

PRAGMATICS

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Pragmatics is the study of the context-dependent aspects of MEANING which are systematically abstracted away from in the construction of LOGICAL FORM. In the semiotic trichotomy developed by Morris, Carnap, and Peirce in the 1930's, syntax addresses the formal relations of signs to one another, semantics the relation of signs to what they denote, and pragmatics the relation of signs to their users and interpreters. While some have argued for a pragmatics module within the general theory of speaker/hearer competence (or even a pragmatic component in the grammar), Sperber & Wilson (1986) argue that like scientific reasoning—the paradigm case of a non-modular, 'horizontal' system—pragmatics cannot be a module, given the indeterminacy of the predictions it offers and the global knowledge it invokes (see MODULARITY AND LANGUAGE). In any case, a regimented account of language use facilitates a simpler, more elegant description of language structure. Those areas of context-dependent yet rule-governed aspects of meaning reviewed here include deixis, speech acts, presupposition, reference, and information structure; see also IMPLICATURE.

Pragmatics seeks to 'characterize the features of the speech context which help determine which proposition is expressed by a given sentence' (Stalnaker 1972: 383). The meaning of a sentence can be regarded as a function from a context (including time, place, and possible world) into a proposition, where a proposition is a function from a possible world into a truth value. Pragmatic aspects of meaning involve the interaction between an expression's context of utterance and the interpretation of elements within that expression. The pragmatic subdomain of deixis or indexicality seeks to characterize the properties of shifters, indexicals, or token-reflexives, expressions like *I, you, here, there, now, then, hereby,* tense/aspect markers, etc.) whose meanings are constant but

whose referents vary with the speaker, hearer, time and place of utterance, style or register, or purpose of speech act. (See Levinson 1983: Chapter 2.)

If pragmatics is ‘the study of linguistic acts and the contexts in which they are performed’ (Stalnaker 1972: 383), speech-act theory constitutes a central subdomain. It has long been recognized that the propositional content of utterance U can be distinguished from its illocutionary force, the speaker’s intention in uttering U. The identification and classification of speech acts was initiated by Wittgenstein, Austin, and Searle. In an explicit performative utterance (e.g. *I hereby promise to marry you*), the speaker does something, i.e. performs an act whose character is determined by her intention, rather than merely saying something. Austin (1962) regards performatives as problematic for truth-conditional theories of meaning, since they appear to be devoid of ordinary truth value; an alternate view is that a performative is automatically self-verifying when felicitous, constituting a contingent a-priori truth like *I am here now*. Of particular linguistic significance are indirect speech acts, where the form of a given sentence (e.g. the yes-no question in *Can you pass the salt?*) belies the actual force (here, a request for action) characteristically conveyed by the use of that sentence. See Levinson (1983: Chapter 4) and Searle & Vanderveken (1985) for more on speech act theory and its formalization.

While a semantic or logical PRESUPPOSITION is a necessary condition on the truth or falsity of statements (Frege 1892, Strawson 1950), a pragmatic presupposition is a restriction on the common ground, the set of propositions constituting the current context. Its failure or non-satisfaction results not in truth-value gaps or non-bivalence but in the inappropriateness of a given utterance in a given context (Stalnaker 1974, Karttunen 1974). In presupposing ϕ , I treat ϕ as a non-controversial element in the context of utterance; in asserting ψ , I propose adding the propositional content of ψ to the common ground or, equivalently, discarding $\sim\psi$ from the set of live options, winnowing

down the context set (possible worlds consistent with the shared beliefs of S[peaker] and H[earer]) by jettisoning worlds in which ψ does not hold.

In stating *Even Kim left* I assert that Kim left while presupposing that others left and that Kim was unlikely to have left. Such presuppositions can be communicated as new information by a speaker who ‘tells his auditor something...by pretending that his auditor already knows it’ (Stalnaker 1974: 202). S’s disposition to treat a proposition as part of the common ground, thereby getting H to adjust his model of the common ground to encompass it, is codified in Lewis’s rule of accommodation for presupposition (1979: 340): ‘If at time *t* something is said that requires presupposition *P* to be acceptable, and if *P* is not presupposed just before *t*, then—*ceteris paribus* and within certain limits—presupposition P comes into existence at *t*.’ Accommodation, a special case of Gricean exploitation, is generalized by Lewis to descriptions, modalities, vagueness, and performatives.

How are the presuppositions of a larger expression determined compositionally as a function from those of its subexpressions? Karttunen’s (1974) solution to this “projection problem” partitions operators into plugs, holes, and filters, according to their effect on presupposition inheritance, while Karttunen & Peters (1979) propose a formalization of inheritance of pragmatic presuppositions qua “conventional IMPLICATURES.” Gazdar (1979) offers an alternative mechanism in which the potential presuppositions induced by subexpressions are inherited as a default but are canceled if they clash with propositions already entailed or implicated by the utterance or prior discourse context.

Subsequent work identifies empirical and conceptual problems for these models. Heim (1983) identifies an operator’s projection properties with its context-change potential. Presuppositions are invariant pragmatic inferences: A sentence Σ presupposes ϕ iff every context admitting Σ entails ϕ . If a context c (a conjunction of propositions) is true and c admits Σ , then Σ is true with respect to c if the context incremented by Σ is true.

But if Σ is uttered in a context c not admitting it, the addressee will adjust c to c' , a context close to c but consistent with Σ . Heim's projection theory thus incorporates Stalnaker-Lewis accommodation, which appeals in turn to the Gricean model of a cooperative conversational strategy dynamically exploited to generate pragmatic inferences. (See DYNAMIC SEMANTICS.)

Soames (1989) provides a conspectus of formal approaches to presupposition, and see also van der Sandt (1992) for an anaphoric account of presupposition, projection, and accommodation formulated within discourse representation theory. On van der Sandt's theory, the very presupposition that presuppositions are determined compositionally is challenged, leading to a reassessment of the entire projection problem enterprise.

While speech acts and presuppositions operate primarily on the propositional level, reference operates on the phrasal level. Reference is the use of a linguistic expression (typically an NP) to induce a hearer to access or create some entity in his mental model of the discourse. A discourse entity represents the referent of a linguistic expression, i.e. the actual individual (or event, property, relation, situation, etc.) that the speaker has in mind and is saying something about.

Within philosophy, the traditional view has been that reference is a direct *semantic* relationship between linguistic expressions and the real world objects they denote (see SENSE AND REFERENCE, THEORIES OF REFERENCE). Researchers in computer science and linguistics, however, have taken a different approach, viewing this relation as mediated through the (assumed) mutual beliefs of speakers and hearers, and therefore as quintessentially pragmatic. Under this view, the form of a referring expression depends on the assumed information status of the referent, which in turn depends on the assumptions that a speaker makes regarding the hearer's knowledge store as well as what the hearer is attending to in a given discourse context.

Given that every natural language provides its speakers with various ways of referring to discourse entities, there are two related issues in the pragmatic study of

reference: (i) What are the referential options available to a speaker of a given language?
(ii) What are the factors that guide a speaker on a given occasion to use one of these forms over another? The speaker's choice among referring expressions (e.g. zero forms, pronominals, indefinites, demonstratives, definite descriptions, proper names) is constrained by the information status of discourse entities. Unidimensional accounts (e.g. Gundel et al. 1993) provide a single, exhaustively ordered dimension ("assumed familiarity", "accessibility", "givenness") along which the various types of referring expressions are arranged. More recently, Prince (1992) offers a two-dimensional account in which entities are classified as, on the one hand, either discourse-old or discourse-new (based on whether or not they have been evoked in the prior discourse) and, on the other hand, either hearer-old or hearer-new (based on whether they are assumed to be present within the hearer's knowledge-store).

Related to information status is the notion of definiteness, which has been defined both as a formal marking of NPs and as an information status. Research into the meaning of the English definite article has generally been approached from one of two perspectives (Birner & Ward 1994); its felicitous use has been argued to require that the referent of the NP be either familiar within the discourse or uniquely identifiable to the hearer. In the absence of prior linguistic evocation, the referent must be accommodated (Lewis 1979) into the discourse model by the hearer.

Research into the discourse functions of syntax is based on the observation that every language provides its speakers with various ways to structure the same proposition. That is, a given proposition may be variously realized by a number of different sentence-types, or constructions, each of which is associated with a particular function in discourse. Consider the sentences in (1):

- (1) a. John did most of the work on that project.
- b. Most of the work on that project was done by John.
- c. Most of the work on that project John did.

d. It's John who did most of the work on that project.

The same proposition expressed by the canonical-word-order sentence in (1a) can also be expressed by the (truth-conditionally-equivalent) passive sentence in (1b), by the 'topicalization' in (1c), and by the 'cleft' sentence in (1d), among others, each of which reflects the speaker's view on how it is to be integrated by the hearer into the current discourse. For example, the topicalization (1c) allows the speaker to situate familiar, or discourse-old (Prince 1992), information in preposed position, thus marking the preposed constituent as related—or "linked"—to the prior discourse, while use of the cleft in (1d) reflects the speaker's belief that her hearer has in mind the fact that somebody did most of the work in question. Finally, with the passive in (1b), in which the canonical order of arguments is reversed, the speaker may present information that is relatively familiar within the discourse before information that is relatively unfamiliar within the discourse.

Such constructions serve an information-packaging function in that they allow speakers to structure their discourse in a maximally accessible way, thereby facilitating the incorporation of new information into the hearer's knowledge-store. Like referring expressions, propositions contain information that can be either discourse-new/old and hearer-new/old.

Vallduví (1990) proposes a hierarchical articulation of information within his theory of informatics. Sentences are divided into the FOCUS, which represents that portion of information that is hearer-new, and the ground, which specifies how that information is situated within the hearer's knowledge-store. The ground is further divided into the link, which denotes an address in the hearer's knowledge-store under which he is instructed to enter the information, and the tail, which provides further directions on how the information must be entered under a given address (see also Rooth 1992). Lambrecht (1994) identifies three categories of information structure: presupposition and assertion (the structure of propositional information into given and new); identifiability and activation (the information status of discourse referents); and topic and focus (the relative

predictability of relations among propositions). See also the Functional Sentence Perspective frameworks of Firbas 1966 and Kuno 1972 and the overview in Birner & Ward (to appear).

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