# Speech Act Vocabulary: does Hyponymy Recapitulate Polysemy?

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## The Field

The evidence for this paper is drawn from the field of speech-acts, a domain with rich potential for lexicological research.

The words here are surprisingly numerous (e.g. there are up to 1,000 such terms in English, whereas not more than a tenth as many words denote kinds of perception). They give rise to a classificatory network, one which is to a tantalizing extent organizable on a hierarchical principle (witness the attractiveness of taxonomic approaches, as Searle and Vanderveken 1985), but which also highlights the fact that families of words systematically cross the boundaries between classes (e.g. *argue/ warn/ advise/ suggest/ propose/ urge/ remind/ tell* used as assertives or directives, *admit/ allow/ accept as assertives or permissives, swear/ promise/ vow/undertake* as assertives or commissives).

Within the major classes, there are some striking generalizations: e.g., among assertives a large number of terms predicating future reference (*foretell/ predict/ prophesy/ forecast/ (fore)warn/ bet/ wager*) but few if any are similarly restricted to the past (*recount/ relate/ tell*); very few words for interrogative acts, compared with the many dozens each for assertives, directives, or expressives.

The field of speech-act words fades off into words for animal or inanimate noises (e.g. *whisper/ shout/ squeal* vs *rustle/ roar/ squeak*), for mental states or acts (e.g. *acknowledge/ speculate/ remark* vs *accept/ guess/ notice*), and for causal events (e.g. *exhort/ persuade/ badger* vs *encourage/ induce/ harry*).

Not surprisingly, the organization discernible in this field differs from one language to another. In Japanese, by contrast with English, there is a plethora of terms for language processes which have no explicit agent e.g. *nagare* "waft", *okor* "be heard", *tutawar* "transpire", tob, *hiromar* "spread", *toor* "come across"; also of simple words for conversation strategy e.g. *nagas* "shout loud enough to be overheard", *hikitor* "take up the conversation", *kaer* "go back on one's word", *soras* "sidetrack", *tatoe* "give an example", *hasam* "interpose", *mazie* "bandy words".

The result is that a set of 27 semantic features which will ensure that no class greater than 15% of the whole field in English remains undiscriminated is not so discriminating for Japanese: 33% of the Japanese vocabulary remains in a single class of "Discourse-determined" words.

## The Approach

My approach to the analysis of this complex of semantic data is top-down, in the sense that I am working with explicit sets of appropriate lexemes in these two languages (currently over 750 for English[1], but less than 200 for Japanese), and each new semantic

[1]subsuming Wierzbicka's 1987 list of 257 verbs

feature, as introduced, is applied to the full set, rather than just to those few lexemes for which it is evidently apt. It is thus possible to see how much effective discriminative power particular semantic features have.

The work is contrastive not only in exploring the properties of the semantic field in two such different languages concurrently, but also in looking for a definition of the semantic features in the primitives of two rather different semantic theories, one the frames and elements of Fillmore's Frame Semantics, and the other in the defined categories of intensional logic used in Nirenburg's Mikrokosmos project.

## Some Early Results

Within the system above mentioned, which posits (so far) 27 features to discriminate the speech-act field (specifically, Locutionary, Assertive, Rogative, Expressive, Directive, Constitutive, Commissive, Manner, Technical, Discourse, Answer, Extended, Negative, Future, Social, Implicit, Good, Bad, Reflexive, False/Factive, Humorous, Downward, Upward, Level, Optional, Persistent, Causal) it has already been possible to point out some gaps in the two theories mentioned, Frame Semantics and Mikrokosmos.

Within Frame Semantics, the presence of words whose meanings are discriminated by the relative status of the participants shows that it will nor be enough simply to define word meanings in terms of properties of individual frame elements (e.g. the illocutionary force of the Message, or characteristics of the Medium, or Manner of transmission): it must be possible also to stipulate relations between frame elements. Only thus can Japanese deferential/honorific lexemes be represented, as well as the various grades of relation implicit in the English distinction among the words beg/ask/order.

This intrinsic relativity in the semantics of many Speech-Act lexemes is also a problem for Mikrokosmos semantics as hitherto defined. It goes beyond the existing means for representing formality and politeness in that it is not a property of the text as a whole, but rather defines a particular relation between two participants in it, typically the speaker and the addressee. Although Attitudes or Relations would appear the best alternative as a type of representation, they too have drawbacks. Attitudes only have one argument other than the proposition to which the attitude is taken, and here we require two (Sender and Recipient); furthermore, the variation appears to be in the range [-1, 1], rather than the regular [0, 1]. Relations have hitherto related propositions and events, rather than thematic roles in them.

Furthermore, there is a great variety of lexemes which place the speech-content, or Message, somewhere within a discourse (e.g. *answer, chime in, chip in, interrupt, interruption, rejoinder, rejoin, respond, response, retort, return, riposte, conversation, converse, debate, discourse, discourse, dispute, expatiate, address, badinage, banter, banter, declaim, disputation, disputatious, dispute, message, reiterate, reiteration, repeat, repetition*), or a socially-determined set of institutions such as the judicial process (e.g *acquit, acquittal, adjudge, adjudicate, adjudication, appoint, appointment, approval, approve, certification, certify, condemnation, condemn, constitute, constitution, declaration, declare, denominate, denomination, deputation, depute, plea, plead, pronouncement, pronounce, return, rule, ruling, verdict*). These can only be effectively discriminated -- or interpreted -- by explicit models of discourse strategy and the relevant institutions, which

must there be given an explicit place in the relevant semantic theory.

## The Question

Viewing the largely hierarchical organization of English speech act words under this feature system[2], an immediate generalization emerges, namely the widely different sizes of the different illocutionary groups. The numbers are summarized as follows:

| | |
|---|---|
| Locutionary[3] | 56 |
| Constitutive | 55 |
| Assertive | 149 |
| Rogative | 8 |
| Expressive | 75 |
| Directive | 106 |
| Commissive | 22 |

Evidently, the assertive and directive words predominate, with surprisingly few rogatives (conveying the asking of questions).

The particular issue addressed here is: is there a similar disproportion in the uses of the the very general English speech-act words, *say*, *tell* and *ask*?

This can be seen as one small test 'in parvo' of the descriptive power of the features arrived at 'in extenso'. The underlying genral question is: is the sense variability seen in the usage of the central common words a microcosm of the variety of meanings expressed by the full set of well up to 1,000 lexemes that make up the domain as a whole?

The DELIS[4] project has so far provided intensive corpus data on, among other words, the central speech act lexemes: *say, tell, ask.* For each of these words, a set of some hundred corpus examples was tagged manually[5], distinguishing the sentence constituents which represent the elements of the speech act frame: Sender, Addressee, Message (in its various forms Message-Noise (i.e. direct quotation), Message-Content, Message-Description - i.e. a simple characterization of the type of question: e.g. say *one's prayers*, ask *a question)*, Manner, Language, Accent, Place and Time.

The various subsets of these elements can be seen as providing an operational equivalent of the semantic features for speech-act sense.

The data on Message types, when analyzed, is attached as an Appendix. The letter "Y" indicates that an instance of the relevant phrase-type in that row was taken as evidence of the illocutionary type in that column, and used in calculating the total above it.

From the results of the assessment, , it will be seen that there is **no** correlation, within the usage of the major speech act verbs *say, tell, ask* for the surprising lexical gap in numbers of words for rogative acts. Within the corpus data examined, rogative uses are just as common as directive ones. The mystery remains.

The conclusion of the study is just one of many which we hope will come out of the DELIS project work, combined with this new feature-framework for the classification of speech acts.

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[2]Development of the feature system as a whole took place within the Mikrokosmos project, Contract MDA904-92-C-518 of USA D.o.D.

[3]i.e. with no determinate illocutionary content, mostly either specifying the manner of the act (e.g. *whisper, telephone*) or its place in discourse (e.g. *heckle, consult*).

[4]DEscriptive LInguistic Specifications, a 2-year collaboration (1993-5) within the European Union's Language Research and Engineering programme. The corpus data for English are from the British National Corpus, now available from Oxford University Computing Service.

[5]Numbers of examples tagged, and authors:

| | | |
|---|---|---|
| *say* | 70 | S. Atkins |
| *tell* | 77 | S. Atkins |
| *ask* | 101 | N. Ostler |

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**Appendix: Data on Message Complements with *say*, *tell* and *ask*.**

| | | | Locutionary | Assertive | Directive | Rogative |
|---|---|---|---|---|---|---|
| SAY | | | | | | |
| Total | | | 5 | 26 | 0 | 0 |
| Percent | | | 7% | 37% | 0% | 0% |
| Message-Content | 32 | | | | | |
| Declarative (i.e. sentence-complements, with or without that) | | 12 | | Y | | |
| Interrogative (i.e wh-complements) | | 4 | | Y | | |
| Directive (i.e. to+infinitive) | | 0 | | | Y | |
| Other | | 16 | | | | |
| | | | | | | |
| Message-Description | 5 | | Y | | | |
| | | | | | | |
| Message-Noise | 12 | | | | | |
| Declarative | | 10 | | Y | | |
| Other | | 2 | | | | |
| | | | | | | |
| No Message | 21 | | | | | |
| | | | | | | |
| Total | 70 | | | | | |
| TELL | | | | | | |
| Number | | | 10 | 20 | 9 | 0 |
| Percent | | | 13% | 26% | 12% | 0% |
| Message-Content | 44 | | | | | |
| Declarative (i.e. sentence-complements, with or without that) | | 14 | | Y | | |
| Interrogative (i.e wh-complements, with finite) | | 6 | | Y | | |
| Directive (i.e. to+infinitive, or wh + to+infinitive) | | 9 | | | Y | |
| Other | | 15 | | | | |
| | | | | | | |
| Message-Description | 8 | | Y | | | |
| | | | | | | |
| Message-Noise | 2 | | Y | | | |
| | | | | | | |
| No Message | 23 | | | | | |
| | | | | | | |
| Total | 77 | | | | | |

| | | | Locutionary | Assertive | Directive | Rogative |
|---|---|---|---|---|---|---|
| ASK | | | | | | |
| Number | | | 0 | 0 | 35 | 46 |
| Percent | | | 0% | 0% | 35% | 46% |
| Message-Content | 65 | | | | | |
| Declarative (i.e. sentence-complements, with or without that) | | 1 | | | Y | |
| Interrogative (i.e wh-complements, finite or non) | | 21 | | | | Y |
| Directive (i.e. to+infinitive) | | 22 | | | Y | |
| pp/FOR | | 12 | | | Y | |
| Other | | 9 | | | | |
| | | | | | | |
| Message-Description | 6 | | Y | | | Y |
| | | | | | | |
| Message-Noise | 19 | | Y | | | Y |
| | | | | | | |
| No Message | 11 | | | | | |
| | | | | | | |
| Total | 101 | | | | | |
| | | | | | | |
| OVERALL | | Weighted average of results | | | | |
| | | Percent | 7% | 21% | 15% | 15% |