

語彙意味論と有標・無標概念：JakobsonからLehrerまで

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有標・無標 (markedness/unmarkedness) の概念はプラーグ学派のJakobsonとTrubetskyに始まる。有標・無標の概念は音韻論に始まったが、今日では音韻論ばかりでなく語彙論、統語論、意味論に使用されている。小論では、有標・無標の概念が提起されて以来、語彙意味論の研究上この概念がどのように変遷したかを論じる。

このため、有標・無標の概念が提起された状況およびこの概念の非明確性から論を説き起こす。有標・無標の概念と関連して語の関連を表すため各種の概念が提案されたが、これら関連した各種の概念を検討する。さらに、語彙意味論の研究上有標・無標の概念が研究者によってどのように解釈されたかを検討する。検討の対象はJakobson, Greenberg, Chomsky, およびLyonsである。

各語彙の意味論分析を行う上で、特に反対語 (antonym) の検討において有標・無標の概念の利用価値が高いことはその概念の本質上明らかである。また、特徴 (feature) の概念が有標・無標の概念と関連していることは明らかである。有標・無標の概念を利用し反対語 (antonym) の検討をしている主な研究者はLyons, Cruse, およびLehrerである。この3人の研究者がどのように有標・無標の概念を利用しているか検討する。

Markedness for Lexical Meaning: From Jakobson to Lehrer

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1. Introduction

One of the major topics of discussion in linguistic theory is that of markedness (Battistella, 1990; Battistella, 1996; Andrews, 1990; Gair, 1988). This issue also arises in the study of language acquisition (Eckman, 1977). It also arises in relation to word association studies (Clark, 1970; Clark and Clark, 1977).

The present study falls into six sections. First, markedness related notions are discussed in general terms in order to provide a broad picture of how markedness is conceived. Second, Jakobson's markedness theory is dealt with. It is true that the honour of originating this theory is shared by Nikolai Trubetskoy and Roman Jakobson, but Jakobson is focused on in the present study because Trubetskoy emphasized the application of the theory to phonological studies, whereas Jakobson extended the theory to morphological, lexical and grammatical studies. Third, Greenberg's work is discussed in relation to his treatment of markedness in the context of investigating language universals with primary concern of frequency for study. Fourth, the present study considers Chomsky's adoption and adaptation of markedness theory, since it seems that his thinking was influenced by the Jakobsonian notion of markedness. Fifth, there is an account of the work of Lyons who deals with markedness and lexical semantics. Finally, there is a discussion of markedness and antonyms, as the main concern in this study is how markedness relates to lexical studies.

2. Vagueness of the Concept of Markedness

The concept of markedness, which has been mainly developed in Jakobsonian and Chomskyan schools, has its origins in the analysis of binary oppositions in phonology and has been extended to morphology, the lexicon, language acquisition and linguistic universals (Battistella, 1996). Markedness refers to the relationships between the two poles of an opposition. Marked and unmarked refer to the evaluation of the poles. The more general pole is called unmarked and the more complex and specific pole is called marked (Battistella, 1990).

According to Battistella (1996), the theoretical aspects of markedness can be subdivided into three. One aspect is clearly the definition of the concepts of marked and unmarked; however, no appropriate definition has yet been agreed among linguists because many use the term markedness with their own definition or interpretation. Another closely related theoretical aspect is the correlation between marked and unmarked categories and the substance of language. This involves such issues as frequency of categories in texts, distribution of categories and neutralization, and so on. In the course of the study of markedness, various schools and scholars have claimed or invented their own new categories and criteria. The third associated aspect is the relationship of the overall system of markedness values in themselves without reference to the substance of language. In other words, the question is whether markedness values can be organized as one system. This has become an issue in the course of the study of markedness. It is also related to the question of how markedness functions with context and/or with subordinate or superordinate features. The notions of markedness reversal and prototypicality are included in this third subdivision of markedness theory (Battistella, 1990; Battistella, 1996). Hierarchy or chaining of categories is also included in the subdivision.

It is difficult to give a single agreed definition of markedness. However, Battistella (1996) provides us with two possible approaches to its characterization. In one of these 'markedness is simply a cover term of a vague categorial asymmetry in which one element dominates its opposite' (p.15). The other is that 'the "and/or" view provides a set of useful heuristics for talking about in the data to determine markedness values but

that certain foundational aspects of markedness should take precedence over ones that are merely correlational' (p. 15). Still, he concludes that 'we ultimately must conclude that there is no theory of markedness per se. Rather, the picture of markedness we arrive at is one merging a number of different domains of markedness, different technical proposals, and different analytic goals' (p. 133).

2. 1. Notions of Markedness

Binary opposition is the most important notion for defining markedness relations. Jakobson (1939) defines binary opposition thus: 'one of the terms of the opposition signifies the presence of a certain quality and the other (the unmarked or undifferentiated term of the opposition, in brief, the zero term) indicates neither its presence nor absence' (p. 153). One example of this opposition, according to Jakobson (1939), is gender opposition because masculine has the zero meaning while feminine has a quality of female meaning. In his expansion and modification of binary opposition, he came to advocate asymmetrical binary oppositions.

With regard to Jakobson, brief mention should be made of Trubetzkoy. He developed three types of phonemic oppositions through phonological study. One is privative opposition, in which two phonemes are identical except that one contains a feature which the other lacks (e.g., /b/ vs. /p/). Another is gradual opposition, in which different degrees of some gradient property appear (e.g. /i/, /e/, /æ/). The other is equipollent, in which each member has a feature that the others lack (e.g. /p/, /t/, /k/). Comparison of Jakobson's asymmetrical binary opposition with Trubetzkoy's three oppositions makes it clear that privative opposition is equal to asymmetrical binary opposition, while Trubetzkoy's gradual and/or equipollent oppositions might be excluded from Jakobson's original idea. In short, the two scholars established different categories for their study.

The basic idea of binarism is that all lexical contrasts are both dichotomous and privative (Lyons, 1977). A privative opposition is a contrastive relation between two lexemes, one of which indicates some positive property while the other indicates the absence of that property: e.g., *animate* : *inanimate* (Lyons, 1977). An asymmetrical relation is one where, for all values of x and y , $R(x, y)$ implies the negation of $R(y, x)$.

An example is the relation of 'being the father of': if *x* is the father of *y*, then *y* cannot be the father of *x* (Lyons, 1977). *X is longer than y* is another example of asymmetrical relation. On the other hand, *x is similar to y* is a symmetrical relation (Cruse, 1986).

When the term markedness was applied to lexical meaning, the definition or sense of the three types of oppositions seems to have changed slightly. Lyons (1977) divides oppositions into the gradable and ungradable dichotomy. A gradable opposition is equal to the gradual opposition by Trubetzkoy. The example by Lyons (1977) is: *hot : cold*. Ungradable oppositions are divided into two types: privative oppositions and equipollent oppositions. As mentioned above, a privative opposition is a contrastive relation between two lexemes, one of which indicates some positive property while the other indicates the absence of that property. An equipollent opposition is a relation in which each of the contrasting lexemes denotes a positive property: e.g., *male : female* (Lyons, 1977). This kind of opposition is not in the nature of A vs. non-A, but rather in the nature of A vs. B. Thus, Lyons defines and exemplifies the three types of definition to lexical meaning. However, even though three types of opposition have been defined, the main concern in the study of markedness goes back to privative binary opposition.

2. 2. Notions Relevant to Markedness

Jakobson coined a number of terms in the context of this study of markedness. One of them was neutralization, which he used to explain a phenomenon in morphology (Andrews, 1990). Cruse (1986) claims that neutralization in lexical semantics refers to 'the non-appearance of a semantic contrast under certain circumstances, particularly when there is some reason for remarking on its absence' (p. 255). Cruse (1986) exemplifies that 'the *doctor/dentist* contrast is neutralized in *patient*, and the *murderer/mugger* contrast is neutralized in *victim*' (p. 256). Lyons (1977) claimed that neutralization occurs in certain contexts such as *lion : female lion*, versus *male lioness : lioness*, which is not acceptable. The contrast *lion* vs. *lioness* is neutralized in the collocation *female lion*. Thus, Lyons (1977) claims that neutralization is a special case rather than a general property of the unmarked term.

However, Battistella (1996) offers a different view of neutralization. He starts from his understanding that neutralization is derived from the definition of markedness in terms of an A vs. non-A schema. He claims that neutralization is ‘the suppression of the contrast between A and the narrow sense of the unmarked term in favour of the indefinite or generic sense of the unmarked feature’ (Battistella, 1996, p. 60). He offers an example of the case of *short* : *long*, the analysis of which is as follows:

short [specification of lack of size]
long [nonspecification of lack of size] or
[specification of size]

Thus, he claims that neutralization in *How long is that line?* involves the suppression of the specifying options, leaving only the neutral sense.

The discrepancy derives from the fact that Jakobson did not refer to semantics or lexical meaning but only to phonology or morphology. Cairns (1986) claims that neutralization could apply to privative oppositions after stating that neutralization is a defining characteristic of markedness following Trubetzkoy. He seems to confine the notion to morphology. Andrews (1990) confines neutralization to phonology with reference to Jakobson (1957), who has confined the notion to phonology and morphology.

Syncretization is another notion similar to neutralization. Traditionally syncretism refers to cases where two distinct morphosyntactic words may be realized by one word-form (Lyons, 1977). One example of syncretism by Lyons (1996) is that the *loved* in *I loved* and the *loved* in *I have loved* are forms of the same lexeme *love*. Referring to Jakobson (1957), who compares neutralization in phonology with syncretism in morphology and takes into account grammatical and lexical meaning, Andrews (1990) claims that neutralization and syncretization are ‘*distinctive* processes as defined within the sphere of phonology and morphology’ (p. 141). However, Lyons’ view of syncretization could be applied to the study of lexical semantics or the semantic relations of words.

According to Greenberg (1966), syncretization is the phenomenon by which ‘distinctions existing in the unmarked member are often *neutralized* in the marked categories’ (p. 27) [italicized by the present writer]. His definition is confusing because of his use of the term *neutralized*, and is consequently unhelpful for any discussion of syncretization. In contrast, Battistella (1996)

provides a clear definition of syncretization, which ‘refers to the lack of subdistinctions in certain categories’ (p. 14). In other words, it ‘involves the presence or absence of linguistic distinctions in certain subcategories of the lexicon’ (Cairns, 1986, p. 18). According to the example given by Battistella (1996), gender is syncretized in the plural in the relation of *he, she, it : they* because two or more words in singular form are realized by one word in plural form. In this respect, syncretization is less frequent than neutralization because it is not as frequently associated with markedness (Cairns, 1986).

With respect to neutralization, brief mention might also be made of markedness assimilation. It was Andersen (1969, 1972) rather than Jakobson who was the first scholar to introduce the term markedness assimilation in work on phonology (Andrews, 1990; Battistella, 1996). Andersen proposed the term as a means of specifying redundant features in positions of neutralization, suggesting that in some marked contexts neutralization results in the cancellation of an opposition, which leaves the marked feature rather than the unmarked feature (Battistella, 1996). Andrews (1990) cites Shapiro to define markedness assimilation: ‘the normally unmarked value for a given feature occurs in an unmarked (simultaneous or sequential) context, and the normally marked value in the marked context’ (Shapiro, 1983, p. 84).

Shapiro (1983) claims that markedness assimilation is not simply restricted to segmental phonology, but is relevant to the stress retraction in English verbal/nominal pairs like *permit : pérmit, réject : réject*. Shapiro claims that initial stress in English is unmarked and stress in the other position is marked, and that adjectives are unmarked parts of speech relative to verbals, which are marked (Andrews, 1990). In his discussion, Battistella (1996) claims that ‘Shapiro’s example of markedness assimilation differs from Andersen’s in that it is not tied to a specific context such as subjunctive mood’ (p. 37). Andrews (1990) claims that the principle of markedness assimilation has general applicability within the realm of phonology, but that there is not enough evidence to support its status as a rule for defining morphological and semantic categories. Markedness assimilation has not met the requirements for categorization as a rule, since proving its validity requires such a large number of assumptions. It seems that assimilation has not been related to semantic markedness.

Another term, markedness reversal, is also ascribed to Andersen (1972), even though Jakobson (1957) mentioned a markedness reversal within a grammatical category (Battistella, 1996; Andrews, 1990). As an example of markedness reversal, Jakobson (1957) claimed that the neuter gender, which occurs in second position in the gender hierarchy for Russian cases, shifts to the unmarked position in caseless forms: verbs, and adverbs (Andrews, 1990). It is said, however, that the term was coined by Andersen (1972) to identify ‘the reversal of markedness values in oppositions demonstrated by a marked context’ (p. 45). He seems to have considered markedness reversal as a special case of markedness assimilation, characterizing instances in which neutralization yields the marked term (Battistella, 1996). However, Shapiro (1983) extends the notion of markedness reversal. He assumes that reversal need not be associated with neutralization. The contexts that can dominate and reverse an opposition can include phonological contexts, morphological categories, broad stylistic features (Battistella, 1996), and all other human semiotic systems (Andersen, 1972). Andrews (1990) disagrees with this expansion, claiming that Jakobson refers only to potential markedness reversals in grammatical categories/meaning, not in lexical meaning.

Battistella (1996) defines markedness reversals as follows:

Reversal is a type of assimilation in that a ranking that obtains in the unmarked context is reversed in the marked context; the markedness of the context is assimilated to the value of the unmarked feature (marked becomes unmarked). (p. 141)

Then, he comments and criticizes that ‘the spirit of the idea of reversal seems to be that markedness assimilation is the basic pattern but a further marked context can reverse assimilation’ (p. 142). In spite of Andrew’s disagreement and Battistella’s criticism, it is worth discussing markedness reversals for semantic markedness.

Semantic markedness reversals are realized as “real world” influence on linguistic structure. Markedness values reverse when a marked term’s referent comes to be the expected or general member of an opposition and the unmarked term’s referent becomes the unexpected. In such a case, the feature which presents the marked element becomes the new unmarked one by reversing its previous status. For example, in the case of *nurse* : *male nurse*, we expect nurses to be women rather than men because of the

facts of sex differentiation in occupations (Battistella, 1996). Andrews (1990) criticises that the pair *male nurse* : *nurse* occurs ‘not in the conceptual features but, rather in “tags” taken from outside of the linguistic system and assigned to the categories in question’ (p. 151). However, insofar as “tag” is regarded as a conceptual feature for the meaning of a word, the notion of reversal might be accepted in the case of *male nurse* : *nurse*. Therefore, the pair could be an example for semantic markedness reversals.

Finally, prototypicality should be addressed briefly with respect to the relationship of markedness and lexical semantics. Prototypicality refers to the idea that properties are less conceptually complex, and hence less marked, the more closely and clearly they reflect attributes of prototypical or more basic categories (Battistella, 1990). In other words, prototypicality is the idea that certain categories are conceptually and psychologically more basic than others. Some linguists have noted the similarity between marked and unmarked categories and the notion of figure and ground (Battistella, 1996), which is a basic concept of prototype theory. For example, Lacroff (1987) claims that ‘markedness is a term used by linguists to describe a kind of prototype—an asymmetry in a category, where one member or subcategory is taken to be somehow more basic than the other (or others)’ (pp. 60f). In this respect, prototypical relations in terms of marked and unmarked relations seem to be linked not to binary opposition but to relative relations and chain or hierarchical relations, as discussed by Lyons (1968).

3. Markedness and Linguistic Theory

In relation to the study of markedness and lexis, it is important to consider the contributions of five scholars in particular. First, the discussion needs to begin with the work of Jakobson, the founder of markedness theory. Second, Greenberg must be taken into account. His notion differs from that of Jakobson, but his primary position—frequency—is related to lexical meaning in terms of word relations. Third, the discussion needs to give attention to the ideas of Chomsky which are related to and further develop those of Jakobson. Fourth, it must address the work of H. Clark, who applied Chomsky’s ideas to association study, and whose methods could form the foundation to study paradigmatic responses of word association

tests. Finally, brief mention must also be made of Lyons, even though his work is not in the main stream, since he focuses on the markedness of lexical relations, a central issue in the present study.

The origins of markedness theory are associated with Jakobson. However, he was not the first person to have hit upon the notion. The concept of markedness was developed in the Prague School of linguists, which was a structuralist school, and has influenced development among various types of schools and linguists. Yet the notion of markedness has a history which dates back to a period much earlier than when the term itself began to be used. Emphasizing the contribution by Hjelmslev (1935), Andersen (1989) describes how the notion had been conceived and subsequently evolved into that of markedness. Referring to Kalepky (1901), Saussure (1916) and Andersen (1989) claims that Hjelmslev had established the fundamental schema for the notion of markedness.

Another scholar who should be mentioned in this connection is Trubetzkoy, who first used the terms *active* and *passive* to explain phonological relations upon noticing that relations between correlative phonemes were mostly asymmetrical. The terms *marked* and *unmarked* were first used in the discussion between Trubetzkoy and Jakobson in 1930. Andersen (1989) makes the following claim:

Trubetzkoy noted that relations between phonemes were mostly conceptually asymmetrical, apparently independently of whether their realizations in sound were contradictories or contraries and he proposed that this asymmetry be reflected in the standard terminology that was being developed. (p. 21)

Jakobson extended the observed conceptual asymmetries to value systems in relation to grammar (Andersen 1989). Jakobson (1932) first applied the notion of markedness to lexical oppositions in masculine and feminine nouns. In this respect, there appeared to be a difference between Trubetzkoy's notion of markedness and Jakobson's.

3. 1. Jakobson

Jakobson's contribution to markedness theory is defined in terms of three points: the application of the notion to semantics, morphology, and grammar as well as phonology; the study of features for semantics and

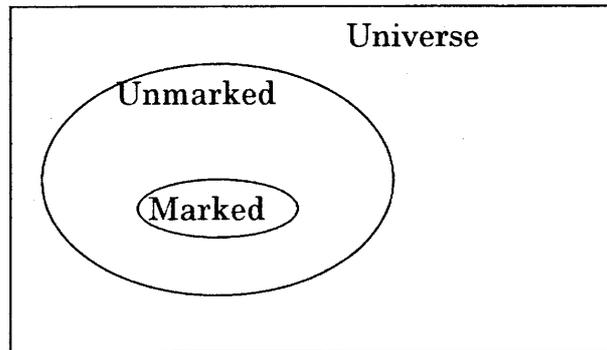
morphology; the hierarchization of features. Nevertheless, since it is related to markedness theory, it is appropriate to discuss it before focusing on markedness theory (Battistella, 1990).

As a linguistic term, *feature* first appeared in relation to the study of phonology. For sound to be a vehicle of meaning, sounds must be opposed to one another in the structure of a language. The individual sound values opposed to one another in a particular language are called the phonemes of the language. The distinctions between phonemes are viewed in terms of oppositions referred to as minimal distinctive features. These are smaller units of phonological structure than phonemes. In short, the difference between two phonemes can be understood in terms of their different distinctive features. Distinctive features are thus autonomous properties that come together to create the sound units of language (Battistella, 1990). It should be mentioned that the notion was also applied to the study of the meanings of words in the Prague School.

The term *feature* is very similar to that of *marker* in respect of its notional content. Referring to Jakobson (1971), Andrews (1990) claims that *marker* came to mean the same thing as a distinctive feature in addition to its original definition as the presence of a more restricted pole of an opposition. The feature, called distinctive feature in phonology and semantic feature in morphology, is the element that defines the relationship of a given form. Distinctive features are defined in terms of opposite relations. As we recall, the first use of the term markedness derived from discussion of the opposite relations of phonemes. It is natural, therefore, that feature and markedness are closely related to each other in terms of opposite relations.

Andrews (1990) cites Jakobson's 1957 study for the definition of marked and unmarked relations as follows: the marked term gives the statement of a property A; the unmarked term can be divided into components: (1) a general meaning = non-statement of A; (2) a specific meaning = statement of non-A (Andrews, 1990). Andrew claims, furthermore, that 'the definition of markedness in morphology includes both a general and a specific meaning, whereas the definition of markedness in phonology does not provide for a distinction in the unmarked term; only the "specific" definition occurs' (p. 10) (see Figure 1).

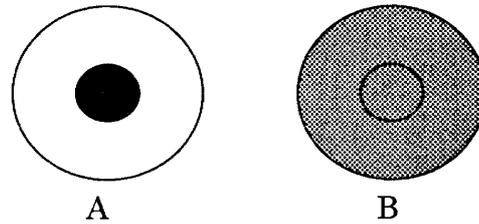
In General



Thus,

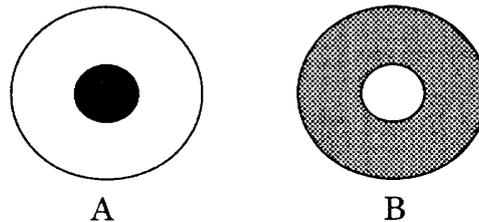
I. General Meaning

- A. Marked: Statement of A
- B. Unmarked: Nonstatement of A



Special Meaning

- A. Marked: Statement of A
- B. Unmarked: Statement of non-A



(Andrews, 1990, p. 10)

Figure 1 Marked and Unmarked Relations in Phonology and Morphology

As markedness theory began to take shape in the early days, the notion of binary opposition became very important to define markedness relations. However, words are not always classifiable in terms of binary opposition or polarity. For example, the relation of Monday and Tuesday in a week cannot be classified in binary terms. Jakobson (1971) recognized binary oppositions in his study of markedness in phonology and then applied a modified version of binary opposition to morphology and semantics. Andersen (1989) provides an example of the difference between grammar and phonology in this regard: the grammatical opposition feminine vs. masculine is an inclusive relation while phonological opposition forms an exclusive relation.

3. 2. Greenberg and his Followers

Greenberg's (1966) attitude towards heavy reliance on frequency as a

primary criterion changed the definition of markedness. Greenberg found that unmarked phonemes have a greater text frequency than their marked opposites. Furthermore, he found that unmarked grammatical categories have a greater text frequency than their marked counterparts. Accordingly, Greenberg considered frequency as the primary determining factor of markedness in grammar. He suggested that unmarked categories may be determined by 'the frequency of association of things in the real world' (p. 66) as 'everywhere the singular should be more frequent than the plural' (p. 66). Croft (1990) defines textual frequency as follows:

Frequency (textual): if a marked value occurs a certain number of times in frequency in a given text sample, then the unmarked value will occur at least as many times in a comparable text sample. (p. 85)

Greenberg suggested that frequency was symptomatic of implicational relations between categories (Battistella, 1996). The unmarked term is more frequent because it is implied by the marked term. Since this view of markedness reflects implicational universals rather than frequency, it avoids reference to intrinsic phonological or semantic properties in the definition of markedness and it replaces discussion of properties with typological generalizations (Battistella, 1996). Within the typological and universal approach, Greenberg (1966) and Croft (1990) see the main significance of markedness in terms of its applicability across languages and across the levels of language (Battistella, 1996), though Andrews (1990) criticizes the frequency-dependent attitude with the claim that 'the purpose of markedness theory is to explain properties of meaning that are invariant, not to justify a system based upon statistical frequency, which, by definition, is a context-specific phenomenon' (p. 137). In short, it seems that these scholars significantly broadened the use of markedness for linguistic studies, without paying attention to asymmetrical binary oppositions, in spite of the claim by Croft (1990) that the essential notion behind markedness in typology is the fact of asymmetrical properties. However, it should be noted that frequency does not always determine marked and unmarked relations of items. (Andersen, 1989; Andrews, 1990; Cairns, 1986; Greenberg, 1966).

It should be noted that Greenberg (1966) discussed frequency with regard to word associations as follows:

A further manifestation of the marked-unmarked hierarchy is shown in word association where the stimulus words selected by psychologists have been exclusively drawn from the unmarked categories, e.g. singular nouns, positive adjectives. (p. 53)

Furthermore, he hypothesized as follows:

If we hypothesize on the basis that, for example, singular nouns *ceteris paribus* will elicit singular nouns and plural nouns will elicit plural nouns, we will make a set of predictions of the following form. A stimulus of an unmarked category will have responses of the same unmarked category almost exclusively since both factors, the tendency towards responses in the same category on the marked-unmarked hierarchy are working in the same direction. A marked stimulus will have a marked response but to a substantially smaller degree. (p. 54)

He then verified his hypothesis with the analysis of the results by Palermo-Jenkins (1963). Greenberg's study inspired Clark (1970), whose study is noted in the next section.

3. 3. Chomsky

The term markedness entered generative linguistic theory through phonology. The Prague School concept of distinctive features was crucial in the phonological theory developed by Chomsky and Halle (1968). Though they did not follow the Prague School view, they linked features to the universal at every level of language study. Furthermore, features were incorporated into the evaluation metric, a measure of Universal Grammar (Battistella, 1996). As Andrews (1990) claims, for his linguistic analysis, Chomsky adopted and redefined markedness relations as properties derivable from the study in phonology by the Prague School, and he may have excluded any application to meaning. However, Chomsky contributed to lexical analysis in terms of lexical syntax even though he may not have intended to study lexical meaning.

As far as the notion of marked/unmarked is concerned, Chomsky's (1986) view is clear:

There may be general principles that determine how the

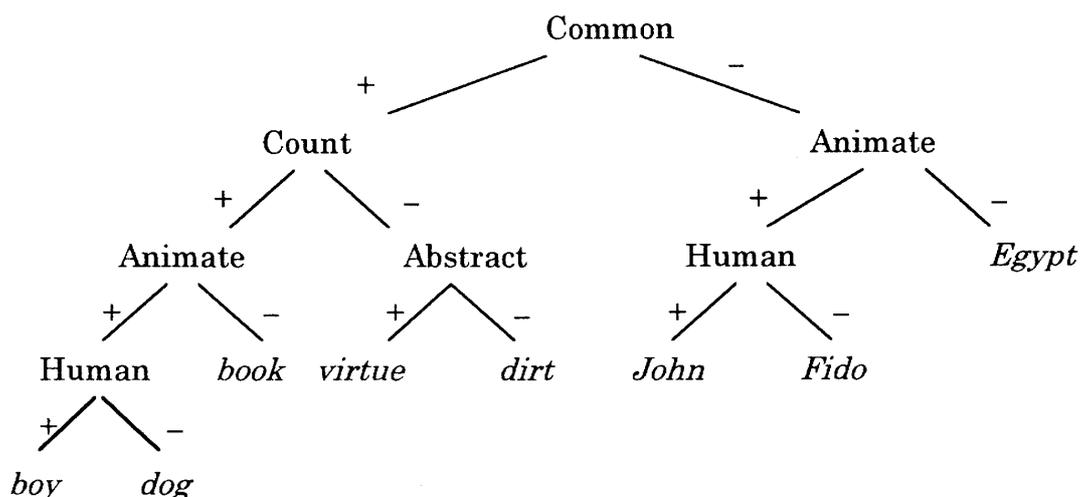
switches [parameters] are set, for example, the subset principle discussed by Berwick (1982) which states that if a parameter has two values + and –, and the value–generates a proper subset of the grammatical sentences generated with the choice of value +, then – is the “unmarked value” selected in the absence of evidence; this is a necessary and sufficient condition for learning from positive evidence only, insofar as parameters are independent. (cited from Gair, 1988, p. 230)

Chomsky (1986) sets up three types of markedness as follows:

The distinction between core and periphery leaves us with three notions of markedness: core versus periphery, internal to the core, and internal to the periphery. The second has to do with the way parameters are set in the absence of evidence. As for the third, there are, no doubt, significant regularities even in departures from core principles (for example, in irregular verb morphology in English) and it may be that peripheral constructions are related to the core in systematic ways, say, by relaxing certain conditions on core grammar. (cited from Gair, 1988, p. 229)

Thus, Chomsky’s notion of markedness differs from that of Jakobson because Chomsky’s concern is to study first language acquisition rather than to analyse linguistic phenomena. In addition, he has not contributed so much to lexical semantics as to syntax.

However, it should be emphasized that features and plus/minus signs are used by Chomsky to signal the hierarchical relations of linguistic items. Even though Gair (1988) attributes to Wexler and Manzini (1987) the idea of a markedness hierarchy, the basic idea of a markedness hierarchy had already appeared when Chomsky (1965) presented a tree diagram to illustrate syntactic features in nouns. The tree is as follows:



(Chomsky, 1965, p. 83)

In the above, features are positively or negatively specified with the plus or minus sign. Positive or negative specification, which is dichotomous, is Chomsky's version of Jakobson's marked or unmarked dichotomous classification. The basic notion of markedness, privative opposition (A vs. non-A), is realized in the idea of a feature with plus/minus. It should be noted that, in the above tree, plus seems to represent unmarked virtue and minus marked. Leading on from Chomsky's feature and plus/minus sign approach, the psychologist Clark (1970) applied the idea and integrated it with the phenomenon of frequency, partly for his word association study. He set up six types of rules for word association realizations: the minimal contrast rule, the marking rule, the feature-deletion and -addition rule, the category-preservation rule, the selectional feature realization rule and the idiom completion rule. The rules are not discussed any further in the present study.

3. 4. Lyons

Lyons (1968, 1977) addressed the matter of markedness, taking a descriptive rather than a theoretical approach. Lyons (1968) discusses relative markedness among features. He exemplifies that if one examines the relationship between the imperfective and the aorist in Greek, one can conclude that the imperfective is marked and the aorist is unmarked; on the other hand, if one puts the perfective in juxtaposition with the imperfective, it emerges that the perfective is marked and the imperfective

is unmarked. Gair (1988) claims in regard to this that it is not necessary for the opposition encoding markedness to be strictly bipolar. There can be a 'chain' or hierarchy of markedness $N > . . . > B > A$ where 'less than' means 'more marked.' With regard to 'chain,' the notion of relative markedness is related to prototypicality, and with regard to hierarchy, it is related to Chomsky's work described above.

With regard to lexical relationships, Lyons (1996) distinguishes three types of markedness apart from binary oppositions. The first type is called formal markedness. Adding suffixes or prefixes which form the marked form of a word is what distinguishes this category. Words such as *host* : *hostess*, *count* : *countess*, and *lion* : *lioness* are formally related complementaries. Suffixes like *less* in *countess*, and affixes like *un* and *in* in *unfriendly* or *inconsistent* are called formal marks of opposition. Lyons (1977) considers that in such cases, 'the notion of marking is based on the presence or absence of some particular element of form' (p. 306). He includes words like *useful* : *useless*, which are formally unmarked and formally marked respectively, in this category.

The second type of markedness is called distributional markedness. Lyons (1977) does not define this as clearly as the first category. The criteria are based on the range of contexts in which each set of pairs occurs. In this sense it seems similar to frequency, though he does not refer to frequency of words. There is a relationship between this category and the first in the sense that 'the formally marked member of the opposition tends to be more restricted in its distribution than the formally unmarked member' (p. 306). Lyons (1996) illustrates this category with examples such as *high* : *low*, *good* : *bad*, *happy* : *unhappy*. It seems that he regards *How . . . was X?* as a measure of the category in the examples because these negative forms of the examples do not normally occur in the frame. He discusses three cases of relationship between formal markedness and distributional markedness. One is coincidence of the two types of markedness because of relevance of both kinds of marking; e.g., *lion* : *lioness* and *happy* : *unhappy*. Another case is that of lexemes which are formally marked but not marked distributionally; e.g., *count* : *countess*. The other includes lexemes which are distributionally marked but not formally marked; e.g., *good* : *bad* and *high* : *low*. Lyons (1996) claims that the lexeme is the word form employed in standard dictionaries;

thus, for example, the two word-forms *find* and *found* are realized in one lexeme *find*.

The last category is semantic markedness. Lyons (1977) claims that the category is independent of the first category, formal markedness. He defines it as the category 'that is more specific in sense than the corresponding semantically unmarked lexemes' (p. 307) and claims that 'the unmarked member of the opposition has both a more general and a more specific sense according to context' (p. 308). For example, *dog* is in contrast to *bitch* and is superordinate to it according to context. The other examples of this category are: *lion* : *lioness*, *bull* : *cow*, *cook* : *hen*, and *man* : *woman*.

Two comments should be made on this kind of categorization. One is that semantic relations of words are not categorized within one whole system of marked-unmarked relations. The three categories do not constitute a system for markedness instead of binary oppositions. For example, *lion* : *lioness* appears in the three categories as an example; the pair preserves the properties of the three categories. The other is the caution by Battistella (1996) that the classification by Lyons 'may be ill-advised in other ways, since it implies that a correlative factor like the presence of an affix is a defining criterion of a type of markedness' (p. 13). Thus, it is clear that Lyons does not rely on binary oppositions but different types of oppositions in discussing lexical relations of words, even though he addresses words and lexemes.

It is also worth mentioning Zwicky (1978), who discusses markedness in relation to morphology. He admits that there are many uses of the terms marked and unmarked and claims that there are several different concepts linked together under the term markedness. Even though Zwicky (1978) mentions that 'there is some question about what is the most central aspect of markedness in morphology and lexicon—Jakobson pointing to the possibility of ambiguity in the unmarked term of a pair' (p. 142), he does not provide any solution to this matter, as this is not his purpose in the study. His main contribution to the issue is to have summarized Greenberg (1966), and Comrie (1976) into eight categories: material markedness, semantic markedness, implicational markedness, abstract syntactic markedness, productive markedness, stylistic markedness, and statistical markedness. In his discussion of implicational markedness and syntactic markedness, he

makes use of binary distinction, features, and plus/minus, which implies that the types of markedness are related to Jakobson's view on markedness. For this reason, it does not seem necessary to discuss Zwicky (1978) further since Jakobson's and Greenberg's (1966) work has already been touched upon above.

4. Markedness and Antonyms

Antonymy is closely related to markedness. Standard treatments of antonymy consider one member of a pair of antonyms to be marked and the other unmarked (Lehrer, 1985). The standard technical term for oppositeness of meaning between lexemes is antonymy (Lyons, 1977), which is used for different kinds of oppositions, each with a different kind of structure. Oppositions are restricted to dichotomous, or binary, contrasts; and antonymy is restricted still further, to gradable opposites, such as *big* : *small*, *high* : *low*, etc. (Lyons, 1977).

4. 1. Antonyms by Lyons

Lyons (1977) presents four types of oppositions: antonymy, complementarity, converseness, and directionality. Lyons (1996) claims that 'opposition will be restricted to dichotomous, or binary, contrasts; and antonymy will be restricted still further, to gradable opposites' (p. 279). He seems to regard antonyms as typical binary opposites, and divides opposites into gradable and ungradable ones. Lyons (1996) claims that 'when we compare two or more objects with respect to their possession of a certain property (this property being denoted typically in English by an adjective), it is usually, though not always, appropriate to enquire whether they have this property to the same degree or not' (p. 271). In this category, 'the predication of the one implies the predication of the negation of the other' (Lyons, 1996, p. 272). For example, *X is hot* implies *X is not cold*, but *X is not hot* does not generally imply *X is cold*. Thus, the examples he offers are adjectives, and antonyms carry strongly adjectival properties.

Lyons (1977) then claims that 'ungradable opposites, when they are employed as predicative expressions, divide the universe-of-discourse into two complementary subsets' (p. 271). In this category, 'the predication of

either one of the pair implies the predication of the negation of the other' (p. 271f.); furthermore, 'the predication of the negation of either implies the predication of the other' (p. 272). For example, *X is male* implies *X is not female*, and *X is not male* implies *X is female*. Thus, Lyons demonstrates the difference between antonyms and complementary by providing examples of the predication of negation.

Lyons (1996) defines converseness as follows:

Now, by virtue of the definition of the logical relation of converseness, if *R* is a two-place relation and *R'* is its converse we can substitute *R'* for *R* and simultaneously transpose the terms in the relation to obtain an equivalence: $R(x, y) = R'(y, x)$.

(p. 280)

Therefore, converseness of lexemes 'which may be used as two-place predicative expressions' (Lyons, 1977, p. 280) is realized in areas of vocabulary such as social roles (*doctor : patient, master/mistress : servant*, etc.), kinship relations (*father/mother : son/daughter*, etc.), temporal and spatial relations (*above : below, in front of : behind, before : after*, etc.) (Lyons, 1977).

Lyons (1977) defines directional opposition as when 'motion from a place *P* results in being at not-*P* (or not being at *P*); and motion to *P* results in being at *P*' (p. 282). The matter of negative or positive consequence appears as a result of movement of location whereby *P* is positive and not-*P* is negative. He exemplifies *come : go, arrive : depart*, and *up : down* as typical directional opposition; however, he applies the category to more abstract opposites like *learn : know*. In certain contexts, the words are related in terms of the proposition that because *X has learned Y*, as the result of learning *X now knows Y*. Lyons includes *get : lose, die : (be) alive, learn : forget* in this category, and even implies the inclusion of *to : from* in this category (Lyons, 1977).

In his discussion of the four categories of opposites, Lyons (1977) does not refer to markedness at all. From time to time he mentions the terms relevant to markedness such as binary opposition and negative/positive. In the above discussion, it is clear that antonyms are opposite types closely related to binary opposition. Complementary is also closely related to binary opposition. Sub-categories of converseness may be discussed in terms

of feature theory; a typical sub-category being kinship terms. If positive/negative consequence is applied to directional opposition, this category may also be viewed in terms of binary opposition.

4. 2. Antonyms by Cruse

Cruse (1986) argues that the first of the four characteristics which antonyms share is ‘fully gradable (most are adjectives; a few are verbs)’ (p. 204). In this sense, he agrees with Lyons (1977). Cruse discusses antonyms at greater length than Lyons (1977) by dividing them into three groups: polar antonyms, overlapping antonyms, and equipollent antonyms. A sub-class of overlapping antonyms is termed privative antonyms. Thus, he establishes his own categories for antonyms. It should be noted that Cruse does not introduce markedness deliberately for the discussion of antonyms because he has negative attitude toward the notion of markedness.

There are some characteristic differences among the three groups of antonyms in respect of *How X is it?* questions. Between polar antonyms, only one member of a pair yields a normal *how*-question, and the question is impartial (e.g., *How long is it?* but *?How short is it?*). Between overlapping synonyms, both terms of a pair yield normal *how*-questions, but one term yields an impartial question and the other term yields a committed question (e.g., *How good is it?* and *How bad is it?*). Between equipollent antonyms, both terms of a pair yield normal *how*-questions, and both questions are committed (e.g., *How hot is it?* and *How cold is it?*) (Cruse, 1986). Thus, Cruse exemplifies the three types of antonyms.

Cruse (1986) does not describe privative antonyms in the same clear terms with *How X is it* questions. He claims that ‘what distinguishes privative antonyms in this respect [meaning] is not entirely clear: it may be that they characteristically refer to situations where the desirable state is less the presence of some valued property than the absence of an undesirable one, such as dirt or danger’ (p. 208). To explain privative antonyms, Cruse uses a different approach involving pseudo-comparatives and true-comparatives. Between overlapping antonyms, there is a pseudo-comparative corresponding to one member of a pair, but the other member has a true comparative.

John’s a dull lad, but he’s cleverer than Bill.

? Bill's a clever lad, but he's a duller than John. (Cruse, 1986, p. 207)
Cruse claims that the group has a sub-group consisting of those hybrid opposites like *clean* : *dirty*, and *safe* : *dangerous*, which in the positive degree behave like complementarities. Furthermore, he claims that, in respect of their graded uses, there is no doubt that they belong to the overlapping antonym group. The example is as follows:

? It's still clean, but it's dirtier than before.

It's still dirty, but it's cleaner than before. (Cruse, 1986, p. 208)

According to Cruse (1986), there are some differences of properties among the three groups of antonyms. Polar antonyms are typically evaluative neutral, and objectively descriptive. Overlapping antonyms all have an evaluative polarity as part of their meaning. One term in a pair of this group is commendatory (e.g., *good*, *kind*, *clean* and *safe*) and the other is deprecatory (e.g., *bad*, *cruel*, *dirty* and *dangerous*). Equipollent antonyms refer to distinctly subjective sensations (e.g. *hot* : *cold*, and *happy* : *sad*), or emotions or evaluations based on subjective reactions, rather than on objective standards (e.g. *nice* : *nasty* and *pleasant* : *unpleasant*).

Although Cruse (1986) addresses the issue of antonyms, he does not mention markedness in his discussion. It is obvious that what he says is very much linked to markedness since antonyms are closely related to the notion. It follows that mention should be made of Lehrer's (1985) discussion on antonyms and markedness.

4. 3. Antonyms by Lehrer

Lehrer (1985) discusses gradable antonyms concurring with Lyons (1977) that 'gradable antonyms are words, typically adjectives, that name opposite parts, usually ends, of a single dimensional scale' (p.397). She summarizes eight earlier studies relevant to gradable antonyms (Greenberg, 1966; Lyons, 1977; Zwicky, 1978; Waugh, 1982), and then discusses the reliability of the properties proposed in these studies in relation to her data. By and large, she agrees with six of the proposed properties but disagrees with two properties.

The first of the six properties is neutralization of an opposition in questions with an unmarked member. The frame for this property is *How X is it?*, which Battistella (1996) exemplifies as the frame for neutralization.

Therefore, *X* in the frame is realized as a neutralization. Even though Cruse (1986) discusses the frame for one type of antonyms without mentioning markedness in his study, neutralization is one of the six properties of antonyms provided by Lehrer. Lehrer claims that this property is the most general one.

The second property is neutralization of an opposition in nominalizations with an unmarked member. The example given by Lehrer is *The length of the table was 3 feet.*, but we might offer an example in the question form *What is the length of X?*, which is closely related to the first property.

The third property is that only the unmarked member appears in measure phrases of the form ‘Amount Measure Adjective.’ An example is *three feet tall*. In reply to *How long is the table?*, *three feet long* is acceptable but *three feet short* is not acceptable, which is also related to the first property. Lehrer (1985) explains the restriction of constructions of this property by mentioning the Gricean maxim: ‘Be brief. Avoid unnecessary prolixity.’ Lehrer (1985) argues that ‘for most measures the relevant thing being measured is already incorporated into the meaning of the word’ (p. 412); therefore, ‘*degree* implies temperature, *lumen* implies brightness, *decibel* implies loudness, and *kilo* implies weight’ (p. 412). For example, since *long* preserves the meaning of measure of length, *three feet* instead of *three feet long* can be acceptable as an answer to *How long is the table?* Lehrer claims that most of the adjectives in this group are those for linear measures such as *wide*, *deep*, *tall*, *high*, *long* and *broad* and, agrees with Jakendoff (1977), based on her data, that this kind of construction is limited in number.

The fourth property is that ratios can be used only with the unmarked member. This category is related to the third property. Lehrer gives examples *twice as tall* and **twice as short*. However, she exemplifies *good/bad*, *clever/stupid*, *happy/sad*, *early/late*, and *kind/cruel* as the evidence that many antonym pairs permit the *twice as* pattern. Furthermore, if the frame is used for metaphorical expressions it would be acceptable. Thus, she is cautious in respect of this property and indicates that its application should be limited to certain pairs.

The fifth property is that if one member of the pair consists of an affix added to the antonym, the affix form is marked. An example of this type

is *happy* : *unhappy*. Since *happy* : *sad* type of pairs are categorized in a separate property as the sixth property by Lehrer (1985), the fifth property is acceptable. Lehrer supports this category, except for two pairs: *impartial* : *partial*, and *unbiased* : *biased*.

The sixth property is that if there are asymmetrical entailments, the unmarked member is less likely to be ‘committed,’ which is the term used by Cruse (1980). The term is used for antonym pairs where reversability of comparatives is impossible, and where the comparative entails the base form of the adjective. The example is as follows:

A is better than B, but A and B are bad.

but **B is worse than A, but A and B are good.*

Although she does not completely agree with the claim and gives the example (*A is happier than B but both are sad. B is sadder than A but both are happy.*), in broad terms she supports the criterion, admitting ‘a strong correlation between markedness in questions and committedness’ (p. 404).

Lehrer (1985) is skeptical about two of the proposed eight properties. One is that the unmarked term is evaluatively positive, whereas the marked one is evaluatively negative. She cites one example from Bolinger (1977): ‘*clean*, for example, is evaluatively positive and *dirty* is evaluatively negative, but the editors of a pornographic publication might say something like, “This article is wonderfully dirty. Our readers will love it”’ (p. 441). The other is the property that the unmarked member denotes more of a quality whereas the marked denotes less. Criticising the primary assumption that more is better, while one concedes that ‘the fact that the term used in unmarked questions is also the one denoting more of a quality is the case with those pairs referring to measurements—size, age, weight, etc.’ (Lehrer, 1985, p. 416), referring to Cruse (1980), she goes on to say that in many antonym pairs the marked member denotes more. For example, in *dirty* : *clean*, the quality of dirt is assigned to *dirty*, and the quality is absent from *clean*. Some other examples are, according to her, *safe* : *dangerous*, *sober* : *drunk*, *pure* : *impure*, and *accurate* : *inaccurate*.

She concludes as follows:

Markedness is not a general structural property of antonymy; rather it consists of a number of independent properties that are imperfectly correlated. Neutralization of one member of the

pair in questions is the commonest of the properties. Most of the statements can at best be taken as implicational; if one member of a pair exhibits property P, it will be the marked (or unmarked) member.

Some properties seem to follow from other facts about the meaning of the words and/or the semantic structure. (pp. 421-422)

At this point, mention should be made of the concepts of evaluative or denotative meaning and connotative meaning in relation to markedness. Among antonyms, some unmarked members have a positive connotation and marked members have a negative one. Thus, *happy* and *clean*, which are unmarked, have favourable connotations whereas the antonyms *sad* and *dirty* have negative connotations. Some other unmarked members denote more of a quality whereas the marked members denote less. For example, *big* and *long* are unmarked and denote more size and length than their antonyms, *small* and *short*. Thus, the two properties which Lehrer (1985) is skeptical about are related to semantic meaning in terms of denotation or connotation.

5. Conclusion

As Battistella (1996) has already claimed, there is no single comprehensive theory of markedness. However, it has become clear from the above discussion that Jakobsonian theory is useful for the study of the lexicon—in particular, the notion of privative and binary oppositions. Furthermore, feature theory, which is related to binary oppositions, is also useful for the study of the lexical relationship of words.

In the Prague School, semantic markedness is a relation between features whereby the marked feature signals the presence of a property and the unmarked feature either signals its absence or has a more general interpretation covering both terms of the opposition. However, in the Chomskyan school, markedness is extended to apply to relations where the oppositions are not strictly privative, i.e., not strictly of the form A vs. non-A, but multivalued (Battistella, 1990). It should be mentioned that Chomsky extended the notion of markedness to syntax because of his

preoccupation with syntax issues in relation to first language acquisition; his interest in lexical meaning issues has been minimal by comparison.

Greenberg (1966) adopted frequency of words as a primary criterion of markedness instead of binary opposition. Although he claims that he does not neglect the notion of binary opposition, his approach depends heavily on textual frequency for phonological, morphological, and lexical study. He asserts that, in marked and unmarked relations of words, unmarked words are more frequent than marked ones. He then argues that marked stimuli yield more unmarked responses than vice versa. This view was adopted by Clark (1970) for his word association study.

Studies by Lyons (1968, 1977, 1997) reveal how lexical markedness and lexical semantics are related in terms of oppositions. Although they do not provide specific support for the study of markedness, they offer some fundamentally important ideas, especially by drawing attention to the close relationship between antonyms and issues of markedness.

Lehrer (1985) discusses the matter of markedness and antonyms at full length. She concludes that 'markedness is not a general structural property of antonymy; rather it consists of a number of independent properties' (p. 421). Through her discussion, however, she reveals that antonymy is closely related to markedness.

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