (1974:108) "polar opposition", Lyons' (1968:463; 1977:279) "antonymy" and Geckeler's (1980:47) "antithetical opposition".

4.2.2. Polar oppositions, especially those involving adjectives, can also be neutralized[5], e.g. in how-questions, cf.

[5] Note, however, that by no means all polar oppositions are neutralizable. Thus, Cruse (1976:287), who distinguishes three classes of antonyms on the basis of the relationship between the meanings of the terms in the positive and the comparative degrees, shows that for one particular subclass referring to subjective sensations or emotional states, e.g. *hot* : *cold*; *proud* : *ashamed*; *sweet* : *sour/dry*; *happy* : *sad*; etc., both terms are marked, cf. (6) with

(i) a. How hot is it?
b. How cold is it?

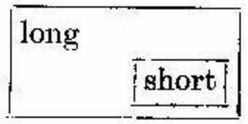
(ii) a. How happy is he?
b. How sad is he?

Here, neither in the (a) nor the (b) question does the adjective refer to the whole dimension; it already presupposes that one pole of the dimension is involved.

(6) a. How long is this cigarette?
b. How old is Peter?
c. How high is this tower?

Long, old, high in these examples do not represent the positively marked term of the opposition, but refer to the underlying dimension as a whole and therefore have to be regarded as unmarked, i.e. in these questions the oppositions *long* : *short*; *old* : *young*; *high* : *low* are neutralized. On account of this neutralization phenomenon, the respective oppositions have also been interpreted as privative, e.g. by Coseriu (1975:39f.) and Geckeler (1980:47f.). The latter therefore also proposes a representation similar to (2), viz.

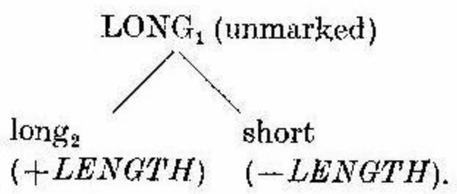
(7)



where *long* as the unmarked term includes the marked term *short*. But again, the parallelism is far from perfect. Here, it is the positively marked term which appears under neutralization conditions, i.e. *long, old, high*, etc. and not *short, young, low*, which in *how*-questions already presuppose that only one pole of the scale, i.e. the negative one, is involved. With phonological oppositions, however, it is the negative term, e.g. *-VOICE*, which occurs under neutralization. It is questionable, therefore, whether polar oppositions of this type should in fact be related to the privative oppositions of phonology.

An alternative analysis, suggested by Ljung (1974), in fact does not start from a binary opposition *long* : *short*, etc., but from a ternary one, in which *long* etc. are split up into two homonymous lexical items *LONG*, an unmarked archilexeme representing the dimension itself, and long, the positively marked lexical item, cf.:

(8)



As is obvious from this diagram, the +/— notation is appropriate in this case and it is also used by Bierwisch (1967), who postulates a feature ±*POLARITY* specifying the particular dimension. Polar oppositions thus resemble privative oppositions only in so far as they denote presence vs. absence of the underlying property — but to a relative, not an absolute degree — and that they are neutralizable — but the result of the neutralization coinciding with the positive, not the negative term of the opposition.

4.3.1. The third possibility can be illustrated by the opposition MALE : *FEMALE* characterizing pairs such as *man* : *woman*; *bachelor* : *spinster*, etc. These features are complementary and divide the dimension *SEX* constituted by them into two equal, mutually exclusive domains without any transitional zone, i.e. they represent a contradictory opposition. This corresponds to Leech's (1974:106) "binary taxonomy" and Lyons' (1968:461, 1977:279) "complementarity". The two features exhaust the dimension completely, and one feature is equivalent to the logical negation of the other, i.e. *MALE* : *FEMALE*=*MALE* : *NOT MALE*. This is also shown by the following implications:

(9) a. John is a man → John is not a woman.
b. John is not a woman → John is a man.

If a +/— notation is used to represent this opposition, the minus sign would have to be interpreted as a negation referring to the respective semantic feature, which is why a representation using contradictory negation, i.e. *MALE* : *NOT MALE*, is preferable.

4.3.2. Under neutralization conditions, we have to distinguish two different cases. For *boy* : *girl*, *stallion* : *mare*, there exist specific archilexemes, viz. *CHILD*, *HORSE*, in which the opposition constituting the dimension *SEX* is neutralized. In the case of *man* : *woman*, however, *man* seems to function both as marked term (=G *Mann*) and as unmarked term (=G *Mensch*='human being') of the opposition. This resembles the opposition *long* : *short* and has also been interpreted as an instance of a privative opposition, e.g. by Lyons, who defines a privative opposition as a "contrastive relation between two lexemes, one of which denotes some positive property and the other of which denotes the absence of this property: e.g. 'animate' : 'inanimate'" (Lyons 1977: 279). Starting from the representation ±*MALE*, he interprets *FEMALE* as the absence of the feature *MALE* (Lyons 1977:322ff.) and then points out that this type of feature analysis leads to contradictory results. Thus, in the opposition *man* : *woman*, it is the positively marked term (*man*) which at the same time acts as unmarked term, while in the pairs *goose* : *gander*; *duck* : *drake*, it is the negatively marked term (*goose, duck* : —*MALE*) which appears as unmarked term in the case of neutralization. From this he draws the conclusion that semantic analyses based on distinctive features are generally inadequate.

4.2.3. Lyons' analysis is, however, questionable for two reasons, which considerably weakens his conclusions as to the appropriateness of semantic features.

First, the examples quoted by him cannot in fact be regarded as representing privative oppositions. The oppositions *MALE* : *FEMALE* and *ANIMATE* : *INANIMATE* do not imply the presence vs. absence of a certain feature, but are based on two complementary features, i.e. on a feature and its contradictory negation: *FEMALE=NOT MALE*, *INANIMATE=NOT ANI-*

MATE[6]. This is perfectly clear in the latter case, where the name of the semantic feature is itself complex and involves the prefix *in-*, which in this case has contradictory force as in *in-organic* and not contrary force as in *infirm, ineffectual*, etc., i.e. corresponds to *not* as a sentence negation. Moreover, Lyons contradicts himself, since elsewhere he quotes the lexical items *male* and *female* as examples of an equipollent opposition, "in which each of the contrasting lexemes denotes a positive property" (Lyons 1977:279).

Secondly, the problem involved in the different types of neutralization can be solved by replacing the binary oppositions *man* : *woman*, etc. by a ternary opposition of the type *CHILD* (*boy* : *girl*), i.e. by MAN_1 (man_2 : *woman*); $GOOSE_1$ (*gander* : $goose_2$); $DUCK_1$ (*drake* : $duck_2$), parallel to the alternative treatment of polar oppositions. This leads to the assumption of two homonymous lexical items man_1 and man_2, $goose_1$ and $goose_2$, etc. having different feature specifications. (e.g. $man_1 = MAN = HUMAN$; $man_2 = MALE, ADULT, HUMAN$, etc.), one of which acts as the archilexeme of the respective field. These homonymous lexical items manifest the same type of opposition which characterizes the relationship between an archilexeme and its hyponyms, in contradistinction to the oppositions man_2 : *woman*, etc. and the features *MALE* : *NOT MALE* characterizing them, which have a completely different status.

4.3.4. Normally, contradictories are not gradable, i.e. there is no **very married*, **fairly female*, etc. This follows from the fact that the underlying dimension is divided into two mutually exclusive zones, and that this dimension does not represent a scale. But, as Cruse (1980) has pointed out, there is a certain subgroup of complementaries which is gradable, e.g. *clean* : *dirty*; *true* : *false*; *pure* : *impure*, etc., cf. *very clean, rather impure*, etc. These gradable complementaries are based on a negatively evaluative dimension, e.g. *DIRTINESS, FALSEHOOD, IMPURITY*, etc., which, as in the case of antonyms, acts like a scale. In contradistinction to the ungradable complementaries, the opposition here implies presence (e.g. *dirty*) vs. absence (e.g. *clean*) of the property denoted by the underlying dimension. Thus, *clean* can be defined as 'absence of the underlying dimension *IMPURITY*', but *woman* cannot be defined as 'absence of the dimension *SEX*'. If a +/− notation is used in this case, it would again have its mathematical function and would refer to the dimension itself, marking its presense or absence. Consequently, the transition between presence and absence of the property represented by the dimension coincides with the negative endpoint of

[6] It is controversial whether the choice of the base feature, i.e. *MALE, ANIMATE* is arbitrary, with the result that the opposition could just as well have been represented as *FEMALE* : *NOT FEMALE*, etc., or whether it is governed by certain principles such that one feature is logically primary. For a discussion of this problem, cf. Kastovsky (1981 : 4.6.2.4.2.) with further references.

the respective scale, as is the case with neutralizable antonyms. In this respect, gradable complementaries also behave like privative oppositions in phonology. Thus *VOICE* may also be regarded as a scale, whose negative pole, *— VOICE*, implies complete absence of this property. Even the slightest presence of *VOICE* will have to be marked positively as *+ VOICE*. It seems, therefore, that only gradable complementaries are genuine counterparts of the privative oppositions in phonology. This is corroborated by their behaviour under neutralization conditions, e.g. in *how*-questions, cf.

(10) a. How cléan is it?
b. How dírty is it?

(10a) does not contain any implication as to whether the underlying dimension is present or not, whereas (10b) already presupposes that the underlying property is present and only asks for the degree to which it is present: *dirty* is therefore positively marked, while *clean* in (10a) is unmarked and merely refers to the underlying dimension itself, i.e. acts as archilexeme. Thus we have again a complete parallel to the behaviour of privative oppositions in phonology: in both cases, the negatively marked term also acts as archiunit.

5. It seems, therefore, that the privative opposition of phonology is matched completely only by gradable complementaries. In all the other cases discussed here one notices various differences between privative oppositions of phonology and allegedly privative oppositions of lexical semantics. The same is true of the +/− notation derived from privative oppositions in phonology. This is only really appropriate for gradable complementaries and, at least in the type of analysis presented here, for antonyms. Analyses which stress the relative character of polar oppositions, and treat them as two-term predicates, however, usually also give up the +/− notation for this semantic relation.

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