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Coherence in organisational argumentation

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Title: Coherence in organisational argumentation

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ABSTRACT. Coherent communication is vital to organisations. Leaders and organisation members engaged in sensemaking seek comprehensibility and consistency. Because organisations are constituted from discourse their identity depends upon linguistic coherence. Yet, from an argumentation point of view, various factors serve to render the linguistic coherence of organisational discourse problematic. Using an example of an organisational meeting, I have viewed coherence as a combination of two linguistic processes – binding and unfolding. Binding involves integrating events into the vertical, hierarchical organisation of the overall theme, whereas unfolding involves differentiating events referentially in terms of narrative organisation. These two processes have been investigated as both separate and joint processes. Binding takes place as a separate process when subturns refer to previous subturns. Unfolding takes place separately when adjacency pairs create new categories, as when an utterance opens with a Problem and closes with a Solution (which contains information not contained within the opening). Perspective is a linguistic process that involves binding and unfolding jointly, unfolding as an expression of conflict, and binding as an expression of cooperation. Topic shift is also a linguistic process which involves binding and unfolding jointly – there an unfolding from one topic to the next, but this is justified and thus a binding takes place. These linguistic processes have striking similarities with and implications for our understanding of, cognitive complexity, flexibility of organisational knowledge structures, tight and loose coupling and conflict and co-operation.

1. Introduction.

Coherence is generally considered a desirable quality in organisational discourse. Narratives must be comprehensible and hence coherent, and argumentation must be consistent and to some extent consensual. Lack of working time and problems of information overload dictate that communication, if it is not coherent, will have little effect. Inconsistency between cognitive and environmental elements triggers managerial action to produce greater coherence (Child & Smith, 1987). Leaders attempt to provide an integrated organisational story by the use of nostalgic appeals to the past (Brown, 1995: 957) and to give others a coherent sense of what they are doing and enable them to express that understanding (Pondy, 1978). When there is a cognitive dissonance (Festinger, 1957) between organisation members' image of their organisation and that of outsiders, this threat to identity is perceived as very salient and precipitates action to restore members' organisational identity ("how well the image preserves the continuity of their self-concept": Dutton & Dukerich, 1990: 239). Such a need for coherence is increased by organisational identification and the need to continue self-concepts over time (Steele, 1988). The employees of the New York Port Authority whose self-concept was challenged by homeless people's use of the facility (Dutton & Dukerich, 1994) and Exxon employees who were the subject of public wrath after the Valdez oil spill (Fanning, 1990) both demonstrate that when people identify strongly with their organisations, they experience such threats to their concept of the organisation personally (Schwartz, 1987). Weick (1995: 12) has suggested a number of corollaries of cognitive dissonance theory in the organisational domain: increasing the number of

cognitive elements that are consistent with a decision, post-decisional rationalisation to make pre-decisional expectations and post-decisional outcomes more consistent, discrepancy as a trigger for dissonance reduction, and dissonance as a socially experienced phenomenon directing social processes of post-decisional rationalisation. These are all powerful pressures towards coherence within organisations.

2. Coherence in organisational discourse.

Coherence generally means that utterances are connected to each other in some understandable, orderly and meaningful way (Craig & Tracy, 1983: 14). Coherence can be understood in terms of shared understandings of participants' conversational goals – each participant understands what are the goals and tactics of other participants (Nofsinger, 1983). How such understandings are generated within the conversation is the task of a model of conversation. It should take account of how such understandings are institutionalised and what kinds of rules of thumb are employed by participants (Jackson & Jacobs, 1983: 46). An example of institutionalised rules is given by Penman (1987), who used court transcripts to identify 19 rules constraining the content and manner of what could be said.

An example of such a model of conversation, which addresses discourses at a sufficiently detailed level that both form and strategy can be examined, is that provided by Grice. The model is based on the need for cooperation within conversation: “Make your conversational contribution such as is required, at the stage at which it occurs, by the accepted purpose or direction of the talk exchange in which you are engaged” (Grice, 1975: 45). The cooperation principle is operationalised in four maxims: (1) be succinct yet complete, (2) be relevant, (3) be clear, and (4) say what is appropriate for the particular stage the talk has reached. However, in organisational contexts, Grice's cooperative principle has been criticised for not matching observed reality: Penman (1987) found that while courts followed the reasoning of Grice's four maxims they actually departed from the aim of genuine cooperation because there was the element of coercion. Social institutions generate contradictory pressures which require hypocritical language which departs from the four maxims. For example, Brunsson (1991) compared two contradictory *modus operandi* of organisations - the rational means-ends, action model, which is useful as a way of presenting the organisation in order to generate legitimacy (usually externally), and the political model used to actually create results (often in the form of inaction or of intangible symbols). Ambiguous and symbolic language is used to both include small privileged groups and to exclude but reassure larger audiences (Edelman, 1977; Eisenberg & Witten, 1987). Others have offered similar evidence-based critiques of Grice: (Kernan, 1979; Churchill, 1978; Penman, 1980; Mura, 1983). The critique is essentially based on the fact that “whatever information may be obtained in talking, it is never independent of the relationship” (or organisational context) “in which it is done” (Penman, 1987: 216).

It has been argued that meetings and other conversations constitute organisations because they ensure a common focus. Meetings “may be the form which generates and maintains the organization as an entity....they are the organization writ small” (Schwartzman, 1989: 86, 288). So, instead of viewing meetings as being about decisions and policies, it is possible to view decisions and policies as being about meetings – that is, that policies contain a story about past and future meetings (Schwartzman, 1989: 288). In Schwartzman's view then, the more coherent the meetings, the more coherent the decisions and policies.

3. *Coherence in argumentation.*

In seeking a way of understanding coherence in argumentation, it is tempting to rely on our knowledge of coherence in other forms of discourse. One of the most studied forms of discourse is conversation. However, conversation is characterised by short turns with the intention of encouraging partners' participation. Argumentation does not fit into this important meta-level characterisation, because the bundling of supporting subarguments and their presentation in the form of persuasive chains of reasoning require a selfish monologue style of talking. It therefore raises the question of what creates coherence between contributions by different speakers (turns) within argumentation. Because of the longer turns of argumentation there is a greater possibility for purposeful development, which makes the topic more dynamic and problematic. In conversation, a topic defines the permitted content of a turn, and the same topic may be spread over several turns. However, because of the pressing need in argumentation to make a point or to reach a conclusion, topic stability cannot be assumed so easily.

Besides conversation, a second possible coherence model for argumentation is provided by narrative and in particular the principles of narrative organisation known as binding and unfolding (Bamberg & Marchman, 1991). Binding involves integrating events into the vertical, hierarchical organisation of the overall theme, so that utterances are made relevant to what conversational partners have said before (Haslett, 1987), whereas unfolding involves differentiating events referentially in terms of narrative organisation.

Narrative has some similarity with argumentation. Both display large scale unfolding, thematic stability, and an unconcern with turn-taking, similarities which are important within the context of discourse coherence. Both have an identifiable structure: story grammars (Mandler & Johnson, 1977; van Dijk, 1977) and argumentation stages (Rudolph, 1989) have been proposed. On the other hand, it has been argued that no general schema exists (Garnham *et al.*, 1982) and that story coherence depends upon reconstructability using causal relations (Schank & Abelson, 1977) and upon linguistic competence (Gopnik, 1989).

However, there are differences between narrative and argumentation. Firstly narrative depends on a moving source of reference, whereas argumentation uses reference back to some underlying topic or claim. A second important difference is that narrative renders truth judgements irrelevant, whereas in argumentation the global or local truth of claims and premises is vitally important.

A third possible model for approaching argumentation is adjacency-pair relations (Schlegoff & Sacks, 1973) of the type: question-to-answer, premise-to-claim and cause-to-consequence. There are many possible relations but they all have in common the creation of a reasoning step from an initial datum to a conclusion. Several examples already exist within the pragmatics literature. Mann & Thompson (1988) suggest a set of rhetorical structure relations such as cause, solutionhood, sequence, evidence, and elaboration. Sanders *et al* (1992) also suggest a more systematic taxonomy of 12 such relations, and an even longer list is available in Grimes (1984). However, whereas such relations are useful for understanding the steps in the reasoning chain they are too small-scale for understanding a debate as a whole - (which Black, 1988: 452 calls this 'global coherence') because although a debate may have a main claim, it does not usually have a main premise. Such small-scale, "local coherence" can be defined as a greater probability of continuation (rather than discontinuation) of topic from one turn to the next (Pavitt & Johnson, 1999).

Also debate cannot be characterised only as a mere chaining of micro-level step-by-step relations – there presumably is some macro level organisational principle (“global coherence”) involved too. For example, Bales & Strodtbeck (1951) have claimed that group discussion is organised as a sequence of stages, and this has been extended by Ford and Ford (1995) in the context of intra-organisational conversations about change within organisations: they predict that each stage is characterised by different sets of speech acts such as requests, orders, declarations and questions. Such models have been heavily influenced by linguistics research on the pragmatics of conversational episodes - for example, the stages of initiation, rule or task definition, rule or task confirmation, strategic development, and termination (Frentz, 1976). Such linear models have, with a few exceptions (Hirokawa, 1980), been ignored by the literature on the relationship between group discussion and decision quality. They have also been criticised by Scheidel & Crowell (1964) who offer their alternative “reach-testing” hypothesis that group discussions are a series of sequences which make a proposal, discuss and then evaluate it.

4. Example

The example dialogue which is the focus of the analysis in this paper is drawn from research which focussed on a major healthcare project at a large UK acute Hospital. I shall examine a transcript of a meeting (Figure 1).

Turn	Person	Utterance
[1]	A.	We’ve got to accept that....there is uncertainty with regard to [information systems]...It may lead to not signing the contract in December 96. I think signing as late as possible would be better because the technology is changing quickly and that way we would get the latest technology. In January 99 [the new ambulatory care facility] opens, so a good period to sign up is between March and November 97. The [facilities management supplier] will only get three million out of the eighteen million project money. So let’s concentrate on the building and engineering of [the new facility] and give [the facilities management supplier] a simple reassurance of their involvement.
[2]	B.	If you sign up too early and then want to change then they’ll want more money.
[3]	A.	We have to look at the risks here. There’s the cost of the building overrun. There are risks within the consortium. They are accountable to [the person’s name]. Then there’s the hotel facility in [the ambulatory care facility]. If this is run by a private company the hotel will not become a ward. The hotel will act as a facility for patients needing low level nursing care.
[4]	B.	We should not run the project and plan on the basis of negative reactionary tendencies of consultants and nurses. The hotel should be in [the ambulatory care facility]. We should also move three out of the five theatres there.
[5]	A.	The consultants will do as they’re told.
[6]	B.	It’s a process of reeducation....They’re all young.
[7]	A.	[The ambulatory care facility] is not just a radiology department. What services and facilities go into [the new facility]? I estimate sixty percent of patients work will go into it. Some of Radiology should go into Outpatients...this makes Radiology smaller. Forty eight percent of CT scan work will come from [the new facility]. The utilisation rate will be about fifty three percent and forty four percent for MRI.
[8]	B.	The low utilisation rate of the imaging equipment implies where do you put them? Putting them in [the existing hospital] will compromise [the new facility’s] philosophy of slick flow and so on.

- Putting them in [the new facility] means wastage of resources and space due to the low utilisation rate.
- [9] A. There is a big compromise here.
- [10] B. [B's first name] ...when are you back?
- [11] A. I'm back on the 21st of August. So what are the issues here? There's the [equipment supplier] issue - that's still a problem. [The facilities management supplier] will not give fifteen million unless the contract is written on facilities management.
- [12] B. Someone wants cardiac stuff in [the new facility]. This is fantasy as the utilisation rate is twenty percent and there are big teaching hospitals who are good at this. So this should be out. The equipment alone costs a million.
- [13] A. What is in [the new facility?] We want low utilisation, high volume, low cost. We want four hour service times - that's Urology, Ophthalmology, E. and T.,... we need good quality surgeons....we have too many general physicians. [The new facility] can get returns on these in a big way.
- [14] B. [Names the facilities management supplier] will manage the facility.

Figure 1. *The meeting transcript.*

Capital funding (“eighteen million project money” in [1]) had become available for the Hospital to establish an ambulatory care centre adjacent to the Main Hospital. Rapid service delivery (“philosophy of slick flow” in [8]) and radical clinical process redesign of the kind that had been proposed had yet to win widespread acceptance amongst Hospital consultants (“negative reactionary tendencies of consultants and nurses” in [4]).

The new ambulatory care centre required thoroughgoing changes to business and medical processes and social structures. Hence concern that the hotel for post-operation recovery should “not become a ward” in [3]. It also required careful interfacing between new systems and existing Hospital operations and information systems. The concern was that contact between the existing, inefficient Hospital and the new ambulatory care centre would contaminate the new centre with old-fashioned and inefficient working practices (“Putting them [imaging equipment] in [the existing Hospital] will compromise the [new facility's] philosophy of slick flow” in [8]). The concern with the information systems was that their requirements needed to be defined before the building could be designed, but that, although “there is uncertainty with regard to [information systems]” in [1], for reasons of giving the building partner in the consortium a “simple reassurance of their involvement” in [1] the Hospital should “concentrate on the building” in [1]. This uncertainty also “may lead to not signing the contract” (between the Hospital and the development project consortium) in [1].

The Hospital joined together with a software developer, an equipment manufacturer and a facilities management supplier as a consortium to develop the ambulatory care centre. The dialogue extract is taken from a meeting held between the Director of Contracts (responsible for the development project for the new centre) and the Hospital Chairman. These two individuals were very much central figures in the project. The ambulatory care centre, with its implications for radical changes in clinical practice and cutting Hospital costs, had largely been the idea of one man, the Chairman, who was interested in “the big picture” rather than the details. The Director of Contracts, a young and dynamic man, was very much in charge of the project and saw successful implementation as his primary goal.

The research study recorded and transcribed 20 meetings, and received minutes of a further 16 meetings between 11 July 1996 and 14th July 1998. Altogether 127 documents (reports, scenarios, and minutes) were collected, and a number of semi-structured interviews with participants (a total of 16) were carried out. This larger study enabled the author to understand the context of what meeting participants were saying. In this paper, however, I focus on an extract from one meeting.

5. *Perspective.*

One important element of coherence is perspective (Komlosi, 1989). Perspective is the evidence and witness to the existence of *subjectivity*. Participants' subjectivities (and perceptions of others' subjectivities) consistently, understandably (and therefore coherently) change in a developing 'reciprocity of perspectives' (Schutz, 1972). Moreover, it is clear that rather than following a politeness maxim of providing maximum information to the other participant, each debater is driven by a conflicting desire to maintain both positive (desirable self-image and respect) and negative (freedom of action) faces (Penman, 1987).

[1] "We've got to accept that" is an *appeal for cooperation and consensus*. The Director of Contracts puts forward two problems together with his solution. The solution is *more subjective* ("I think").

[2] The Chairman offers a potential source of difficulty, although its being justified explicitly by a condition ("If..then..") *reduces its hurtfulness*.

[3]The Director of Contracts *hedges by generalising* and *withdraws from any conflict* by sealing the problems using accountability. The Director of Contracts then moves on to another problem and *confidently* proposes ("will act") a solution ("a private company").

[4] The Chairman *raises an outgroup as an enemy* ("consultants and nurses") and by implication ("We should not..") *includes the Director of Contracts in his perspective*. The strategy is necessary because this is where the only *challenge by the Chairman to the Director of Contract's perspective* occurs: whereas The Director of Contracts in [3] proposed that the hotel should not be in the new facility, The Chairman in [4] proposes that it should be inside.

[5] The Director of Contracts *accepts this sharing of perspective* by agreement of the outgroup as an enemy ("do as they're told")

[6] The Chairman spends a turn *being a 'perspective partner'* of the Director of Contracts.

[7] The Director of Contracts raises a new topic and *emphasises his/her own subjective position* by emphasising the novelty of the situation by contrast ("not just") with the conventional situation ("radiology department"). The Director of Contracts puts forward definite proposals.

[8] *The Chairman's perspective is different* - that there is an unsolved dilemma.

[9] The Director of Contracts agrees but also implies that a solution exists by the use of the word "compromise".

[10] The Chairman interrupts with a question.

[11] The Director of Contracts answers. The Director of Contracts summarises what he/she thinks are the important unsolved problems.

[12] The Chairman raises a minor problem (“cardiac stuff”) and proposes a solution, emphasising *his subjective perspective* with “alone” in “The equipment alone costs a million”.

[13] The Director of Contracts repeats his earlier question and makes this *less insistent* by proposing a list of general requirements rather than proposed solutions.

[14] The Chairman *confidently* answers an earlier question and is not contradicted.

The dialogue is co-operative (“we” and “us” occur 10 times compared with 4 times for “I” and “you”); a common enemy is assumed - “consultants and nurses”; there is no open disagreement, merely one challenge in [4]; hedging and softening are used). The two participants’ different personalities are very clearly expressed. The Director of Contracts is an organiser, a problem setter (in [1], [3], [7], and [11]) and solver (in [1], [3], [7], and [9]), and a summariser (in [11] and [13]). The Chairman raises difficulties (in [2], in [4], and in [8]), interrupts (in [10]) and is abrupt (in [14]).

In terms of the two linguistic processes of binding and unfolding (Bamberg & Marchman, 1991), it would seem that the development of perspective within argumentation involves both processes together in their political forms (binding as cooperation, unfolding as conflict). The expression of distinct subjective voices (e.g. the challenge in [4]), is an unfolding process, whereas the expression of agreement and empathy (e.g. [6]) is a binding process.

Perspective therefore enables us to use the ratio of unfolding and binding to assess how smoothly and effectively participants negotiate the degree of conflict or cooperation, (this evaluation is implied in the italicised words above) and this does contribute to the coherence of the debate because (a) one which veered between the extremes of conflict and cooperation would certainly not be coherent, and (b) the degree of scrutiny to which claims were subjected should be coherently matched to the degree of conflict or cooperation – scrutiny would be expected to increase conflict. However, it is clear that these two elements are not the only ones involved in coherence. A debate might be conflict-ridden in which all claims were challenged, and yet might still be coherent for other reasons. Equally conflict-free conversation may also be incoherent for other reasons. Of relevance here too is the normative value of too much conflict or too much agreement. Hirokawa & Pace (1983) suggest that challenges occur in “effective groups”. One criticism of the process of discussion prior to the Challenger disaster was the assumption that challenges of a particular type were to be avoided: there was a “distinct feeling that we were in the position of having to prove that it [the launch] was unsafe instead of the other way around, which was a totally new experience” (Official Transcript 1487, quoted in Gouran *et al.*, 1986: 122).

When conflict is avoided, there is the problem of “groupthink”, which is “a deterioration of mental efficiency, reality testing, and moral judgement that results from in-group pressures” (Janis, 1972: 9). The desire to avoid conflict leads groups to the view that they agree when they do not, which has been called the “false consensus” bias (Ross *et al.*, 1977). Conflict, on the other hand, may result in decisions which are the product of excessive compromise, logrolling, and one-person or minority domination (Luthans, 1992: 357). The evidence therefore merely suggests that moderate conflict and moderate cooperation are optimal. Such moderation enables perspective taking and empathic understanding of others’ points of view.

6. Topic unfolding.

Giora (1985) has defined coherent non-narrative discourse according to several conditions: (a) every proposition is related to the topic; (b) every proposition has properties unshared by the previous proposition; (c) every deviation from these conditions is indicated by an explicit marker. However, these conditions do not contain any specification of a desired final state, and therefore would define a developing but inconclusive (and therefore pointless) debate as coherent.

Therefore what is required in any explanation of coherence of argumentation is the inclusion of topic unfolding. I propose that topic unfolding in argumentation is a transformation process from Opening types to Closing types of meaning structures. The transformation process must obey certain rules. In conversation, these rules are often clearest when interruptions occur, or when inappropriate attempts are made at effecting Openings and Closings (Schegloff & Sacks, 1973). However, the rules for interruption in a debate, even an informal one, may be very different from those in conversation. For example, the use of lists (e.g. "I want to make three points about this") ensures protection from interruption in even the most informal debate, yet may come across as pedantic in conversation.

Argumentation attempts to work away at unfolding topics by means of developing convincing pathways from Openings to Closings. Closed sequences include Problem-to-Solution (Mann & Thompson, 1986: 60), Goal-to-Means (Mann & Thompson, 1986: 63; Sanders *et al.*, 1992: 14), Question-to-Answer, Premise-to-Claim, Challenge-to-Rebuttal, Hypothesis test-to-Theory (Mann & Thompson, 1986: 61), Conflict-to-Resolution (Firth, 1995: 221), Cause-to-Effect, and Issue-to-Decision. Although ideally formal definitions of these types are required (to fill this gap, some information is sketched below for the Problem-to-Solution adjacency pair), the purpose of the present paper will be to show their usefulness and expressiveness by means of informal demonstration in the single case in Figure 1. An example of an unfolding from Opening to Closing is from the Opening/Problem: [1] "...not signing the contract..." to the Closing/Solution: [1] "...signing as late as possible".

Problems include (a) markers with connotations (e.g. [1] "UNCERTAINTY"); (b) Problem expansions (e.g. [3] "THEN THERE'S"); (c) Goals modified by markers (e.g. [8] "COMPROMISE the [new facility's] philosophy"); (d) Goals modified by negation (e.g. [1] "NOT signing"); and (e) Goals modified by criticisms (e.g. [2] "sign up TOO early").

Solutions include (a) extensive redefinition of Problems using repetition (e.g. [1] the Problem "not SIGNING the contract in December 1996" becomes the Solution "SIGNING as late as possible"); (b) those which address the implicit meaning of the Problem (e.g. [1] the Problem "ONLY get three million out of the eighteen million project money" implies small involvement, and the Solution is "reassurance of their INVOLVEMENT"); (c) those which select a key aspect of the Problem (e.g. [3] the Problem of "risks" and "building overrun" is closed with the Solution "They are ACCOUNTABLE TO" - an attributing of the problem to someone else rather than a solving of it); (d) those which include a proposal - a predictive statement with positive connotations (e.g. [3] "The hotel WILL act as").

Openings stimulate argumentation by motivation toward an end state - for example, a Problem leads naturally toward dialogue tending to bring in possible Solutions and thus creating closure. Openings therefore tend to be located at the beginning of dialogue turns. Closings represent the culmination of argumentation activity in an end state - for example, a Means is

found which can lead toward satisfying a Goal. Closings are therefore situated at the end of turns and debates. Figure 2 shows the incidence of Openings and Closings in the example.

urn, Speaker	Marker word	Opening- Closing type	Topic	Opening → Closing	Pragmatic (coherence relations) and semantic (connotation) links
[1] A	“uncertainty”	Problem	1. When to sign contract?	Opening	connotation
	“not signing”	Problem			
	“signing as late as possible”	Solution		Closing	causality
	“better”	Goal		Opening	connotation
	“that way”	Means			
	“the latest technology”	Goal			
	“so a good period”	Means		Closing	implication
	“only get three million”	Problem		Opening	connotation
	“let’s concentrate on”	Goal			
	“So let’s give a simple reassurance”	Solution		Closing	implication
[2] B.	“too early”	Problem		Opening	connotation
	“they’ll want more”	Conflict			
[3] A.	“the risks”	Problem	2. Hotel in or out?		
	“the building overrun”	Problem			
	“risks”	Problem			
	“accountable to”	Solution		Closing	responsibility
	“the hotel facility”	Problem		Opening	connotation
	“private company”	Means			
	“not become a ward”	Goal			
“hotel will act”	Solution	Closing	responsibility		
[4] B.	“negative, reactionary”	Conflict		Opening	connotation
	“the hotel should be in [the new facility]”	Resolution			
[5] A.	“do as they’re told”	Resolution			predictive Claim
[6] B.	“reeducation”	Resolution			
	“they’re all young”	Resolution		Closing	
[7] A.	“What services..go into..”	Question	3. What is in new facility?	Opening	difference
[8] B.	“Where do you put them?”	Question			
	“in [existing hospital]”	Answer			
	“compromise”	Problem			
	“philosophy”	Goal			
	“in [new facility]”	Answer			

	“wastage”	Problem			
	“low utilisation rate”	Problem			
[9] A.	“compromise”	Problem			
[10] B.	“when?”	Question	4. When are you back?	Opening	time
[11] A.	“on 21 August”	Answer		Closing	time
	“what are the issues?”	Question	5. What are issues?	Opening	summarisation
	“problem”	Problem			
	“[supplier] will not give...unless”	Conflict			
[12] B.	“someone wants”	Conflict	3. What is in new facility?		
	“cardiac stuff in [new facility]”	Goal			
	“This is fantasy”	Resolution			
	“utilisation rate is 20%”	Problem			
	“this should be out”	Resolution			
	“alone costs a million”	Problem			
[13]A.	“what is in [new facility]”	Question			continuation
	“we want”	Goal/Answer			
	“can get returns on these”	Answer		Closing	predictive Claim
[14] B.	“[supplier] will manage the facility”	Resolution	5. What are the issues?	Closing	predictive Claim

Figure 2. *Openings, Closings and topics in the example.*

However, sometimes participants may cooperate to enable topic unfolding from Opening to Closing over a number of turns. For example, in Figure 2, this occurs, where the Opening (Conflict) is introduced in turn [4], and the Closing (Resolution) is developed in turns [4], [5] and [6].

Also, sometimes topic unfolding from Opening to Closing is unsuccessful and instead gets stuck in the Opening stage. Such topics tend to be put aside and continued later. This is true of two topics in Figure 2. Topic 3 begins in turn [7] as an Opening, and is put aside after turn [9], but is continued in turn [11], until a Closing is reached in turn [13]. Similarly, topic 5 is begun with an Opening in turn [11], and is put aside in turn [11], and then is continued as a Closing in turn [14]. Participants cooperate in this discontinuing and continuing - although both the Opening and Closing of topic 3 are provided by the Director of Contracts, most of the unfolding work is done by the Chairman, and for topic 5 the Opening and Closing are suggested by different participants (the Director of Contracts and the Chairman respectively). The same topic may be developed from Opening to Closing a number of times before there is a topic shift. The number of Opening to Closing unfoldings in Figure 2 is as follows: 4 in topic 1; 2 in topic 2; 1 in each of topics, 3, 4 and 5.

The concept of unfolding helps in understanding the pragmatic role of utterances. Four examples will be elaborated here.

The first concerns the use of “not” which produces certain hearer expectations about changes in the meaning of Openings and Closings and plays a significant role in intra turn unfoldings (see Figure 3). First there is the negation role (if a Goal is NOT possible then this is a Problem, etc). Then there is the role of suggesting taking avoiding action (“We should NOT.....”). There is also the role of emphasis - NOT JUST a (small) Problem, or (easy) Question, or (minor) Conflict, or (simple) Goal, or (unexacting) Hypothesis test. And lastly there is the role of necessary condition (NOT achieving a Goal UNLESS a Means is available).

Occurrence	Hearer expectation	Speaker utterance
NOT Goal	Problem	[1] “not signing”
NOT Problem	Goal	[3] “not become a ward”
NOT Conflict	Prescriptive Claim	[4] “We should not plan on the basis of negative reactionary tendencies”
NOT JUST	Problem (is important)	[7] “not just a Radiology Department”
NOT Goal UNLESS Means	Goal-Means unfolding	[11] “will not give fifteen million unless the contract is written”

Figure 3. *Role of NOT in intra-turn unfolding.*

A second example concerns verbs of acquisition such as “get”, “give”, “want”, “become”, and “need” (Figure 4). Such verbs all refer to and modify the hearer’s understanding of Goals. For example, “get” refers to the Goal of the subject, whereas “give” refers to the Goal of the receiver.

Turn	Occurrence	Type syntax
[1]	“WOULD GET the latest technology”	Verb Goal
[1]	“ONLY GET three million”	Problem = Verb (small amount of our) Goal
[1]	“let’s GIVE... reassurance”	(our) Goal = “let’s” Verb (their) Goal
[2]	“if you WANT...they’ll WANT”	Conflict = if “you” Verb (your) Goal then “they” Verb (their) Goal
[3]	“not BECOME a ward”	Goal = not Verb Problem
[11]	“not GIVE fifteen million unless”	Conflict = not Verb (our) Goal unless (their) Goal
[12]	someone WANTS cardiac stuff	Conflict = “someone” Verb (their) Goal
[13]	“we WANT low utilisation”	Verb Goal
[13]	“we NEED good quality surgeons”	Verb Goal
[13]	“CAN GET returns”	Verb Goal

Figure 4. *Verbs of acquisition and Goals.*

A third example is in understanding the use of connective relations (Figure 5). Rudolph (1989: 177) has noted the special function of conjunctions and particles in spoken texts involving argumentative and other forms of discourse. She found that spoken texts contain significantly more particles than conjunctions in contrast to written texts. The evidence here is the same - the proportion in the dialogue example of Figure 1 is 17:1 (see Figure 5). Openings generally (6 cases in Figure 2) depend upon the semantic connotations of words they contain (e.g. in [1] “uncertainty” connotes a Problem) although in a minority of cases (4 cases in Figure 2) connective relations play a part (e.g. [3] the addition relation - “Then there’s”; [7] the difference relation - “not just”; [10] the time relation - “when”; [11] - the summarisation relation - “So”). Closings in Figure 2 on the other hand are either predictive Claims ([3] “hotel will act”; [5] “will do as they’re told”; [13] “can get returns on these”; [14] “will manage”) or connective relations ([1] causality - “because”; [1] implication - “so”; “So”; [3] responsibility - “accountable to”; [11] time - “on 21 August”).

Connective relation	Utterance
addition (2)	[3] “Then there’s”; [4] “also”; [11] “There’s the”
time	[1] “in”; “In”; “between”; [10] “when”; [11] “on”
place	[3] “in”; [4] “in”; [7] “into” (three times); [8] “where”; “in” (twice); [12] “in”; “out”; [13] “in”
responsibility	[3] “to”
causality (1),(2)	[1] “because”; “that way”; [8] “due to”
implication (2)	[1] “so”; “So”; [8] “implies”; [12] “So”; “as”
condition (2)	[2] “if..then”; [3] “If”; [11] “unless”
instance	[1] “with regard to”; [4] “on the basis of”
Summarization	[11] “So”
duration	[11] “still”
difference	[7] “not just”

Notes: (1) Sanders *et al.* (1992); (2) Schiffrin (1987).

Figure 5. *Connective relations in example dialogue.*

The distribution of connective relations and verbs across unfolding types is also significant and supports Segal *et al.* (1991) and Bruder *et al.* (1986) who suggest that connective relations mark continuity and discontinuity in the development in the proof, point or moral of what is being communicated. The Problem-to-Solution unfoldings contain relations of instance (twice), time, condition (twice) and place and close with predictive Claims (e.g. [3] “will act”) or proposals ([1] “I think”; [1] “let’s concentrate on”;) or the responsibility relation ([3] “accountable to”). The Goal-to-Means unfolding involves relations of causality, implication and time (twice). The Conflict-to-Resolution unfoldings contain relations of instance, place, addition

and condition, and close with a predictive Claim ([14] “will manage”) or a prescriptive Claim ([4] “should also move”). The Question-to-Answer unfoldings contain descriptive verbs ([13] “want” (twice), “need”, “have”, “can get”), relations of time and place, and were the only types of unfolding to open without the use of connotative references.

Fourthly, nearly all the unfoldings use repetition of important words in both Opening and Closing - The Problem-to-Solution unfolding ([1] “signing”; [3] “hotel”), the Goal-to-Means unfolding ([1] “technology”), the Conflict-to-Resolution unfolding ([4] “should”; [11]/[14] “[suppliers name]”), and the Question-to-Answer unfolding ([10]/[11] “back”; [11] “issues”; [13] “[The new facility]”). In many cases (Figure 6) the unfolding process causes considerable distortion of meaning of the repeated word. Tyler (1994) has argued that repetition has a role in the construction of discourse specific synonym sets. The degree of discourse specificity or localness may go beyond even this however - repetition emphasises the semantic distortion involved in the unfolding process from one discourse context (Opening) to the other (Closing). Figure 6 shows that in 6 out of 8 unfoldings considerable semantic distortion occurred.

Type	Turn	Utterance	Semantic distortion during unfolding
Problem	[1]	“not SIGNING (in December 1996)”	Disruption of commitment
Solution	[1]	“SIGNING (as late as possible)”	Opportunity
Means	[1]	“TECHNOLOGY is changing”	Objective description
Goal	[1]	“get the latest TECHNOLOGY”	Implication for us
Problem	[3]	“Then there’s the HOTEL”	Our problem
Solution	[3]	“HOTEL not become a ward”	Someone else’s problem
Conflict	[4]	“SHOULD not”	Don’t do what others want
Resolution	[4]	“SHOULD”	Do what we want
Question	[10]	“when are you BACK”	
Answer	[11]	“I’m BACK on the 21st of August”	
Question	[11]	“So what are the ISSUES”	
Answer	[11]	“There’s the... ISSUE”	
Conflict	[11]	“[SUPPLIER’S NAME] will not give”	Adversary
Resolution	[14]	“[SUPPLIER’S NAME] will manage”	Ally
Question	[13]	“What is in [THE NEW FACILITY]”	A building
Answer	[13]	“[THE NEW FACILITY] can get”	An investment

Figure 6. *Repetition and semantic distortion during unfolding.*

The simplest model of argumentation is the one which states that premises (facts used as evidence) are applied with degree-of-force qualifiers (strength of speaker’s commitment to) to a warrant or justification (an abstract rule which provides reasons which legitimate the inference of a claim from a premise) which is backed by credentials or backing (detailed reasons why justifications are appropriate) and which is a rule justifying a claim (what the speaker wants to

establish in her argument) allowing for exceptions (things the argument does not allow for) and rebuttals (ready-to-use replies to counter-arguments) (Toulmin, 1958). However, I shall work with just three of these components: Premise, Warrant, and Claim (see Figure 8). Claims can be simple or can themselves constitute arguments. Examples of warrants include deterrence, sacrifice, part-in-whole, fairness, reciprocity, precedent, authority, analogy, example, and commitment (there are many more in Perelman & Olbrechts-Tyteca, 1969). Although originally of interest to classical rhetoricians, a small number of such warrants have been rediscovered in the pragmatics literature and attempts have been made to tie them to ‘relational propositions’ (eg. Mann & Thompson, 1986). Warrants have a potentially wide (though as yet unrealised) application within pragmatics. For example, some warrants (e.g. part-in-whole, generalisation, fairness, reciprocity, analogy, precedent) create categories and thus are useful as coherence devices. Other warrants (e.g. incompatibility, specialisation, sacrifice, dissociation, hierarchy, qualitative difference) split categories (Billig, 1985) and are thus potentially useful for unfolding purposes (Sillince, 1997).

Sub-Turn	Claim	Warrant	Premise	Focus
[1.1]	‘Uncertainty of IS’ is a Problem	Confidence: “We’ve got to accept that...” ‘X before Y’ is a Constraint	X = IS; Y = project; IS is uncertain	[1.1]
[1.2]	‘No IS contract in December ‘96’ is a Problem	‘A contract must have elements which are certain’ is a Constraint	[0.1: Claim]	[1.2]
[1.3]	There can be a later contract	Incompatibility: No contract in Dec 96 not incompatible with later contract	P = No contract in December ‘96; Q = later contract	[1.3]
[1.4]	We will get the latest technology because of the later IS contract and changing technology	Hierarchy: (X is high on dimensions D1, D2 and D3) \Rightarrow ((D1 & D2) \Rightarrow D3)	D1 = [0.3: Claim]; D2 = technology changing quickly; D3 = latest technology	[1.3]
[1.4]	‘Later contract’ is a Goal	Means to Goal: If X leads to Y and Y is a Goal then X is a Goal	X = Later contract; Y = latest technology; [0.4: Claim]	[1.4]
[1.4]	attack [0.1: Claim] and [0.2: Claim]	If X is a Problem and Y is a Goal and (X not incompatible with Y) then X is not a Problem	[0.1: Claim], [0.2: Claim]; [0.5: Claim]	[1.1], [1.2]
[1.5]	‘A good period to sign up’ is a Means to Goal in [0.5: Claim]	If Goal exists then find a Means	[0.5: Claim]	[1.1]
[1.5]	‘Contract will be signed March to November 97’ is a Means to Goal in [0.5: Claim]	If end of X before start of Y then end of Y = end of X + duration of Y	X = January 99 opening; Y = 2 year project	[1.1]
[1.5]	[0.3 to 0.8: Claim] attacks [0.1: Claim]	If Claim exists that P is a Problem and P is a Goal then attack Claim that P is a Problem	[0.1: Claim]	[1.1]
[1.6]	We should shift focus	If P was a Problem but now is not a Problem, then shift focus.	[0.9: Claim]	[1.1]
[1.6]	Contractor has Goal that We should reassure him of our commitment	If X gets small reward then X needs reassurance	Contractor gets small fraction of total contract price	[1.6]

[1.6]	Contractor's Goal is a Problem	If Goal exists which is unsatisfied then this is a Problem	Contractor has Goal that We should reassure him of our commitment; that Goal is currently unsatisfied	[1.6]
[1.7]	'Reassure Contractor about our commitment' is a Goal	If X is important to Y, X has a Problem and Y can solve the Problem for X, then Y should solve the Problem for X	X = Contractor; Y = Us; Contractor is important to us; [1.6: Claim]	[1.6]
[1.8]	We should concentrate on building contract rather than IS contract	If X is a Means to a Goal then choose X.	[1.7: Claim]; X = concentrate on building contract	[1.6]
[1.8]	[0.14: Claim] is a Solution to the Problem of [0.1: Claim]	If X is a Problem, and Y is a Means to X's unsatisfied Goal, then Y is a Solution of X	[1.8: Claim]	[1.6]

Figure 7. *Argumentation elements in the dialogue example.*

Definite and indefinite articles identify taken-for-granted and problematic aspects of discourse respectively. Premises, as taken-for-granted, have a higher proportion of definite articles. Claims on the other hand are problematical, and have a higher proportion of indefinite articles (Harweg, 1989). For example, in the first argument of the first turn in Figure 1, two Premises are “THE technology is changing” and “get THE latest technology”, whereas the Claim is “signing ..would be better”. The second argument involves the Premise “THE [new facility] opens” and the Claim is “so A good period is”. The third argument involves the Premises “THE [supplier] will only get” and “concentrate on THE building”, whereas the Claim is “give A simple reassurance”.

There is no association between the Premise-Claim pairs and Opening-Closing pairs. For example, Claims can be both Opening and Closing. For instance the following show Claims as both Problem and Solution: [3] “We have to look at the risks here” is a Problem/Claim whereas [1] “I think signing as late as possible would be better” is a Solution/Claim. And Premises can be different types too: [8] “The low utilisation rate of the imaging equipment” is a Premise/Problem, and [1] “..technology is changing quickly..” is a Premise/Means.

Moreover, both Premise and Claim can concern the same type. For example, a debate to establish whether something is a significant Problem will be of the form: Premise (about the Problem)-to-Claim (about the Problem).

7. *Binding.*

Analysis of coherence within the first turn reveals a large number of ties and linking chains in Figure 7. The focus of each subturn is defined by the references the subturn makes to other subturns. These references can be to previous or immediately following subturns. They make up the cohesive ties that influence the “hangingness together of a text” (Halliday & Hasan, 1976). This reasoning merely extends the conventional assumption that elements will be continued if they have been made textual (Petofi & Sozer, 1986). In many ways, however, the referencing process is loose and vague. For example, in [1], “We’ve” may refer to members of the committee, or to the whole organisation for whom they work. This is what Erlich (1989) means when he says that ‘pointing’ is usually not to a truth proposition but to a ‘knowledge structure’, so that much is left to the hearer to interpret meaningfully.

Figure 8 shows that the existence of a Problem is established by “there is UNCERTAINTY that”, (it is assumed that the hearer has a knowledge structure such that “UNCERTAINTY” connotes a Problem) and this, via a reference to “It” becomes the subject of the next utterance, a justification “it may lead to NOT SIGNING”. However “SIGNING as late as POSSIBLE” suggests that a Solution exists. Figure 8 shows “SIGNING as late as POSSIBLE” to be an important focus (of 3 references or arrows in Figure 7) and these references are not nested but cut across other references (Sillince, 1995: 424 calls them ‘non-canonical’) This is strengthened into a Goal by the use of “would be BETTER”. In everyday life when Solutions to Problems are discovered, a transformation occurs such that they become Goals to aim at. Thus even within the first three sentences of the first turn there has been a Solution to a Problem - a satisfying transformation and a useful development. The fact that “late SIGNING” is a Goal means it is therefore not a Problem, and this contradicts the hearer’s original connotation of “UNCERTAINTY”.

“That way” in [1] (followed by a means) refers back to the Solution “SIGNING as late as POSSIBLE”. Thus “That way” suggests that a Solution (“signing as late as possible”) can become a Means to something else. The something else is the Goal “the LATEST TECHNOLOGY”.

It is clear that much more is involved than is contained in the six coherence devices (reference, substitution, ellipsis, conjunction, and lexical cohesion) suggested by Halliday & Hasan (1976). For example, within the first turn (Figure 8), there are 6 such devices, and yet there are 12 type relations in Figure 8 such as unfoldings (e.g. Problem-to-Solution) type substitutions (e.g. repetition of Means) and transformations (e.g. Solution becoming a Means).

The development from Openings to Closings is not merely a reflection of cognitive processing. For example, for someone to state a Problem and then to develop a Solution to it does not mean that they are solving the Problem by ‘thinking aloud’. Instead, the unfolding is done for rhetorical effect. To illustrate this, consider the Conflict-to-Resolution unfoldings in Figure 2. The Conflict of “negative, reactionary tendencies” of [5] does not represent a serious threat, rather, it merely adds weight to the Claim that “The hotel should be in [the new facility]”. Similarly, the Conflict of [12] that “Someone wants cardiac stuff” is dismissed as “fantasy” in order to make more persuasive the Claim “So this should be out”.

Unfolding therefore has a rhetorical as well as a cognitive function - which is to persuade the hearer that the Closing is acceptable. The effect is achieved by presenting the Opening as background with the Closing as foreground. This is an example of a more general use of foreground-background contrast for persuasive effect. The more general case is exemplified by [7]: “[The ambulatory care facility] is NOT JUST a radiology department”, which seeks to demonstrate foreground features of the topic which go beyond and are more significant than background features (found in radiology). The implication is that more thought or effort are required, or that a different approach is needed. Sanders *et al.* (1992: 12-15) call it a ‘contrastive’ argument type and invoke the ‘opposition’ relation. Perelman & Olbrechts-Tyteca (1969) call it ‘argument by dissociation’. Mann & Thompson (1986: 66) call it ‘thesis-antithesis’.

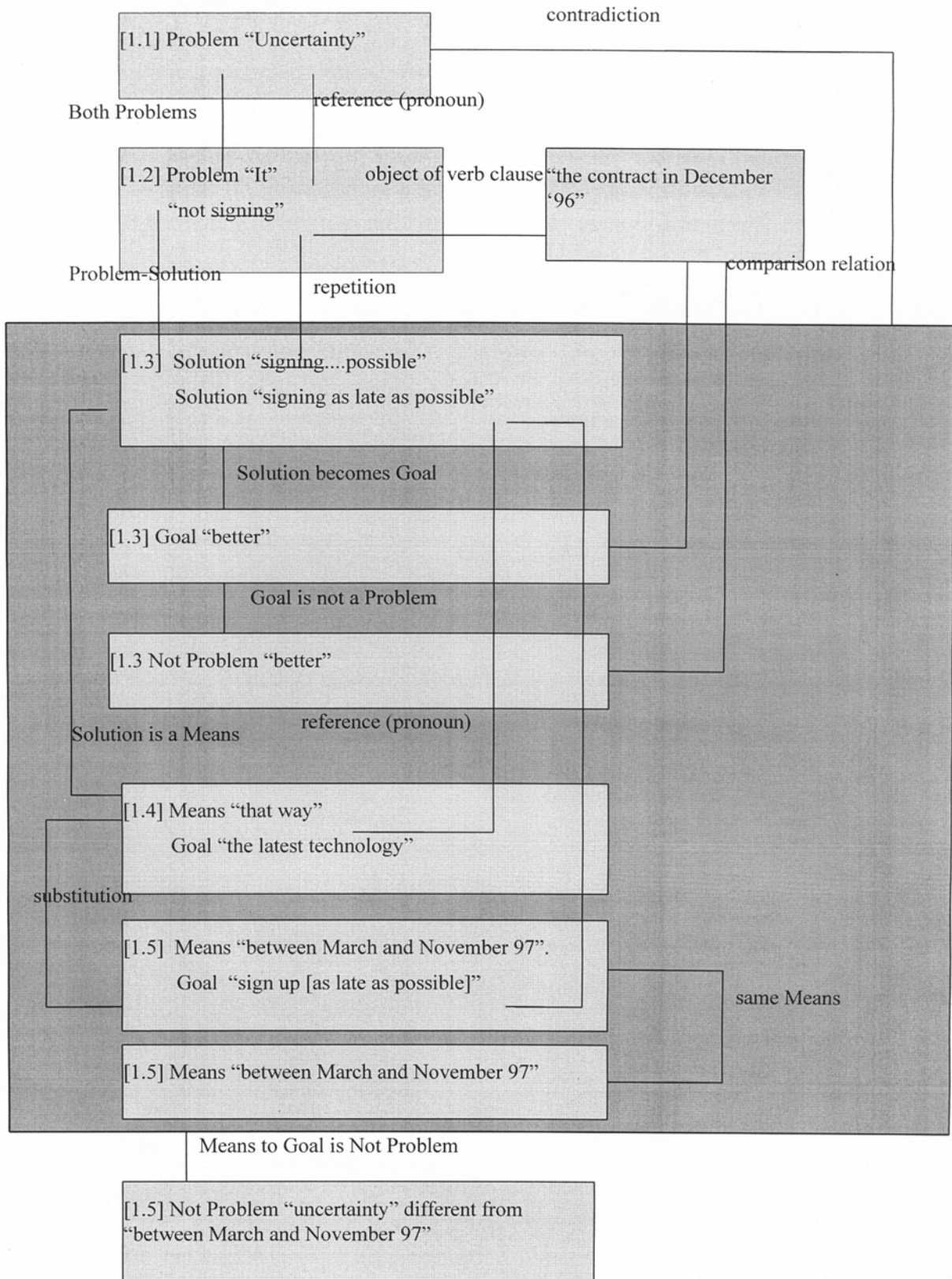


Figure 8 (part 1) . Binding references in first turn.

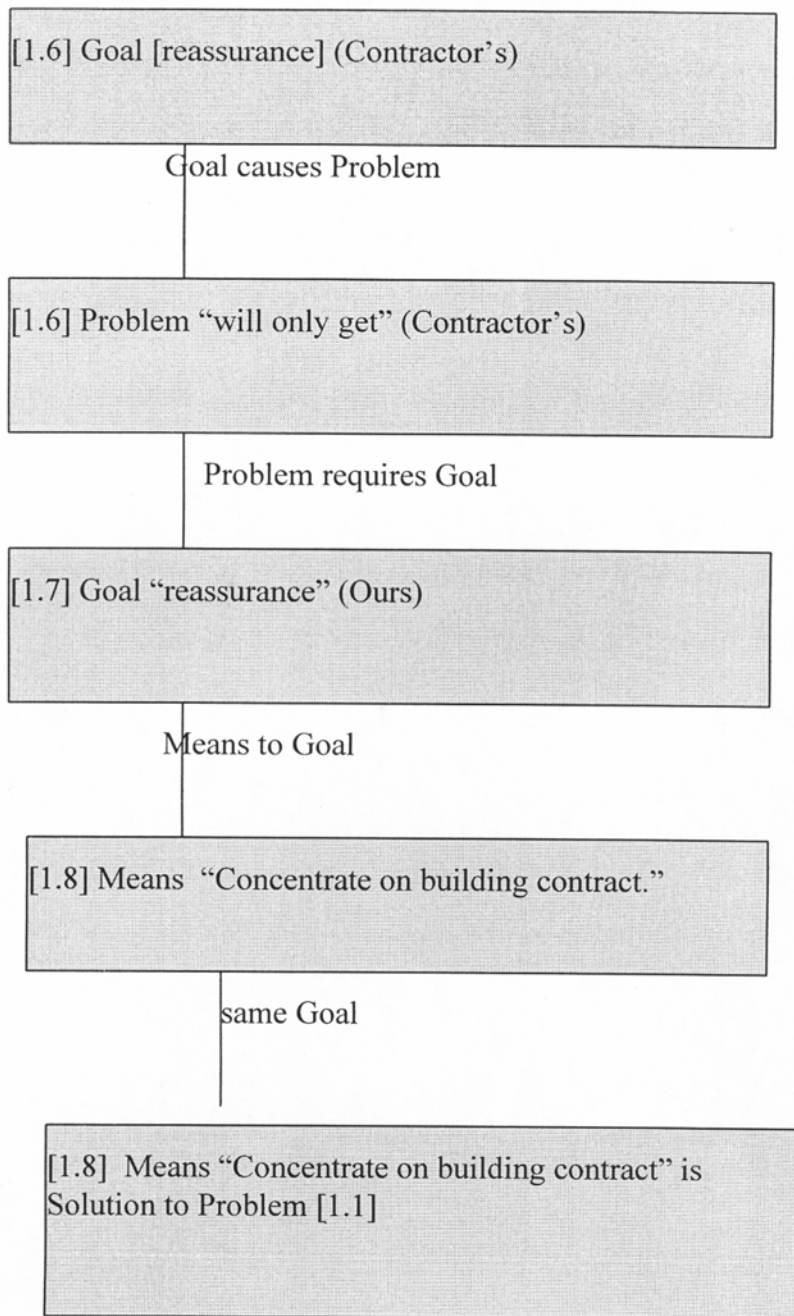


Figure 8 (part 2) . *Binding references in first turn.*

8. *Topic shift.*

Topic defines the permitted content of a turn. The same topic may be spread over several turns. Argumentation must stay on topic. Otherwise explicit justification is expected. The types of these justifications vary according to the circumstances. There are several types of topic shift justification which arise in Figure 10 and which use marker words (Sinclair & Coulter, 1975; Sillince, 1995) shown in Figure 9.

Topic shift type	Speaker utterance	Hearer expectation
1. Generalisation	ALWAYS/ GENERALLY/USUALLY*	Generally true (during topic shift)
	FOR EXAMPLE/ IN PARTICULAR+	Particularly true in this case (after topic shift)
	THEN THERE'S+	New topic will be similar instance of current topic
	THAT'S WHY+	Current topic used as generalisation from which new topic can be derived as a special case
2. Significance	NOT JUST/ ONLY WHEN *	Current topic is problematic and further discussion is justified in new topic
	BUT/HOWEVER/ALTHOUGH+	Current topic has an exception which follows as a new topic
3. Agreement	YES/OK/RIGHT/SURE (Opponent supports same conclusion as previous turn)+	Topic closure because agreement signals better to pursue other topics on which to disagree
4. Repetition	(Opponent repeats word or words)+	Topic closure because repetition signals nothing more to say on topic
		No expectation about new topic content
5. Adjacency pairs.	(Termination of adjacency pair)*	New topic (after adjacency pair) acceptable because previous topic cannot be that important if it has been interrupted
6. Summarisation	SO/THEREFORE (introducing new topic)+	As a result of previous discussion the following new topic is justified.
		New topic is a Claim based on previous topics as Premises.
	WHAT DOES THIS TELL US?+	Request for summary as new topic
	THIS MEANS THAT+	Summary follows as new topic
7. Continuation	(Earlier occasion when topic was raised it remained at Opening stage)*	Topic will be continued at some later opportunity.
		Ignores intervening material and directly responds to last relevant Claim.
	COMING BACK TO/AS YOU WERE SAYING/A PROPOS OF+	Next topic will be a continuation

Notes: * in current topic; + in new topic.

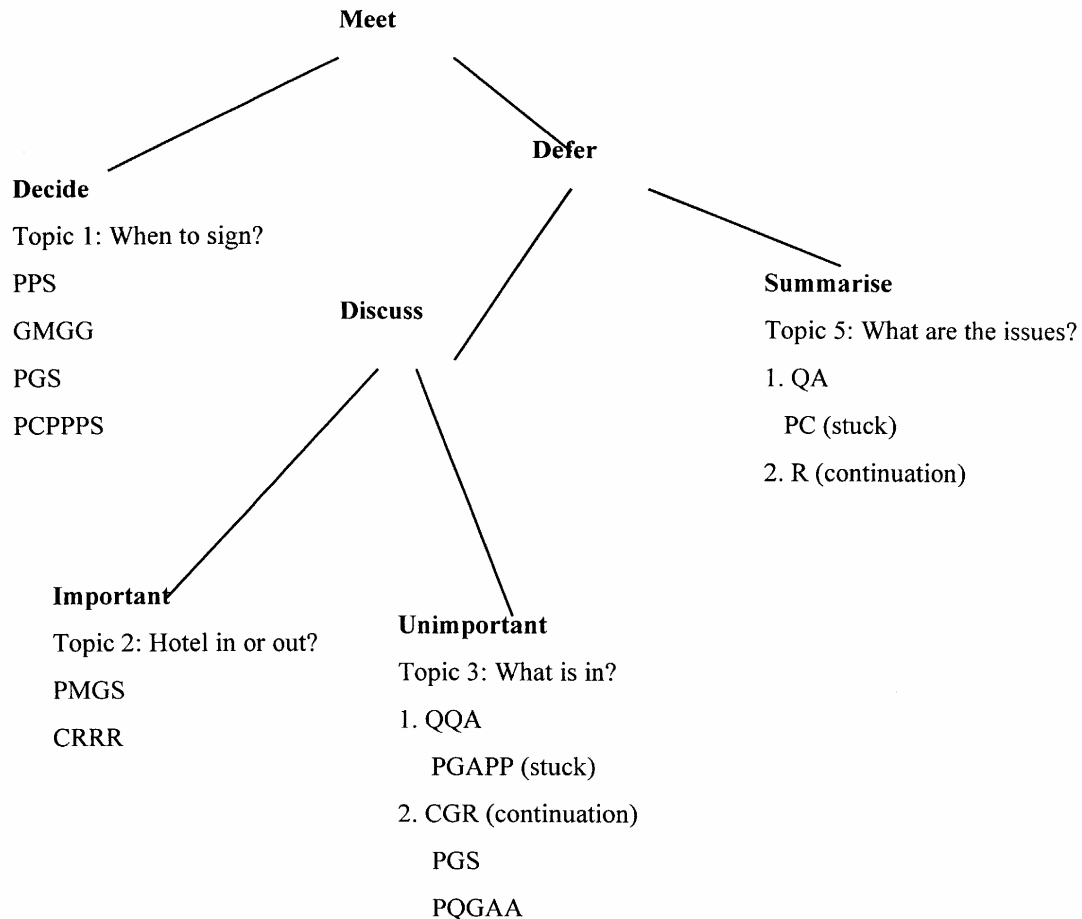
Figure 9. *Topic shift cues.*

Topic	Description	Closed sequences	Type of topic shift	Triggering conditions
1	When to sign contract?	Problem-Solution, Goal-Means, Problem-Solution, Problem-Solution		
1/2			Generalisation	Wide old topic
2	Hotel in or out?	Problem-Solution, Conflict-Resolution,		
2/3			Repetition/Significance	Partner agrees with old topic's Claim Account is possible
3	What is in new facility?	Question-Answer, unclosed Opening		
3/4			Interruption	Sufficient informality to enable interruption
4	When are you back?	Question-Answer		
4/5			Summarisation	Problems exist, debate coming to end
5	What are the issues?	Question-Answer, unclosed Opening (Conflict)		
5/3			Continuation	Topic 3 got stuck previously
3	What is in the new facility?	Challenge-Rebuttal, Problem-Solution, Question-Answer		
3/5			Continuation	Topic 5 got stuck previously
5	What are the issues?	(Conflict)-Resolution		

Figure 10. *Closed sequences and types of topic shift.*

Several authors have analysed how topic shifts relate to the structure of discourse. Cohen (1983) on argumentation presentation; Linde (1974) on describing apartment layouts; Grosz (1977) on discussing how to build a pump; and Weiner (1979) on explanation - all suggest a hierarchical tree structure to discourse in which the current dialogue focus is represented by a node in the tree. The tree provides a data structure over which to move from current dialogue to earlier, interrupted, dialogue. Each hierarchical data structure depends on context - Linde's hierarchy contained nodes representing rooms in the apartment, and the hierarchy was arranged according to how one moved around the apartment. How are the five topics in the example dialogue generated? Figure 11 shows one approach to a grammar. The grammar generates (a) a

chronological sequence of topics (topics 1,2,3,5); (b) a scale of increasing likelihood of interruption (topic 4 interrupts topic 3); (c) and a scale of increasing likelihood of unfolding from Opening to Closing getting stuck (both topics 3 and 5 get stuck) requiring later continuation.



Note: P = Problem; S = Solution; G = Goal; M = Means; C = Conflict; R = Resolution; Q = Question; A = Answer
 Note: Topic 4 (When are you back?) occurs as an interruption of topic 3.

Figure 11. *Topic generated grammar.*

Previous research has demonstrated that topic shifts are often quite coherent (Crow, 1983; Planalp & Tracy, 1980). I suggest that there are several ways in which the coherence of topic shifts is maintained.

8.1 Generalisation.

With generalisation, the new focus is another more general one. For example, topic 1 - 'When to sign the contract?' finishes with [2]: "If you sign up too early..." (this is one instance of the class "When to sign the contract?" but also of the more general class "Risk") and prompts the observation: [3] "We have to look at the risks here" - another reference to the general class "Risk", which also includes: [3] "Then there's the hotel facility" which is both an instance of the

general class “Risk” and of the topic 2 “Hotel in or out?” which now becomes the new topic. Such a wide topic as topic 1 provides ample opportunity for the use of generalisation.

8.2 Significance.

Here the emphasis is justifying topic shift by establishing the significance of the new focus. For example, topic 2 – “Hotel in or out?” - finishes with [6] “They’re all young”, and topic 3 - ‘What is in the new facility?’ - begins with [7] “[The ambulatory care facility] is not just a radiology department “which is used to justify the significance of the immediately following sentence: [7] “What services and facilities will go into [the new facility]?”.

8.3 Repetition.

Closure of the last topic is done by the opponent repeating the last claim (and therefore agreeing with it, signifying that there is no disagreement worth airing on that topic). Repetition does little to prejudice what the new focus should be about. For example, [5] “The consultants will do as they’re told” is repeated in [6] “It’s a process of reeducation.....They’re all young”. Another example is [8] “...will compromise [the new facility’s] philosophy..” which is repeated in [9] “There is a big compromise here”.

8.4 Interruptions.

When interruptions occur involving brief exchanges or ‘side sequences’ (Jefferson, 1972), an opportunity exists to start a new topic rather than revert to the old topic. For example, the adjacency pair in topic 4 (i.e. the pair Question [10] – Answer [11]), although brief and self-contained, nevertheless causes a topic shift from topic 3 to topic 5 - the interrupted topic 3 is not immediately resumed. This violates Tsui’s (1991) “coherence rule” (“that in order for an utterance to form a coherent sequence with the preceding utterance, it must either fulfil the illocutionary intention of the latter, or address its pragmatic presuppositions”: Tsui, 1991: 111). In fact the priority of topic 5 is short-lived (it gets stuck on an Opening (Conflict) and its precedence is therefore challenged – topic 3 is resumed and closed (Question-to-Answer in [13]), before reverting back to topic 5 again and achieving closure (Resolution).

8.5 Summarisation.

The effect of summarisation is to bring together several previous topics in an attempt to reach a conclusion. It is a vital part of coherence because what people recall about a conversation is not the exact form of it but the gist which they have constructed in the process of comprehending it (Bransford & Franks, 1971). Summarisation is used toward the end of a debate. It establishes a new topic which is a Claim based on previous topics as Premises. For example, topic 5 is begun by [11] “So what are the issues here?” with a Claim ‘Issues exist’ supported by Premises such as topics 1,2 and 3 (examples of issues are implied to exist by the use of the word “So”).

8.6 Contrast.

Topics become diffused or differentiated and may shift or narrow, when participants wish to contrast what they are saying with its opposite or an alternative. Figure 12 shows the use of contrasts in the example dialogue. The fact that none of these contrasts shifted the topic

indicates that there was no wish to debate the risky effects of opposites or the benefits of alternatives. This is a sign of the consensus in the meeting.

Turn	Type of contrast	Utterance
[1]	Opposite	Not signing the contract in December 1996
[1]	Alternative 1.	Sign contract in December 1996
	Alternative 2.	Sign contract in March to December 1997
[3]	Alternative 1:	Hotel as private company
[4]	Alternative 2:	Hotel in ambulatory care centre
[8]	Alternative 1:	Imaging equipment in hospital
	Alternative 2:	Imaging equipment in ambulatory care centre
[11]	Opposite	The supplier will not give fifteen million

Figure 12: *The use of contrast (opposites or alternatives).*

8.7 Continuation.

This occurs when previous topics have got stuck (there is no adequate Closed sequence established) in an Opening stage. Continuation is by means of an utterance which ignores the intervening material and directly responds to the last relevant utterance. Bamberg & Marchman (1991: 299) suggest that continuations of the topic are expected and thus do not require explicit marking. For example, topic 3 ('What is in the new facility?') becomes stuck in turns [7], [8] and [9] with Opening utterances - the last of which is the Opening/Problem: [9] "There is a big compromise here". It is continued with the Opening/Conflict: [12] "Someone wants cardiac stuff in [the new facility]." Similarly, topic 5 becomes stuck in turn [11], the last utterance of which is an Opening/Conflict: [11] "[The supplier] will not give fifteen million unless the contract is written..." which is continued with the Closing/Resolution: [14] "[The supplier] will manage the facility". Figure 10 shows the relationship between Closed sequences and the types of topic shift. It shows the unresolved Closed sequences prior to both topic 3 and topic 5 being put aside and continued at a later time.

9. Organisational implications of linguistic coherence.

I suggest that coherence of organisational discourse is not something only of relevance to the effectiveness of communication. It is also congruent with normative elements of social cognition within organisations.

Edwards (1997) has argued that talk and cognition are not separate. Talk is used as a means of perceiving, enacting and interpreting the world. The way people talk illuminates and constrains the way they view the world. Wallmacq & Sims (1998: 125-6) discuss the case of a woman who had previously started a training company which grew very successfully. The metaphor she used was one of cellular division. But it was not only talk. The metaphor

channelled her perception of being marginalised and uncomfortable at losing her power into an ambition to, in the words of one of her employees, “reproduce her firm by photocopy”. The cellular division metaphor was thus both talk and cognition.

I would argue that coherence of organisational discourse is congruent with cognitive complexity (Harvey *et al.*, 1961; Schroder *et al.*, 1967; Streufert & Streufert, 1978). Cognitive complexity comprises differentiation (the subdivision of a category) and integration (the development of new or stronger relationships between categories). These two processes are strikingly similar to the linguistic processes of unfolding and binding respectively.

Differentiation is enhanced by topic unfolding (Bamberg & Marchman, 1991), which is a goal-directed process seeking to move from Openings (e.g. Problems such as that the facilities management supplier will “only get three million out of the eighteen million project money” causing them to feel marginalised) to Closings (e.g. Solutions such as a simple “reassurance of their involvement” by means of speeding up building work). Such a process creates new categories (e.g. Solutions) out of old ones (e.g. Problems).

Integration is increased by binding processes which create a large number of ties between current and past utterances. Those utterances of greatest significance (e.g. “signing as late as possible”) attract the most references. Argumentation has a structure which is not necessarily the same as the way in which the argument chain is sequentially presented: we process communication hierarchically rather than sequentially, according to self interest and values (van Dijk, 1980).

Integration and differentiation are connected because the references are not merely static ties, but serve to transform the functional value of utterances (e.g. “SIGNING as late as POSSIBLE” suggests a Solution exists, but then “would be BETTER” strengthens “SIGNING as late as POSSIBLE” into a Goal). Thus integration creates wholly new relationships between, and meanings of, utterances. This novelty is thus a major source of differentiation – of growth of new categories.

Differentiation is increased by topic shift (e.g. those shown in Figure 2). Mechanisms for increasing differentiation include using old topics to generate new ones (e.g. the topic “When to sign the contract?” generating the topic of risk), allowing interruptions to take place to encourage impulsive and creative generation of ideas (e.g. “What are the issues?” in [11] interrupting “What is in the new facility?”), welcoming alternatives (e.g. different dates for signing the contract), and preparedness to swing from a concept (e.g. signing the contract) to its opposite (e.g. not signing the contract).

Again, differentiation and integration are connected because a major source of integration is the degree to which topic shifts are justified in a way which everyone understands and accepts. Integrated discourse displays an ability to plausibly generalise from an old topic to a new one, to persuasively demonstrate the significance of the new topic in order to justify it, to clearly mark closure of the old topic by means of repetition, to capitalise on the opportunity offered by interruptions to shift topic, to use summarisation to synergistically combine previous foci as Premises on which to establish a new Claim as the current topic, to resist the effects of contrasting (discussing opposites and alternatives) in creating irrelevant diversions, and to ignore an intervening interruption in order to provide a continuation of a previous topic that got stuck.

Cognitively complex individuals can perceive a number of dimensions in a stimulus rather than one and can simultaneously make use of several different schemas (Bartunek *et al.*, 1983). They make more appropriate occupational choices (Haase *et al.*, 1979), they are more tolerant of ambiguity (Streufert *et al.*, 1968), they can more easily take the perspective of others (Triandis, 1977), are less prejudiced (Gardiner, 1972), are better able to resolve conflicts cooperatively (Eiseman, 1978), and make better strategic choices (Reger, 1987; Walton, 1986; Ginsberg, 1989). Cognitively simple individuals create categories which are too broad (Schwenk, 1984), may ignore significant events (Bartunek *et al.*, 1983), and may be more attracted to monistic rather than pluralistic ideologies (Tetlock, 1984: 373). Also, cognitive complexity is related to personality development (Piaget, 1972). Such personal development factors have been linked in a longitudinal study by Vaillant (1977) to increases in managers' effectiveness over extended time periods. Thompson (1967) and Jacques (1956) have linked these notions to managerial discretion: career advancement requires the ability to exercise increased discretion, which requires an increased ability to use appropriate implicit theories by managers about themselves and their roles (Downey & Brief, 1986).

The cognitive complexity construct, which combines both integration and differentiation, lends further credibility to Hirokawa & Pace's (1983) concept of an "effective" group. Those groups identified as "effective" demonstrated coherent dialogue in three ways. Firstly, they used challenges ("ineffective" groups did not), which by creating oppositions divided categories into two (pro and con) and thus increased differentiation (thus linking "group effectiveness" and differentiation). Secondly, "effective" groups considered the consequences of each alternative ("ineffective" groups did not), thus reinforcing unfolding from Openings (Cause) to Closings (Consequence) (and hence linking "group effectiveness" and differentiation) (Hirokawa & Pace, 1983: 372). Thirdly, "effective" groups referenced back from claims to evidence provided in the study, ("ineffective" groups did not) (Hirokawa & Pace, 1983: 372) (thus linking "group effectiveness" and integration).

There is a similarity between the cognitive construct of integration (strong relationships between categories) and the organisational characteristic of tight coupling (a high interdependence between organisational units: Weick, 1995; Perrow, 1984). The suggested relationship between linguistic (unfolding, binding) and cognitive (differentiation, integration) processes presented here is not the first relational model. Lyles & Schwenk (1992) suggested that there is a relationship between cognitive (differentiation, integration) and organisational processes (attaining means, setting goals) - firms having cognitively complex and loosely coupled "knowledge structures" were suggested to be more flexible and adaptable than those having cognitively simple and tightly coupled ones (for a critical review of the evidence see Walsh, 1995: 302).

Besides similarities between linguistic processes and organisational processes (tight and loose coupling), cognitive structure (cognitive complexity) and organisational knowledge structures, the concept of coherence has much to say about organisational sense-making. The interpretation of organisational change involves an unfolding or differentiation process (rumours when change is anticipated, become conventional explanations when change is confirmed, which become symbols, which reflect winners and losers in the aftermath: Isabella, 1990: 32). But also it involves a binding or integration process because the change behaves like a narrative, with a beginning ("What will the event mean to me?"), a middle ("What will the event mean to my work?"), and an end ("What has the event meant overall?": Isabella, 1990: 32). Because such

frames of references are a principal sense-making device during change, it can be hypothesised that coherence is of higher priority at such times. Coherence can be viewed as one of the elements of the organisational meta-goal of creating stability and predictability, which is often in conflict with the desire for accuracy (Weick, 1995: 152). Snyder (1992: 99) has suggested that when individuals seek stability, their interactions with others are organised in such a way that their beliefs are confirmed. This would suggest the hypothesis that during threatening or chaotic change, conversations within organisations will contain fewer challenges and changes of topic through greater control of agenda (higher integration), and will also contain less unfolding in terms of progressions from Openings such as Problems to Closings such as Solutions (lower differentiation).

Another important dimension of coherence which is relevant to organisation scientists is its relation to comprehensibility. Within the field of linguistics there is a body of research on language comprehensibility and discourse coherence (Grimes, 1984) which is relevant here. Various models of discourse coherence exist which identify different types of language structure, including story grammars (Mandler & Johnson, 1977; van Dijk, 1977), argumentation stages (Rudolph, 1989) and reconstructability using causal relations (Schank & Abelson, 1977).

Organisational members need to see strategy slowly evolving to understand its final shape: sequential organisation has more influence on coherence than syntactic, lexical or semantic features alone (Sacks, 1992). Organisational activities for which coherent descriptions exist (in the form of discussion in meetings, or as texts in memos and reports) will be more comprehensible to outsiders (as well as insiders) than activities for which descriptions are incoherent. Comprehensibility is closely related to legitimacy (Suchman, 1995: 574) defined as justified and persistent environmental support (Parsons, 1960), and a credible rationale explaining what the organisation is doing (Jepperson, 1991). Such a view is similar to the concept of coherence within the strategy literature (Nath & Sudharshan, 1994), which considers the extent to which the functional strategy supports the desired competitive advantage (Hayes & Whellwright, 1984).

Coherence also is relevant to managerial leadership. Leadership is defined as moving a group towards its goals (Hollander, 1971), direction-giving, and summarising (Schultz, 1974). Moving a group toward its goals and direction-giving requires identifying Goals (Openings) and connecting them convincingly to Means (Closings), an unfolding, differentiation process. Such a process requires an individual who is prepared to be argumentative – such people are perceived as having leadership qualities (Schultz, 1982), even when such individuals are not seen as the most sensible in the group (Schultz, 1978). On the other hand summarising (a leadership role) is a means of binding previous propositions together and achieving integration. It seems likely that leaders use different linguistic strategies depending upon the stage in group formation (Tuckman, 1965) – for example storming generates divergent views and therefore unfolding, whereas norming involves convergence and therefore binding.

10. Conclusion.

Coherence is of vital importance to organisations. Leaders strive to ensure comprehensible and consistent statements. Organisation members engaged in active sensemaking are sensitive to the coherence of their organisation's discourse. Moreover, in a sense organisations are constituted from discourse – organisations are most real in meetings and policy documents, so

that that reality depends upon linguistic coherence. Yet coherence cannot be assumed in organisations. Various factors serve to render the linguistic coherence of organisational discourse problematic. Organisations aim to present themselves as generating actions, while actually operating politically through a variety of intangible and symbolic reassurance and deals within small privileged groups. Leaders seek to project symbols which are strong, confident and forward-looking, but their external and internal audiences seek contradictory sources of reassurance and inspiration.

I have viewed coherence as a combination of two linguistic processes – binding and unfolding. Binding involves integrating events into the vertical, hierarchical organisation of the overall theme, whereas unfolding involves differentiating events referentially in terms of narrative organisation. These two processes have been investigated as both separate and joint processes. Binding takes place as a separate process when subturns refer to previous subturns. Unfolding takes place separately when adjacency pairs create new categories, as when an utterance opens with a Problem and closes with a Solution (which contains information not contained within the opening). Perspective is a linguistic process that involves binding and unfolding jointly, unfolding as an expression of conflict, and binding as an expression of cooperation. Topic shift is also a linguistic process which involves binding and unfolding jointly – there an unfolding from one topic to the next, but this is justified and thus a binding takes place.

There are several similarities between linguistic processes and organisational processes. There are striking similarities between linguistic coherence and cognitive complexity and flexibility of organisational knowledge structures. The linguistic processes of binding and unfolding do for linguistic coherence what tight and loose coupling do for organisational processes. And the linguistic processes of binding and unfolding are expressions of the political processes of intra-organisational conflict and cooperation.

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