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Process and Text: Two Aspects of Human Semiosis

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1. INTRODUCTION: PROCESS VS. TEXT

In the *Prolegomena* (1961) Hjelmslev uses two sets of terminology in resolving Saussure's dichotomy of *langue* and *parole*. When discussing semiotic systems in general, Hjelmslev refers to a semiotic's meaning potential as *system*, and the realization of this potential as *process*. But when focusing on one of these semiotic systems, language, he uses the corresponding terms *language* and *text*. Hjelmslev may not have intended anything in particular by this particular choice of terms. But his selection of terms for the actual, at least in their English renditions, is intriguing. *Process* is much more the 'active' member of the pair: it connotes what at first strikes one as an interactive dynamic perspective on manifestation. *Text* is on the other hand more 'static'; it calls to mind a product whole, complete, a kind of *fait accompli*. So little is accidental in Hjelmslev that one cannot help speculating on his use of these terms to distinguish language from the semiotic systems which in general comprise our culture. Is there a sense in which linguistic manifestations are products rather than processes while the realization of other semiotics is action rather than a thing? Is it just our oldest method of recording language, our writing systems, which make us think in this way? Whatever the case (we may never in fact know just what seeds Hjelmslev was sowing here), there is a sense in which process and text do reflect rather different perspectives on the actual and its relation to potential. In this paper the difference between these two perspectives, and the need for both of them in a complete account of human semiosis, will be considered.

2. LANGUAGE, REGISTER AND GENRE

The difference between the product and process perspectives is unfortunately not easy to illustrate with reference to grammar or phonology. Neither of the terms, as they are being looked at here, refers to the 'process' of manifestation, or *realization*, as it is conceived on these strata. This is presumably why linguists have been so happy to live without the distinction considered here for so long. Rather, to

discourse	lexicogrammar		phonology
CONVERSATIONAL STRUCTURE	TRANSITIVITY		TONALITY
CONJUNCTION	THEME		TONICITY
REFERENCE	MOOD		TONE
LEXICAL COHESION	group & word systems	LEXIS	foot & syllable prosodies
			phoneme systems

Figure 1. Outline of a tri-stratal systemic functional grammar with central systems on each stratum noted

clearly illustrate the product/process complementarity one has to look at text. There, once any attempt at an exhaustive description is made, the need for both perspectives becomes clear. This means that in order to discuss the question at all and to those semiotic systems which language itself realizes. This takes us far beyond anything we can be sure of, into the realms of wild speculation perhaps. Nevertheless, some kind of model has to be set up if we are to progress; so here, with apologies, is my current best guess at how it all fits together.

To begin, let us assume a tri-stratal model of language such as that sketched out in Fig. 1. The strata are named, abstracting away from phonic substance, phonology, lexicogrammar and discourse. The fundamental unit on each stratum (where the action is in terms of the number of choices made) is the phoneme, the clause and the text, respectively. The lexicogrammar assumed is a very rich systemic-functional one. Following Halliday (1967 forthcoming) it includes descriptions of TRANSITIVITY, MOOD and THEME, group and word rank systems, and a yet to be accomplished collocational approach to lexis (Halliday 1961, 1966, Sinclair 1966). Such a rich 'semantax' leaves the next stratum free to handle interclause relations: REFERENCE, CONJUNCTION and LEXICAL COHESION as outlined in Halliday and Hasan (1976) along with CONVERSATIONAL STRUCTURE (based on the work of Sinclair & Coulthard 1975, and Berry 1981a, b, c). Two of the three examples of the need for both a product and a process perspective will be taken from this stratum: from REFERENCE in section 4.1 and from CONVERSATIONAL STRUCTURE in 4.2.

In addition to this semiotic system, which has so far been the special preoccupation of most linguists, it is necessary to consider two further semiotic systems, which will be referred to here as register and genre. These two systems are what Hjelmslev referred to as *connotative semiotics*: semiotics whose expression plane is another semiotic system. Linguists, especially those with an interest in why language is the way it is, have probably been remiss in ignoring these semiotics; since it is the function of language to realize them, both of these parasites, register and genre, have profoundly affected the structure of language itself (see Halliday 1973, 1975, 1978 for discussion). These connotative semiotics are stacked up against language in Fig. 2. There language is treated as the phonology of register and
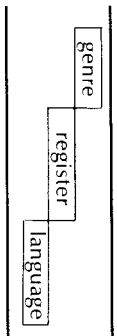
register the phonology of genre. The 'level' occupied by each of these semiotics will be referred to as a communication *plane* (note that this is *not* Hjelmslev's usage: he used the term *plane* for what is now generally referred to as a *stratum*). The third example of the need for a product/process opposition will be taken from the most abstract of these semiotics, genre, and will in fact be discussed before the others in section 3 below.

Figure 2. Language in relation to its connotative semiotics: register and genre


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genre
register
language
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Register will be briefly considered in section 4. It comprises the traditional Firthian contextual categories of *field*, *mode* and *tenor* with field covering the institutional focus of a text (see Benson and Greaves, 1981), mode the medium through which it is realized, and tenor the social distance between speaker and addressee. Halliday's rhetorical genre (for him an aspect of mode; 1978:143), Gregory's (1967) functional tenor and Ure and Ellis's (1977) role have been more or less abstracted away from this plane and set up as a further underlying semiotic, genre, of which more in section 3. All this takes us far beyond what is at present testable, arguable or even mildly convincing; so it is perhaps best to stop at this point, leaving the problems of ideology, code and foregrounding for best guesses at another time.

3. GENRE

Genres are how things get done, when language is used to accomplish them. They range from literary to far from literary forms: poems, narratives, expositions, lectures, seminars, recipes, manuals, appointment making, service encounters, news broadcasts and so on. The term genre is used here to embrace each of the linguistically realized activity types which comprise so much of our culture. Its meaning extends far beyond its use in literary studies to refer to different kinds of verbal art, though each of these does remain a genre in the usage here.

Set up as a semiotic system underlying register as it is, one of the principal descriptive responsibilities of genre is to constrain the possible combinations of field, mode and tenor variables used by a given culture. No culture makes use of all possible combinations. In western culture for example, one does not lecture about typing, bicycle maintenance or house cleaning. There is no real reason why one couldn't (it is easy to imagine a comedian doing just this - but to make us laugh). But these fields simply do not combine with power (tenor) and abstract reflective monologue (mode) in our culture. When people are being socialized into these institutions genres other than lectures are used.

Some of the holes in a culture's register paradigms, such as those just discussed,

appear at a first glance somewhat arbitrary. Others are more obviously highly functional. Some fields do not combine with particular tenor and mode values because of taboo. Sex for example does not readily combine with power (tenor) and spontaneous dialogue (mode). It is not always 'polite' in our culture to talk about sex to our inferiors; if one does so, it may be construed as a rather threatening, often sexist, demand for sexual favours. Similarly there is a general constraint against talking about sex while doing it, regardless of the tenor involved. There are however er genres which legitimize this field. Sex is fine as a topic among peers (realizing solidarity tenor) providing the mode is reflective; and sex is acceptable in lectures and seminars where there is bound to be a differentiated power relationship of some kind but the mode is reflective monologue (where children are involved this is only just becoming a legitimate combination in our culture).

At other times, functional holes in a culture's register paradigms seem to exist for the purpose of ensuring that culture's survival. Semioticians for example, especially those intent on revolution, quickly discover that they are not allowed to discuss their work in casual conversation. Most people feel threatened by the idea that there are rules, abstract invisible ones, of various kinds, which explain a lot of the behaviour they treasure as thoughts and feelings of a personal kind. Semioticians threaten freedom! When semioticians do break through this barrier and attack the arbitrariness of one or another of these rules, most people start to feel threatened by a loss of security - sacred truths become banal. Semioticians threaten security! The result of all this is that the people who are trained to recognize invisible semiotic repression of many kinds have to shut up about it. Romantic liberalism gags them. This is immensely useful to those benefiting from this repression. Jay Lemke refers to holes of this kind as *disjunctions* (cf. Lemke 1982). If holes like this are filled, a culture is bound to change, quickly and radically.

The second reason for setting up genre as an underlying semiotic is a more positive one. Genre does more than legitimize combinations of field, mode and tenor in a culture. As well it represents at an abstract level the verbal strategies used to accomplish social purposes of many kinds. These strategies can be thought of in terms of stages through which one moves in order to realize a genre. In narrative of personal experience, for example, (cf. Labov & Waletzky 1967) one begins with an Abstract (a synoptic summary of sorts of the story to be told), continues with an Orientation (introducing protagonists and setting them in time and space), follows on with a Complication (a series of events leading up to something going wrong), inserts an optional Evaluation (suspending the action for a moment to comment on and thereby highlight the crisis), carries on with a Resolution (solving the crisis for better or worse) and ends with a Coda (a brief comment on why the story was worth telling). All genres have a beginning-middle-end structure of some kind; these structures will be referred to here as *schematic structures* (equivalent to Hasan's 1977; 1980 generalized text structures). Schematic structure represents the positive contribution genre makes to a text: a way of getting from A to B in the way a given culture accomplishes whatever the genre in question is functioning to do in that culture.

In order to illustrate the concept of genre in detail, consider now one genre, or rather one set of related genres, which might be referred to as service encounters (see Hasan 1979). This genre has been studied in some depth by Ventola (1982) following up some suggestions of Hasan (1979, and Halliday and Hasan, 1980). Ventola has focused her attention on the following service encounters: post office, travel agency and small shop. Her proposal for the schematic structure of these service encounters is as follows:

Greeting (an exchange of *hello's*)
Attendance Allocation (selection of the next customer: *Next please.*)
Service Bid (offer of service: *Can I help you? - Yes/no.*)
Service (statement of needs and their provision: *Yes, I'm looking for . . . .*)
Resolution (decision to or not to buy: *Yes, I'll have those . . . .*)
Pay (exchange of payment)
Goods Handover (exchange of goods)
Closing (exchange of thanks)
Good-bye (an exchange of *bye-bye's*)

The elements of schematic structure for this genre are listed here in their unmarked order of occurrence; the actual sequence of realization is somewhat variable.

The question that schematic structures of this kind immediately poses is: where do they come from? Hasan (1980) suggests that they are determined by particular values of field, mode and tenor. Schematic structures are in other words generated by register. This formulation will be inverted here where elements of schematic structure will be interpreted as determining particular values of field, mode and tenor. The elements themselves will be generated by genre networks. This follows from the discussion presented above concerning the use of genre to constrain a culture's legitimate combinations of field, mode and tenor variables. It should perhaps be pointed out here that there is really nothing descriptively at stake in this inversion. What is descriptively important is the way in which values of register and schematic structure correlate. This direction of determination is a moot point as far as this correlation is concerned. Direction of determination stops being a moot point only when relations between genres and sub-genres are taken into account. What then of genre agnation - of genre as system?

Here one is on very shaky ground indeed. There do not appear to exist descriptions of different kinds of service encounters which would make it possible to formalize genre agnation in a principled way. What follows by way of formalization is intended only as an illustration of what genre as system might entail. The network itself will no doubt prove something of an embarrassment as the study of genre unfolds.

A tentative formalization of service encounter agnation is presented in Fig. 3. Realization rules are presented in Table 1 next to features which determine the presence or absence of particular elements of service encounter schematic structure. No attempt is made to specify the sequence of elements at this stage. Terminology is definitely a problem: there is no 'traditional grammar' of genres to draw on. So-
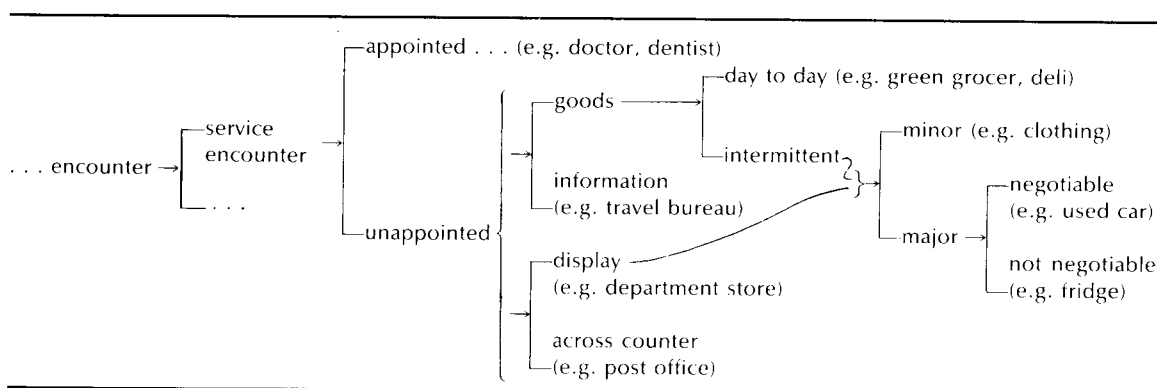

Figure 3. Tentative network for service enounters illustrating genre agnation

Table 1. Realization Statements for Service Encounter Features

[encounter]	+Greeting; +Good-bye
[service encounter]	+Service; +Resolution; +Closing
[appointed]	+Wait (*Won't you have a seat; the doctor will be with you in a moment.*)
[not appointed]	+ Service Bid
[goods]	+Pay; +Goods Handover
[across counter]	+Attendance Allocation
[intermittent]	+Sales Pitch (persuasion to buy); +Reassurance (assertion of goods goodness if bought)
[major]	+Delivery (arrangement of transportation or pick-up)
[negotiable]	+ Bargain (negotiation of price)

ciology and social anthropology will no doubt turn out to have a great deal to offer semiotics in this area.

The network in Fig. 3 and the corresponding realization rules in Table 1 would, if anywhere near correct, go some way towards distinguishing one genre from another and showing the relations between them. But they are still a long way from generating well-formed schematic structures for service encounters in our culture. First of all, nothing has been said about the sequence of elements. Ventola's elements have been listed in their unmarked sequence above. But as her work has shown, one does not have to collect very many service encounter texts before one comes across departures from this norm in what are still felt to be well-formed texts. Greetings for example are found initially, after Attendance Alloca-tions and after Service Bids as well; Services may occur after Goods Handovers, if the client remembers something else that is needed. Clearly getting elements in the right order is not straight-forward. Second, some of the elements in a service encounter can occur more than once; there may be more than one Service and Resolution in the structure - a customer may have more than one need. So recur-sion has to be built into the description at some point. Third, there are at least three places in the schematic structure where client or server may opt out: clients may refuse the Service Bid, saying that they are just looking; servers may have to opt out in the Service because they do not have what the client is looking for; and clients may opt out in the Resolution because the goods or information offered are not what they want. Each of these departures has the effect of aborting the service encounter as client and server skip forward to the Closing (alternatively a client may skip back to the Turn Allocation if he has genuinely refused the Service Bid to look around with the intent of purchasing something when he finds it).

None of these problems are intractable. But they do raise serious questions about generating well-formed schematic structures with a network such as that in Fig. 3. This is perhaps not too surprising. Taking grammar as his model a systemicist might at first expect that if he works out the relations between genres and sub-genres of related kinds and formalizes these in a network, then it will be a simply matter to formulate realization rules generating well-formed schematic structures. After all, it

works for clauses; why wouldn't it work here? Schematic structures are however different in kind from clause structures, and this procedure turns out to be naive. For one thing in clauses the sequence of elements tells you what kind of clause it is; but with schematic structure sequence is more variable - what matters is that a Greeting is accomplished, not so much when it is. For another, recursion works differently in clauses then in schematic structures. In principle, only ranking units, clause, group or word can be recursive in grammar. One does not find recursion of inherent elements of clause structure (eg. recursive Actors or Ranges or recursive Subjects or Finites). It is only by passing recursion down the rank-scale that one can get more than one Actor or Subject in a clause (*John and Mary arrived.* has one Actor, not two, which is realized by a nominal group complex). But with schematic structure there does seem to be genuine recursion of elements that are not ranking units. There may be several Services and Resolutions in an service encounter; but these elements are not elements of a different rank from Greeting, Closings or Good-byes. Finally, in grammar, once one begins a clause, one finishes (leaving false starts and other hesitation and interruption phenomena aside). There is not in clause

Notational conventions for the interpretation of Fig. 4:

Flow chart notation:

↓ ↓   = social process

GOODBYE   = structural element
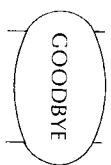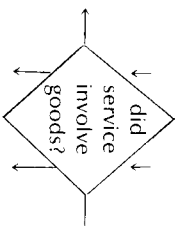
did service involve goods?   = decision

yes/no   = decision arrived

PROVIDE COMPLIANCE   = assignment ('work to be done')

GO BACK TO SERVICE   = skipping and recursing an element (go forward or back to an element)

Figure 4. Ventola's tactic pattern for initial elements in service encounter

SERVER:
(S)

SOCIAL PROCESS

CUSTOMER:
(C)

BE PRESENT
IN SERVICE AREA

ENTER
SERVICE AREA

Start

GREETING

yes ← greet? → yes

GREET!   no   no   GREET!

Attendance
ALLOCATION

LOOK FOR
ANOTHER S/
LEAVE

no

APOLOGIZE   WAIT! ← yes   Can
you wait?

no   no

can
you serve
C?   ← yes   has
C called
you?   ← no   face-
to-face?   no   has
S other
Cs?   → yes   has S
apologized?   yes   ACCEPT
APOLOGY

yes   no   yes   yes   no

CALL C TO
APPROACH!   has
S called
you?   → no

yes

APPROACH
C!   APPROACH
S!

CALL S TO
APPROACH

GO BACK TO
GREETING   ← yes   greet
now?   → yes   GO BACK TO
GREETING

no   no

SERVICE
BID

GO BACK TO
TURN ALLOCATION   thinks
that you
serve?   GO BACK TO
TURN ALLOCATION

MAKE A
ENTENCE BID!   ← no

yes   yes

now,
later C has
a need?   ACCEPT
REFUSAL   ← yes   has
C refused
the bid?   ← yes   was
there a
service
bid?   → yes   an
immediate
need?   → no   REFUSE
SERVICE BID!   now,
later a
need?

no   no   no   no   yes   no

GO FORWARD
TO CLOSING   explicit
acceptance?   ← no   GO FORWARD
TO CLOSING

yes

ACCEPT
SERVICE
BID!

GO BACK TO
GREETING   ← yes   greet
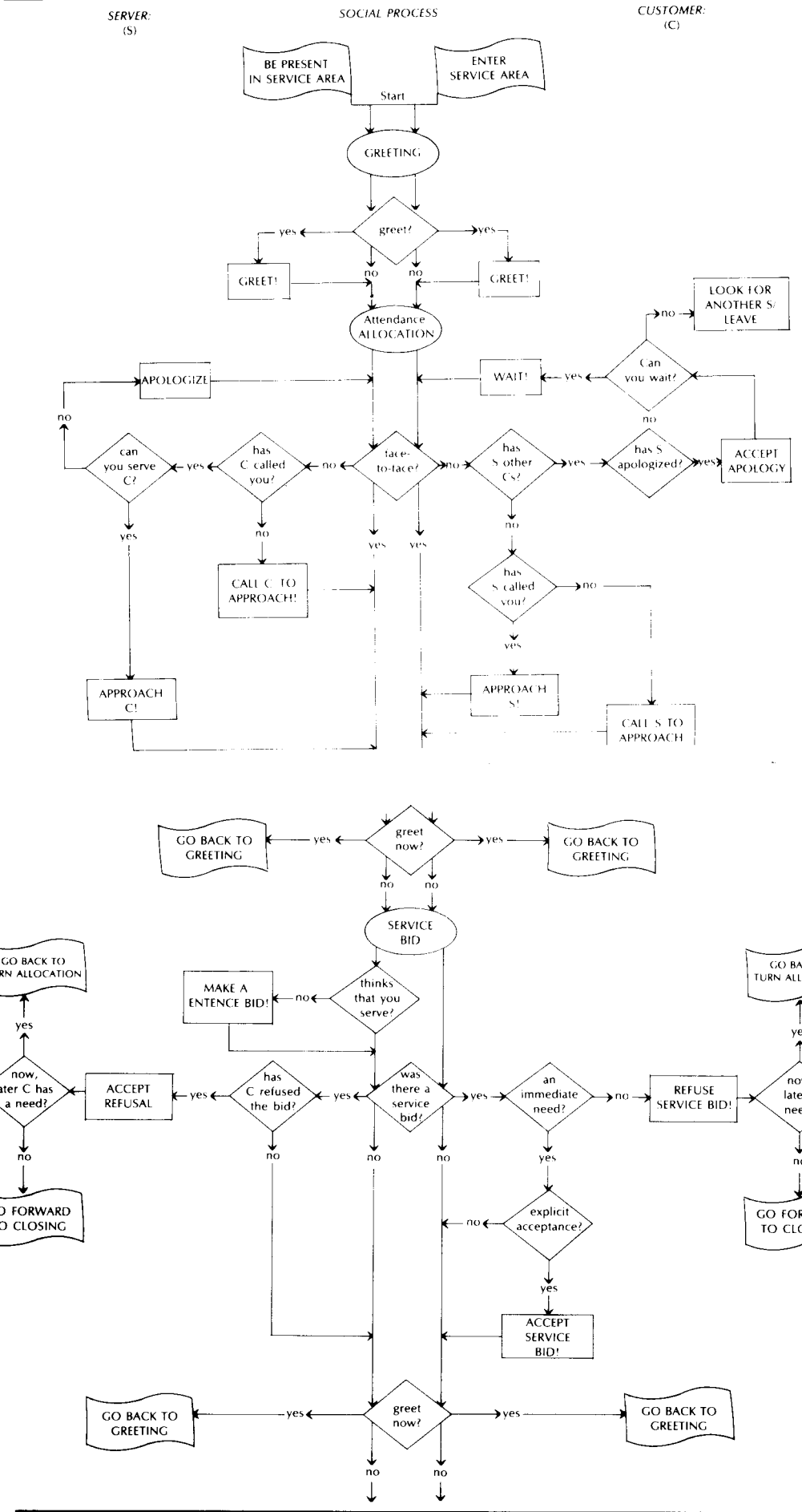now?   → yes   GO BACK TO
GREETING

no   no

Figure 4. Ventola's tactic pattern for initial elements in service encounter (cont'd)

structure a set of elements which permit a speaker to stop talking or a listener to stop listening, with the clause remaining well-formed regardless. But with schematic structure there are elements which, depending on how they are negotiated, allow the interlocutors to abort the encounter: one *can escape*! Again, this is not to argue that clause structures are principled in a way schematic structures are not. But it is to point out that the mechanisms for formulating these principles are bound to be different in kind: system networks and realization rules are not going to be equipped for the job.

What *will* work? Ventola's suggestion is that the way to generate well-formed schematic structures for service encounters is to make use of an elaborated decision tree or flow chart (cf. Fawcett 1975). The first part of her analysis of the tactics pattern necessary for the service encounters she was investigating is presented in Fig. 4. This deals only with the first three elements in her service encounters (for the complete tactic pattern see Ventola 1982). Interpreted in light of the notational conventions included in this figure, this kind of notation appears much closer to what is necessary that system networks and realization rules. Options are included permitting different sequences of the elements required by the genre. Choices are formalized which permit speakers to abort the encounter. And opportunities are provided for backward loops in the flow chart so that recursive elements can be generated. It seems certain that future work on genre and schematic structure which adopts any kind of generative focus will have to include analyses of this kind.

In terms of its generative power the flow chart has three crucial advantages over system networks and realization rules: 1. it allows realization to take place over time —it is not necessary that every decision be taken before the realization of a unit starts; 2. it allows for the recursion of elements which are not ranking units; and 3. it allows for the structure to be aborted at various places during its realization. Interestingly enough the power of a flow chart tells us something about the weakness of system networks and realizations rules which should prove of interest to those concerned with constraints on generative power as far as grammar is concerned.

Now, in terms of the product/process dichotomy, where does this take us? In order to answer this question it is necessary to elaborate the terminology so that the opposition in question in interpreted from the point of view of system/language as well as that of process/text. This is accomplished in Fig. 5, where potential and actual are taken as cross-classifying the active and static perspectives. Potential as seen from the static perspective is termed a *synoptic system*; viewed actively it is termed a *dynamic system*. Actual, when viewed statically will be termed *text*; when viewed dynamically it will be referred to as *process*. Thus synoptic systems generate texts; dynamic systems generate process. The synoptic/dynamic opposition is at the root of Bourdieu's (1977) critique of social anthropology: the term *synoptic* is taken from his work. Lemke (1979) introduces the same opposition, making use of the term *dynamic* for the 'active' perspective.

Interpreted in terms of this terminology, Fig. 3 represents genre potential as a synoptic system. There genres are viewed objectively, after the fact, as things, with particular relations to each other in our culture. Fig. 4 on the other hand represents
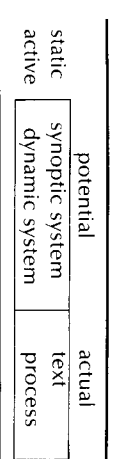
	potential	actual
static	synoptic system	text
active	dynamic system	process

Figure 5. Static and active perspectives cross-classifying potential and actual

genre potential interpreted as a dynamic system. There genre is viewed subjectively, in the process of manifestation, full of interacting decisions, dependencies, choices and the like. Ironically, as one moves from potential to actual in the process of realization, each of these radically different systems turns out to amount to the same thing - a schematic structure which is simultaneously a text and a process (cf. Halliday and Hasan, 1980:11 where a somewhat different distinction is made between text and process; process, in the sense used here does not really seem to be distinguished from realization in Halliday's discussion). In a sense, the dynamic system somehow disappears: it is etic, enabling, lurking between the lines as it were rather than emic, enabled, and manifest in the final result (for this reason writing systems transcribe text, not process, and semioticians, at least linguist ones, tend to get distracted from dynamic potential, especially if their approach to potential has a strong syntagmatic bias as in transformation theory). It appears then that while one can live without a strict process/text distinction in our models of semiotic systems, the dynamic/synoptic opposition is critical. We will never be in a position to make predictions about well-formed schematic structures unless the systems which generate these process/texts are viewed as two distinct but symbiotically interacting potentials.

In passing, to further illustrate the points made here, consider for a moment a completely different semiotic system: the game of bridge. Here only the bidding will be considered, not the actual playing of the hands. Fries (1981) has attempted to formalize the options open to bidders in this card game as outlined in Fig. 6. This network represents the synoptic potential relevant to bidding moves which form the text/process in the first part of a bridge game. Of course, as Fries points out, not all of the options in this network are open to a bidder at any one time. An actual bid must be selected from a much more restricted potential which depends on whether the bid is an opening bid or not, on whether one's partner has bid, on what one's partner has bid and on what conventions partners are using to bid in the game. Obviously the only way to generate well-formed bidding sequences in bridge is to formulate bidding dynamically as well as synoptically. While it is true that the bid a player makes at any point in the game is synoptically related to all other bids as outlined in Fig. 6, the range of options open at any one time is in fact very limited (especially for a skilled player) and must itself be determined by a dynamic system which treats bidding as a process rather than a text. Once again, a transcription of the actual bidding, such as that found in bridge columns in newspapers and magazines, does not distinguish process from text. The synoptic potential underlying the bidding will be familiar to most readers. But what is not so readily accessible is the dynamic potential which has generated just this bidding sequence. This is of course
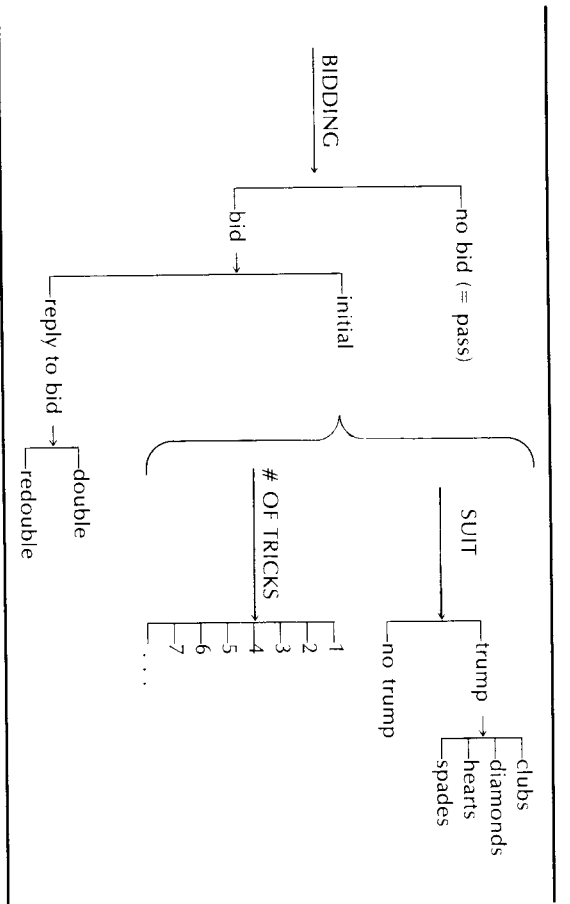
Figure 6. Fries's network for bids in bridge

what the 'expert' bridge columnist seeks to elucidate in his commentary. In order to teach a computer to play bridge this dynamic potential would have to be formalized. Interestingly enough it seems to be part of the raison d'etre of complicated games such as bridge that such a dynamic formalization is not easy to accomplish. By nature, such games have a relatively simple synoptic system (when compared to language and its connotative semiotics) and a comparatively complicated (though not as complicated as for a game like chess) dynamic system. For some reason humans find this kind of semiotic fun. One cannot help wondering whether this is simply because games are a pleasant change from language or because humans would in fact be happier if genres and registers and languages were synoptically simpler systems and dynamically more open ones (cf. Lemke 1982, who appears to suggest just this). Of course humans might have to give up a large part of their culture to attain this (this is presumably why heavens of various kinds, fieldless, tenorless, modeless and genreless as they often seem to be, are so attractive, particularly to the oppressed).

4. SYNOPTIC AND DYNAMIC SYSTEMS IN LANGUAGE

Having argued for the importance of both a synoptic and dynamic perspective on two very different semiotic systems, genre and bridge, the question naturally arises as to whether these two perspectives are relevant to language as well. The answer that most linguists have implicitly given since Saussure is *no*; a synoptic perspectives has almost exclusively dominated linguists' work on phonemes and clauses.

Now that linguists have begun to turn their attention to texts, however, the answer is no longer so simple. Certainly there are linguists who approach discourse synoptically and attempt to model discourse structure on that of grammar (e.g., Longacre, 1976). Recently on the other hand, post-variationists such as Lavandera have argued for a more dynamic approach: 'I approach texts as dynamic processes taking place in time rather than as finished products with a static structure.' writes Lavandera in the introduction to an article on the motivation for choices between indicative and subjunctive in Spanish discourse ([n.d.]:1). In this section two major aspects of discourse structure, CONVERSATIONAL STRUCTURE and REFERENCE will be briefly reviewed in order to demonstrate the necessity of both a synoptic and a dynamic perspective as far as generating well-formed discourse structures is concerned.

4.1 Conversational Structure

Consider first exchange structure. The best synoptic description of the structure of exchanges to date is that being developed by Margaret Berry at the University of Nottingham (see Berry 1981a, b, c). The analysis of exchange structure presented here is taken from her work, which is itself an extension of earlier work by Sinclair and Coulthard (1975). Berry's network for exchange structure is presented in Fig. 7 (Berry 1981c:29). It generates exchange structures such as those illustrated in text 1 and 2. Text 1 is a four move [action oriented] exchange, text 2 a four move [proposition oriented] one.

(1) A.a. - Who is the most boring Canadian in the world? dk1
     B.b. - Margaret Trudeau? k2
     A.c. - Right. k1
     B.d. - Oh. k2f

(2) A.a. - Have a beer. da1
     B.b. - Okay. a2
     A.c. - Here you go. a1
     B.d. - Thanks. a2f

Text 1 is a kind of quiz. The primary knower, A, who is acting as an authority on the topic at hand, asks B a question. B responds, somewhat tentatively using a tone 2 (there are, after all, so many boring Canadians, especially from the point of view of Canadians) with an answer. The primary knower then confirms this proposition, now completed, to be the case and finally B, the secondary knower comments in relief. In Berry's terms, 1.a is a dk1 (delayed k1) move by the primary knower, 1.b is an elicited k2 move by the secondary knower, 1.c is the actual k1 move by the primary knower (the obligatory element in information exchanges) asserting the proposition as developed in 1.a and 1.b to be correct, and 1.d is a follow up move by the secondary knower commenting on the proposition. Information exchanges

may begin with k2 or k1 moves as well as in texts 3 and 4, but these variations will not be further discussed here.

(3) A.a. - Who is the most boring person in the world?   k2
     B.b. - Margaret Trudeau.   k1
     A.c. - Oh.   k2f

(4) A.a. - Margaret Trudeau is the most boring person.   k1
     B.b. - Too true.   k2f

Text 2 is parallel is structure, but is oriented to an exchange of goods rather than of information. The primary actor, A, delays giving B a drink by first inquiring if he wants one: B replies that he does, then A gives him the drink and B thanks him. In Berry's terms in 2.a the primary actor delays acting by making an offer; in 2.b B accepts the offer, telling A to in fact get him a drink; in 2.c A replies with a verbalized a1 move; and in 2.d B follows up with an expression of gratitude. Like information exchanges, action exchanges can begin with any of a dx1, x2 or x1 move. Action exchanges beginning with a2 and a1 moves are illustrated in texts 5 and 6 respectively but will not be further discussed here.

(5) A.a. - Could you get me a drink.   a2
     B.b. - Sure.   a1
     A.c. - Thanks.   a2f

(6) A.a. - Have a drink.   a1
     B.b. - Thanks.   a2f

This brief presentation does not really do justice to the complexities involved. Hopefully it will suffice to show what can be accomplished from a synoptic perspective. Berry's analysis, once the realization of the features in Fig. 7 is made explicit, does make predictions about well-formed exchanges in English; and it does show how exchanges are alike and different from each other. As such the analysis far surpasses in descriptive adequacy anything presented in speech act theory or ethnomethodology. But is this perspective enough? It will be suggested here that it is not, for reasons very similar to those developed for the schematic structures considered in section 3.

Consider text 7. In this text A rejects B's first and second k2 move, waiting for the right answer. The completion of the exchange is in effect suspended until the proposition A has in mind is correctly completed. When it is A plays the k1 move and B completes the exchange:

7.A.a.   Who is the most boring person in Canada?   dk1
  B.b.   — Joe Clark?   k2
  A.c.   — No.   —
  B.d.   — Pierre Trudeau?   k2

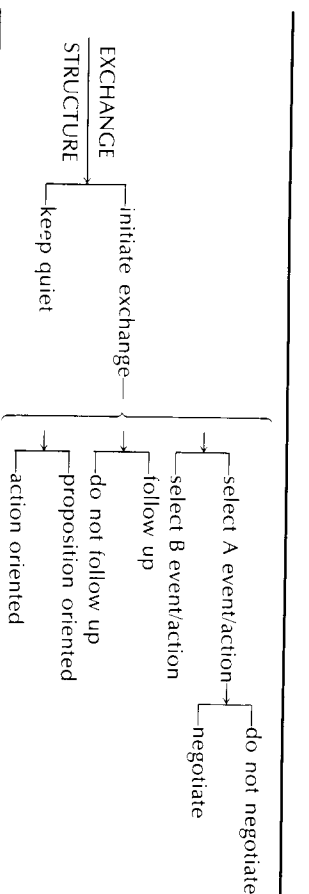   A.e.   — No.   —
     B.f.   — Um, Margaret Trudeau?   k2
     A.g.   — Right.   k1
     B.h.   — Oh.   k2f

Text 7 raises two problems for the synoptic description outlined above. First of all, there are 3 k2 moves, not just 1 as predicted. And in principle there might be many more in a longer such guessing game. Second, it is not clear what roles in the exchange moves 3.c and 3.e are playing. They might be coded as k1 moves, but would then have to be distinguished somehow from 3.g since 3.g predicts a following k2f move whereas 3.c and 3.e precede a k2 move. The same phenomenon is found in action exchanges as illustrated in 8.

8.A.a.   Can I get you a drink?   da1
  B.b.   —//2 scotch//   a2
  A.c.   — No.   —
  B.d.   —//2 gin//   a2
  A.e.   — No.   —
  B.f.   —//2 beer//   a2
  A.g.   —Okay.   a1
  B.h.   —Thanks.   a2f

Texts 7 and 8 illustrate one of the dynamic phenomena discussed with respect to schematic structures above: namely, recursion of elements of structure where this recursion cannot be interpreted in terms of the recursion of ranking units. Neither texts 7 or 8 are in any sense exchange complexes. And in both texts, moves b, d and f are neither move complexes nor clause complexes (there is no natural place for a recursive loop in Fig. 7). One of the elements of exchange structure is simply repeated until the exchange can be resolved. Note in passing that this need not be the x2 move:

STRUCTURE ┬ EXCHANGE ┬ initiate exchange ┬ select A event/action ┬ do not negotiate
          │   │   │   └ negotiate
          │   │   ├ select B event/action
          │   │   ├ follow up
          │   │   ├ do not follow up
          │   │   ├ proposition oriented
          │   │   └ action oriented
          └ keep quiet

Figure 7. Berry's 1981c Network for Exchange Structure

(9)
A.a. - Margaret Trudeau is the most boring person in the world.   k1
B.b. - No, she isn't.   -
A.c. - Yes, she is.   k1
B.d. - She is not.   -
A.e. - She is.   k1
B.f. - Oh, alright.   k2f

(10)
A.a. - Can I get you a beer?   da1
B.b. - No.   -
A.c. - C'mon.   da1
B.D. - Nope.   -
A.e. - Have one.   da1
B.f. - Oh, alright.   a2
A.g. - Here.   a1
B.h. - Thanks a lot.   a2f

Consider now texts 11 and 12. These texts illustrate another dynamic aspect of exchange structure which has parallels in schematic structure. In 11 the exchange is interrupted while A makes sure he has heard B correctly:

(11)
A.a. - Who is the most boring person in Canada?   dk1
B.b. - Margaret Trudeau.   k2
A.c. - //2 Margaret//   -
B.d. - Yes.   -
A.e. - Right.   k1
B.f. - Obviously.   k2f

In 12 the exchange is interrupted while B queries A's reasons for negotiating the exchange. Note that if B had not been satisfied by A's explanation he might have aborted the exchange completely:

(12)
A.a. - Can I get you a drink?   da1
B.b. - Why?   -
A.c. - I'm trying to get you drunk.   a2
B.d. - Okay.   a1
A.e. - Here we go then.   a2f
B.f. - Thanks.

Texts 11 and 12 show that exchanges can be interrupted or even aborted entirely. The synoptic account given above makes no provision for moves such as c in 11 or b in 12. This feature of exchange structure resembles the problem of exit options in schematic structure. As noted above clients may if they wish refuse a service bid, either to interrupt the development of the schematic structure while they look around a little longer, or to abort the encounter entirely if they are genuinely just

window shopping. It is part of the dynamic structure of both schematic structures and exchanges that they can be interrupted in this way.

Note at this point that although it was suggested earlier that dynamic systems are invisible, disappearing as text is formed, they may in fact appear to repair a process which is breaking down. This is what is going on in texts like 9 through 12 where confirmations and queries are used to get the exchange back on the right track. So in a sense it is only when something goes wrong that process can be distinguished from text. One can perhaps draw an analogy here between language and games such as ice hockey or rugby. There referees supervise the formation of text, intervening with stoppages in play and penalties when ungrammatical texts are formed. These interventions are like confirmations and queries in exchange structure: text and process for a moment become distinguishable. One of the more interesting developments over the past few years in both these sports has been the co-option of violence into the synoptic system of these games. Physical intimidation has proved a successful means of winning a game - what was once an illegitimate process has become an integral part of a team's strategy. This means that violence which was once viewed as an aberration must now be treated as text: process and text have fused. Upsetting as it is to many fans, the games have changed. It may be that interaction of this kind between text and process will contribute something to our understanding of semiotic change, which means a change in the synoptic system of a semiotic as change is now conceived. The future of semiotic systems in other words lies in their dynamic systems, lurking between the lines. Violence has always been part of ice hockey, but it has not always been a way to win.

To date Berry's proposals for exchange structure have not attempted to synoptically control the recursion and interruptions in texts like 7 through 12. The network in Fig. 7 has not been extended to generate text with such structures. Berry has discussed related structures (1981a:135-139, 1981b), making reference to embedded exchanges, and has hinted that transformational rules might be used to embed them. The fact that alternative descriptive strategies (alternative to system networks and realization rules) have to be used to generate such structures in her approach appears to support the synoptic/dynamic opposition drawn here. In Fig. 8 the flow chart notation introduced in section 3 is used to tentatively formalize just a part of the dynamic system underlying information exchanges. Whether or not the flow chart is simply a notational variant of the strategies used by Berry to handle such phenomena is an important question which will not be answered here.

The flow chart is a preliminary one and deals only with the first move in a negotiated information exchange and possible reactions to it by the secondary knower. These reactions include first of all confirmation sequences such as that illustrated in 11. These may be requests for the whole of the dk1 move to be repeated as in 13, wh echo questions focusing on one of the dk1 moves MOOD functions as in 14, or simple repetitions of part of the content of the dk1 move as in 15. The flowchart then allows for challenges to the relevance of the dk1 move as illustrated in 12 above. All this apparatus takes us only as far as the k2 move.
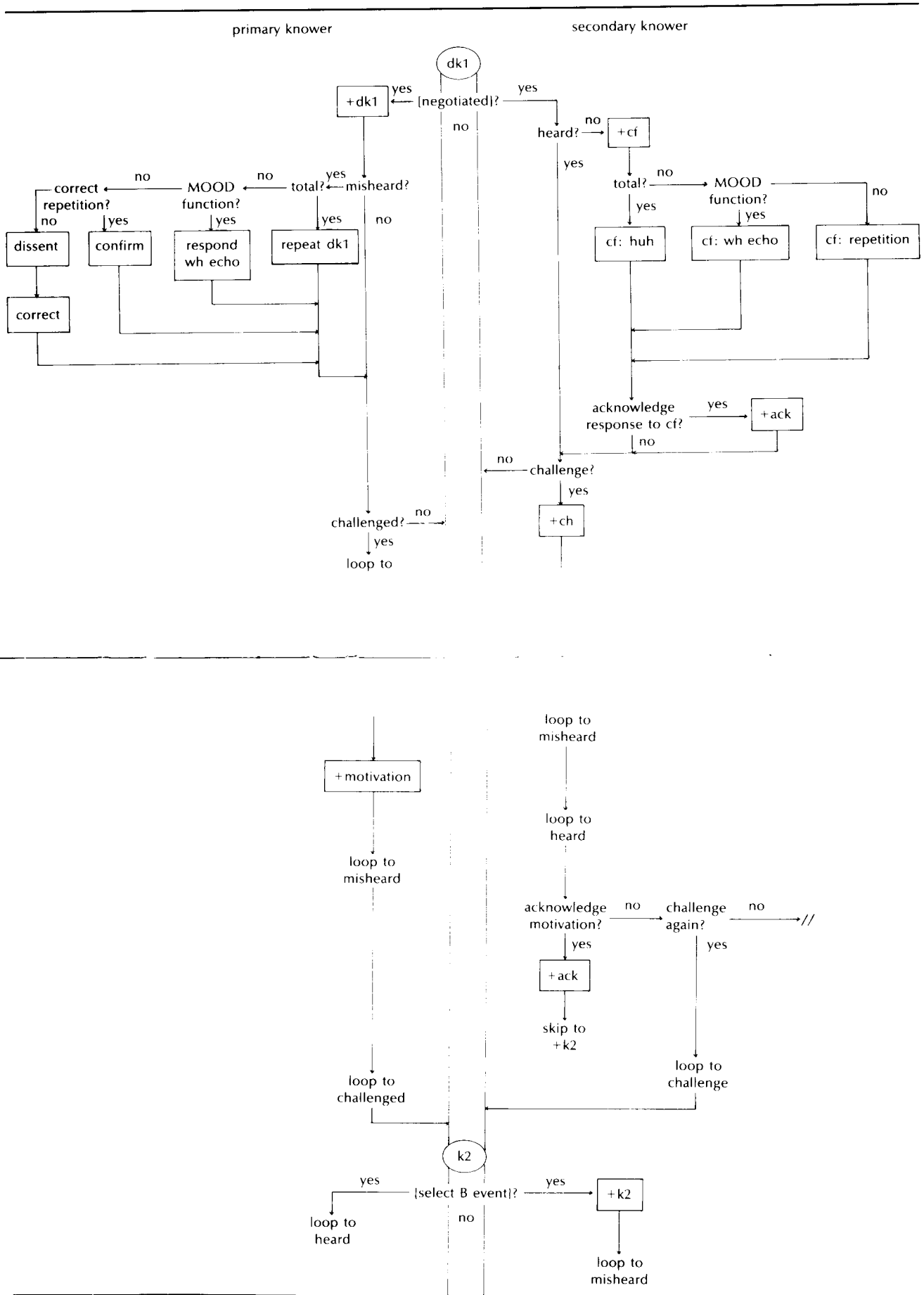
dk1

+dk1 ⟵ yes ⟵ [negotiated]? ⟶ yes

no

heard? ⟶ no ⟶ +cf

yes

no ⟵ MOOD ⟵ no ⟵ total? ⟵ misheard?
correct   function?
repetition?
no   yes   yes   yes   no

dissent   confirm   respond   repeat dk1
                    wh echo

correct

total? ⟶ no ⟶ MOOD
                  function?   no
yes   yes

cf: huh   cf: wh echo   cf: repetition

acknowledge   yes   +ack
response to cf?

no

no ⟵ challenge?

yes

+ch

challenged? ⟶ no

yes

loop to

+motivation

loop to
misheard

loop to
misheard

loop to
heard

acknowledge   no   challenge   no
motivation?   again?   ⟶ //

yes   yes

+ack

skip to
+k2

loop to
challenged

loop to
challenge

k2

yes ⟵ [select B event]? ⟶ yes ⟶ +k2

loop to   no
heard

loop to
misheard

Figure 8. Tentative formalization of the dynamic system underlying the dk1 move in an information exchange (notation as for Fig. 4 except decision diamonds and looping/skipping notation omitted)

(13) A.a. - Who is the most boring person in Canada?
　　B.b. - What?
　　A.c. - Who is the most boring person in Canada?
　　B.d. - Oh.
　　e. - Um, Margaret Trudeau?
　　　…

(14) A.a. - Who is the most boring person in Canada?
　　B.b. - Where?
　　A.c. - In Canada.
　　B.d. - Oh.
　　e. - Um, Margaret Trudeau?

(15) A.a. - Who is the most boring person in Canada?
　　B.b. - //2 Canada//
　　A.c. - Yeah.
　　B.d. - Oh.
　　e. - Um, Margaret Trudeau?
　　　…

4.2 Reference

A second example of the need for synoptic and dynamic systems at the level of discourse can be illustrated with respect to English's participant identification system, REFERENCE. A synoptic account of some of the central options in this system is presented in Fig. 9. Systems 1, 2 and 3 crossclassify participants in a text as [generic] (eg. *Tigers have stripes.*) or [specific] (eg. *That tiger has dark stripes.*), [presenting] (eg. *There's a tiger over there.*) or [presuming] (eg. *That tiger looks dangerous.*), and as [comparative] (eg. *I've never seen a fiercer tiger.*) or not. Systems 4, 5 and 6 subclassify phoric nominal groups into pronouns ([reduced]), demonstratives ([directed]) and the definite article ([undirected]). And system 7 allows for the presumption of a superset, realized through superlative modification (eg. *That's the biggest tiger I've ever seen.*).

When phoric nominal groups presume information located elsewhere in the same text, a cohesive tie is formed (see Halliday and Hasan, 1976). These ties are in fact a kind of discourse structure. In text 16, *it* cannot be understood until the listener connects it to the previous mention of the tiger. Once the connection is made, *it* and *a tiger* constitute a referential structure:

(16) There's *a tiger* over there and *it* looks like attacking.

Note that the synoptic account of REFERENCE given in Fig. 7 makes no attempt to generate structures of this kind. The network subclassifies and crossclassifies participants, not participant structures. There have been, as far as I know, no attempts to set up systems at some rank larger than and realized through participants to
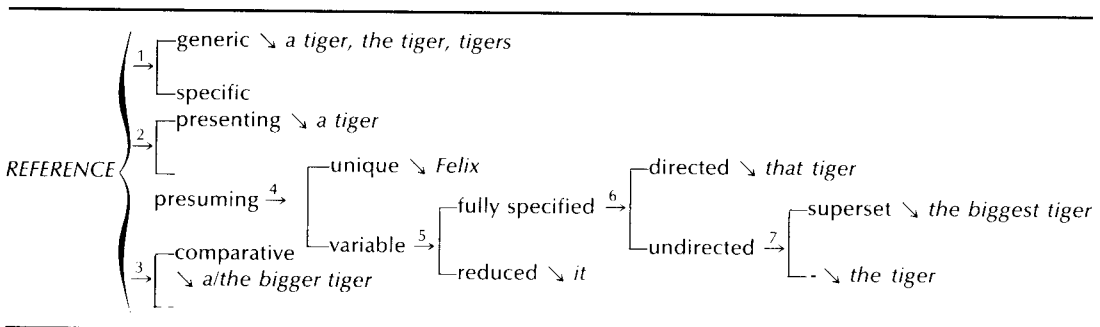

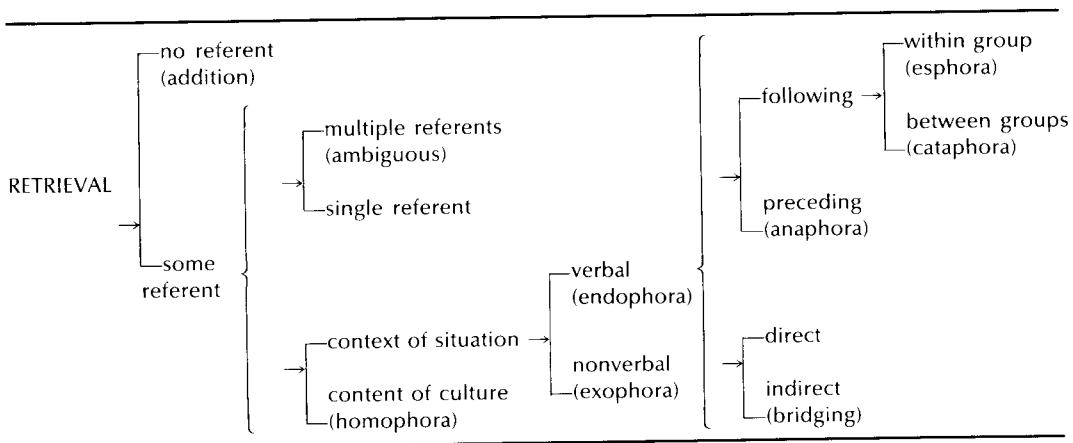Figure 9. Central English participant identification systems

Figure 10. RETRIEVAL processes for phoric reference

account for these structures. Indeed it is not at all clear what kind of unit this would be how an attempt at mother control of these structures could succeed.

What linguists have attempted to do is outline the ways in which speakers decide what options to choose from Fig. 7 and how listeners recover information when phoric items are used. One such account of this process is presented in Fig. 10. There an account is given of the RETRIEVAL processes speakers and listeners assume when identifying participants in text: Fig. 10 treats these processes as a system network, making use of a typical synoptic formalization strategy. But is this network really synoptic in its orientation? Clearly it is not. It is not really classifying either participants or participant structures. Rather, it describes in what will probably turn out to be only a crude and partial way the operations a listener might perform in locating the referent of a phoric nominal group. Even taken to this point the RETRIEVAL options refer only to some of what goes on when reference structures are formed: considerable elaboration would be necessary before it could be implemented in say a text generation project where computers, not linguists, generate discourse structures. Again, the flowchart notation developed by Ventola seems applicable. This will not be pursued here; but some kind of dynamic formalization is necessary if participant structures are to be generated.

As with conversational structure, process is most clearly distinguished from text where participant identification breaks down. In 17 B's query focuses attention for a moment on the retrieval process:

(17) A.a. - . . . and then he came up

B.b. - Who?

A.c. - John

d. - he came up and . . .

Another angle on process is found when speakers use experiential structures to instantially identify participants as in 18:

(18) A.a. - . . . and then John came up,

b. that's my boy-friend,

c. and said . . . .

A further perspective is provided by the work of Clark and his colleagues on the time it appears to take listeners to track down information when it is implied by the co-text rather than explicitly present (Clark and Haviland, 1974). Their work indicates that it takes listeners longer to build the reference structure in 19 where the presumed information is implied than in 20 where it is explicitly available.

(19) John got the picnic basket out of the car.
The beer was warm.

(20) John got some beer out of the car.
The beer was warm.

The difference between REFERENCE and CONVERSATIONAL STRUCTURE when approached from both a synoptic and dynamic perspective is of some interest. CONVERSATIONAL STRUCTURE seems to have a more developed synoptic system than REFERENCE. It is possible to set up a system network at exchange rank which makes testable predications about the sequence of moves in conversation. A good deal of conversational structure can be predicted from this approach. There remain however a number of conversational gambits open to interlocutors which are not netted in. For these, a dynamic tactic pattern of some kind will have to be worked out. With REFERENCE on the other hand, it appears that next to nothing can be predicted about well-formed participant structures (= REFERENCE chains) via mother control. There is simply no mother around to act as a point of origin for systems which would make predictions about well-formed reference structures. REFERENCE thus appears a less prominently synoptic system than CONVERSATIONAL STRUCTURE. Its structures will have to be generated almost entirely through dynamic systems. This is not to argue that either of these discourse systems can be approached from just one or the other perspective. Both types of discourse structure have dynamic and synoptic systems underlying them. But it does appear that one or the other perspective may be more prominent when it comes to generating well-formed text.

Indeed, much of the difficulty linguists have experienced in text generation probably stems from the importance of dynamic systems in this enterprise. Linguists come to discourse equipped with synoptic generative models, not dynamic ones. With the aid of these models they either proceed, with some embarrassment, apologizing for their lack of success as if only time stood in the way of progress; or they back off, confidently declaring that discourse has no structure, is not part of language anyway, and can be left to psychologists and philosophers who are better equipped to deal with 'thoughts' and 'feelings'. Moving from one stratum or plane to the next is never easy. But distinguishing between synoptic and dynamic systems will make the going a bit smoother, at least until we stumble over something else which although manifestly present, is invisible and not netted in by the descriptive strategies we import from what we have already done.

Nothing will be said here about register dynamics: only discourse and genre have been considered. Certainly some of the register variation that one finds in a single text will be accounted for by schematic structure: different elements of schematic structure can be used to preselect different values of field, mode and tenor in different parts of a text. But it will be true as well that not all register variation can be handled synoptically in this way. The genres that linguists are presently working on are just those with a relatively clear schematic structure (ie. those most amenable to synoptic analysis). But genres which are closer in their structure to casual conversation will have much more prominent dynamic than synoptic systems involved in

their generation. Clearly some kind of powerful and relatively open-ended formalization of register dynamics will be needed for such texts.

5. CONCLUSION

The moral of all this (to borrow a closing element of schematic structure from another genre) seems to be that as long as we have as our goal the explicit generation of text in context, something will eventually come along and save us from ourselves. The panacea offered in this paper is the distinction between synoptic and dynamic systems. This distinction is of course not without its problems. For one thing, linguists have next to no experience in dealing with dynamic systems. It is not clear what counts as a significant generalization. It is not altogether clear what kind of formalism is best adapted to capturing these generalizations. It is not clear how such a formalism can be constrained. It is not clear what the best heuristic strategies will be for investigating dynamic systems. And it is not clear how linguists will distribute the responsibilities of heuristics and theory as far as dynamic systems are concerned: what for example will count as evidence in an argument about the structure of a dynamic system. Finally, the way in which synoptic and dynamic systems interact, synchronically in a derivation, ontogenetically in language learning, and diachronically and phylogenetically in language change is not at all understood.

On the other hand, looking at the synoptic/dynamic distinction in less cowardly terms, working on dynamic systems may well get linguists out of the syntactic shell they once erected to cut themselves off from the other semiotic systems which comprise our culture. This could only be a positive development, leading to a truly integrated science of signs - a semiotics in which language turns out not to be so special after all. Linguistics for the last 25 years has been led by a group of people whose main concern has been to show how language is different from everything else. The results of this vast and research consuming enterprise, centering around the question of constraints on left movement out of constituents in clause structure (cf. Newmeyer 1980, Radford 1981) are hardly inspiring. One cannot help thinking that if this is what linguistics is about, then it is truly time that semiotics took over. This is certainly what Saussure, Hjelmslev, Sapir, Firth, Pike and Halliday have always had in mind. There is no real reason at this stage of development why linguistics cannot embrace social science, accepting its challenge.

REFERENCES

Benson, J. D. & Greaves, W. S. (1981). Field of discourse: theory and application. *Applied Linguistics* **2.1**. 45–55.
Berry, Margaret. (1981a). Systemic linguistics and discourse analysis: a multi-layered approach to exchange structure. In Coulthard, M. and Montgomery, M. (eds.), *Studies in Discourse Analysis*. London: Routledge and Kegan Paul, 120–145.
—— (1981b). Polarity, ellipticity, elicitation and propositional development, their relevance to the

well-formedness of an exchange. (a discussion of Coulthard and Brazil's classes of move). *Nottingham Linguistic Circular* **10.1**.

—— (1981c). Towards layers of exchange structure for directive exchanges. *Network* **2**, 23–32.

Bourdieu, P. (1977). *Outline of a theory of Practice*. London and New York: Cambridge University Press.

Clark, H. H. & Haviland, S. E. (1974). Psychological processes as linguistic explanation. In Cohen D. (ed.) *Explaining Linguistic Phenomena*. Washington, DC: Hemisphere.

Fawcett, R. P. (1975). System networks, codes and knowledge of the universe. Paper read to the Burg Wartenstein Symposium on the Semiotics of Culture and Language.

Fries, P. H. (1982). Language and interactive behaviours: the language of bridge. Central Michigan University. Mimeo.

Gregory, M. J. (1967). Aspects of varieties differentiation. *Journal of Linguistics* **3**, 177–198.

Halliday, M. A. K. (1961). Categories of the theory of grammar. *Word* **17.3**, 241–292.

—— (1966). Lexis as a linguistic level. In Bazell, C. E. Catford, J. C. Halliday M. A. K. and Robins, R. H. (eds.) *In Memory of J. R. Firth*. London: Longman (Longman Linguistics Library). 148–162.

—— (1967). Notes on transitivity and theme in English (Parts 1–3). *Journal of Linguistics* **3.1**, 37–81; **3.2**, 199–244; **4.2**, 179–215.

—— (1973). *Explorations in the Functions of Language*. London: Edward Arnold (Explorations in Language Study).

—— (1975). *Learning How to Mean: Explorations in the Development of Language*. London: Edward Arnold (Explorations in Language Study).

—— (1978). *Language as a Social Semiotic: The Social Interpretation of Language and Meaning*. London: Edward Arnold.

—— (forthcoming) *A Short Introduction to Functional Grammar*. London: Edward Arnold.

Halliday. M. A. K. & Hasan, R. (1976). *Cohesion in English*. London: Longman (English Language Series **9**).

—— (1980). *Text and Context (Sophia Linguistica VI)*. Tokyo: Sophia University.

Hasan. R. (1977). Text in the systemic-functional model. In Dressler W. (ed.) *Current Trends in Text Linguistics*. Berlin: de Gruyter (Research in Text Theory).

—— (1979). On the notion of text. In Petofi J. S. (ed.), *Text vs. Sentence*. Hamburg, Germany: Buske.

Hjelmslev, L. (1961). *Prolegomena to a Theory of Language* (translated by F. J. Whitfield). Madison WI: University of Wisconsin Press.

Labov, W. & Waletzky J. (1967). Narrative analysis: oral versions of personal experience. In Helm J. (ed.) *Essays on the Verbal and Visual Arts*. Seattle, WA: University of Washington Press, pp. 12–44.

Lavandera, B. R. Shifting moods in Spanish discourse. CIAFIC-CONICET. Mimeo.

Lemke, J. (1979). Action, context and meaning. City University. New York. Mimeo.

—— (1982). Making trouble. City University. New York. Mimeo.

Longacre. R. E. (1976). *An Anatomy of Speech Notions*. Lisse, Netherlands: Peter de Ridder Press.

Newmeyer, F. T. (1980). *Linguistic Theory in America: The First Quarter-Century of Transformational Generative Grammar*. New York: Academic Press.

Radford. A. (1981). *Transformational Syntax: a student's guide to Chomsky's extended standard theory*. Cambridge. England: Cambridge University Press (Cambridge Textbooks in Linguistics).

Sinclair. J. (1966). Beginning the study of lexis. In Bazell, C. E. Catford, J. C. Halliday M. A. K. Robins R. H. (eds.) *In Memory of J. R. Firth*. London: Longman (Longman Linguistics Library).

Sinclair. J. & Coulthard R. M. (1975). *Towards an Analysis of Discourse: The English Used by Teachers and Pupils*. London: Oxford University Press.

Ure. J. & Ellis J. (1977). Register in descriptive linguistics and linguistics sociology. In Uribe-Villegas O. (ed.) *Issues in Sociolinguistics*. The Hague: Mouton. 197–243.

Ventola. E. (1982). Contrasting schematic structures in service encounters. University of Sydney: Mimeo.

Ideology, Intertextuality, and the Notion of Register

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WHY INTERTEXTUALITY?

If we look at words isolated from the utterances in which they occur, we create a special 'dictionary context' in which we are not likely to learn either how their meanings depend on the other words with which they combine or how we make utterance meanings that go beyond the dictionary meanings of the words. And if we were to look at utterances (or written sentences) in isolation, restricting ourselves to a special 'grammar book context', we would not expect to learn much about how their uses depend on the rest of what is being said and the situation as a whole, nor about how we can use these bits of talk together to do more than we can do with them separately. But if we study a discourse, a whole situated text by itself and apart from other texts or occasions of discourse with which it may have definite relationships, do we not likewise still run the risk of learning nothing about how we build every text upon and out of other texts? or about the social functions of the system of texts we build—and do not build?

Intertextuality is an important characteristic of the use of language in communities. The meanings we make through texts, and the ways we make them, always depend on the currency in our communities of other texts we recognize as having certain definite kinds of relationships with them: generic, thematic, structural, and functional. Every text, the discourse of every occasion, makes sense in part through implicit and explicit relationships of particular kinds to other texts, to the discourse of other occasions. A story may be heard as a fable in the manner of Aesop, belonging to a genre which among other features has a characteristic internal organizational structure (in the manner of Propp 1968, Colby 1973, Hasan 1979). It may be functioning at the time as a rejoinder to yesterday's argument and so be part of a larger structure of action over time, and it may echo and develop the themes of that argument or of other story-tellings with which it has no recognized structural relations. The discourse practices of a community both build systems of texts related in these ways and establish the recognized kinds of relationships there may be between texts or the discourse of different occasions. Any system of practices that can do this can also insure that some kinds of texts are seen as *not* related to one another (in