



**HAL**  
open science

## Pragmatics and Semantics

François Recanati

► **To cite this version:**

François Recanati. Pragmatics and Semantics. Larry Horn, Gregory Ward. Handbook of Pragmatics, Blackwell, 2002. ijn\_00000091

**HAL Id: ijn\_00000091**

**[https://hal.science/ijn\\_00000091](https://hal.science/ijn_00000091)**

Submitted on 27 Jun 2002

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

## Pragmatics and Semantics

François Recanati  
 Institut Jean Nicod (CNRS)  
 1bis avenue de Lowendal  
 75007 Paris, France

Around the middle of the twentieth century, there were two opposing camps within the analytic philosophy of language. The first camp — IDEAL LANGUAGE PHILOSOPHY, as it was then called — was that of the pioneers, Frege, Russell, Carnap, Tarski, etc. They were, first and foremost, logicians studying formal languages and, through them, “language” in general. They were not originally concerned with natural language, which they thought defective in various ways;<sup>1</sup> yet, in the sixties, some of their disciples established the relevance of their methods to the detailed study of natural language (Montague 1974; Davidson 1984). Their efforts gave rise to contemporary FORMAL SEMANTICS, a very active discipline developed jointly by logicians, philosophers, and grammarians.

The other camp was that of so-called ORDINARY LANGUAGE PHILOSOPHERS, who thought important features of natural language were not revealed but hidden by the logical approach initiated by Frege and Russell. They advocated a more descriptive approach and emphasized the pragmatic nature of natural language as opposed to, say, the formal language of *Principia Mathematica*. Their own work<sup>2</sup> gave rise to

---

<sup>1</sup> There are a few exceptions. The most important one is Reichenbach, whose insightful “Analysis of conversational language” was published in 1947 as a chapter — the longest — in his *Elements of Symbolic Logic*.

<sup>2</sup> The most influential authors were Austin, Strawson, Grice, and the later Wittgenstein. Grice is a special case, for he thought the two approaches were not incompatible but complementary.

contemporary pragmatics, a discipline which, like formal semantics, developed successfully within linguistics in the past forty years.

Central in the ideal language tradition had been the equation of, or at least the close connection between, the meaning of a sentence and its truth conditions. This truth-conditional approach to meaning is perpetuated, to a large extent, in contemporary formal semantics. On this approach a language is viewed as a system of rules or conventions, in virtue of which (i) certain assemblages of symbols count as well-formed sentences, and (ii) sentences have meanings which are determined by the meanings of their parts and the way they are put together. Meaning itself is patterned after reference. The meaning of a simple symbol is the conventional assignment of a worldly entity to that symbol: for example, names are assigned objects, monadic predicates are assigned properties or sets of objects, etc. The meaning of a sentence, determined by the meanings of its constituents and the way they are put together, is equated with its truth conditions. For example, the subject-predicate construction is associated with a semantic rule for determining the truth conditions of a subject-predicate sentence on the basis of the meaning assigned to the subject and that assigned to the predicate. On this picture, knowing a language is like knowing a theory by means of which one can deductively establish the truth conditions of any sentence of that language.

This truth-conditional approach to meaning is one of the things which ordinary language philosophers found quite unpalatable. According to them, reference and truth cannot be ascribed to linguistic expressions in abstraction from their use. In vacuo, words do not refer and sentences do not have truth conditions. Words-world relations are established through, and indissociable from, the use of language. It is therefore misleading to construe the meaning of a word as some worldly entity that it represents or, more generally, as its truth-conditional contribution. The meaning of a word, insofar as there is such a thing, should rather be equated with its use-potential or its use-conditions. In any case, what must be studied primarily is speech: the activity of saying things. Then we will be in a position to understand language, the instrument we use in speech. Austin's theory of speech acts and Grice's theory of speaker's meaning were

both meant to provide the foundation for a theory of language, or at least for a theory of linguistic meaning.

Despite the early antagonism I have just described, semantics (the formal study of meaning and truth conditions) and pragmatics (the study of language in use) are now conceived of as complementary disciplines, shedding light on different aspects of language. The heated arguments between ideal language philosophers and ordinary language philosophers are almost forgotten. Almost, but not totally: as we shall see, the ongoing debate about the best delimitation of the respective territories of semantics and pragmatics betrays the persistence of two recognizable currents or approaches within contemporary theorizing.

### **1. Abstracting semantics from pragmatics: the Carnapian approach**

The semantics/pragmatics distinction was first explicitly introduced by philosophers in the ideal language tradition. According to Charles Morris, who was influenced by Peirce, the basic ‘semiotic’ relation is triadic: a linguistic expression is used to communicate something to someone. Within that complex relation several dimensions can be isolated:

In terms of the three correlates (sign vehicle, designatum, interpreter) of the triadic relation of semiosis, a number of other dyadic relations may be abstracted for study. One may study the relations of signs to the objects to which the signs are applicable. This relation will be called the *semantical dimension of semiosis*...The study of this dimension will be called *semantics*. Or the subject of study may be the relation of signs to interpreters. This relation will be called the *pragmatical dimension of semiosis*,...and the study of this dimension will be named *pragmatics*...The formal relation of signs to one another...will be called the *syntactical dimension of semiosis*,...and the study of this dimension will be named *syntactics*.

(Morris 1938: 6-7)

Carnap took up Morris’s distinction and introduced an order among the three disciplines, based on their degree of abstractness. In semantics we abstract away from

more aspects of language than we do in pragmatics, and in syntax we abstract away from more aspects than in semantics:

If in an investigation explicit reference is made to the speaker, or, to put it in more general terms, to the user of a language, then we assign it to the field of pragmatics. (...) If we abstract from the user of the language and analyze only the expressions and their designata, we are in the field of semantics. And if, finally, we abstract from the designata also and analyze only the relations between the expressions, we are in (logical) syntax. (Carnap 1942: 9)

In the theorist's reconstruction of the phenomenon, we start with the most abstract layer (syntax) and enrich it progressively, moving from syntax to semantics and from semantics to pragmatics. Syntax provides the input to semantics, which provides the input to pragmatics.

In what sense is it possible to separate the relation between words and the world from the use of words? There is no doubt that the relations between words and the world hold only in virtue of the use which is made of the words in the relevant speech community: meaning supervenes on use.<sup>3</sup> That is something the logical empiricists fully admitted. Still, a distinction must be made between two things: the conventional relations between words and what they mean, and the **pragmatic basis** for those relations. Though they are rooted in, and emerge from, the use of words in actual speech situations, the conventional relations between words and what they mean can be studied in abstraction from use. Such an abstract study constitutes semantics. The study of the pragmatic basis of semantics is a **different** study, which belongs to pragmatics or (as Kaplan puts it) METASEMANTICS:

---

<sup>3</sup> “The relations of reference which are studied in semantics are neither directly observable nor independent of what men do and decide. These relations are in some sense themselves established and ‘upheld’ through human behavior and human institutions... In order to understand fully the basis of semantics, we are thus led to inquire into the uses of our symbols which bring out the ways in which the representative function of our language comes about.” (Hintikka 1968: 17-18)

The fact that a word or phrase *has* a certain meaning clearly belongs to semantics. On the other hand, a claim about the *basis* for ascribing a certain meaning to a word or phrase does not belong to semantics. (...) Perhaps, because it relates to how the language is used, it should be categorized as part of (...) *pragmatics* ..., or perhaps, because it is a fact *about* semantics, as part of (...) *Metasemantics*.  
(Kaplan 1989b: 574)

In the same Carnapian spirit Stalnaker distinguishes between DESCRIPTIVE semantics and FOUNDATIONAL semantics:

“Descriptive semantics”... says what the semantics for the language is, without saying what it is about the practice of using that language that explains why that semantics is the right one. A descriptive-semantic theory assigns *semantic values* to the expressions of the language, and explains how the semantic values of the complex expressions are a function of the semantic values of their parts.(...)  
Foundational semantics [says] what the facts are that give expressions their semantic values, or more generally, (...) what makes it the case that the language spoken by a particular individual or community has a particular descriptive semantics. (Stalnaker 1997: 535)<sup>4</sup>

---

<sup>4</sup>David Lewis makes a similar distinction. A language, Lewis says, is “a set-theoretic abstraction which can be discussed in complete abstraction from human affairs” (1983: 176). More precisely it is “a set of ordered pairs of strings (sentences) and meanings” (1983: 163). On the other hand language (as opposed to “a language”) is “a social phenomenon which is part of the natural history of human beings; a sphere of human action, wherein people utter strings of vocal sounds, or inscribe strings of marks, and wherein people respond by thought or action to the sounds or marks which they observe to have been so produced” (1983: 164). When we observe the social phenomenon, we note regularities, some of which are conventions in the sense of Lewis 1969. To provide a proper characterization of the linguistic conventions in force in the community we need the abstract notion of language: we need to be able to abstractly specify a certain language L in order to characterize the speech habits of a community P by saying that they are using that language and conforming to conventions involving it.

The uses of linguistic forms on which their semantics depends, and which therefore constitute the pragmatic basis for their semantics, are their **past** uses: what an expression means at time  $t$  in a given community depends upon the history of its uses before  $t$  in the community. But of course, pragmatics is not merely concerned with past uses. Beside the past uses of words (and constructions) that determine the conventional meaning of a given sentence, there is another type of use that is of primary concern to pragmatics: the current use of the sentence by the speaker who actually utters it. That use cannot affect what the sentence conventionally means, but it determines another form of meaning which clearly falls within the province of pragmatics: what **the speaker** means when he says what he says, in the context at hand. That is something that can easily be separated from the (conventional) meaning of the sentence. To determine “what the speaker means” is to answer questions such as: Was John’s utterance intended as a piece of advice or as a threat? By saying that it was late, did Mary mean that I should have left earlier? Like the pragmatic basis of semantics, dimensions of language use such as illocutionary force (Austin, Searle) and conversational implicature (Grice) can be dealt with in pragmatics without interfering with the properly semantic study of the relations between words and their designata. So the story goes.

There are two major difficulties with this approach to the semantics/pragmatics distinction — the Carnapian approach, as I will henceforth call it. The first one is due to the fact that the conventional meaning of linguistic forms is not exhausted by their relation to designata. Some linguistic forms (e.g. *goodbye*, or the imperative mood) have a “pragmatic” rather than a “semantic” meaning: they have use-conditions but do not “represent” anything and hence do not contribute to the utterance’s truth conditions. Because there are such expressions — and because arguably there are many of them and every sentence contains at least one — we have to choose: either semantics is defined as the study of conventional meaning, or it is defined as the study of words-world relations. We can’t have it both ways. If, sticking to Carnap’s definition, we opt for the latter option, we shall have to acknowledge that “semantics”, in the sense of

Carnap, does not provide a complete (descriptive) account of the conventional significance of linguistic forms. The second difficulty is more devastating. It was emphasized by Yehoshua Bar-Hillel, a follower of Carnap who wanted to apply his ideas to natural language. Carnap explicitly said he was dealing “only with languages which contain *no expressions dependent upon extra-linguistic factors*” (Carnap 1937: 168). Bar-Hillel lamented that this “restricts highly the immediate applicability” of Carnap’s views to natural languages since “the overwhelming majority of the sentences in these languages are *indexical*, i.e. dependent upon extra-linguistic factors” (Bar-Hillel 1970: 123). In particular, Carnap’s view that words-world relations can be studied in abstraction from use is no longer tenable once we turn to indexical languages; for the relations between words and their designata are mediated by the (current) context of use in such languages.

The abstraction from the pragmatic context, which is precisely the step taken from descriptive pragmatics to descriptive semantics, is legitimate only when the pragmatic context is (more or less) irrelevant and defensible as a tentative step only when this context can be assumed to be irrelevant. (Bar-Hillel 1970: 70)

Since most natural language sentences are indexical, the abstraction is illegitimate. This leaves us with a number of (more or less equivalent) options:

1. We can make the denotation relation irreducibly triadic. Instead of saying that words denote things, we will say that they denote things “with respect to” contexts of use.
2. We can maintain that the denotation relation is dyadic, but change the first relatum—the *denotans*, as we might say — so that it is no longer an expression-type, but a particular occurrence of an expression, i.e. an ordered pair consisting of an expression and a context of use.
3. We can change the second relatum of the dyadic relation: instead of pairing expressions of the language with worldly entities denoted by them, we can pair them with functions from contexts to denotata.



Whichever option we choose — and, again, they amount to more or less the same thing — we are no longer doing “semantics” in Carnap’s restricted sense. Rather, we are doing pragmatics, since we take account of the context of use. Formal work on the extension of the Tarskian truth-definition to indexical languages has thus been called (FORMAL) PRAGMATICS, following Carnap’s usage (Montague 1968). As Gazdar (1979: 2-3) pointed out, a drawback of that usage is that there no longer is a contrast between “semantics” and “pragmatics”, as far as natural language is concerned: there is no “semantics” for natural language (and for indexical languages more generally), but only two fields of study: syntax and pragmatics.

## **2. Meaning and speech acts**

Can we save the semantics/pragmatics distinction? Yes: we can give up Carnap’s definition of semantics as the study of words-world relations, and define it instead as the study of the conventional, linguistic meaning of expression-types. According to Jerrold Katz, who made that view explicit, “Pragmatic phenomena [are] those in which knowledge of the setting or context of an utterance plays a role in how utterances are understood”; in contrast, semantics deals with “what an ideal speaker would know about the meaning of a sentence when no information is available about its context” (Katz 1977: 14). This view has been, and still is, very influential. Semantics thus understood does not (fully) determine words-world relation, but it constrains them (Katz 1975: 115-16).

Because of indexicality and related phenomena, purely linguistic knowledge is insufficient to determine the truth conditions of an utterance. That much is commonly accepted. What semantics assigns to expression-types, independent of context, is not a fully-fledged content but a linguistic meaning or CHARACTER that can be formally represented as a function from contexts to contents (Kaplan 1989a: Stalnaker 1999, part 1). Thus the meaning of the pronoun *I* is the rule that, in context, an occurrence of *I* refers to the producer of that occurrence.

Insofar as their character or linguistic meaning can be described as a rule of use, indexical expressions are not as different as we may have thought from those expressions whose meaning is purely “pragmatic”. What is the meaning of, say, the imperative mood? Arguably, the sentences “You will go to the store tomorrow at 8”, “Will you go to the store tomorrow at 8?”, and “Go to the store tomorrow at 8” all have the same descriptive content. The difference between them is pragmatic: it relates to the type of illocutionary act performed by the utterance. Thus the imperative mood indicates that the speaker, in uttering the sentence, performs an illocutionary act of a “directive” type. To account for this non-truth-conditional indication we can posit a rule to the effect that the imperative mood is to be used only if one is performing a directive type of illocutionary act. This rule gives **conditions of use** for the imperative mood. By virtue of this rule, a particular token of the imperative mood in an utterance *u* “indicates” that a directive type of speech act is being performed by *u*. This reflexive indication conveyed by the token follows from the conditions of use which govern the type. The same sort of USE-CONDITIONAL analysis can be provided for e.g. discourse particles such as *well*, *still*, *after all*, *anyway*, *therefore*, *alas*, *oh*, and so forth, whose meaning is pragmatic rather than truth-conditional.

There still is a difference between indexical expressions and fully pragmatic expressions such as the imperative mood. In both cases the meaning of the expression-type is best construed as a rule of use. Thus *I* is to be used to refer to the speaker, just as the imperative mood is to be used to perform a certain type of speech act. By virtue of the rule in question, a use *u* of *I* reflexively indicates that it refers to the speaker of *u*, just as a use *u* of the imperative mood indicates that the utterer of *u* is performing a directive type of speech act. But in the case of *I* the token does not merely convey that reflexive indication: it also contributes its referent to the utterance’s truth-conditional content. In contrast, the imperative mood does not contribute to the truth-conditional (or, more generally, descriptive) content of the utterances in which it occurs. In general, pragmatic expressions do not contribute to the determination of the content of the

utterance, but to the determination of its “force” or of other aspects of utterance meaning external to descriptive content.

It turns out that there are (at least) three different types of expression. Some expressions have a purely denotative meaning: their meaning is a worldly entity which they denote. For example, *square* denotes the property of being square. Other expressions, such as the imperative mood, have a purely pragmatic meaning. They have conditions of use but make no contribution to content. Finally, there are expressions which, like indexicals, have conditions of use but contribute to truth conditions nevertheless. (The expression-**type** has conditions of use; the expression-**token** contributes to truth conditions.)

This diversity can be overcome and some unification achieved. First, we can generalize the content/character distinction even to nonindexical expressions like *square*. We can say that every linguistic expression is endowed with a character that contextually determines its content. Nonindexical expressions will be handled as a particular case: the case in which the character is “stable” and determines the same content in every context. Second, every expression, whether or not it contributes to truth-conditional content, can be construed as doing basically the same thing—namely, helping the hearer to understand which speech act is performed by an utterance of the sentence. A speech act typically consists of two major components: a content and a force (Searle 1969). Some elements in the sentence indicate the force of the speech act which the sentence can be used to perform, while other elements give indications concerning the content of the speech act. Unification of the two sorts of elements is therefore achieved by equating the meaning of a sentence with its speech act potential.

On the view we end up with — the speech-act theoretic view — semantics deals with the conventional meaning of expressions, the conventional meaning of expressions is their contribution to the meaning of the sentences in which they occur, and the meaning of sentences is their speech act potential. Pragmatics studies speech acts, and semantics maps sentences onto the type of speech act they are designed to perform. It follows that there are two basic disciplines in the study of language: syntax and

pragmatics. Semantics connects them by assigning speech act potentials to well-formed sentences, hence it presupposes both syntax and pragmatics. In contrast to the Carnapian view, according to which semantics presupposes only syntax, on the speech-act theoretic view semantics is not autonomous with respect to pragmatics:

There is no way to account for the meaning of a sentence without considering its role in communication, since the two are essentially connected... Syntax can be studied as a formal system independent of its use (...), but as soon as we attempt to account for meaning, for semantic competence, such a purely formalistic approach breaks down, because it cannot account for the fact that semantic competence is mostly a matter of knowing how to talk, i.e. how to perform speech acts.

(Searle, "Chomsky's Revolution in Linguistics", cited in Katz 1977: 26)

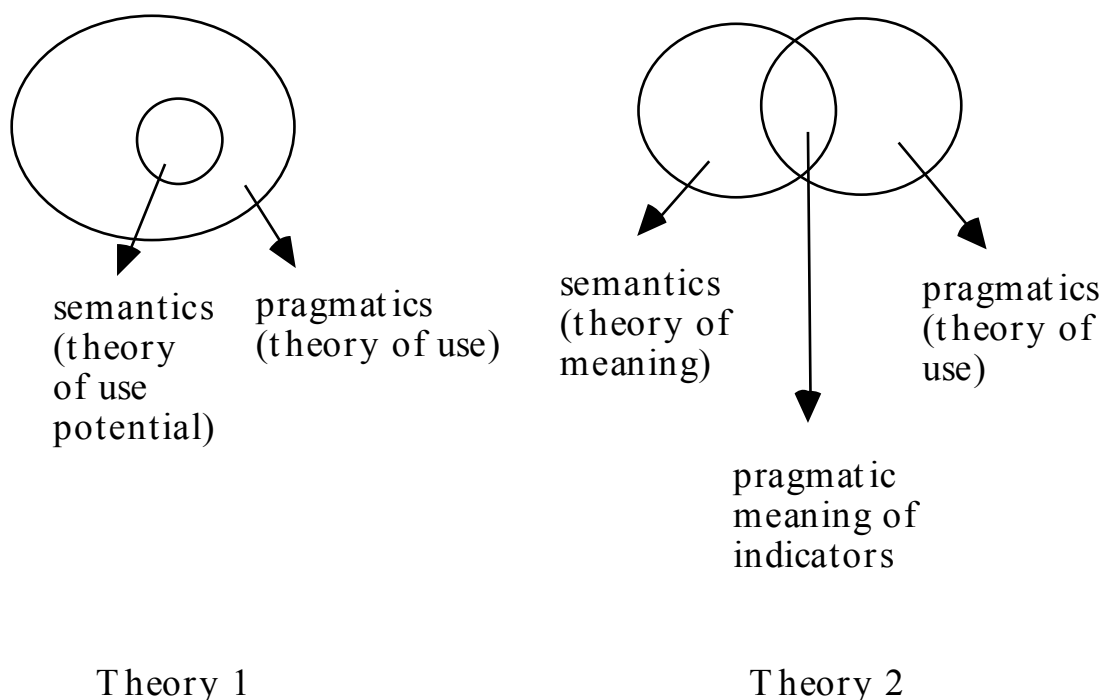
There are other possible views, however. We can construe semantics as an autonomous discipline which maps sentences to the type of thought they express or the type of state of affairs they describe. That mapping is independent from the fact that sentences are used to perform speech acts. Note that communication is not the only possible use we can make of language; we can also use language in reasoning, for example. Be that as it may, whoever utters a given sentence — for whatever purposes — expresses a thought or describes a state of affairs, in virtue of the semantics of the sentence (and the context).<sup>5</sup> Let us assume that the sentence is uttered in a situation of communication. Depending on the audience-directed intentions that motivate the overt expression of the thought or the overt description of a state of affairs in that situation, different speech acts will be performed. Those audience-directed intentions determine the force of the speech act, while the thought expressed by the sentence or the state of affairs it describes determines its content. In this framework, pragmatic indicators like the imperative mood can be construed as conventional ways of making the relevant

---

<sup>5</sup> Because of indexicality, a sentence expresses a complete thought or describes a complete state of affairs only with respect to a particular context; but that determination is independent from issues concerning illocutionary force.

audience-directed intentions manifest. Their meaning, in contrast to the meaning of ordinary words like *square*, will be inseparable from the speech act the sentence can be used to perform. It is therefore not the overall meaning of the sentence which must be equated with its speech act potential. The major part of linguistic meaning maps linguistic forms to conceptual representations in the mind or to things in the world in total independence from communication. It is only a small subset of linguistic expressions, namely the pragmatic indicators and other expressions (including indexicals) endowed with use-conditional meaning, whose semantics is essentially connected with their communicative function.

Whichever theory we accept, semantics (the study of linguistic meaning) and pragmatics (the study of language use) overlap to some extent (see Figure 1). That overlap is limited for the theories of the second type: the meaning of a restricted class of expressions consists in conditions of use and therefore must be dealt with both in the theory of use and the theory of meaning. According to the first type of theory, there is more than partial overlap: every expression has a use-conditional meaning. Since, for that type of theory, the meaning of a sentence is its speech act potential, semantics is best construed as a sub-part of speech act theory.



*Figure 1*

### 3. Literal meaning vs. Speaker's meaning

Let us take stock. The view discussed in section 1 was based on the following assumptions:

- (i) semantics and pragmatics are two complementary, non-overlapping disciplines.
- (ii) pragmatics deals with the use of language.
- (iii) semantics deals with content and truth conditions.

Since words-world relations in natural language (hence content and truth conditions) cannot be studied in abstraction from use, those assumptions form an inconsistent triad — or so it seems. Semantics cannot be legitimately contrasted with pragmatics, defined as the theory of use, if semantics itself is defined as the study of words-world relations.

In section 2 we entertained the possibility of giving up (iii). Following Katz, we can retreat to the view that semantics deals with the conventional meaning of expression-types (rather than with content and truth conditions). But we have just seen that the meaning of at least some expressions is best construed as a convention governing their use. It follows that the theory of meaning and the theory of use are inextricably intertwined, in a manner that seems hardly compatible with (i). Be that as it may, most semanticists are reluctant to give up (iii). For both philosophical and technical reasons, they think the denotation relation must be the cornerstone of a theory of meaning. As David Lewis wrote in a famous passage, “semantics with no treatment of truth conditions is not semantics” (Lewis 1983: 190). I will return to that point below (§4).

An attempt can be made to save the triad, by focusing on the distinction between LITERAL MEANING and SPEAKER'S MEANING. What a sentence literally means is

determined by the rules of the language — those rules which the semanticist attempts to capture. But what the speaker means by his utterance is not determined by rules. As Grice emphasized, speaker's meaning is a matter of intentions: what someone means is what he or she overtly intends (or, as Grice says, "M-intends") to get across through his or her utterance. Communication succeeds when the M-intentions of the speaker are recognized by the hearer.

This suggests that two distinct and radically different processes are jointly involved in the interpretation of linguistic utterances. The process of SEMANTIC INTERPRETATION is specifically linguistic. It consists in applying the tacit "theory" that speakers-hearers are said to possess, and that formal semantics tries to make explicit, to the sentence undergoing interpretation. By applying the theory, one can deductively establish the truth conditions of any sentence of the language. To do so, it is argued, one does not need to take the speaker's beliefs and intentions into account: one has simply to apply the rules. In contrast, the type of competence that underlies the process of PRAGMATIC INTERPRETATION is not specifically linguistic. Pragmatic interpretation is involved in the understanding of human action in general. When someone acts, whether linguistically or otherwise, there is a reason why he does what he does. To provide an interpretation for the action is to find that reason, that is, to ascribe to the agent a particular intention in terms of which we can make sense of the action.

Pragmatic interpretation thus construed is characterized by the following three properties:

- **CHARITY.** Pragmatic interpretation is possible only if we presuppose that the agent is rational. To interpret an action, we have to make hypotheses concerning the agent's beliefs and desires, hypotheses in virtue of which it can be deemed rational for the agent to behave as she does.
- **NONMONOTONICITY.** Pragmatic interpretation is defeasible. The best explanation we can offer for an action given the available evidence can always be overridden if enough new evidence is adduced to account for the subject's behaviour.

- **HOLISM.** Because of its defeasibility, there is no limit to the amount of contextual information that can in principle affect pragmatic interpretation. Any piece of information can turn out to be relevant and influence the outcome of pragmatic interpretation.

The three features go together. Jointly they constitute what we might call the HERMENEUTIC character of pragmatic interpretation. It strikingly contrasts with the algorithmic, mechanical character of semantic interpretation.

It is important to realize that, on this view (which I will shortly criticize), semantic competence involves more than the ability to determine the context-independent meaning of any well-formed expression in the language. It also involves the ability to assign values to indexical expressions in context. Those assignments are themselves determined by linguistic rules, which linguistic rules constitute the context-independent meaning of indexical expressions. In virtue of its linguistic meaning, an indexical expression like *I* tells you three things: (i) that it needs to be contextually assigned a value; (ii) which aspect of the situation of utterance is relevant to determining that value; and (iii) how the value of the indexical can be calculated once the relevant feature of the context has been identified. If one adds to one's knowledge of the language a minimal knowledge of the situation of utterance — the sort of knowledge which is available to speech participants *qua* speech participants — one is in a position to assign contextual values to indexicals, hence to determine the truth conditions of the utterance.

From what has been said, it follows that the context of use plays a role both in semantic and in pragmatic interpretation. But it plays very different roles in each, and it can even be denied that there is a single notion of “context” corresponding to the two roles. According to Kent Bach, there are two notions of context: a narrow and a broad one, corresponding to semantic and pragmatic interpretation respectively.

Wide context concerns any contextual information relevant to determining the speaker's intention and to the successful and felicitous performance of the speech act... Narrow context concerns information specifically relevant to determining the



semantic values of [indexicals]... Narrow context is semantic, wide context pragmatic.<sup>6</sup>

In contrast to the wide context, which is virtually limitless in the sense that any piece of information can affect pragmatic interpretation, the narrow context is a small package of factors involving only very limited aspects of the actual situation of utterance: who speaks, when, where, to whom, and so forth. It comes into play only to help determine the reference of those few expressions whose reference is not fixed directly by the rules of the language but is fixed by them only “relative to context”. And it does so in the algorithmic and non-hermeneutical manner which is characteristic of semantic interpretation as opposed to pragmatic interpretation. The narrow context determines, say, that *I* refers to John when John says *I* quite irrespective of John’s beliefs and intentions. As Barwise and Perry write, “even if I am fully convinced that I am Napoleon, my use of ‘I’ designates me, not him. Similarly, I may be fully convinced that it is 1789, but it does not make my use of ‘now’ about a time in 1789” (Barwise and Perry 1983: 148).

The view I have just described is very widespread and deserves to be called the Standard Picture (SP). It enables the theorist to maintain the three assumptions listed at the beginning of this section. Semantics and pragmatics each has its own field of study. Semantics deals with literal meaning and truth conditions; pragmatics deals with speech acts and speaker’s meaning. To be sure, the “context” plays a role in semantic interpretation, because of the context-dependence of truth-conditional content. But that is not sufficient to threaten assumption (i). Because of context-dependence, semantics cannot deal merely with sentence-types: it must deal with OCCURRENCES or sentences-in-context. But this, as Kaplan writes, “is not the same as the notion, from the theory of speech acts, of an utterance of an expression by the agent of a context” (Kaplan 1989b: 584):

---

<sup>6</sup> From the handout of a talk on ‘Semantics vs Pragmatics’, delivered in 1996 and subsequently published as Bach 1997. See also Bach (this volume).

An occurrence requires no utterance. Utterances take time, and are produced one at a time; this will not do for the analysis of validity. By the time an agent finished uttering a very, very long true premise and began uttering the conclusion, the premise may have gone false... Also, there are sentences which express a truth in certain contexts, but not if uttered. For example, 'I say nothing'.\*\*\*\* Logic and semantics are concerned not with the vagaries of actions, but with the verities of meanings. (Kaplan 1989b: 584-5)

Moreover, as we have seen, the context which is appealed to in semantic interpretation differs from the "wide" context which features in pragmatic interpretation. Semantics deals with occurrences, narrow contexts, and literal meaning; pragmatics deals with utterances, wide contexts, and speaker's meaning. Appearances notwithstanding, the two types of study do not overlap.

#### 4. Semantic underdetermination

Even though it is the dominant view, SP has come under sustained attack during the last fifteen years, and an alternative picture has been put forward: TRUTH-CONDITIONAL PRAGMATICS (TCP). From SP, TCP inherits the idea that two different sorts of competence are jointly at work in interlocution: a properly linguistic competence in virtue of which we access the meaning of the sentence, and a more general-purpose competence in virtue of which we can make sense of the utterance much as we make sense of a nonlinguistic action. What TCP rejects is the claim that semantic interpretation can deliver something as determinate as a truth-evaluable proposition. As against SP, TCP holds that full-blown pragmatic interpretation is needed to determine an utterance's truth conditions.

Recall that, on the Standard Picture, the reference of indexicals is determined automatically on the basis of a linguistic rule, without taking the speaker's beliefs and intentions into consideration. Now this may be true of some of the expressions that Kaplan (1989a) classifies as **pure indexicals** (e.g. *I, now, here*) but it is certainly not true of those which he calls **demonstratives** (e.g. *he, she, this, that*). The reference of a

demonstrative cannot be determined by a rule, like the rule that *I* refers to the speaker. It is generally assumed that there is such a rule, namely the rule that the demonstrative refers to the object which happens to be demonstrated or which happens to be the most salient, in the context at hand. But the notions of “demonstration” and “salience” are pragmatic notions in disguise. They cannot be cashed out in terms merely of the narrow context. Ultimately, a demonstrative refers to **what the speaker who uses it refers to by using it.**

To be sure, one can make that into a semantic rule. One can say that the “character” of a demonstrative is the rule that it refers to what the speaker intends to refer to. As a result, one will incorporate a sequence of “speaker’s intended referents” into the narrow context, in such a way that the  $n^{\text{th}}$  demonstrative in the sentence will refer to the  $n^{\text{th}}$  member of the sequence. Formally that is fine, but philosophically it is clear that one is cheating. We pretend that we can manage with a limited, **narrow** notion of context of the sort we need for handling pure indexicals, while in fact we can only determine the speaker’s intended referent (hence the narrow context relevant to the interpretation of the utterance) by resorting to pragmatic interpretation and relying on the **wide** context.

We encounter the same problem even with expressions like *here* and *now* which Kaplan classifies as **pure** indexicals (rather than demonstratives). Their semantic value is said to be the time or place of the context respectively. But what counts as the time and place of the context? How inclusive must the time or place in question be? It depends on what the speaker means, hence, again, on the wide context. We can maintain that the character of *here* and *now* is the rule that the expression refers to “the” time or “the” place of the context — a rule that automatically determines a content, given a (narrow) context in which the time and place parameters are given specific values; but then we have to let a pragmatic process take place to fix the values in question, that is, to determine WHICH narrow context, among indefinitely many candidates compatible with the facts of the utterance, serves as argument to the character function. On the resulting view the (narrow) context with respect to which an

utterance is interpreted is not **given**, it is not determined automatically by objective facts like where and when the utterance takes place, but it is determined by the speaker's intention and the wide context. Again we reach the conclusion that, formal tricks notwithstanding, pragmatic interpretation has a role to play in determining the content of the utterance.

The alleged automaticity of content-determination and its independence from pragmatic considerations is an illusion due to an excessive concern with a sub-class of “pure indexicals”, namely words such as *I*, *today* etc. But they are only a special case — the end of a spectrum. In most cases the reference of a context-sensitive expression is determined on a pragmatic basis. That is true not only of standard indexical expressions, but also of many constructions involving something like a free variable. For example, a possessive phrase such as *John's car* arguably means something like ‘the car that bears relation *R* to John’. The free variable *R* must be contextually assigned a particular value; but that value is not determined by a rule and it is not a function of a particular aspect of the narrow context. What a given occurrence of the phrase *John's car* means ultimately depends upon what the speaker who utters it means. It therefore depends upon the wide context. That dependence upon the wide context is a characteristic feature of semantically indeterminate expressions, which are pervasive in natural language. Their semantic value varies from occurrence to occurrence, yet it varies not as a function of some objective feature of the narrow context but as a function of **what the speaker means**. It follows that semantic interpretation by itself cannot determine what is said by a sentence containing such an expression: for the semantic value of the expression — its own contribution to what is said — is a matter of speaker's meaning, and can only be determined by pragmatic interpretation.

Once again, we find that semantics by itself cannot determine truth conditions. Content and truth conditions are, to a large extent, a matter of pragmatics. That is the gist of TCP. Consequently, most advocates of TCP hold a view of semantics which is reminiscent of that put forward by Katz. According to Sperber and Wilson (1986) and other “relevance theorists”, semantics associates sentences with semantic

representations which are highly schematic and fall short of determining truth-conditional content. Those semantic representations, which they call LOGICAL FORMS, are transformed into complete, truth-evaluable representations (which they call PROPOSITIONAL FORMS) through inferential processes characteristic of pragmatic interpretation. (Chomsky holds a similar view, based on a distinction between the logical form of a sentence, determined by the grammar, and a richer semantic representation associated with that sentence as a result, in part, of pragmatic interpretation. See Chomsky 1976: 305-306.)

This view of semantics is one which most semanticists dislike. In contrast to Katz, leading semanticists like Lewis, Cresswell, and Davidson hold that “interpreting” a representation is NOT a matter of associating it with another type of representation (whether mental or linguistic). “Semantic interpretation [thus construed] amounts merely to a translation algorithm”, it is “at best a substitute for real semantics” (Lewis 1983: 190). Real semantics maps symbols to worldly entities — things that the representations may be said to represent.

Relevance theorists apparently bite the bullet. They accept that linguistic semantics (which maps sentences to abstract representations serving as linguistic meanings) is not real semantics in the sense of the model-theoretic tradition descended from Frege, Tarski, Carnap and others. But, they argue, there is no way to do real semantics directly on natural language sentences. Real semantics comes into play only after ‘linguistic semantics’ has mapped the sentence onto some abstract and incomplete representation which pragmatics can complete and enrich into a full-fledged propositional form. It is that propositional form which eventually undergoes truth-conditional interpretation. As Carston writes,

Since we are distinguishing natural language sentences and the propositional forms [i.e. the thoughts] they may be used to express as two different kinds of entity, we might consider the semantics of each individually. Speakers and hearers map incoming linguistic stimuli onto conceptual representations (logical forms), plausibly viewed themselves as formulas in a (mental) language. The language ability — knowing English — according to this view, is then precisely what Lewis and others

have derided ...: it is the ability to map linguistic forms onto logical forms... In theory this ability could exist without the further capacities involved in matching these with conditions in the world. A computer might be programmed so as to perform perfectly correct translations from English into a logical language without, as Lewis and Searle have said, knowing the first thing about the meaning (= truth conditions) of the English sentence. Distinguishing two kind of semantics in this way — a translational kind and the truth-conditional \*\*\*\*— shows... that the semantic representation of one language may be a syntactic representation in another, though the chain must end somewhere with formulas related to situations and states of the world or possible worlds.

(Carston 1988: 176-177)

There was a time when practitioners of model-theoretic semantics themselves thought their apparatus could not be transplanted from artificial to natural languages. Tarski thought so, for example. Following Davidson, Montague and others, it has become widely accepted that Tarskian methods are applicable to natural languages after all. Now it seems that pragmaticists are saying that that conclusion was premature: truth-conditional semantics, they hold, is applicable to the language of thought, but not, or not directly, to natural language sentences. Because of context-sensitivity, there must be an intermediary step involving both translational semantics and pragmatic interpretation before a given natural language sentence can be provided with a truth-conditional interpretation. “Linguistic semantics” and pragmatics together map a natural language sentence onto a mental representation which model-theoretic semantics can then (and only then) map to a state of affairs in the world.

The general picture of the comprehension process put forward by relevance theorists may well be right. But it is a mistake to suggest that the model-theoretic approach to natural language semantics and TCP are incompatible. Even if, following Lewis and Davidson, one rejects translational semantics in favour of “direct” truth-conditional semantics, one can still accept that pragmatic interpretation has a crucial role to play in determining truth conditions.

First, it should be noted that referential semantics, as Lewis calls the model-theoretic approach, can and must accommodate the phenomenon of context-sensitivity.

Because of that phenomenon, we cannot straightforwardly equate the meaning of a sentence with its truth conditions: we must retreat to the weaker view that sentence meaning **determines** truth conditions. As Lewis writes, “A meaning for a sentence is something that determines the conditions under which the sentence is true or false” (Lewis 1983: 193). That determination is **relative to** various contextual factors. Hence the meaning of a sentence can be represented as a function from context to truth conditions. Since meaning is characterized in terms of reference and truth, this still counts as referential semantics.

In this framework, the role pragmatic interpretation plays in the determination of truth-conditional content can be handled at the level of the contextual factors on which that determination depends. For example, if the truth conditions of an utterance depend upon who the speaker means by *she*, then the speaker’s intended referent can be considered as one of the contextual factors in question. To be sure, the speaker’s referent can be determined only through pragmatic interpretation. That fact, as we have seen, is incompatible with the Standard Picture, according to which semantic interpretation by itself assigns truth conditions to sentences. But it is not incompatible with referential semantics per se. From the role played by pragmatic interpretation in fixing truth conditions, all that follows is that **truth-conditional semantics has to take input from pragmatics**. That is incompatible with the claim that semantics is autonomous with respect to pragmatics (as syntax is with respect to semantics). But this claim is not essential to referential semantics. Several theorists in the model-theoretic tradition have rejected it explicitly (see e.g. Gazdar 1979: 164-8 for an early statement). As Levinson writes (2000: 242), “there is every reason to try and reconstrue the interaction between semantics and pragmatics as the intimate interlocking of distinct processes, rather than, as traditionally, in terms of the output of one being the input to the other.”

I conclude that referential semantics and TCP are compatible. We can maintain both that semantics determines truth conditions and that, in order to do so, it needs input from pragmatics. The two claims are compatible provided we give up the

assumption that semantics is autonomous with respect to pragmatics. If, for some reason, we insist on keeping that assumption, then we must indeed retreat to a translational view of semantics. Thus Carston writes: “Linguistic semantics IS autonomous with respect to pragmatics; it provides the input to pragmatic processes and the two together make propositional forms which are the input to a truth-conditional semantics” (Carston 1988: 176). But this view, which distinguishes ‘two kinds of semantics’, is not forced upon us by the simple fact that we accept TCP. We need to posit a level of “translational semantics” distinct from and additional to standard truth-conditional semantics only if, following Katz, we insist that linguistic semantics must be autonomous with respect to pragmatics.

## 5. Varieties of meaning

Meaning comes in many varieties. Some of these varieties are said to belong to the field of semantics, others to the field of pragmatics. What is the principle of the distinction? Where does the boundary lie? Before addressing these questions, let us review the evidence by actually looking at the varieties of meaning and what is said about them in the literature on the semantics/pragmatics distinction.

As we have seen, there are several **levels** of meaning. When an utterance is made, the sentence-type that is uttered possesses a linguistic meaning (level 1). More often than not, that meaning is not a complete content: to get a complete content, one must resolve indeterminacies, assign values to indexical expressions, etc. The richer meaning thus determined is the literal content of the occurrence, which depends not merely upon the conventional significance of the expression-type, but also on features of the context of use (level 2). At level 3, we find aspects of meaning that are not part of the literal content of the utterance. Those aspects of meaning are not aspects of what is **said**. Rather, the speaker manages to communicate them indirectly, BY saying what she says. Conversational implicatures and indirect speech acts fall into that category.



This division into three levels — linguistic meaning, literal content, and conveyed meaning — is incomplete and very rough, but it will do for my present purposes.

Besides the division into levels, there is a further distinction between two **types** of meaning: descriptive meaning and pragmatic meaning. Both types of meaning can be discerned at the three levels listed above. At the first level, descriptive meaning maps linguistic forms to what they represent; pragmatic meaning relates to their use and constrains the context in which they can occur. At the next level, this corresponds to the distinction between the descriptive content of the utterance (the state of affairs it represents) and its role or function in the discourse. Something similar can often be found at the third level, since what is conveyed may itself be analysable into force and content. This gives us six aspects of meaning, corresponding to the six cells in Table 1.

	descriptive meaning	pragmatic meaning
linguistic meaning	A	B
literal content	C	D
conveyed meaning	E	F

*Table 1*

In what follows I will briefly consider the six aspects in turn. Of each aspect I will ask whether, according to the literature, it pertains to semantics, to pragmatics, or to both.

In cell A, we find the descriptive meaning of expression-types (e.g. the meaning of words like *square* or *table*). That is clearly and unambiguously part of the domain of semantics. No one will disagree here. When we turn to cell B things are less clear. The pragmatic meaning of indicators pertains to semantics insofar as semantics deals with linguistic meaning. Many people hold that view. Some theorists insist on excluding that sort of meaning from semantics, because it is not relevant to truth conditions (Gazdar 1979). Even if one is convinced that semantics with no treatment of truth conditions is

not semantics, however, it seems a bit excessive and unnatural to hold that semantics deals only with truth conditions. Still, the meaning of pragmatic indicators is best handled in terms of conditions of use or in terms of constraints on the context, and that provides us with a positive reason for considering that it belongs to the field of pragmatics. This does not necessarily mean that it does not belong to semantics, however. It is certainly possible to consider that the meaning of pragmatic indicators is of concern to both semantics and pragmatics (§2).

Let us now consider the aspect of meaning that corresponds to cell D. In context, the meaning of pragmatic indicators is fleshed out and made more specific. For example, an utterance of an imperative sentence will be understood specifically as a request or as a piece of advice. Or consider the word *but*, which carries what Grice calls a CONVENTIONAL IMPLICATURE, that is, a non-truth-conditional component of meaning conventionally associated with the expression. The word *but* in the sentence type “He is rich, but I like beards” signals an argumentative contrast between “he is rich” and “I like beards”, but that contrast cannot be specified *in vacuo*. To understand the contrast, we must know which conclusion the antecedent “he is rich” is used to argue for, in the context at hand. According to Ducrot, *but* indicates that the following conditions are contextually satisfied: the first clause  $p$  supports a certain conclusion  $r$ , while the second clause  $q$  provides a stronger argument against that very same conclusion. (As a result, the whole conjunction argues against  $r$ .) Just as one must assign a referent to the third-person pronoun in order to understand the literal content of “he is rich”, in order to grasp the literal content of the conjunction “He is rich but I like beards” one must assign a value to the free variable “ $r$ ” which is part and parcel of the meaning of *but*, e.g. “...so I won’t marry him”. Yet the indication thus fleshed out remains external to the utterance’s truth-conditional content: it belongs only to the “pragmatic” side of literal content. Because that is so, and also because the specific indication conveyed by *but* heavily depends upon the context (which provides a value for the free variable), it does not feel natural to say that that aspect of the interpretation of the utterance is semantic. Many theorists hold that the conventional meaning of *but* (cell B) belongs to

semantics (as well as, perhaps, to pragmatics), but many fewer would be willing to say the same thing concerning the specific suggestion conveyed by a contextualized use of *but*. In the case of the imperative sentence which, in context, may be used either to request or to advise, the contrast is even more dramatic. As far as I can tell, no one is willing to say that the specific illocutionary force of the utterance belongs to semantics, even among those who consider the meaning of moods (cell B) as semantic.

What about the descriptive side of literal content (cell C)? That, as we have seen, belongs both to semantics and to pragmatics. Pragmatics determines the value of indexicals and other free variables, and semantics, with that input, determines truth-conditional content. Most theorists think the literal truth conditions of an utterance fall on the semantic side of the divide, however, even though pragmatics plays a crucial role. The reason for that asymmetry is that it is the words themselves which, in virtue of their conventional significance, make it necessary to appeal to context in order to assign a semantic value to the indexicals and other free variables. In interpreting indexical sentences, we go beyond what the conventions of the language give us, but that step beyond is still governed by the conventions of the language. In that sense pragmatics is subordinated to semantics in the determination of truth-conditional content.

That conclusion can be disputed, however. According to TCP, the pragmatic processes that play a role in the determination of literal content (PRIMARY pragmatic processes, as I call them) fall into two categories. The determination of the reference of indexicals and, more generally, the determination of the content of context-sensitive expressions is a typical BOTTOM-UP PROCESS, i.e. a process triggered (and made obligatory) by a linguistic expression in the sentence itself. But there are other primary pragmatic processes that are not bottom-up. Far from being triggered by an expression in the sentence, they take place for purely pragmatic reasons. To give a standard example, suppose someone asks me, at about lunch time, whether I am hungry. I reply: "I've had a very large breakfast". In this context, my utterance conversationally implicates that I am not hungry. In order to retrieve the implicature, the interpreter must first understand what is said — the input to the SECONDARY pragmatic process

responsible for implicature generation. That input is the proposition that the speaker has had a very large breakfast... when? No time is specified in the sentence, which merely describes the posited event as past. On the other hand, the implicature that the speaker is not hungry could not be derived if the said breakfast was not understood as having taken place on the very day in which the utterance is made. Here we arguably have a case where something (the temporal location of the breakfast event on the day of utterance) is part of the intuitive truth conditions of the utterance yet does not correspond to anything in the sentence itself.<sup>7</sup> If this is right, then the temporal location of the breakfast event is an UNARTICULATED CONSTITUENT of the statement made by uttering the sentence in that context.

Such unarticulated constituents, which are part of the statement made even though they correspond to nothing in the uttered sentence, are said to result from a primary pragmatic process of FREE ENRICHMENT — “free” in the sense of not being linguistically controlled (see Carston, this volume). What triggers the contextual provision of the relevant temporal specification in the above example is not something in the sentence but simply the fact that the utterance is meant as an answer to a question about the speaker’s present state of hunger (a state that can be causally affected only by a breakfast taken on the same day). While the assignment of values to indexicals is a bottom-up, linguistically controlled pragmatic process, free enrichment is a top-down, pragmatically controlled pragmatic process. Both types of process are primary since they contribute to shaping the intuitive truth conditions of the utterance, the truth conditions that in turn serve as input to secondary pragmatic processes.

Since the pragmatic processes that come into play in the determination of truth-conditional content need not be linguistically triggered, pragmatics is not subordinated to semantics in the determination of truth-conditional content. Hence truth-conditional content (cell C) is as much a matter of pragmatics as a matter of semantics, according to TCP.

---

<sup>7</sup> This is debatable. In Recanati 1993: 257-258, I suggest a possible bottom-up treatment of that example.

In order to reconcile the two views, some theorists are willing to distinguish two sorts of literal content. The first type of literal content is “minimal” in the sense that the only pragmatic processes that are allowed to affect it belong to the bottom-up variety. That minimal content is semantic, not pragmatic. Pragmatic processes play a role in shaping it, as we have seen, but they remain under semantic control. In our example, the minimal literal content is the proposition that the speaker has had a large breakfast (at some time in the past). The other notion of literal content corresponds to what I have called the “intuitive” truth conditions of the utterance. Often — as in this example — that includes unarticulated constituents resulting from free enrichment. That content is not AS literal as the minimal content, but it still corresponds to “what is said” as opposed to what the utterance merely implies. (In the example, what the speaker implies is that he is not hungry; what he says, in the nonminimal sense, is that he’s had a large breakfast **that morning**.)

Even if we accept that there are these two sorts of content, one may insist that the intuitive (nonminimal) content also is semantic, simply because it is the task of semantics to account for our truth-conditional intuitions. So there is no consensus regarding cell C. As for cells E and F, if they host only meanings that are indirectly conveyed and result from secondary pragmatic processes, there is general agreement that they fall on the pragmatic side of the divide. On the other hand, if we insist that the nonminimal content talked about above is properly located in cell E, while only the minimal content deserves to remain in cell C, then there will be disagreement concerning the semantic or pragmatic nature of the aspect of meaning corresponding to cell E. There may also be disagreement regarding the phenomenon of **generalized** conversational implicature, which belongs to semantics according to some authors, to pragmatics according to others, and to an “intermediate layer” according to still others (Levinson 2000: 22-27).

From all that, what can we conclude? The situation is very confused, obviously, but it is also very clear. It is clear that the semantics/pragmatics distinction as it is currently used obeys several constraints simultaneously. Something is considered as

semantic to the extent that it concerns the conventional, linguistic meaning of words and phrases. The more contextual an aspect of meaning is, the less we are tempted to call it semantic. The difference of treatment between cells B and D provides a good illustration of that. At the same time, something is considered as semantic to the extent that it concerns the truth conditions (or, more generally, the descriptive content) of the utterance. The less descriptive or truth-conditional an aspect of meaning is, the less we are tempted to call it semantic. On these grounds it is clear why there is no disagreement regarding cells A and D. A-meaning is both descriptive and conventional; D-meaning is both nondescriptive and contextual. Those aspects of meaning unambiguously fall on the semantic and the pragmatic side respectively. B and C raise problems because the relevant aspects of meaning are conventional but not truth-conditional, or truth-conditional but not conventional (or not conventional enough).

The semantics/pragmatics distinction displays what psychologists call “prototypicality effects”. It makes perfect sense with respect to Carnapian languages: languages in which the conventional meaning of a sentence can be equated with its truth conditions. Such languages constitute the prototype for the semantics/pragmatics distinction. As we move away from them, the distinction becomes strained and less and less applicable. Natural languages, in particular, turn out to be very different from the prototype — so different that it is futile to insist on providing an answer to the twin questions: What is the principled basis for the semantics/pragmatics distinction? Where does the boundary lie? Answers to these questions can still be given, but they have to rely on stipulation.

## References

- Austin, J. (1975). *How to Do Things with Words*. 2nd ed., Oxford: Clarendon Press.
- Bach, K. (1997). The Semantics-Pragmatics Distinction: What It Is and Why It Matters. *Linguistische Berichte* **8**: 33-50.
- Bar-Hillel, Y. (1970). *Aspects of Language*. Jerusalem: The Magnes Press.
- Barwise, J. and J. Perry (1983). *Situations and Attitudes*. Cambridge, Mass: MIT Press/Bradford Books.
- Carnap, R. (1937). *The Logical Syntax of Language*. London: Routledge and Kegan Paul.
- Carnap, R. (1942). *Introduction to Semantics*. Cambridge, Mass: Harvard University Press.
- Carston, R. (1988). Implicature, Explicature, and Truth-Theoretic Semantics. In R. Kempson (ed.), *Mental Representations: The Interface between Language and Reality*, Cambridge: Cambridge University Press, pp. 155-181.
- Chomsky, N. (1976). Conditions on Rules of Grammar. *Linguistic Analysis* **2**: 303-351.
- Davidson, D. (1984). *Inquiries into Truth and Interpretation*. Oxford: Clarendon Press.
- Gazdar, G. (1979). *Pragmatics: Implicature, Presupposition and Logical Form*. London: Academic Press.
- Grice, P. (1989). *Studies in the Way of Words*. Cambridge, Mass: Harvard University Press.
- Hintikka, J. (1968). Logic and Philosophy. In R. Klibansky (ed.), *La Philosophie Contemporaine, 1: Logique et Fondements des Mathématiques*, Florence: La Nuova Italia, pp. 3-30.
- Kaplan, D. (1989a). Demonstratives. In J. Almog, H. Wettstein and J. Perry (eds.), *Themes from Kaplan*, New York: Oxford University Press, pp. 481-463.
- Kaplan, D. (1989b). Afterthoughts. In J. Almog, H. Wettstein and J. Perry (eds.), *Themes from Kaplan*, New York: Oxford University Press, pp. 565-614.

- Katz, J. (1975). Logic and Language: An Examination of Recent Criticisms of Intensionalism. In K. Gunderson (ed.), *Language, Mind, and Knowledge*, Minneapolis: University of Minnesota Press, pp. 36-130.
- Katz, J. (1977). *Propositional Structure and Illocutionary Force*. New York: Crowell.
- Levinson, S. (2000). *Presumptive Meanings*. Cambridge, Mass: MIT Press/Bradford Books.
- Lewis, D. (1969). *Convention*. Cambridge, Mass: Harvard University Press.
- Lewis, D. (1983). *Philosophical Papers, Volume 1*. New York: Oxford University Press.
- Montague, R. (1968). Pragmatics. In R. Klibansky (ed.), *La Philosophie Contemporaine, 1: Logique et Fondements des Mathématiques*, Florence: La Nuova Italia, pp. 102-122.
- Montague, R. (1994). *Formal Philosophy: Selected Papers* (R. Thomason, ed.). New Haven: Yale University Press.
- Morris, C. (1938). *Foundations of the Theory of Signs*. International Encyclopedia of Unified Science 1:2, Chicago: The University of Chicago Press.
- Recanati, F. (1993). *Direct Reference: From Language to Thought*. Oxford: Blackwell.
- Reichenbach, H. (1947). *Elements of Symbolic Logic*. London: Macmillan.
- Searle, J. (1969). *Speech Acts*. Cambridge: Cambridge University Press.
- Sperber, D. and D. Wilson (1986). *Relevance: Communication and Cognition*. Oxford: Blackwell.
- Stalnaker, R. (1997). Reference and Necessity. In B. Hale and C. Wright (eds.), *A Companion to the Philosophy of Language*, Oxford: Blackwell, pp. 534-554.
- Stalnaker, R. (1999). *Context and Content*. New York: Oxford University Press.