THE UNDERLYING REPRESENTATION OF CONVERSATION*

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This paper makes two assumptions which do not currently enjoy universal acceptance among linguists. The first is that evidence from the area of performance, in Chomsky's (1965) sense of the term, is necessary to account for certain aspects of a language user's competence. The second is that a grammar must be more than simply a device for specifying the well-formed sentences of a language: it must instead be a device for specifying the well-formed discourses of a language. Since these assumptions are at variance with at least some versions of current transformational theory, they will be justified.

Chomsky (1964) claims that a grammar must be a "description of intrinsic competence, rather than a description of actual, or even potential, performance." (p.10). Without going into the issue of what Chomsky means by the terms competence and performance [for this, see M. White (1972)], it is enough to show that phenomena which have traditionally been called performance "errors" are, in fact, quite systematic and have a profound effect upon the interpretation of sentences. D. James (1972) has pointed out that the "interjections" uh, oh, and 'pause' exhibit a systematic relationship to the different semantic contexts in which they occur. Thus, sentences (1), (2), and (3) differ only in the type of interjection used, but each has a different set of readings:

(1) The FBI arrested ... uh ... Bill Jones.

(2) The FBI arrested .... Bill Jones.

(3) The FBI arrested ... oh ... Bill Jones.

Briefly, (1) is used when the speaker is trying to remember who it was that was arrested by the FBI, or when the speaker does not want to say the arrested person's name for fear of upsetting the hearer. (2) can be used in the first sense, but not the second sense of (1). (2) may be used, however, to keep the hearer in suspense, while (1) cannot be used in this way. (3) is inappropriate for all the preceding contexts, but it would be used when "the speaker is making a deliberate decision or choice as to what to say next-- and . . . there is no one right way he knows of to complete the sentence. " [James (1972:162-3)]

A second reason it is necessary to rely on evidence from performance is that it is rather doubtful that anyone, including the linguist, has total access to true intuitions about his language. To illustrate this, a report by Gumperz (1972) is relevant. Gumperz discusses the results of fieldwork in a Norwegian community. Residents of this community speak both a local dialect and standard Norwegian (Bokmål). Bokmål is used primarily on formal occasions, while the dialect is used on all other occasions. Speaker attitudes about this distinction are very strong. In reflecting on a particular taped conversation, a group of university students claimed, because of the casualness of the meeting, that their entire conversation had been in the dialect. "When the recorded conversation was played back to them [evidencing Bokmål], they were appalled and vowed not to repeat such slips of the tongue again. Yet the same phenomenon was observed during a subsequent meeting of this group." [Gumperz (1972:207)] Gumperz' conclusion from this study is important; he concludes that "this example provides for the existence of compelling patterns of speech behavior which may not be realized by the speaker at all. " [Gumperz (1972:207)] From this, and from other equally convincing reports, we are forced to conclude that linguists must examine data, at least to supplement or confirm their intuitions about language, and data constitute performance. As Labov (1971) has aptly expressed it, "Just as impressionistic phonetics should be calibrated against the readings of various instruments, so the intuitions of the theorist should be matched against observations of the unreflecting speech of ordinary man. " (415) Labov further points out in this regard that "As valuable and insightful as the theorist's intuitions may be, no one can know the extent to which his desire to make things come out right will influence his judgment. " (444)

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The second assumption made in this paper is that a grammar must not be restricted to specify only the sentences of a language. If one restricts oneself to this narrow viewpoint, one is left with the untenable position in which one creates a grammar which does not even attain a level of descriptive adequacy, in Chomsky's (1965) sense of this term. For instance, in Hinds (to appear a), it is shown that regardless of the presuppositions one assumes exist in the underlying representation of a sentence, unless recourse to discourse level phenomena is possible, the distribution of anaphoric demonstratives in Japanese cannot be described. This is, certain aspects of the distribution of the anaphoric demonstratives are sensitive exclusively to the position of that demonstrative in a discourse. [1] Other instances of the same kind of phenomena are abundant. Thus, in order to describe completely and adequately the process of pronominalization in any language it is necessary to have recourse to previous sentences, if for no other reason than to distinguish between the anaphoric use of pronouns and the deictic use of pronouns. Also, in order to indicate theme and rheme in a given sentence, the content of preceding sentences in a discourse must be available.

However, once it is recognized that it is necessary to deal with discourse analysis in order to rise above the level of observational adequacy, what then? There have been a considerable number of specific proposals for this, most of which are structured within the stratificational and tagmemic schools of linguistic research. The framework to be developed here obviously owes a debt to this previous research, but it also is heavily influenced by some of the workable aspects of transformational-generative theory.

In its most basic form, the motivation for pursuing research along the lines to be developed in this paper stems from the assumption that language is used primarily to communicate. As such it constitutes an interaction between a speaker and a hearer or hearers, although it is obvious that in certain circumstances the hearer may in fact be the speaker himself. This being the case, the likely type of discourse to analyze is the dialogue, or conversation. In many respects, conversation subsumes all other types of discourse, in that narrative discourse, hortative discourse, or monologues of any type, all consist of a speaker addressing an audience. Thus it is not

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incorrect to state that the study of conversation is the study of discourse, while the reverse is not always the case. Moreover, when one examines languages such as Japanese or Korean, one finds an overt complicated manifestation of speaker-hearer relationships in terms of honorific levels of speech which must be accounted for in any grammar of these language which can only be observed in conversations. [2]
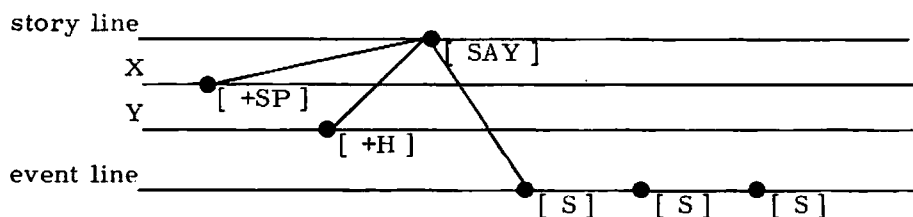
Once the decision has been made to study conversation, the immediate question is how? Obviously one must account for everything the investigator working with a sentence grammar tries to account for; but in addition, problems arise which could not even be asked in the previous paradigm [for the concept of paradigm, see Kuhn (1962)]. Many of the questions which must be asked appear to be relatively simple, until one attempts to provide a framework within which to describe them. For instance, how does one account for the fact that, as any speaker of a language knows, first and second personal pronouns can refer to either the speaker or the hearer, depending on who is speaking? The framework which will be elaborated here provides an answer to this, and to various other questions as well.

Ross (1970) suggests that, in the deep structure representation of every sentence, there is a performative clause of the type [I SAY TO YOU "S"], where "S" is the symbol for any sentence. The limitations of Ross' proposal will not be discussed here, but it is recognized that a modified version of his proposal might be helpful in analyzing discourse, since in its most basic form Ross' proposal maintains simply that every utterance is the result of the interaction between a speaker [I], a hearer [YOU], and a communication [SAY]. One necessary modification of Ross' proposal which may be mentioned here is that this performative clause must be posited for an entire discourse, rather than for an individual sentence. The reason for this, I believe, is obvious. Sentences occur sequentially in a discourse, and except for certain situations which will be discussed below, these sentences have the same speakers and hearers, although the roles of these individuals may change from speaker to hearer and vice versa.

A diagram of the model used in the analysis of conversation is presented in (4):
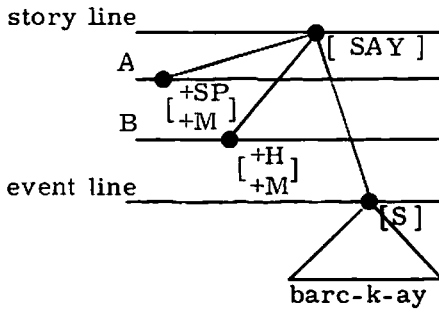
(4)   TOPIC: A

story line _____
         X _____•_____•[SAY]_____
                         [+SP]   ╱ ╲
         Y _____•[+H]_____
                                ╲
event line _____╲_____
                                  •[S]   •[S]   •[S]

This diagram is referred to as an abstract reticulum. This term, and the
concept, have been derived from Taber (1966). The abstract reticulum con-
sists of two parallel lines: a story line and an event line. The story line
indicates changes in performative verbs, while the event line indicates the
sequencing of sentences in a dialogue. The nodes which appear on the story
line represent performative-type verbs (hereafter termed performatives);
that is, they represent the sentence type that is being used. It is further
assumed that there is a relatively small number of performatives. The per-
formatives are represented at the beginning of a discourse and whenever there
is a shift in the tópic of conversation, a change of speaker, or a change in the
type of performative. In (4), the performative is represented by [SAY],
indicating a simple declarative sentence. The topic of conversation, or the
paragraph topic, is represented by a node which extends from the performa-
tive node to above the story line: here indicated by [TOPIC: A]. The event
line represents sentence sequences as they occur in a conversation. In the
diagram, the string of [S] nodes on the event line indicates a section of conver-
sation which consists of three consecutive sentences. The lines between the
story line and the event line indicate the participants who are involved in the
conversation. In this illustration, there are two: X and Y. Nodes on each
participant line may be marked with appropriate features. Here, for instance,
the participant node on line X is marked [+SP] and the participant node on line
Y is marked [+H], indicating speaker and hearer respectively. Other features
pertaining to the participants in a conversation which are necessary to the de-
scription of sentence structure may be marked in the same manner. For
instance, in Kũrux, a Dravidian language of North India, there are morpho-
logical constructions which differ depending on the sex of both the speaker and

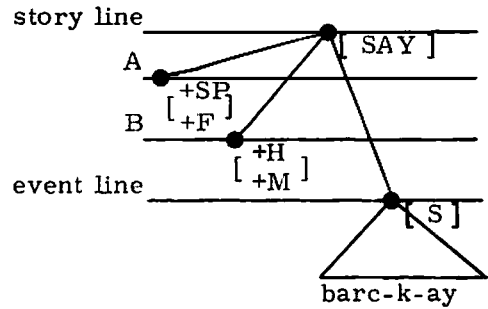the hearer in a conversation. Thus, the expression "You (sg) came." may be translated in the following ways:

(5) a. barc-k-ay (man to man) c. barc-k-i (man to woman)

b. barc-k-ay (woman to man) d. barc-k-in (woman to woman)

By using a notational system which attaches the features male [+M] and female [+F] to the participant nodes, these alternations are completely predictable.
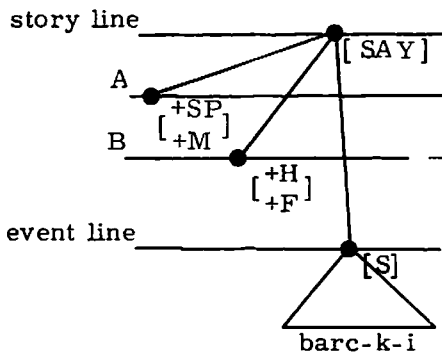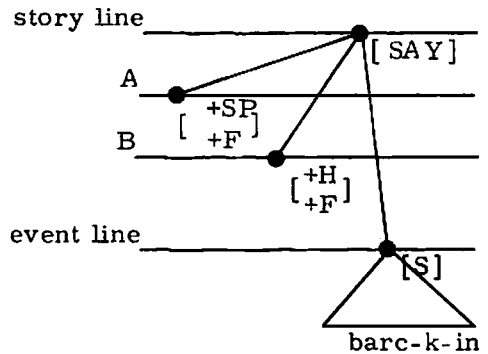
(5a)

story line _____ • [SAY]

A •
   [+SP]
   [+M]
B

   [+H]
   [+M]
event line _____ [S]

barc-k-ay

(5b)

story line _____ • [SAY]

A •
   [+SP]
   [+F]
B

   [+H]
   [+M]
event line _____ [S]

barc-k-ay

(5c)

story line _____ • [SAY]

A •
   [+SP]
   [+M]
B

   [+H]
   [+F]
event line _____ [S]

barc-k-i

(5d)

story line _____ • [SAY]

A •
   [+SP]
   [+F]
B

   [+H]
   [+F]
event line _____ [S]

barc-k-in

In this case it is necessary to know the sex of both the speaker and the hearer in order to predict the correct inflectional ending. If the hearer is a male, the proper ending is -ay; if the hearer is a female and the speaker is a male, the proper ending is -i; if the hearer is a female and the speaker is also a female, the proper ending is -in.

Several other discourse situations will now be presented to illustrate more completely the way this abstract reticulum may be employed as a descriptive device.

Topic Shift

In order to use pronouns appropriately, or to indicate correctly the thematized element in a discourse, a speaker must be aware of the topic of conversation. Many details aside, the speaker must know that pronouns (and in fact definite noun phrases) generally refer back to antecedents within the same paragraph and that elements are thematized only if there is a particular relationship between that element and the topic of the paragraph. [3] Both of these situations indicate that the paragraph topic must be represented in an underlying structure so that proper pronominalization or thematicization may take place. Consider in this respect discourse (6):

(6) A. I never knew that Japanese had so many loanwords from English.

    B. Yeah, well anyway, I really wanted to talk about pronouns. They're really quite a mess.
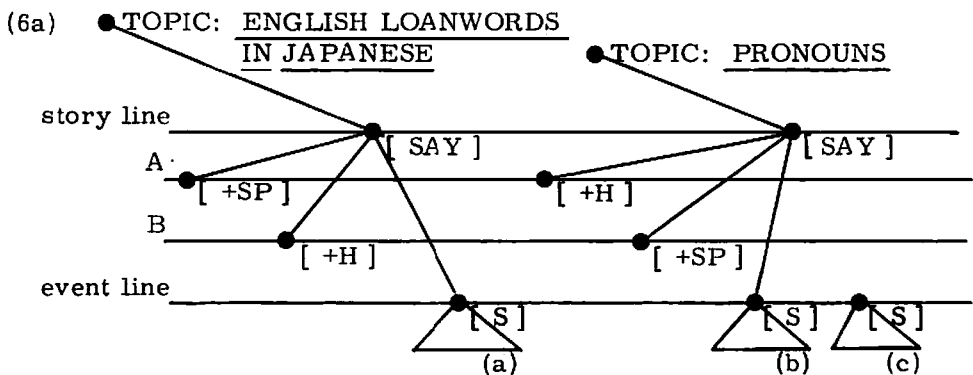
(6a)

(a) I never knew that Japanese had so many loanwords from English.

(b) Yeah, well anyway, I really wanted to talk about pronouns.

(c) They're really quite a mess.

Conversation (6) represents a section of dialogue in which speaker A comments about the current discourse topic, "English loanwords in Japanese." B, however, changes the topic, so that the new discourse topic is [Japanese] pronouns. Notice in B's second sentence that the pronoun they is used, and that its antecedent is unambiguously pronouns; notice, moreover, that the antecedent cannot possibly be loanwords. The reason for this is that a pronominalized element must refer back to an antecedent which exists within

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the current paragraph or within the scope of the current discourse topic. Incidentally, this is not to say that the antecedent must <u>be</u> the discourse topic, only that the antecedent must exist within the scope of the current discourse topic.

Change in Performative Verb

As stated above, the representation of performatives corresponds to sentence types. That is, the performative [SAY] corresponds to a declarative sentence, the performative [ASK] corresponds to a WH- or yes-no question, the performative [IMP] corresponds to an imperative, etc. Since these performatives are abstract, the labels that are used are relatively unimportant, except as mnemonic devices. The crucial point is that performatives are used as labels for sentence types. Conversation (7) represents a dialogue in which there is a change in performative. Unnecessary details have been omitted, but it can be seen quite clearly that the performative can be used to predict sentence types:

(7) A (a) Tell me now!

      (b) Telling it later is like you don't want to tell the story at all.

      (c) Tell me.

(7a)
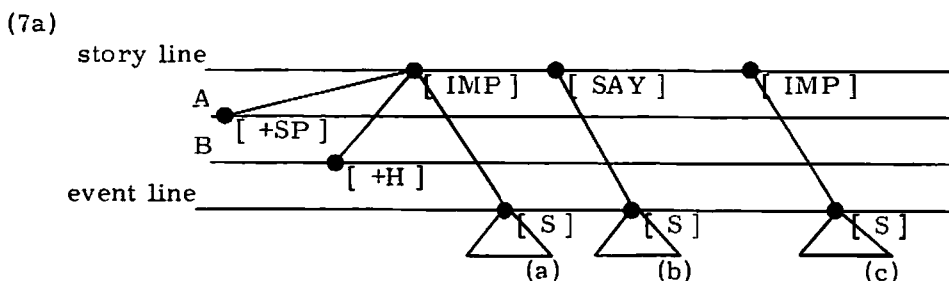
(a) Tell me now!

(b) Telling it later is like you don't want to tell the story at all.

(c) Tell me.

Sentences (a) and (c) are imperatives, while sentence (b) is a straight declarative sentence. Notice that the diagram indicates that the roles of the speaker and hearer have remained constant.

Speaker Shift

In any conversation, there is a continual shifting of participant roles from speaker to hearer and vice versa. This situation presents an interesting problem; and that is, how can the proper referent of a first or second person pronoun be indicated in an abstract representation? Examine (8), in which both speakers use the pronoun I:
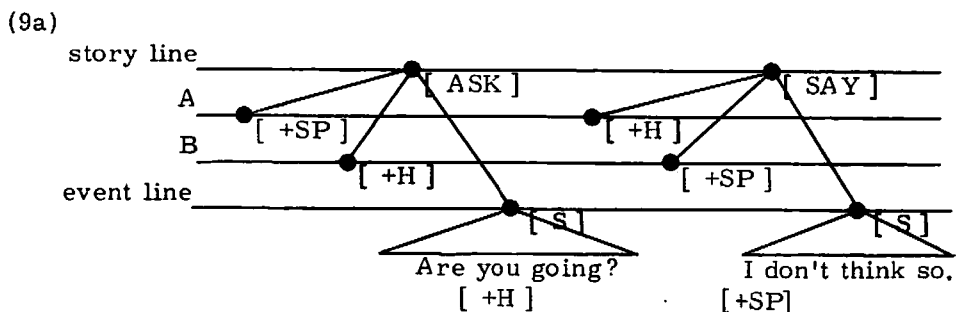
(8) A. I don't have enough money right now.

    B. I do, but I need it for something else.

(8a)
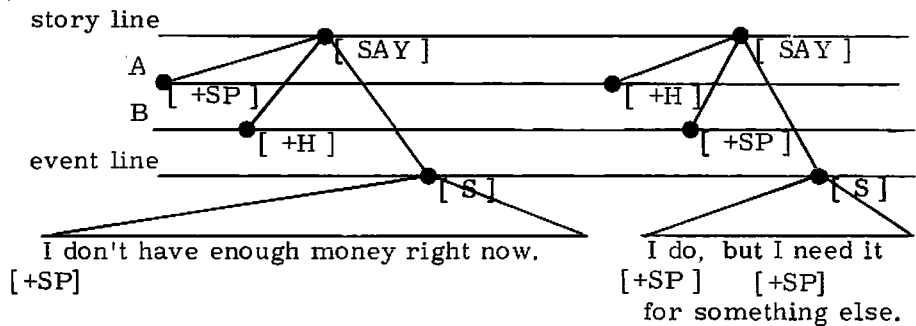
Notice first of all that, in the participant section of the reticulum, the first node for speaker A is marked [+SP] and the first node for speaker B is marked [+H]. This obviously indicates that A is the speaker and B is the hearer. The second set of nodes differs from the first in that speaker A is now marked [+H] and speaker B is now marked [+SP], indicating, of course, that the roles have been reversed. Under the S node on the event line, an occurrence of the first person pronoun has an inherent marking of [+SP]. For the first sentence, by matching the two occurrences of [+SP], it is determined that A is the referent of I. For the second sentence, matching the two occurrences of [+SP] indicates that B is the referent. Similarly, a second person pronoun is inherently marked with the feature [+H]. Thus, in (9), both the pronouns you and I have the same referent, speaker B:

(9) A. Are you going?

    B. I don't think so.

(9a)

story line
A
B
event line

[ASK]   [+SP]   [+H]   [SAY]   [+H]   [+SP]   [S]   [S]

Are you going?   I don't think so.
[+H]   [+SP]

If we examine a language with a more complicated personal pronoun inventory that English, we find the same mechanism is capable of describing the situation quite adequately. In present-day Manila Tagalog, the following personal pronouns exist (the forms which are cited here usually, but not always, correspond to the agentive case):

(10) ako   I
      ikaw/ka   you (sg)
      siya   he, she
      kami   we (exclusive)
      tayo   we (inclusive)
      kayo   you (pl)
      sila   they

Ignoring details which are irrelevant to the present discussion, the following feature sets may be specified for the occurrence of these forms. [4] These sets will allow an immediate pairing of the personal pronoun with its real life referent:

(10a)

ako	ikaw/ka	siya	kami	tayo	kayo	sila
+SP	-SP	-SP	+SP	+SP	-SP	-SP
-H	+H	-H	-H	+H	+H	-H
-III	-III	+III	+III	$\pm$III	-III	+III
					-sg	-sg

It has been necessary, of course, to add a few additional features, all of which are highly motivated. First, it is necessary to add a feature [$\pm$III], which specifies whether or not a non-participant in the conversation is to be included within the meaning of the pronoun. Second, the feature [-sg] indicates that the person feature marked with a plus necessarily consists of more than one individual. There is a further complication, however, and that is that there is an obsolete dual pronoun in Tagalog, _kata,_ which means

"you (sg) and I. " The feature set which is specified for this form is pre-
sented in (10a'):

(10a')　　kata
　　　　　+SP
　　　　　+H
　　　　　-III

This, of course, indicates that the referents of the pronouns are both the
speaker and the hearer, but no one else.

Deictic Demonstratives

　　　Japanese has a three-way deictic demonstrative system; as, for ex-
ample kore (this thing), sore (that thing), and are (that thing over there).
(11) represents a situation in which these forms are used:

(11) a.　kore wa hon desu.　　　This is a book.

　　　b.　sore wa hon desu.　　　That is a book.

　　　c.　are wa hon desu.　　　That (over there) is a book.

(11')
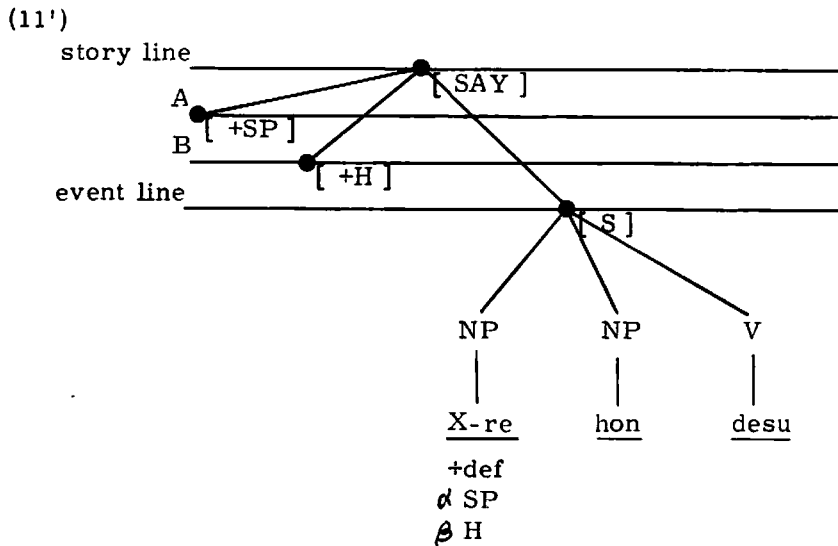
What is of concern here is how the grammar is to represent the knowledge
that all speakers of the language have; that is, what is the real place refer-
ent of hon (book)?　Using the reticulum, it is possible to indicate the
place of the book, relative to the participants in the conversation.　First, it

is assumed that the deictic demonstratives have the function of making a noun phrase definite. This is represented in (11') through the feature [+def (inite)] in the feature set which extends below the abstract nominal X-re. Features representing characterizations of the object in its positional relation to both speaker and hearer are also present in the feature set, indicated by [αSP] and [βH], respectively. This system may be interpreted using the following conventions: If α = + and β = -, X- = ko-; if α = - and β = +, X- = so- ; if α = - and β = -, X- = a-. This information corresponds to what every speaker of the language knows: kore indicates something close to the speaker; sore indicates something close to the hearer; and are indicates something at a distance from both the speaker and the hearer. Notice that this schema indicates only the position of something in relation to the participants in a conversation, rather than in absolute terms, such as in front of Mitsukoshi Department Store in Tokyo.

Discourse Ambiguities

There are certain so-called ambiguous expressions, which are ambiguous only if a sentence is treated outside of the conversation of which it is a part. For instance, in Japanese, the sentence:
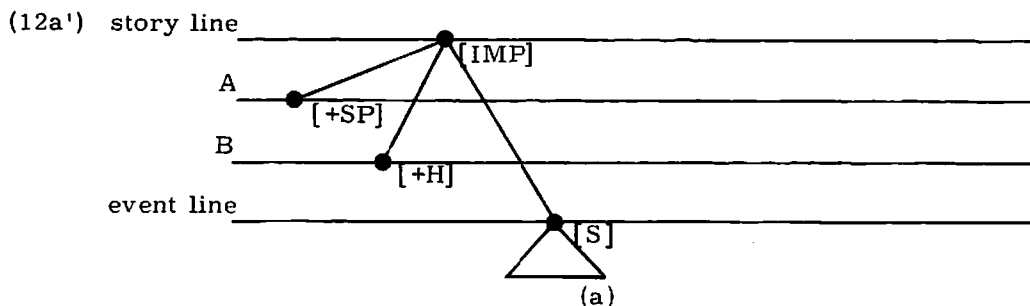
(12) toranpu o itimai zutu totte kudasai.

is at least two ways ambiguous, [6] meaning either:

(12a) Please take the cards one at a time.

or:

(12b) Please, each one of you take a card.

However, because the abstract reticulum requires that all participants in a conversation be represented, there are in fact two entirely different underlying representations for each of the readings of this sentence. These are represented in (12a') and (12b') respectively:

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(12a') story line

(a) toranpu o itimai zutu totte
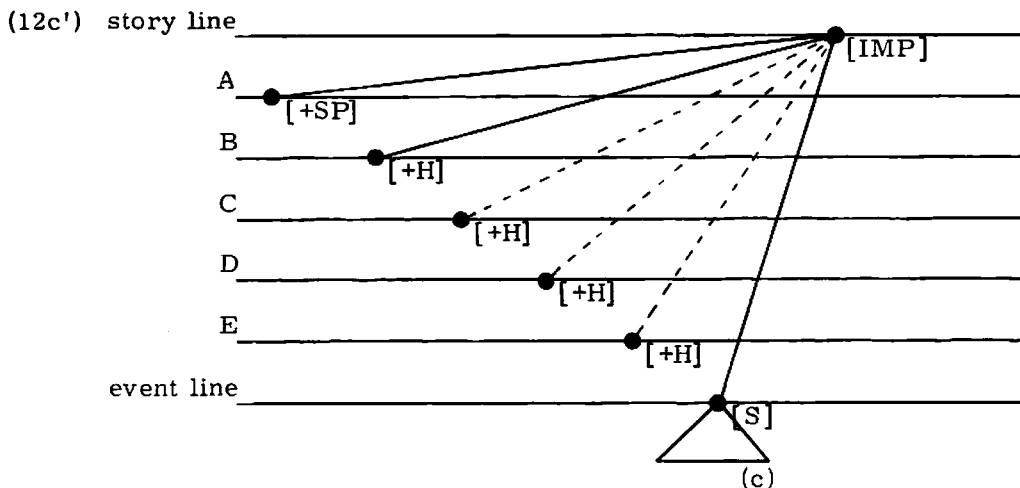   kudasai

Please take the cards one
at a time.

(12b') story line
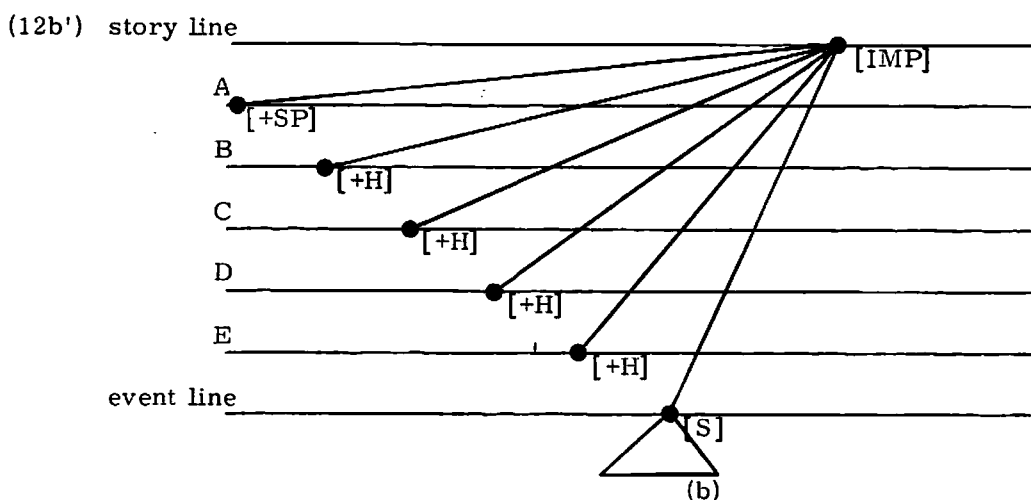
(b) toranpu o itimai zutu totte
     kudasai

Please, each one of you
take a card.

Since there is only one participant marked as hearer in (12a'), this sentence can only be interpreted as meaning (12a). In (12b'), because more than one hearer is being addressed, it is necessary to interpret this sentence as meaning (12b). There are situations in which more than two participants are involved in a conversation, and yet a sentence like (12) may clearly be interpreted as (12a); for instance, a classroom situation when a teacher speaks to one of the students. What has happened in this situation is that the speaker has addressed only one of the participants, and has excluded the others who may be only physically present. This is diagrammed in (12c'):

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(12c')

(c) toranpu o itimai zutu totte   ·   Please take the cards one
    kudasai.   at a time.

The dotted line is termed an earshot line. This line indicates that the participant is still a member of the conversation, but that the question or comment is not being directed to him. This line is of extreme usefulness in, for instance, Dyirbal, a North Queensland language.[7] Every speaker of Dyirbal uses, in fact, two different languages: Guwal, the 'everyday' language; and Dyalɲuy, the 'mother-in-law' language [see Dixon (1970), esp. pp. 436-7]. These two languages have an identical phonology and an almost identical grammatical system, but the lexical items are entirely different, "there being not a single lexical word common to Dyal uy and Guwal. [Dixon (1970), p. 437] Which language will be used depends exclusively on those people who are within hearing distance. Thus, for instance, a man will speak Dyalɲuy in front of his mother-in-law, his father's sister's daughter, or his mother's brother's daughter, but will speak Guwal in front of his wife, his mother's sister's daughter, and others. In our terms, if an earshot line extends to a participant who is marked [+mother-in-law] etc., then Dyalɲuy is to be used. If no participants are so marked, Guwal is used. This use of different forms depending on who is present is paralleled to a certain extent in Japanese, where the simple physical presence of a teacher, for instance, will cause a change in students' conversational style, despite the fact that the teacher may never be directly addressed.

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Addition of New Speakers to a Conversation

Generally, the participants in a conversation remain constant, with only the roles changing. However, it is sometimes the case in real life that a new participant may join a conversation already in progress, or that one of the participants in a conversation may leave. In addition, in large group conversations, it is usually the case that restricted conversations develop from time to time involving a number of subgroups of the original conversation group. The general framework presented above allows this type of situation to be represented simply and effectively. Disregarding the occurrence of greetings, the introduction of an additional participant into a conversation may seriously affect the structure of the ensuing discourse. In Japanese, for instance, a typical manifestation of this change is an immediate shift in politeness level. For example, assume a speaker is talking with a close friend, a situation which calls for non-formal speech. Briefly, non-formal speech is characterized by the absence of the morpheme -masu attached to the verb. In this situation, represented in diagram (13), the fact that non-formal speech forms are to be used is indicated by a feature specification extending from the participant nodes. [8]

(13) story line
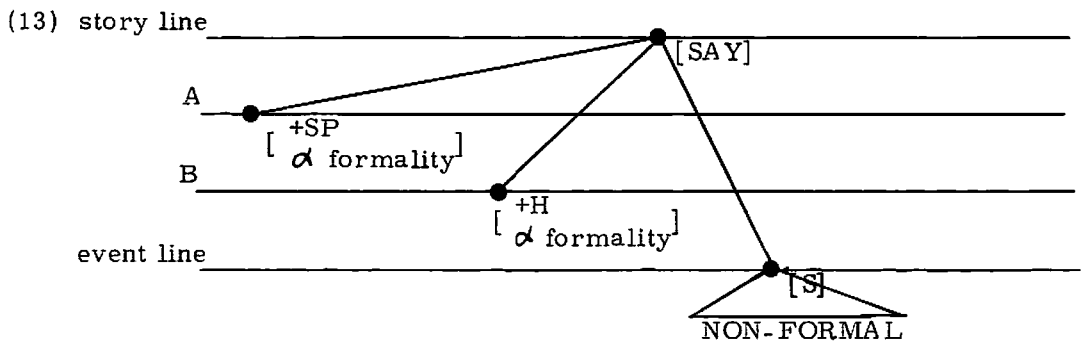
Both A and B are marked [α formal] to indicate that they belong to the same "in-group" (for this concept, see Hinds (1973) and(1971c)). Whenever all the participants are marked [α formality], this indicates that non-formal speech is appropriate. If another person joins the group, and if that person does not belong to the same in-group, the change in formality can be marked with the introduction of the new participant, with all other information remain-

ing constant. This is indicated in (14):

(14) story line
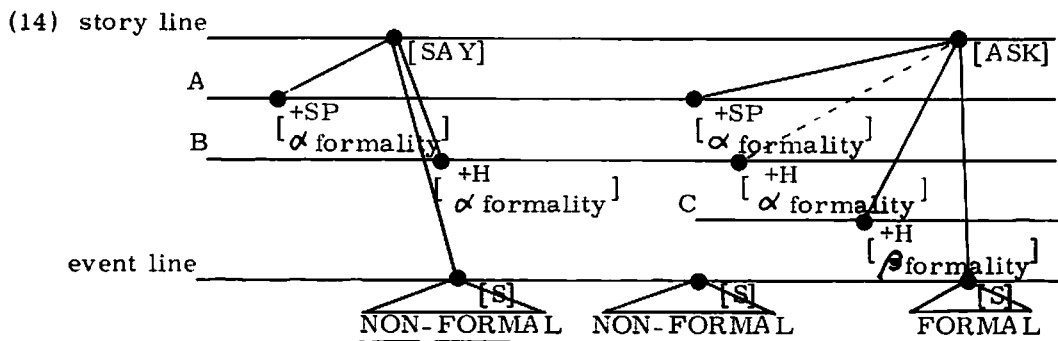
In this diagram, C is a late-comer to the conversation. C's participant line begins precisely when he enters the conversation as a hearer. C is marked [β formality], which indicates that he introduces another formality level. Thus, when there is a conflict in the degrees of formality between participants in a conversation (that is, when both [α formality] and [β formality] are present in the participant section of the reticulum), all conversation from that point on will contain formal rather than non-formal speech. This is illustrated in (15):

(15) A. haizyakku no ziken wa   Hijacking is terrible, isn't
        sugoi ne.   it? [non-formal style]

     B. soo ne, taihen da ne.   Yes, it is, isn't it. [non-
                                      formal style]

     [ENTER SLIGHT ACQUAINTANCE]

     A. Suzuki-san, kono aida no   Mr. Suzuki, what do you think
        haizyakku no ziken doo   of the recent hijacking ?
        omoimasu ka ?   [formal style]

To conclude, the abstract reticulum which has been presented in this paper provides an effective mechanism for dealing with various discourse level phenomena. These various phenomena include manifestations of social relationships among participants and non-participants in a conversation, topicalization and pronominalization constraints, change in performatives, the indication of the referents of deictic pronouns, and the resolution of certain discourse level ambiguities. Whether or not this framework is the one which will ultimately be used to account for these phenomena, these pheno-

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mena must ultimately be accounted for.

NOTES

1. The situation in Japanese is that there is a distinction between the middle anaphoric demonstrative (the so-series) and the far anaphoric demonstrative (the a-series) which generally, but not always, corresponds to certain of the speaker's presuppositions. If, for example, the speaker presupposes that the hearer knows the referent of the anaphoric demonstrative in much the same way as he does, the a-series is appropriate. If, however, the speaker does not have this presupposition, only the so-series is appropriate. Examine (a) and (b) in this regard:

(a) ano hito o tasukete ageta koto ga aru.
     that man   help   gave fact   be
     I have helped that man (I assume you know the person I have in mind).

(b) sono hito o tasukete ageta koto ga aru.
     that man   help   gave fact   be
     I have helped that man (whom you are talking about).

However, there are instances in which the selection of a particular anaphoric demonstrative may be influenced exclusively by the position in which it occurs in a discourse. For example, in a conversation in which there are repeated references to a particular subject, and assuming this subject is known to both participants in a conversation, the first mention of that subject is marked by the a-series. Subsequent mention of this subject tends to be marked by the so-series.

(c) A-1 ano tookyoo no onna no   I heard that girl from Tokyo
         ko kodomo umareta rasii   had a baby.
         zo.

    B-1 dare no kodomo ka   Whose baby is it?
         wakatta no?

    A-2 sore yamada san no   I hear it's Yamada's.
         kodomo rasii n da
         kedo ne.

    B-2 yappari.   Oh.

    A-3 dakedo, saiban o yaru   Well, I heard there'll be a
         rasii. kyooiku hi o....   trial. The cost of educating
                                         a child . . .

    B-3 un de, yamada san wa
         uttaerareru n zya nai?   Won't Yamada be sued?

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A-4	uttaerareru.	Yes.
B-4	hora.	Oh.
A-5	dakedo ne, boku wa <u>sono</u> onna no ko baka da to omotta ne.	Well, I think that girl is stupid.

The crucial part of this dialogue is that in both A-1 and A-5 the same girl is being referred to. Obviously, none of A's original presuppositions have changed, since B has demonstrated that he also knows the girl. The only reason for the switch to the <u>so</u>-series is that A-5 occurs rather late in the dialogue (for a complete discussion of this phenomenon, see Hinds (to appear a)).

2. Since some aspects of honorific usage (particularly formal versus non-formal distinctions) depend exclusively on the relationship between the speaker and the hearer, as that relationship is perceived by the speaker, the necessity for examining conversations is obvious. If there is no speaker-hearer relationship, there are no formal versus non-formal distinctions.

3. Actually, of course, the situation is not quite this straightforward, since, for instance, such Japanese nouns as <u>okaasan</u> 'mother, ' <u>tuki</u> 'moon, ' <u>kimi</u> 'you, ' etc. may be freely thematized (i. e., marked with <u>wa</u>) on their first occurrence in a discourse, regardless of the paragraph topic. Other noun phrases may be thematized only if there has been a previous mention of that noun phrase in the preceding discourse. The mechanism developed in Hinds (1973) to account for this is a registry which contains a list of all those noun phrases which may be thematized at a given point in a discourse. This registry consists of two parts: a permanent registry, which contains noun phrases of (presupposed) unique reference which may be thematized for any paragraph; and a temporary registry, which lists noun phrases as they are introduced into a discourse. Independently, Takahasi <u>et al</u> (1972) developed a similar system which divides the memory system of the listener into two parts: a primary memory and a secondary memory. These are analogous in many respects to the terms 'temporary registry' and 'permanent registry, ' respectively, and these systems as developed in Takahasi <u>et al</u> (1972) provide valuable operational procedures. The reader is advised to consult this source. One aspect of conversation which was not covered by Takahasi <u>et al</u> (1972) is that items entered in this temporary registry (or primary memory) may be thematized only while the discourse topic remains the same. When this discourse topic (or paragraph) changes, the temporary registry must be removed and stored in a separate component. This has the effect of preventing any of these noun phrases from being thematized unless that discourse topic is reinstated as the current discourse topic. That is to say, it is assumed that conversations are structured as blocks of sentences, each sentence in that block sharing the fact that it is related in some way to the discourse topic. For details on the way sentences cluster around a particular topic, see Phillips (forthcoming). For details on the reinstatement of discourse topics, see Hinds (1973).

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4. Some of the details which have been omitted from this discussion are that (1) the second person singular pronoun is used to refer to a single individual only if the individual is a relative belonging to a younger generation, a friend or a social inferior; (2) the third person singular and plural refers only to humans (or family pets); and (3) the second person plural can be used when there is some social distance between speaker and hearer (see Schachter and Otanes (1972), esp. pp. 89-90). This information can all be accounted for quite adequately within the system proposed in this paper (see Note 8 and Hinds (1973) for details).

5. This is not to say that all aspects of the deictic systems of all languages can be treated in this manner. For instance, in Swahili, there is a deictic distinction which is based on the preciseness of location. That is, Swahili has a basic two way deictic distinction between "here" and "there," each of which is further divided into degree of precision. Thus, consider (a) and (b):

(a) mtoto yupo hapa.   The child is right here.
    child he   here (definite)

    mtoto yuko huku.   The child is around here.
    child he   here (indefinite)

    mtoto yumo humu.   The child is in here.
    child he   in here

(b) mtoto yupo pale.   The child is right over there.
    child he   there (definite)

    mtoto yuko kule.   The child is somewhere over
    child he   there (indefinite)   there.

    mtoto yumo mle.   The child is in there.
    child he   in there

At present, it does not seem possible to account for these distinctions in a natural way using only the reticulum.

6. Some additional readings of this sentence are:

   a. Please take one card from each of those stacks of cards.

   b. Please, each of you take one card from each stack of cards.

These, and other possible readings, will not be discussed here.

7. I am endebted to Peter C. Lincoln for calling this source to my attention.

8. Other aspects of the Japanese honorific system can be accounted for in a similar manner. By assigning an integer taken from a sliding scale of one through ten (with ten being the highest relative social position) to the feature

set of each participant in the conversation, as well as to people mentioned by the participants, relative social position can be indicated.

(a) ano sensee ga hon o yomareta.
    that teacher   book read-honorific
    That teacher read the book (honorific).

(a') story line
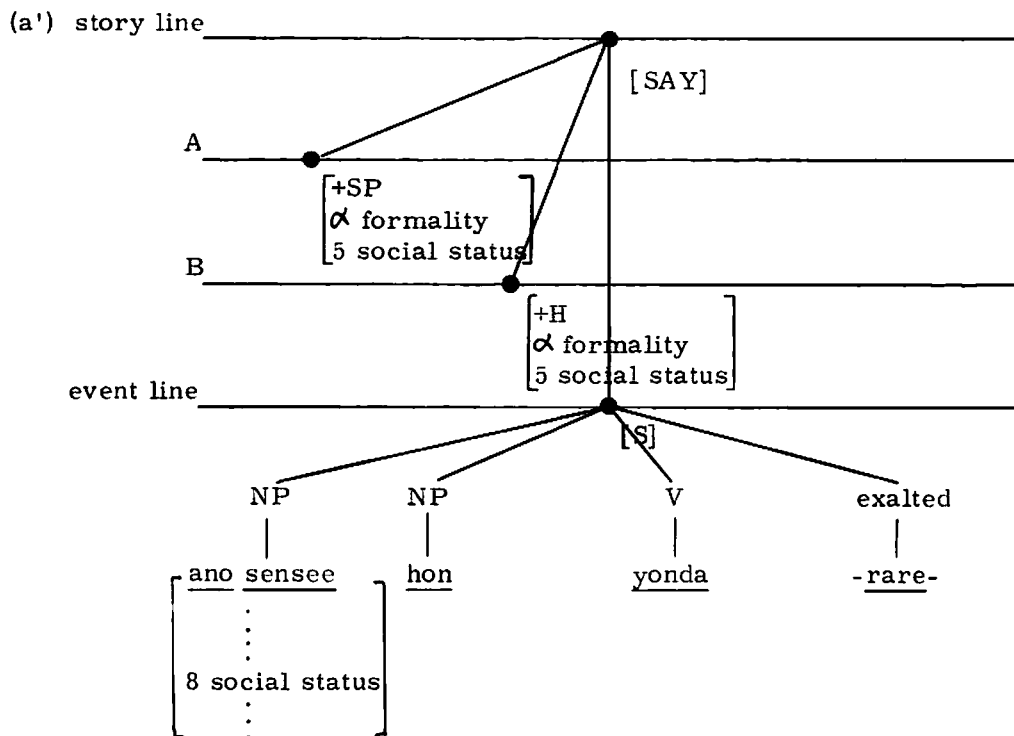
In this (overly simplified) example, both A and B belong to the same in-group, and their relative social status is about equal. The speaker is talking about a teacher whose relative social status is higher than his own. This is represented by the fact that A's relative social status is [5 social status] and the teacher's is [8 social status]. In this case, the "exalted" morpheme -rare- is an automatic consequence of this difference in relative social status. For more details on this point, see Hinds (1973)).

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