CAMBRIDGE

Cambridge University Press
978-0-521-09938-7 - Presupposition and the Delimitation of Semantics
Ruth M. Kempson
Excerpt
More information

1 *Introduction: the linguistic framework*

1.1 General conditions on a semantic theory

As an increasingly fashionable subject, semantics has become the light to which, mothlike, linguists are irresistibly drawn. With this sudden increase in popularity it is inevitable that the subject should be interpreted in different ways by different people. But the divergence between the interpretations has become extreme, and – as will shortly become apparent – it is no longer possible to pretend that the alternatives are all terminological variants of one another. In approaching this problem of the delimitation of semantics, one of the first steps must be to extract from the various interpretations the common core of agreement over which there need be no dispute. The extent of the agreement can be quickly listed on one hand. There are four conditions which linguists working within the framework of a formal model of language would agree must be satisfied by a semantic theory (or semantic component of a general theory):

1. It must be able to predict the meaning of any sentence, and it must do so on the basis of the meaning of the lexical items in that sentence and the syntactic relations between those items – i.e. the model must state a systematic relation between the meaning of lexical items and the syntactic structure of the sentence. Moreover, where a sentence has more than one interpretation, the model must predict the appropriate number of interpretations. (How these predictions are carried out will of course vary from theory to theory.)

2. Since the set of sentences for any language constitute an infinite set, the semantic model must be made up of a finite set of predictive rules like its syntactic counterpart: the model cannot merely analyse an arbitrarily selected finite subset of this infinite set.

3. The model must separate the infinite set of semantically non-deviant

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-0-521-09938-7 - Presupposition and the Delimitation of Semantics
Ruth M. Kempson
Excerpt
More information

sentences from another infinite set – that made up of contradictory or anomalous sentences, such as examples (1)–(8):[1]

(1) John ran but he didn't move.
(2) The man who was running was walking.
(3) The girl is a boy.
(4) Bachelors are married men.
(5) Green ideas sleep furiously.
(6) Ideas ran to catch the train.
(7) Safety likes to be treated gently.
(8) The boulders got married.

4. The model must be able to predict meaning relations between sentences, e.g. entailment (cf. pp. 33–4), contradiction and synonymy (cf. p. 34), since these relations hold by virtue of the meanings of sentences. These four demands are agreed in principle by all linguists.

But there the agreement ends; and the old problem of what constitutes the meaning of sentences raises its ugly head again. There seem to me to be two principal alternatives: either meaning can be defined in terms of conditions for the truth of sentences – i.e. be defined in terms of the relation between sentences (and lexical items) and the external world they describe;[2] or it can be defined in terms of conditions on the use of sentences in communication – i.e. be defined in terms of the relation of sentences to the speech act, the speaker of the sentence, etc. Yet it was on just this question of the definition of meaning that Leech (1969) suggested that there had been 'a movement towards agreement' (p. 4). How is it that Leech's optimistic view is not borne out? The difficulty arose when the notion of presupposition was incorporated into linguistics; because presupposition, like meaning, can be defined in one of two ways – either as a relation between statements (parallel to entailment, synonymy, etc.), or as a property of the speaker's belief in uttering a sentence. And only one of these definitions is compatible with a definition of meaning in terms of truth conditions. Yet if the presuppositions of a sentence are part of its semantic interpretation then by definition they are part of its meaning. Thus if presuppositions in terms of speaker-belief are considered to be part of the semantic interpretation

[1] Whether or not the model should treat contradictory and anomalous sentences as ungrammatical (i.e. not well-formed) is not generally agreed upon. For conflicting views, cf. Katz 1972, Jackendoff 1972, McCawley 1971, G. N. Lakoff 1971b.
[2] I shall argue in chapter 2 that Katz' and Bierwisch's positions are not genuine alternatives to this.

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-0-521-09938-7 - Presupposition and the Delimitation of Semantics
Ruth M. Kempson
Excerpt
More information

of sentences, then it seems that the meaning of sentences must be in terms of speaker-hearer relations and not, or not solely, in terms of the relation between a symbol or set of symbols and the object or state described. The status of speaker-hearer relations in a semantic theory is not however the only problem which presupposition raises. The logical concept of presupposition is defined within a three-valued logic, and if semantics has to include such a concept then it follows that the logic of natural language is not the familiar two-valued logic but a presuppositional, three-valued logic. So both characterisations of presupposition present a theoretical problem for linguistics of no mean significance.

What I shall argue during the course of this book is that all the problems raised by presupposition are in fact pseudo-problems for semantics, since no concept of presupposition has any place within the semantics of natural language. Accordingly, I shall be arguing for a truth-conditional semantics based on a two-valued logic. But in order to maintain such a position, I rely on a pragmatic account of many phenomena generally thought to be semantic. In the final part of the book, I therefore turn to two major problems (*a*) the problem of giving detailed substance to the presently alarmingly insubstantial pragmatic wastepaper basket, (*b*) the question of the status of pragmatics within an over-all theory of language. So, in general terms, this book can be seen as simultaneously an exercise in a linguistic truth-based semantics and a plea to linguists to give up the widely accepted conflation of semantics and pragmatics.

1.2 The relation between syntax and semantics

From a methodological point of view, one of the most important current problems is that semantic arguments are often not sufficiently rigorous to deserve serious theoretical evaluation: there is no agreed formalism in which predictions can be precisely formulated, nor is there even agreement as to what constitutes a semantic argument. In an attempt to combat this failing, I shall present the solution to each problem considered in a formal semantic representation, which will in every case have a precisely stateable set of consequences by which the solution can be tested.

As a preliminary, I must now make clear the assumptions about the interdependence of syntax and semantics which I shall be drawing on throughout the book, and give a more detailed specification of the

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-0-521-09938-7 - Presupposition and the Delimitation of Semantics
Ruth M. Kempson
Excerpt
More information

semantic component to be adopted. On the basis of arguments presented in Chomsky 1969, 1971, 1972; Fodor 1970; Hall-Partee 1970, and elsewhere, I shall accept as currently the most explanatorily adequate theory a (transformational) grammar in which the syntactic component has the generative power, the semantic component being interpretive. That is to say, I shall be taking for granted: (i) that syntactic behaviour of a sentence or structure is not, or not necessarily, determined by its semantic properties, (ii) that the contraints imposed by syntactic structure are not co-extensive with those of semantics, and (iii) that semantic generalisations should not therefore be captured by the same formal means as syntactic generalisations. This stand leads to two consequent assumptions which provide the background to all the arguments to be presented in the course of this book: (*a*) syntactic constructs in general must be defined and justified without reference to semantics, and (*b*) the semantic analysis of a sentence does not automatically lead to a reflex in the syntactic structure of that sentence. I shall not give justification of this position here, as it has been much debated in the literature,[1] but the analysis of the semantics of negation to be presented later in this chapter (1.3.3) gives confirmation of the independent nature of syntactic and semantic constructs, since it constitutes an example of a semantic rule of interpretation which cannot be captured, in any natural way, by the formal apparatus of the syntactic component.

In addition to an interpretive semantic framework, I shall take as familiar the now widely accepted position that selectional restrictions are not a syntactic constraint (cf. McCawley 1968a, 1971). It is not however obvious that they should be analysed as a semantic constraint either. Much of the evidence which shows that a syntactic blocking mechanism of the kind outlined in *Aspects* (whereby the insertion of verbs is dependent on features of the surrounding nouns) cannot be correct also casts doubt on the Katz–Bierwisch formulation, in which the operation of semantic projection rules depends on a prior matching between selectional specification of the modifier and inherent specification of the head. Consider the three following problems.

1. When embedded as a complement to verbs such as *say*, selectional restrictions can be broken without deviance:

[1] Cf. McCawley 1968a, 1968b, 1971, G. N. Lakoff 1970a, 1971a, Ross 1969, 1972, Chomsky 1969, 1971, 1972, Fodor 1970, Katz 1970, Hall-Partee 1970, Jackendoff 1972.

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-0-521-09938-7 - Presupposition and the Delimitation of Semantics
Ruth M. Kempson
Excerpt
More information

(9) John said that rocks get diabetes.
(10) John claimed that men get pregnant.
(11) Our five-year-old son told Mary that stones have babies.

2. In certain negative environments, selectional restrictions can also be broken without causing deviance:

(12) A rock doesn't get diabetes.
(13) Worms don't worry about money.
(14) Men don't get pregnant.
(15) It's not true that a rock gets tired.

3. Where a verb or adjective has a particular selectional restriction and the noun it modifies is unmarked for that specification, the resulting phrase is interpreted as having that specification as part of its meaning:

(16) John hit it.
(17) That person is pregnant.[1]
(18) Those that get pregnant sometimes regret it.

Thus the last example is interpreted as having a subject which is female, human, and adult, and this interpretation is due to the selectional specification of *pregnant* that its subject be female and adult (but not necessarily human) and the selectional specification of *regret* that its subject be human. In the first two cases, a Chomskian blocking mechanism on lexical insertion has to be prevented from applying; and no explanation of the third set can be provided at all since on this view selectional constraints are syntactic and do not operate in the semantic interpretation of a sentence – they are merely a condition on lexical insertion. More interestingly, both Bierwisch's and Katz' formulation of selectional restrictions as a semantic constraint on the operation of the semantic interpretation rules (cf. Bierwisch 1969, p. 164; Katz 1964, pp. 526–7) meet similar problems. *Ad hoc* and different caveats have to be added for each of these cases, to prevent anomalous predictions such as the synonymy of examples (12)–(15).

On the other hand, if selectional specifications are analysed as a semantic property of the verb in question no different in kind from its inherent properties, then there is a natural solution to all the sentences given above. *Our male cousin became pregnant* will be predicted to be a

[1] With *pregnant* we enter the problematic realm of what constitutes knowledge of the language (viz. the meaning of *pregnant*) and what merely knowledge of the world (viz. our knowledge of which sex gives birth to children). For present purposes, however, I am simply assuming that it is part of the lexical specification of *pregnant* that it apply to females.

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-0-521-09938-7 - Presupposition and the Delimitation of Semantics
Ruth M. Kempson
Excerpt
More information

contradiction by virtue of the joint specification of the subject as male and female (cf. pp. 8–9 for an explicit formulation of contextual specification in terms of semantic components); *John said that rocks get diabetes* will not be predicted to be contradictory by virtue of the semantic property of the verb *say*;[1] *Worms don't worry about money* will not be predicted to be contradictory since the specification of 'human' on the subject of *worry* is interpreted as falling within the scope of negation (cf. *John isn't a woman*) (cf. 1.3.3 for a discussion of negation); and the interpretation of sentences such as *Those that get pregnant sometimes regret it* follows as an automatic consequence since the specification of the subject as human, female, and adult, simply is part of the meaning of the lexical items and hence of the sentence itself.[2] Furthermore, this analysis of selectional specification of lexical items as a part of their meaning makes an important and correct prediction (another piece of evidence that selectional restrictions are semantic in nature): all synonymous lexical items will have identical selectional restrictions (even when they are syntactically distinct – viz. singular *versus* plural), and hence all synonymous sentences will have the same commutation potential:

(19) John used a knife to cut the cake.
(20) ?John used milk to cut the cake.[3]
(21) John cut the cake with a knife.
(22) ?John cut the cake with milk.
(23) The mother of John...
(24) ?The mother of dust...
(25) The woman who gave birth to John...
(26) ?The woman who gave birth to dust...
(27) John killed Mary.
(28) ?John killed milk.
(29) John caused Mary to die.
(30) ?John caused milk to die.

On the basis of this evidence I shall assume that so-called 'selectional restrictions' are neither syntactic restrictions nor semantic restrictions

[1] Verbs such as *dream* and *believe* with the same property are discussed on pp. 71–2, 90, 105–9.
[2] It follows from this that there is no longer any distinction in kind between anomaly and contradiction. Cf. Bierwisch 1969 fn. 13 for a critical assessment of this distinction.
[3] I shall consistently depict contradictions with '?', since I argue on p. 11 that these are semantically well-formed, and only deviant on a pragmatic level.

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-0-521-09938-7 - Presupposition and the Delimitation of Semantics
Ruth M. Kempson
Excerpt
More information

but simply a property of meaning of the item in question. We shall see shortly how this is naturally stateable within a semantic representation.

1.3 On the nature of semantic features and the semantic component

While the nature of syntactic representations is fairly clear, even if their justification is not, the nature of semantic representation is unhappily not at all clear. However this problem is not one with which I wish to deal in any detail. I shall merely assume that semantic specification operates largely along the lines suggested by Bierwisch (1969, 1971) (though cf. 2.3.1 below for a brief defence of semantic representations of this type). In essence, Bierwisch's formulation gives as a semantic representation a fully specified logical form but this level is not that of the syntactically justified deep structure. In this formulation, the rules of the semantic component are interpretive in that they are dependent on a semantic specification of lexical items in the lexicon and the syntactic information provided by the underlying structure of a sentence (in this respect like Katz).

1.3.1 On the form of semantic features. One important respect in which Bierwisch differs from Chomsky (1965) and Katz (1964, 1966a, 1972) is in the form of the minimal semantic unit. Bierwisch formulates semantic components along the lines defined by predicate calculus, and not in a different way as do Katz and Leech. One of the chief reasons for not using predicate calculus as the basis for description seems to have been the common assumption that the semantic properties of lexical items, like their phonological and syntactic properties, could be formulated in terms of binary features (whether implicitly, like Katz, or explicitly, like Leech). However it is apparent that binary features must be inadequate for analysing terms such as transitive verbs which express a relation between two objects, e.g. *kill*, *chase*, etc., since such features are equivalent to a one-place predicate and hence are not a suitable means of formalising two-place relations. Thus [MALE]X, [HUMAN]X, [ADULT]X,[1] can be rewritten as the binary feature complex +MALE, +HUMAN, +ADULT, but [CAUSE]X_1 ([DIE]X_2) cannot be reformulated in binary features in any transparent

[1] I adopt here the format of Bierwisch. A predicate is thus listed first in sequence, followed by its argument(s). Propositional arguments are enclosed in round brackets.

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-0-521-09938-7 - Presupposition and the Delimitation of Semantics
Ruth M. Kempson
Excerpt
More information

way. The nearest equivalent is perhaps +CAUSATIVE, +RELATIONAL, +DEATH, which is obviously unsatisfactory. Moreover both Katz' (cf. Katz 1966a, 1967) and Leech's attempts to overcome this deficiency necessitate dubious additions to the semantic metalanguage, which to the extent that they are adequately justified are terminological variants of predicate calculus formulations (cf. Bierwisch 1969 for detailed criticisms of Katz' extended component system).[1] I shall therefore – like Bierwisch (cf. also Weinreich 1962, Bendix 1966) – assume that semantic properties of lexical items can most appropriately be described by the formulae of predicate calculus, construing features as predicates with unbound variables indexed for subject and object (and indirect object in the case of three-place predicates such as *give*). There are however several respects in which the semantic apparatus differs from that of predicate calculus. One of these is the need to have propositions functioning as arguments. Thus for example the lexical entry for *kill* would be:

kill: +[V]
+[—NP]
[CAUSE]$X_{NP,S}$([BECOME](NOT[ALIVE]$X_{NP,VP}$))
[ANIMATE]$X_{NP,VP}$

In each case the variable X is given a syntactic index. In the first component above, X and the proposition ([BECOME](NOT[ALIVE]X)) function as arguments of the predicate [CAUSE], the proposition (NOT[ALIVE]X) is the argument of the one-place predicate [BECOME], and [ALIVE] has X as argument. Implicit in this formulation is the assumption that the semantic properties of lexical items are expressed in terms of the contribution the items make to the meaning of a sentence.

A further complication of predicate calculus is the need to have predicates as arguments for predicates. This is necessary in order to make explicit the meaning of for example *rush* as (approximately)

rush: [[FAST]MOTION]$X_{NP,S}$ ·
[[PHYSICAL]ACTIVITY]$X_{NP,S}$ · [ANIMATE]$X_{NP,S}$[2]

In addition to predicative features, there must also be delimiting features parallel to the quantifiers of predicate calculus to give a semantic

[1] The revision of Katz' system in Katz 1972 is not substantially different from earlier versions and is therefore open to the same criticisms.
[2] I am assuming the standard definition of '·' as *and*.

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-0-521-09938-7 - Presupposition and the Delimitation of Semantics
Ruth M. Kempson
Excerpt
More information

representation of determiners, numerals, and quantifiers. The exact nature of these I will leave until after a discussion of determiners in chapter 6. The only substantial difference between the formulation used here and that of Bierwisch is on the question of selectional properties, which I have argued are identical to the inherent properties of a lexical item (cf. 1.2).

Each of the lexical entries given here depends on some form of redundancy rule completing the specification of its meaning. For example:

[HUMAN]X⟶[ANIMATE]X
[ANIMATE]X⟶[CONCRETE]X

In fact the lexical entry for *rush* given above could be simplified if the following redundancy rule was taken into account:

[ACTIVITY . MOTION]X⟶[[PHYSICAL]ACTIVITY]X[1]

The need for these rules is very generally recognised. However their complexity has been discussed in detail only by Bierwisch (1969), who points out that many redundancy rules must be of a form

[M]⟶[[M]N]

rather than a mere addition of features. Thus for example a full specification of *woman* would not be in the form:

[FEMALE]X . [HUMAN]X . [ANIMATE]X .
[CONCRETE]X . [ADULT]X

but rather in the more complex hierarchical form:

[[[FEMALE . HUMAN . ADULT]ANIMATE]CONCRETE]X

since the minimal entry [FEMALE]X . [HUMAN]X . [ADULT]X would be subject to redundancy rules:

[FEMALE]X⟶[[FEMALE]ANIMATE]X
[HUMAN]X⟶[[HUMAN]ANIMATE]X
[ADULT]X⟶[[ADULT]ANIMATE]X
[ANIMATE]X⟶[[ANIMATE]CONCRETE]X[2]

This hierarchy is not only needed to account for relations of inclusion between properties but also to account for the behaviour of semantic complexes under negation (cf. 1.3.3 below).

[1] Cf. Bierwisch 1969, pp. 170–1.
[2] Bierwisch's formulation is:
[[RED]*] v [[BLUE]*] v [[GREEN]*] v ... → [COLOUR]
but the difference is not substantive ('*' is interpreted as a place-holder for the more inclusive term). I have preferred the simpler formulation for purposes of clarity.

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-0-521-09938-7 - Presupposition and the Delimitation of Semantics
Ruth M. Kempson
Excerpt
More information

1.3.2 On the nature of the projection rules. The rules providing the semantic interpretation of a sentence are dependent on this semantic specification of the lexical items as fully interpreted by the redundancy rules, and their syntactic relations as defined by the deep structure phrase-marker. In addition, Bierwisch's system of interpretive rules depends on all noun phrases having a reference index as part of their deep-structure specification.[1] These reference indices are substituted for the grammatical index specified in the lexical entry and all the

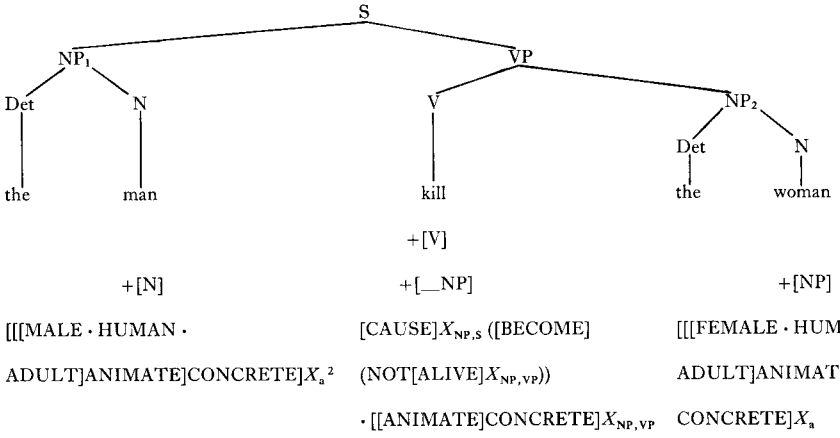

Fig. 1

components are combined to form an unordered conjoint set (i.e. joined by '.'). These so-called projection rules are constrained by the syntactic indices on the lexical items. These must match the noun phrase whose referential index is to be substituted (in the case of a noun, the grammatical index must match the noun phrase immediately dominating it). Thus for example the phrase marker in Fig. 1 is interpreted as:

[[[MALE . HUMAN . ADULT]ANIMATE]CONCRETE]X_1 .
[[[FEMALE . HUMAN .
ADULT]ANIMATE]CONCRETE]X_2 .
[CAUSE]X_1([BECOME](NOT[ALIVE]X_2)) .
[[ANIMATE]CONCRETE]X_2[3]

[1] Cf. 2.3.2 below for an independent justification of this position. Exceptions to this general statement are considered on p. 111.

[2] a = [NP,S] v [NP,VP] v [NP,PP], where 'v' here and in all subsequent formulations corresponds to logically inclusive *or*.

[3] I ignore here the problem of the definite article. For a more detailed analysis see chapters 5–6.

© in this web service Cambridge University Press www.cambridge.org