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Establishing Common Ground in Written Correspondence

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In memory of
Masako Haugaard Taira, 1949 - 1996

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This dissertation is the result of my own work and includes nothing which is the outcome of work done in collaboration. This dissertation does not exceed the regulation length, including footnotes, references and appendices, but excluding the bibliography

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Chapter 1

Introduction

1   The problem with mutual knowledge

Various terms have been used to refer to the information shared and drawn upon by people when they communicate with each other. Some of these terms are: shared knowledge, mutual knowledge, common knowledge, background knowledge, common ground, mutual beliefs, shared beliefs, mutual suppositions, presuppositions, etc. The plethora of terms used reflects the current state of interest expressed by various scholars in this "common knowledge/belief" which people seem to draw upon in helping them to express themselves as well as to understand each other. The plethora of terms used also reflects a general confusion of the terminology. As we will see later in Chapter 2, some of these terms have been used interchangeably with each other. This, in our view, is symptomatic of not only a terminological confusion but a conceptual one as well. In order to help us get a hold on some of these terms, we shall define some of these key terms later in Section 3 of the current chapter. Hopefully with these initial attempts at defining some of the key terms and concepts, we will be able to provide a common basis for further discussion.

One of the key notions arising from the literature is that of mutual knowledge. This can be seen, for example, in the early influence of Grice's (1957) and Schiffer's (1972) writings on the notions of mutual knowledge and meaning. One of the key issues arising from this is the problem of the Mutual Knowledge Paradox which basically addresses the question of how an infinite regression of knowledge can be processed in a finite amount of processing time, which most people seem to be able to

do in everyday conversation. Schiffer (1972) tries to address this paradox by arguing that the regression is quite harmless because a set of conditions can be defined within a finitely describable situation to infer mutual knowledge. This solution, as we shall argue in Chapter 2, is inadequate.

More recent work addressing this paradox comes largely from outside philosophy, in particular the writings of psychologists Clark and his colleagues (see, for example, Clark and Marshall, 1981; Clark and Carlson, 1982). Clark's et al solution is similar to Schiffer's and, as we shall argue in Chapter 2, suffers from much of the same criticisms of Schiffer's solution. The major difference lies in the way discussions of mutual knowledge in Clark's et al solution is couched in psycho-speak which seems to suggest that in spite of the exacting processing demands of establishing mutual knowledge, mutual knowledge can still in established on a routine basis in finite processing time. Many important papers related to common ground and communication in psychology, to the best of our knowledge, assume Clark's stance on mutual knowledge (see, for example, Horton et al, 1996; Greene et al, 1994).

We believe that the answer to the question of how people seem to be able to establish common understanding in apparently effortless day to day interactions in rapid conversation lies elsewhere in the notion of shared belief, rather than mutual knowledge. Shared belief, as we shall define later, involves a finite number (no more than a few) of steps, and it is this notion which explains how people are able to communicate effectively in everyday rapid conversation. In Chapter 2, we shall draw support for this notion in a recent empirical account offered by Brown (1995). Note however that Brown's account, like all of the other accounts, is based on spoken data. The significance of Brown's account lies in the fact that it draws from authentic data and that this fact lends greater credibility to her account as a plausible explanation of the role of shared belief (rather than mutual knowledge as in other accounts) in successful communication.

Related to the issue of the "mutual knowledge - shared belief" debate in

successful communication, is the notion of common ground (se Chapter 2 for a detailed discussion). One of the central concerns arising from the literature, as you will see later, is the nature of common ground. Is it the same as mutual knowledge, shared belief or something else? What is the role of this common ground in successful communication? Various answers of different levels of sophistication have been put forward, and there is still as yet no general consensus amongst scholars working in the diverse disciplines of linguistics, philosophy, psychology and Artificial Intelligence. In most of these studies, little attention has been paid to authentic data - the careful study of which, we believe, will reveal what ordinary people actually do in real speech situations to establish common ground. The present study is an attempt to bridge this gap between theory and behaviour.

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2 The research question

Our discussion so far raises several important issues: the current terminological confusion, the Mutual Knowledge Paradox and the notion of common ground. We also highlight the dearth of study involving authentic written data in addressing the above issues. Most of the studies done so far involve invented examples, and even when authentic data has been used, written discourse has been neglected.

In our current study, we hope that by looking more closely at authentic data, we will be able to find a psychologically plausible explanation of what it means for an individual to accept in his mind that he has obtained an adequate interpretation of an utterance, and the actual process in which that interpreted utterance becomes part of the individual's notion of his state of beliefs and his perception that that belief is shared by the other party in the discourse. Much of the earlier work also focuses on *tracking referents* in spoken discourse. For the current study, it is hoped that an examination of written discourse involving the *tracking of propositional content* instead may offer further valuable insights into the process of establishing common

ground.

In looking closely at authentic written data, our aim is not only to show that it is shared belief, rather than mutual knowledge, which is involved in establishing common ground in written discourse, but also to offer an empirically motivated conceptualisation of common ground (to be defined in Section 3). We hope to demonstrate empirically the actual number of steps involved in the regression of beliefs by configuring the beliefs (to be defined in Section 3) in a systematic way. In doing this, we shall highlight, for the first time, generic patterns of configurations associated with the various states of shared beliefs (or disbeliefs or doubts; to be defined in Chapter 6), thus allowing for the postulation of a taxonomy of common ground configurations. Our final goal is to offer a "cognitive" model of the processing of common ground in written discourse.

In order to reach the above goals, we have to first provide an account of how utterances in our data are interpreted by the readers. For the purpose of offering a more complete account of our data (which, you shall see later, is a case study), we explore the writer's point of view as well by examining the connection between information structure and common ground.

Finally, since we are offering a detailed account of written discourse for the first time, we are able to make some initial but important observations of the difference between written and spoken discourse in relation to the notion of shared belief and in relation to the question of how common ground come to be established in communication. In Chapter 2, we shall highlight some of the more general differences between spoken and written discourse which are relevant to our purpose. This will make the comparison later between our findings and those of other studies (largely based on spoken data) more meaningful. In Chapter 5 (on *Information structure*) and Chapter 6 (on *Configuring shared beliefs*), we explore in more specific details the nature of the difference between written and spoken discourse.

In Section 5 below, we provide an overview of the dissertation where we will spell out in greater detail how and when we intend to address the above issues in our

current study.

Before we explain our data which is drawn from a set of eight letters exchanged between two interactants, we should define some of the key terms we will use in the current study

We should also point out from the outset that throughout this study, we shall refer to the generic writer/speaker as *she* and the generic reader/listener as *he*.

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3   Defining some key terms

In this section, we define some of the key terms we intend to use in the current study.   Most of the terms we plan to use are best defined and explained at the beginning of the relevant chapters.   In this section, we define some of the more general and crucial terms which we shall make use of right from the beginning of our study. Some of these terms have already been mentioned in the preceding sections.

The first pair of terms we wish to distinguish is that of **belief** and **knowledge**. They differ in terms of how securely the individual holds them. For example, John *may believe* that his primary school science teacher is Spiderman in disguise. On the other hand, he *believes* that his teacher lives near school, having seen him walk, rather than drive, out of the main gate every week-day after school to, presumably, his home. Furthermore, John *believes with greater conviction* that his science teacher was educated in South Africa (even though he can't locate the country on the world map) because his teacher has announced it one day in class. And John *knows* that his teacher's son is called Harry, having talked and played with him in the school playground on several occasions.

Depending on the nature of the evidence (whether based on hearsay, observation, second-hand information or direct experience) John holds his beliefs/knowledge about his science teacher with different degrees of certainty. His knowledge and beliefs may also be unique to him since his classmate, Peter, with a separate (although similar) set of world/school experiences may hold the same set of

information related to their science teacher with dissimilar degrees of certainty. Only an omniscient observer will be able to tell the relative degrees of certainty with which each boy treats the same piece of information and why. For the rest of us, without prior contact with either of the boys, we can only guess.

When Richard Nixon, then President of the United States of America, declared on national television, "I am not a crook" in the wake of the Watergate scandal, certain sections of the general public interpreted his denial as possible evidence of his 'misdemeanour' (a weak belief); while other sections of the public, especially those sympathetic to the opposition party, took his denial as practically an admission of guilt (a strong belief) - after all, there can be no smoke without fire. The different sections of the general public, barring the enterprising journalist or FBI agent, are likely to have very similar prior but second-hand experiences of Nixon based on whatever information they may get from television. Yet, they seem quite capable of holding different degrees of certainty of the "truth" of Nixon's denial.

(We should add the caveat that we are aware of the vast amount of philosophical literature in the field of *epistemology*. However, our concern here is not with the nature of the relation between our sensory perception of, say, objects in the world and the intrinsic nature of these objects whose existence may or may not be independent of our sensory perception. See Russell (1912) for a discussion of this issue.)

The next set of notions which we wish to distinguish is that of knowledge (or belief) which is either common, shared or mutual. **Common/background** knowledge is that information which members of a particular community assume to be held common by virtue of the fact they have very similar background or up-bringing. For example, I accept the information that London is in the south of Britain while Edinburgh is to the north to be common knowledge between my brother (who has never been to Britain) and me, even though we have never talked about the relative locations of the two cities before. The reason is because we have very similar childhood and school experiences. But once we have talked about taking a possible

holiday together to the two cities and about whether we should rent a car or take the train up and down Britain, then that information about the locations of the two cities becomes part of our **shared** knowledge.

Kreckel (1981; cited in Hinds, 1985:7) makes a similar distinction between common and shared knowledge. She defines *common knowledge* as "that knowledge which two or more people have in common as a result of being brought up under similar conditions such as culture, subculture, region and education", while *shared knowledge* refers to "the negotiated common knowledge [based on mutual interaction] used for future interaction". This conception of shared knowledge, we believe, approximates the notion of belief spaces/environments, as developed in Artificial Intelligence research (e.g., Wilks, 1986), which are "temporary structures, created in real time during human communication, and not maintained permanently" (p. 277). And it is this notion of *shared* knowledge (or belief) which is negotiated that we are particularly keen to explore in our current study.

(As an informal aside, note that Kreckel's notion of *common knowledge* appears to parallel that of Joshi's (1982) notion of *general knowledge*. Similarly, Kreckel's *shared knowledge* parallels that of Joshi's *mutual knowledge* in that both shared and mutual knowledge are discerned by participants only as a result of interaction at a particular point in time and place (Joshi, 1982: 182). We prefer Kreckel's terminology.)

As opposed to common and shared knowledge, **mutual** knowledge refers to the type of knowledge which two (or more) persons hold to be common with 100% certainty. This 100% certainty is based, technically speaking, on an infinite regression of statements. It is a technical notion which has been discussed extensively in the philosophical and psychological literature. Mutual knowledge has also been used interchangeably, and regrettably so, with the other notion of *common ground*, and confused with the notion of *shared belief*.

Based on our definitions of 'shared' and 'belief' above, a **shared belief** is therefore a belief which is held to be true (by virtue of indirect

information/experience) as a result of a prior discussion and interaction with another interactant regarding the belief. Such a belief is held to be true by an interactant not because she is certain of its truth, but because she believes (with varying degrees of certainly) it to be true based on hearsay, observation or second-hand information (rather than based on direct experience).

In contrast, **mutual knowledge** refers to something which an interactant holds to be true with great certainty (since it arises from direct rather than second-hand experience), and which the interactants knows for sure that the other interactant she is communicating with also knows for sure. Such a certainty of holding something in common is based on an infinite regression of statements in the Schifferian sense, For a detailed discussion of Schiffer's position on the role of mutual knowledge in an instance of *S*-meaning, see Chapter 2, Section 1.

The **Mutual Knowledge Paradox** is a philosophical puzzle arising from the need to postulate an infinite series of statements (of the kind *I know that we mutually know that x because I know that you know that I know that you know that I know ... and so on ... that x*). The classic example cited concerns A's and B's mutual knowledge of the candle between them (see Chapter 2, Section 1 for an account). This infinite series of statements is also referred to a "regressive series of intentions [or knowledge]" by Schiffer (1972: 30), and it is in this sense that we use the term *regression* in our study.

Note that in spite of the difficulties with the notion of mutual knowledge, it is still used extensively in many studies as the basis for successful communication, even in accounts which claim to be psychologically viable.

The term ***common ground*** has been used by various scholars to mean different things (see Chapter 2, Section 4 for a detailed discussion). For our purpose, we shall use common ground as a larger umbrella term to refer to all the knowledge/beliefs which an interactant holds to be mutual/shared with another interactant. Based on this definition, we would be compelled to include mutual knowledge as well as shared beliefs under the larger term of common ground. Since we do not believe that mutual

knowledge is psychologically viable and since we can't find instances of mutual knowledge established in our written data anyway, we shall exclude the notion of mutual knowledge in our discussion of common ground in the current study. Because of this exclusion, we are thus able to use shared belief interchangeably with common ground (see Chapter 2 for an extended discussion of the different "categories" of common ground).

There are many other terms we shall use in the discussion of our data in relation to establishment of common ground. Most of these terms are novel and refer to complex concepts/phenomena identified for the first time as a result of our detailed analyses of the written data We shall leave their definitions for later at the beginning of the respective chapters in which the terms are first used.

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4   The data

The data consists of a complete set of eight letters exchanged between two interactants *a* and *b* (see Appendix 1 for the set of eight letters). *a* is a prospective candidate (whom we will refer to as *he*) of the M.A. in Linguistics programme offered by the Linguistics Department of the Faculty of Languages. (We have modified the names of the departments, faculties and university to preserve the anonymity of our informants.) He writes to *b*, a lecturer/supervisor (whom we will refer to as *she*) of another department, the Applied Linguistics Department of the Faculty of Education. The Applied Linguistics Department offers another M.A., the M.A. in Applied Linguistics. *a* writes to *b*, asking her if she could be his supervisor. Note that there is a third party, *c*, mentioned in the letters but who is not directly involved in the correspondence. *c* is the Head of the Linguistics Department. Note that *a* and *b* have never met prior to the exchange of letters. They have not communicated on the telephone or Internet either.

There appears to us to be three sets of inter-related "main topics" or Base Propositions (BPs) negotiated in the series of letters. The first BP pertains to *a's*

departmental affiliation. The second set of BPs pertains to the Linguistics Department's position on the general issue of across-department supervision and the specific issue of letting *b* supervise *a*. The third set of BPs pertains to *b's* positions on the same issues raised above. The BPs are:

BP 1: *a* applied to take the M.A. in Linguistics

BP 2a: Linguistics Department is permitted to let *b* supervise *a*

BP 2b: Linguistics Department is willing to let *b* supervise *a*

BP 3a: *b* is constitutionally permitted to supervise *a*

BP 3b: *b* is interested in supervising *a*

BP 3c: *b* will continue to be interested in supervising *a*

BP 3d: *b* has time and so on to supervise *a*

BP 3e: *b* is willing in principle to supervise *a*

BP 3f: *b* is willing in fact to supervise *a*

Note that BPs 2a and 3a are very similar. The main difference is that BP 2a is written from the Linguistics Department's point of view, while BP 3a is written from *b's* point of view.

It should be pointed out that there is a lot of background knowledge we can deem the two interactants to have in common (i.e., *assumed* common ground; see Chapter 2, Section 4 for a definition) even prior to their correspondence. This constitutes the sort of world knowledge an analyst may reasonably be justified to assume that the two interactants will share. This background knowledge may include the following (see Table 1.1 below):

Table 1.1:   Assumed common ground (background beliefs/knowledge) of *a* and *b*

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1. X University (British) offers two linguistics-related taught MA's in two departments of two different faculties.

2. The Linguistics Department of the Faculty of Languages offers a taught M.A. in Linguistics, which comprises core courses, optional electives and a research project; whereas the Applied Linguistics Department of the Faculty of Education offers a taught M.A. in Applied Linguistics, which comprises core courses, optional electives and an end-of-year examination. One of the pre-requisites of the M.A. in Applied Linguistics programme (not shared by the Linguistics programme) is that only applicants with a minimum of four years of teaching experience will be considered.

3. The M.A. programmes of both departments are not modular although it is possible for students to sit in on an unofficial basis on courses offered by the other department. Therefore it is not generally possible for students to read courses in both departments at the same time in order to fulfil the course work required for either M.A.

4. Hence, across-department supervision, although constitutionally permissible, is not generally practised. The respective departments will prefer to supervise their own students unless an internal supervisor cannot be found.

5. Protocol dictates that a student who wishes to be supervised by an external supervisor should first seek the consent of the head of his department directly about his intention. It would be inappropriate for an external supervisor to approach the head of department first as this may be misconstrued as an attempt to "poach" students from another department.

6. The Applied Linguistics Department, being the relatively younger department, is also understandably careful not to cause any misunderstanding or offence to the more established Linguistics Department.

The problem of miscommunication arises, as you will see later on, precisely because the knowledge listed above is not entirely shared by both interactants. In the following pages, we will walk you through the data to give you a feel of the data and

the issues involved in analysing and interpreting the utterances in the eight letters: A1, B1, A2, B2, A3, B3, A4 and B4. A1 refers to *a's* first letter, B1 refers to *b's* first letter, A2 refers to *a's* second letter, and so on. (Detailed discussions of the data, methodology, analyses and results are found in Chapters 3 - 7.) The data is presented in the middle column of the page. The left column indicates the paragraph number, hence for example, A1P2 means *a's* first letter, second paragraph. The right column offers comments on the data and directs the reader to the relevant chapters in this dissertation which elaborate on the issues raised.

(We apologise for the fine print; we don't know how else to present each letter and our comments side-by-side for easy reference on a single page.)

Letter A1	**17 November 92**	**Comments**

Paragraph	**Text**	

Dear *b*

Opening. These are the opening words of *a's* first letter to *b*.

1 For two years I studied English, French, American Studies, Education and Foreign Language Teaching at Y University (Germany) and at this moment I am doing the 'licence' in French and German Studies at Z University (France). During this time I have taken part in twelve courses of linguistics and my studies of Foreign Language Teaching cover applied linguistics to a great extent.

Education Background. In the opening paragraph, *a* offers *b* a brief description of his education background. The focus seems to be on the fact that he has covered a substantial amount of studies related to applied linguistics. The reason for this line of information-giving is not immediately apparent yet (see comments on paragraph (4) below).

2 To extend my knowledge on this field, I applied through the German National Scholarship Foundation scheme to take the M.A. in Linguistics in the academic year 1993/94. Within this one-year course I would like to follow my interest in sociolinguistics, especially in critical linguistics. Accordingly, I will submit a title on critical language study in educational contexts for the thesis. This educational aspect is rooted in my interest in foreign language teaching and in my desire to enter the teaching profession. Besides, I have a two-month teaching experience in English at a German Waldorf school.

Recent Action. This opening sentence reports on *a's* most recent action - his application to take the M.A. in Linguistics. The reason he gives for his application is to extend his knowledge *on this field*, by which he means, presumably, his interest in applied linguistics. This statement may strike the reader *b* as odd because *a* expresses his interest in applied linguistics but applies to study linguistics instead. *b* is probably wondering why *a* writes to her, the Director of the M.A. in Applied Linguistics programme, about his interest in applied linguistics but applies for the Linguistics programme.
Future Action. In the rest of this paragraph starting from *Within this one-year course ...* , *a* offers largely details of his most immediate future action which appears to lie in the field of applied rather than theoretical linguistics.

3 Therefore I would like to read two core courses of the M.A. in addition, 'Meaning in English' and 'Methods and Materials in English Language Teaching'. Furthermore, I wish to take part in the Research Design Course because I want to go on to undertake research.

Future Action Continued. In this paragraph, *a* offers more information about his future plans in applied linguistics. This time, his plans involve reading specific courses offered in *b's* Applied Linguistics programme. Note *a's* use of the underspecified *the M.A.* to refer to a new referent 'the M.A. in Applied Linguistics', resulting in confusion later (see Chapters 4 & 5 on Information Structure for details).

4 *b*, I certainly share your interest for sociolinguistics and discourse analysis. In fact, one of the main reasons why I want to study at X University [Britain] is because I would like to have the opportunity to benefit from your expertise. I really hope that you can be my supervisor, if it is at all possible.

Request. In reading this paragraph, *b* begins to understand the reason for the above details of *a's* training in applied linguistics and his future plans for more training in applied linguistics. *a* seems to be trying to establish the ground that both *b* and he have a lot in common in terms of their academic interests. It is on this assumption that *a* frames his request that *b* consents to being his supervisor. However, *b* remains confused about *a's* future departmental affiliation, as the evidence of *b's* reply in B1 shows. *b* is probably not sure which of the following two scenarios best describes *a's* situation: (1) *a* applies for the M.A. in Linguistics programme but may have confused it with the Applied Linguistics programme; (2) *a* has applied or intends to apply to the M.A. in Applied Linguistics programme, but to date, the Applied Linguistics Department has not received the application.

5 I should be happy to get a positive reply at your convenience and I thank you very much in advance for your help.

Pre-closure Courtesy . *a* thanks *b* for her help and anticipates *b's* reply. It becomes clear by now that *a's* main goal in writing the letter is to ask *b* to be his supervisor. From hindsight, *b* realises now what the earlier paragraphs about *a's* background and future plans are building up to (this process of building upon a base of shared beliefs is discussed in Chapter 3).

Yours sincerely, *a*

Closure.

	Dear *a*	*Opening.*
1	Thank you for your letter of 17 November 1992, in which you ask me to be your supervisor in 1993/4.	*Opening Courtesy.* *b* starts by thanking *a* for his letter. *b* also acknowledges *a's* request in his previous letter, suggesting that this is what *b* believes is *a's* primary purpose in writing his previous letter. What follows appears to be *b's* perception of the situation at hand. Before *b* can give *a* a definite answer as to whether she is willing, in principle and in fact, to supervise *a*, she addresses the issue of *a's* future university affiliation, and depending on which department *a* is going to be affiliated to, *b's* response will be different. In *b's* mind, there are two possible scenarios, as the following paragraphs reveal.
2	I cannot quite work out from your letter exactly what you are going to be doing here during 1993/4; you say you have applied to take the M.A. in Linguistics, and I presume that that means what it says, i.e., that you will be a student of the Linguistics Department. If that is the case, I am afraid that it would not really be the done thing for me to supervise you, since the Applied Linguistics Department is a separate department in a different faculty (Education).	*b's Response to Scenario 1.* *b* starts by expressing her confusion over *a's* departmental affiliation. She entertains two possible situations. The first possible scenario is that *a* has applied to the Linguistics Department, and in which case, it would be against department protocol for her to agree to supervise him in another department. You will notice later in A2 that *a* takes this as evidence that *b* thinks that it is against department regulations (and not just protocol) to supervise him (see A2P3).
3	Of course that doesn't mean that I would not be happy to talk to you from time to time, and you might also be able to follow some courses here, provided that your Linguistics timetable allowed it.	*b's Response to Scenario 1 continued.* After turning down *a's* request, *b* offers the consolation that she would still be available for consultation. Again, she is careful to qualify her interest by stating the condition that their future interaction should not interfere with *a's* studies in the Linguistics Department.
4	Or, do you mean that you have applied to take the M.A. in Applied Linguistics here in the Applied Linguistics Department? If so, we have not received your application yet. However, if such an application were successful (and competition for places is severe), then I see no reason why I shouldn't supervise you, provided that our interests continue to coincide.	*b's Response to Scenario 2.* The second possible scenario is that *a* has applied (or at least intends to apply) to the Applied Linguistics Department, and in which case, she would be willing to supervise him if his application is successful. But to date, she has no evidence that *a* has indeed applied to her department. Again, *b* is careful to add the further condition that their interests should continue to coincide if she is to supervise him.
5	Please don't hesitate to contact me again if you want any more information.	*Pre-closure Courtesy.* *b* offers *a* further help if he needs it.
	Yours sincerely, *b*	*Closure.*

	Letter A2 3 December 92	**Comments**
Paragraph	**Text**	

Dear *b*

Opening.

| 1 | Thank you very much for your letter of 25 November, in which you tell me that I may follow some courses at the Applied Linguistics Department. I am very glad that you are willing to see me occasionally during 1993/4. | *Opening Courtesy.* *a* thanks *b* for her letter, and acknowledges *b's* consent that he may follow courses in *b's* department and *b's* willingness to see him occasionally. This paragraph appears to be *a's* response to *b's* utterances in B1P3. |

| 2 | For one point, I would like to clear up a possible misunderstanding: As you presume I have applied to take the M.A. in Linguistics at the Faculty of Languages. Lacking the teaching experience of four years I am not eligible for the M.A. in Applied Linguistics anyway. | *Clarification of Confusion.* *a* clears *b's* confusion by stating immediately that it is Scenario 1, i.e., he has applied to take the M.A. in Linguistics, which is applicable to him. Notice that *a* is careful to term the confusion as *a possible misunderstanding* in order to avoid causing offence (to be discussed in Chapter 3). *a* also rules out a Scenario 2 interpretation by stating his ineligibility for the Applied Linguistics programme. |

| 3 | As to the problem of supervision I hoped that my belonging to a different department of the University would not be an obstacle for you to supervise me with the prospectus of the M.A. in Linguistics stating on page 2:
" ... Students taking the M.A. in Linguistics benefit from this interdisciplinary environment. They ... may in some cases be supervised for the research components of the degree by a specialist from outside the Department." | *Regarding the Permissibility of Supervision.* In this paragraph, *a* refutes *b's* claim in B1P2 that *it would not really be the done thing for me to supervise you* by quoting from the Linguistics prospectus. The misunderstanding here is that *a* thinks that *b's* reluctance to supervise him is due to *b's* ignorance (or possibly, lapse of memory) of the official regulation which permits across-department supervision. In reality, *b* is fully aware of this official regulation, but is only being careful to observe protocol by expressing her reservations. An enthusiastic response from *b* may otherwise be misconstrued by the Linguistics Department as indicating that she trying to 'poach' students from their department. After all, the Linguistics Department may prefer to supervise their own students even if the official regulation may in some cases permit across-department supervision. |

| 4 | Since your academic work covers my field of interest to the full, I should really be happy, if I could benefit from your supervision. Would you consider it useful to talk things over with *c* [gloss: Head of Linguistics Department]? | *Regarding b's Willingness to Supervise a.* *a* opens this paragraph by stating and assuming that *b's* academic work covers his field of interest to the full. In writing this, *a* appears to be responding to and hence fulfilling *b's* condition in B1P4 *provided that our interests continue to coincide.* Recall that this is *b's* condition for *why I see no reason why I shouldn't supervise you.* In fact, *a* goes beyond merely suggesting an overlap of interest by reasoning and arguing that since *b's* work covers his field of interest *to the full,* he would be happy if *b* could supervise him (see Chapter 3 on *a's* reasoning schema and "argumentative" style of writing). |

| 5 | In any case I am going to visit X University during my Easter holiday in April where I hope to settle this question on the spot. | *Regarding a's Future Visit.* This paragraph appears to be inappropriately direct/demanding as in the expression *I hope to settle this question on the spot.* This may be due to cross-cultural differences between *a* and *b* . What seems to be clear is that *a* is driven by his goal of asking and persuading *b* to be his supervisor. |

| 6 | I thank you very much in advance for any benevolence and I am looking forward to your reply at your convenience. | *Pre-closure Courtesy.* *a* thanks *b* for her help and anticipates *b's* reply. |

Yours sincerely, *a*

Closure.

Letter B2   mid-December 92 *

Paragraph	Text

Comments

* The exact date of the letter is not known.

Dear *a*

1. Thank you for your letter of 3 December in which you clarify your future affiliation in the University.

Opening.

Opening Courtesy. *b* thanks *a* for his letter and acknowledges *a's* clarification of his departmental affiliation. This is an indication to *a* that she is satisfied that common ground has been established (see Chapters 6 & 7 on Shared Beliefs).

2. I would really have nothing against supervising you, provided I have the time and so on; I merely think that it might be felt by the linguistics department that they are well able to provide supervision in your areas of interest themselves.

Regarding b's Willingness to Supervise a. *b* appears to be willing, at least in principle, to supervise *a*, but lays down the further condition *provided I have the time and so on.* *b* also alludes to the Linguistics Department's preference for internal supervision. *b* does this, presumably, to counteract *a's* persuasive tone in his previous letter which argues that *b* is both permitted (as stated in the prospectus) and qualified (as evidenced in their common research interest) to supervise him.

3. Anyway, I am sure that you will be able to discover their preference when you visit in April.

Regarding a's Future Visit and *Regarding Linguistics Department's preference.* *b* ends the letter with the suggestion that *a* will discover Linguistics Department's preference during his visit.

Yours sincerely, *b*

Closure.

Letter A3   7 February 93

Paragraph	Text

Comments

Dear *b*

1. Thank you very much for your letter of December in which you tell me that you would be willing to supervise me during 1993/4.

Opening.

Opening Courtesy and *Regarding b's Willingness to Supervise a.* *a* thanks *b* for her letter and confirms his understanding that *b* is willing to supervise him. Our impression here is that *a* seems to be assuming that *b* is willing *both* in principle *and* in fact to supervise him, which we believe is not the case (see Chapter 3). You will notice again the repeated use (by both interactants) of acknowledgement of previously agreed propositions as a strategy for establishing common ground. This will be discussed in Chapters 6 and 7.

2. I already told you that I intend to visit X University during my Easter holiday in April. I should be happy to talk things over with you on this occasion. So, would it be possible to see you within the period from 13 to 16 April?

Regarding a's Future Visit: Appointment to See b. In this paragraph, *a* tries to establish *b's* availability and willingness to talk to him during his visit.

3. I thank you very much in advance for your help and I am looking forward to your reply at your convenience.

Pre-closure Courtesy. *a* thanks *b* for her help and anticipates her reply.

Yours sincerely, *a*

Closure.

Letter B3 10 February 93	Comments

Paragraph	Text
	Dear *a*	*Opening.*
1	Thank you for your letter of 7 February.	*Opening Courtesy.*
2	Unfortunately I shall be away from the university at a conference (TESOL) between the 13th and 17th of April, so I'm afraid I won't be able to meet you then.	*Regarding Appointment to See b.*
3	I hope you have a pleasant visit to X University and useful discussions with the Linguistics Department, and that we will meet in the autumn.	*Pre-closure Courtesy* and *Regarding Linguistics Department's Preference.* As in *b's* previous letter B2, *b* once again reminds *a* of his need to find out Linguistics Department's preference first by writing *I hope you have ... useful discussions with ...* . It is interesting to note that this matter crops up in *b's* letter only and not in *a's* letters, suggesting that what *b* views to be important differs from that of *a*. This difference in their goals has ramifications on the organisation of subjectively salient content and on the reasoning strategies employed by either party (see Chapter 3 for a detailed discussion) in order to achieve their respective goals.
	With best wishes, *b*	*Closure.*

	Letter A4 10 March 93	**Comments**
Paragraph	**Text**	
	Dear *b*	*Opening.*
1	Thank you for your letter of 10 February. Considering the fact that neither you nor *c* [Head of Linguistics Department] will be available from 13th-16th April, I decided to postpone my visit to X University to 19th-23rd of April.	*Opening Courtesy* and *Regarding Appointment to See b. a* continues in his effort to find a suitable time to visit *b*.
2	I hope that I'll be able to see you at your convenience during this period.	*Regarding Appointment to See b Continued.*
	Yours sincerely, *a*	*Closure.*

	Letter B4 15 March 93	**Comments**
Paragraph	**Text**	
	Dear *a*	*Opening.*
1	Thank you for your letter of 10 March.	*Opening Courtesy.*
2	I'm glad that it looks as if we'll be able to meet after all in April. I suggest you try to visit *c* before you come to see me. You can telephone or visit the Applied Linguistics Department to find a suitable time.	*Regarding Appointment to See b* and *Regarding Linguistics Department's Preference.* Note that by suggesting that *a* visits *c* first, *b* is in fact suggesting that *a* should find out Linguistics Department's preference first. This is a pre-condition which *b* repeatedly points out in her letters but which *a* seems to be unresponsive to.
	Best wishes, *b*	*Closure.*

5 Overview of dissertation

What the above letters and comments show is that in order to offer an explanation of how the two interactants establish common ground of certain propositions in the set of correspondence, several levels of analysis need to be done. The different levels of analysis involve:

- Interpreting the meaning of key utterances related to the Base Propositions by appealing to a mechanism for generating inferences. (Discussed in Chapter 3)

- Tracking how these BPs are established in accordance with certain pragmatic reasoning schemas; these reasoning schemas are in turn driven by the interactants' goals. (Chapter 3)

- Examining how the writer aids the process of interpretation and understanding by packaging her referring expressions as definite/indefinite to reflect her perception of her reader's information needs. (Chapter 4)

- Showing how the information status of the referents is linked to the information status of their related propositions. (Chapter 5)

- Clarifying the process by which the reader comes to realise in his mind that the writer's intended meaning of an utterance/proposition matches the reader's actual interpretation of the same utterance/proposition; this process is clarified by configuring the status of the two interactants' beliefs (about the same proposition) separately and solipsistically. (Chapter 6)

- Demonstrating the process in which new propositions/beliefs are established as shared and then built upon each other into an edifice of common ground. (Chapter 6)

- Developing a cognitive model of the process in which common ground is established. (Chapter 7)

The initial level of analysis would have to offer an account of the interpretation of the key utterances in the letters. The analysis is complicated by the fact that many things are said indirectly. Taking a systematic consideration of the context into account, certain indirect pragmatic inferences of the utterances are generated. The further complication to our analysis is that the semantic and pragmatic "meaning" of the utterances is not static, given that with each subsequent letter received, the context of the discourse is enlarged, and that this enhanced context often sheds further light on how previous utterances ought to be re-interpreted. This is especially so when one interactant detects that the other interactant has misread or misinterpreted her previous letter.

For example, when *b* writes in B1P2 *I am afraid that it would not be the done thing for me to supervise you, since the Applied Linguistics Department is a separate department in a different faculty* , *a* doesn't seem to understand the phrase *it would not really be the done thing* and infers that *b* thinks that across-department supervision is not permissible. This inference made by *a* is wrong, as *b* points out later in her reply that although she is aware that across-department supervision is permissible, she merely thinks that *it might be felt by the linguistics department that they are well able to provide supervision ... themselves* (B2P2). This means that *a* will now have to go back to *b's* previous letter B1 and reinterpret the affected parts in the light of this clarification.

The above example also shows that in interpreting *b's* utterance, *a* has to infer the underlying reasoning and thinking which seems to motivate *b's* utterance as well. We shall call this underlying reasoning the pragmatic reasoning schema. *b's* underlying reasoning schema, like *a's*, is ultimately motivated by her main goal in the exchange which is to determine if she has sufficient reason to agree to supervise *a*. *a's* complementary goal, on the other hand, is to ask and persuade *b* to supervise him.

Any point raised by *b* which seems to obstruct *a's* goal is actively refuted. Although we acknowledge the importance of the interactants' goals in driving the exchange of letters, we are more interested, for our current purpose, in the reasoning schemas which help the interactants to achieve their goals. As such, we shall focus on describing the reasoning schemas. The above issue (and others) is the point of **Chapter 3**, *Interpreting Utterances in Interactive Extended Written Discourse.*

So far, we have only examined the meaning of the utterances from the reader's point of view. In order to arrive at a more complete account of how the reader arrives at his interpretation, we need to consider the writer's role in this interpretative process as well. In **Chapter 4, *Information Structure and Common Ground I***, we offer an account of how the writer facilitates this process of interpretation and understanding by the way she packages the new/"given" information in her choice of definite/indefinite expressions. In order to do this, she has to first consider what her reader's existing state of information is so that she can customise her packaging of information in the referring expressions.

Chapter 5, *Information Structure and Common Ground II*, takes this analysis of the information status of the referents in the expressions a step further by exploring the nature of the interaction of the information status of two particular referents in the letters and the information status of the propositions related to these two referents. As a point of further interest, we highlight and discuss the difference between written and spoken interactions in relation to the degree of the attenuation of the expressions used to refer to the referents and their corresponding information status.

Having made clear the process in which the key utterances are packaged and interpreted, it becomes possible to offer a detailed account of how the above results in the establishing of common ground (successful communication) or the failure to do so (unsuccessful communication) in **Chapter 6**, *Configuring Shared Beliefs.* This is done by modelling the beliefs of the reader as he progresses in the exchange of letters. Based on Brown's (1995) method of belief representation, we further develop a way

of configuring the status of each belief in terms of its truth and sharedness. Our analysis of the configuration of the beliefs shows that beliefs are solipsistic, i.e., they are located in the heads of individuals. As such the process in which shared beliefs are established is unique for each individual. Each interactant arrives at his own notion of sharedness : *1st Party Common Ground (CG)* for the 1st person to achieve CG for a particular belief, vs. *2nd Party CG* for the 2nd person to achieve CG for that same belief.

1st and 2nd Party CGs differ slightly in their configurations, but they have very similar demands for establishing a sense of sharedness and for establishing a sense of truth of the beliefs. Some configurations are found to be potentially stable (based on a desirable and resolved state of affairs), while others are potentially unstable (based on a non-desired and unresolved state of affairs), depending on whether truth has been established in addition to sharedness. As a further point of interest, we highlight and discuss the difference between written and spoken interactions in relation to the configurations of the beliefs.

Finally in **Chapter 7,** ***Describing and Characterising CG Configurations,*** we take a closer look at the configurations of the various shared beliefs/doubts in order to identify generic patterns of configurations. A taxonomy of these configurations, classified according to the dual criteria of whether the configurations represent a resolved/unresolved state of affairs and of Party-type, is offered and the chapter ends with a cognitive model of the process in which potentially stable CG is established. The dissertation then closes with a summary of the main claims/contributions of the case study, and offers suggestions for further work.

Chapter 2

Mutual Knowledge, Background Knowledge, Shared Beliefs, Common Ground and Other Related Notions

By adopting a God's eye view we think we can see what Ralph's real beliefs are even if he can't. But what we forget when we try to construct a belief that is not entirely in Ralph's head is that we have only constructed it in our head.

Searle, 1983: 227

In the last chapter, we brought to your attention the need for further research on how common ground is established in written correspondence. We observed that the notion of common ground is far from clear, judging by the current confusion of the term with the related notions of mutual knowledge, shared belief and common/background knowledge. We also observed that most of the studies addressing these related issues so far deal either with spoken data or invented data. Little attention has been paid to authentic written data.

In this chapter, we offer a critical review of selected studies which have addressed some of the above issues in the past. We shall focus in particular on the more important studies dealing with mutual knowledge, the Mutual Knowledge Paradox, shared belief and common ground. We shall also make some general observations about the distinction between conversation and written correspondence. The purpose is to provide some form of background to our subsequent discussion of

the distinction between interactive spoken and written discourse in relation to information structure (Chapter 5) and shared belief (Chapter 6).

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1 Early treatments of mutual knowledge

One of the earliest and important hints at the problems associated with mutual knowledge was probably expressed in Grice's (1957) seminal paper *Meaning*. A restatement of the final version of Grice's original account of *S*-meaning is found in Schiffer (1972: 12 & 13):

S meant something by (or in) uttering *x* iff *S* uttered *x* intending

(1)   that *x* have a certain feature(s) *f* ;

(2)   that a certain audience *A* recognise that *x* is *f* ;

(3)   that *A* infer at least in part from the fact *x* is *f* that *S* uttered *x* intending (4) ;

(4)   that *S*'s utterance of *x* produce a certain response *r* in *A* ;

(5)   that *A*'s recognition of *S*'s intention (4) shall function as at least part of *A*'s reason for his response *r*.

This account has been attacked by Strawson (1964) as unsatisfactory. Schiffer (1972) expands on one of Strawson's counter-examples by showing how S can get A to believe that the house A is thinking of buying is rat-infested. S does this by sneaking a big rat into the house in full view of A but A does not know that S intends A to watch S. It is S's intention that A should (wrongly) infer that the house is rat-infested. In addition, Schiffer (1972: 17-18) claims that

S further intends A to realise that given the nature of the rat's arrival, the existence of the rat cannot be taken as a genuine or natural evidence that

the house is rat-infested; but S knows that A will believe that S would not so contrive to get A to believe the house is rat-infested unless S had very good reasons for thinking that it was, and so S expects and intends A to infer that the house is rat-infested from the fact that S is letting the rat loose with the intention of getting A to believe that the house is rat-infested.

The above constitutes a counter-example because it shows that a minimum further condition of *S*'s trying to communicate with *A* is that "he should not only intend *A* to recognise his intention to get *A* to think that *p*, but that he should also *intend A to recognise his intention to get A to recognise his intention* to get *A* to think that *p*" (Strawson, 1964: 447; cited in Schiffer, 1972: 18). This suggests that a further condition needs to be added and the condition is that *S* has the intention

(6)   that *A* should recognise *S*'s intention (3).

Further counter-examples (e.g., the singing of "Moon over Miami") have been put forward to show that with further complications to the communication situation, other conditions need to be added, i.e., that *S* intends:

(7)   that *A* should recognise *S*'s intention (5);
(8)   that *A* recognise *S*'s intention (7).

In principle then, an infinite number of counter-examples can be constructed, requiring the addition of an infinite number of conditions to reflect the infinitely increasing number of S's intentions.

It is at this juncture that Schiffer (1972) offers a solution to the problem of infinite regression of intentions in the notion of *mutual knowledge*. (See also Lewis (1969), who uses the term *common knowledge* for *mutual knowledge*; but note that we

use the term *common knowledge* differently.)   According to Schiffer, mutual knowledge provides "a necessary condition for performing an act of communication and a condition which will eliminate these counter-examples... without ... entailing a regressive series of intentions" but entailing "a quite harmless regress of the sort involved in knowing one knows that *p*" (p. 30). In other words, Schiffer replaces the infinite regression of *intentions* with one of *knowledge*. Hence, Schiffer defines *mutual knowledge* as such (pp. 30-31):

(Taking '$K*_{SA}p$' = df. '*S* and *A* mutually know* that *p*')

$K*_{SA}p$ iff

K_Sp [*S* knows that *p*]

K_Ap

K_SK_Ap

K_AK_Sp

$K_SK_AK_Sp$

$K_AK_SK_Ap$

etc.

The now classic example cited by Schiffer (1972: 31) concerns *A* and *B*'s mutual knowledge of the candle between them. As the example goes, sitting at opposite ends of a table, A and B can see each other and the candle between them on the table. A knows that there is a candle between them. A also knows that B knows about the candle, since he can see B gazing at it. Likewise, A knows that B knows that he knows about the candle between them, and so on.

Like Grice's original account of *S*-meaning, Schiffer's account of mutual knowledge has been criticised heavily as well (see Smith (1982) for a discussion). The chief reason has to do with Schiffer's assumption that his version of infinite regression is *quite harmless*. According to Schiffer, the regression is harmless

because a set of conditions, *F* and *G*, can be defined within a finitely describable situation in order to infer mutual knowledge, where *F* and *G* is the quality/condition of being "normal" as a human being of average vision and intelligence. The immediate problem that arises here is what constitutes "normality" as a human being. Are *F* and *G* the only two necessary conditions? Notwithstanding this objection, Schiffer maintains that his proposed regression of knowledge does "not preclude us from providing sufficient conditions for an instance of *S*-meaning" (p. 41).

Another objection has to do with the use of *knowledge* as opposed to *belief*. Schiffer's formulation of mutual knowledge is based on the premise that there is an omniscient observer who knows what *A* and *B* know separately and what they know about each other's knowledge. In reality, an external observer can never be able to know for sure whether mutual knowledge between two interactants is ever established. All the observer can do is to infer from the interaction what he *believes* A and B believe. It will do us well here to pay heed to Searle's remarks cited earlier.

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2   Resolving the Mutual Knowledge Paradox

In this sub-section, we concentrate on Clark's and his colleagues' views and their solution to the Mutual Knowledge Paradox. The reason for this focus on Clark's et al views is because they have written extensively on mutual knowledge and common ground over the past decade or so, making their position virtually the most developed in psychology to date. According to Smith (1982), Clark and Carlson (1982) adopt a quasi-Schifferian position in which mutual belief is inferred via a finite induction schema. This position represents a refined version of an earlier paper by Clark and Marshall (1981). What is most notable, in our view, is the postulation of a *finite induction schema* similar to Schiffer's *finite set of conditions* which constrains the infinite regression of knowledge.

Clark et al (1981) reject other attempts at resolving the Mutual Knowledge Paradox, most notably those who argue that the infinity of statements made is in fact

only limited to a few statements (see also Clark, 1992, 1996). For example, Bach and Harnish (1979: 309) limited mutual beliefs to three levels; Harder and Kock (1976: 62) argue that "probably not even the most subtle mind ever makes replicative assumptions ... involving more levels than, say, six"; and Kaspar (1976: 24) doubted the need to go beyond "the first four or five orders" (cited in Clark, 1996: 100).

Clark's objection is understandable, considering that the above studies are based on introspective arguments arising from invented examples. Harder and Kock (1976: 41), for example, admit that they "have chosen - **arbitrarily** - to include four levels in each series" (bold/emphasis added) of various situations of language use. Most notably, they (p.67) argue that in deceptive speech (as in their analysis of Grice's (1969) 'Tipperary' example), the "cut-off" point to the regression may be up to six levels. We note, however, that such deceptive speech is hardly typical of normal day to day conversation. Notwithstanding these objections, it seems to us that the problem here lies not so much with the principle that the infinity of statements can be limited to a few steps, but with the arbitrary way this has been done so far. In Section 3, we shall argue that this constraint on the infinite regression need not be done in an arbitrary way, as Brown's (1995) empirical study amply shows. In fact, the whole point of Chapter 6 of our current study is to demonstrate in a systematic way that this regression is limited to a few steps in authentic written discourse. Before we develop our arguments further, let us return to our discussion of Clark's solution to the Mutual Knowledge Paradox.

According to Clark et al (1981: 27), the Mutual Knowledge Paradox rests on two debatable assumptions (note that they are speaking about *the relation between mutual knowledge and definite reference*):

Assumption 1:   A tries to make definite references that are felicitous

Assumption 2:   To make a felicitous reference, A must assure herself of each of the infinity of statements 1, 2, 3, and so on.

In order to establish mutual knowledge, Assumptions 1 and 2 must first be met. The objection to early attempts at cutting off statements beyond the first few levels is that these proposed *truncation heuristics* (p. 28-32) will result in the violation of Assumption 1. Clark et al (1981) argue that by cutting off the statements beyond the first few levels, full mutual knowledge of the referent will be impeded, making it impossible to guarantee felicitous definite reference. They argue further that even if they allow for additional levels to be incorporated in order to secure mutual knowledge, the "recursive statements about propositional attitudes are [still] ... difficult to grasp", because "their content appears to be inherently hard to keep track of" (ibid. p. 31). In contrast, they argue that their *co-presence heuristics* offer a way to securing mutual knowledge without violating Assumptions 1 and 2, and without recourse to recursive statements, thus *guaranteeing* felicitous definite reference (i.e., there is no possibility of the hearer misunderstanding the intended referent of the definite referring expression since the reference is made on the infallible basis of mutual knowledge).

The following equation (Clark, 1992: 35; modified) (originally Clark and Marshall, 1981) best summarises Clark's et al position:

Evidence +	**Assumptions** +	**Induction Schema**	=	**Mutual Knowledge**
Co-presence Heuristics	1. Simultaneity	A mechanism for inferring mutual knowledge based on G		
1. Physical	2. Attention			
2. Linguistic	3. Rationality			
3. Community	4. Locatability			
Membership	5. Recallability etc.			

Ground (G)

The above equation shows that mutual knowledge is determined based on the interaction of evidence, assumptions and the **Mutual Knowledge Induction Schema**. The three types of evidence constitute the ***co-presence heuristics*** from which mutual

knowledge is inferred via the *Induction Schema*. The three types of evidence are: physical co-presence, linguistic co-presence and community membership. With physical co-presence, what is needed is evidence of "triple co-presence" of A, B and the object of their mutual knowledge (as in Schiffer's candle-on-the-table example). With linguistic co-presence, evidence of A, B and the linguistic positing of the object of mutual belief is needed. An example of this is when A tells B, "I bought a candle today", such that "each is aware that A has posited the existence of the candle by linguistic means", and that "each is aware that the other was attending to the speech act" (Clark et al, 1982: 7). Finally, physical and linguistic co-presence are themselves "submerged in a sea of mutual belief based on community membership" (ibid. p.7). Their use of the term *community membership* is similar to our use of the term *background/common knowledge*.

They also claim that different assumptions (1-3) are made depending on the state of the interlocutors' minds, arising from physical co-presence, as in the candle-on-the-table example:

1.   Simultaneity   (A and B are looking at each other and the candle
                       simultaneously)
2.   Attention   (A assumes that B is not just looking at the candle and her, but
                       attending to them as well)
3.   Rationality   (A assumes that B is rational like him in drawing the same
                       conclusions)

Other assumptions (like 4 and 5 below) are made depending on the status of the antecedents of referring expressions.

4.   Locatability
5.   Recallability

The balance of the evidence and assumptions form the basis or ground *G* on which mutual knowledge is established. And based on this ground *G*, it is claimed that by applying the Mutual Knowledge Induction Schema, we will then be able to *infer* whether mutual knowledge (and its infinity of conditions) has been established.

Clark (1992: 33-34) states the Mutual Knowledge Induction Schema as:

A and B mutually know that *p* if and only if some state of affairs *G* holds such that:

1.   A and B have reason to believe that *G* holds.
2.   *G* indicates to A and B that each has reason to believe that *G* holds.
3.   *G* indicates to A and B that *p*.

where *G* is the ground (triple physical co-presence + assumptions), and *p* is the proposition/belief that there is a candle between them. Note that Condition 2 is reflexive.

By using this Induction Schema, Clark (1992: 34) argues that mutual knowledge can then be treated as "a single mental entity instead of an infinitely long list of even more complex mental entities", thereby satisfying Assumption 1 (regarding the felicity of definite expressions) and easing the demand of Assumption 2 (regarding the need for an infinite list of statements in order to make a felicitous definite reference). (Recall that Clark et al claim that the truncation heuristics proposed by others failed on both counts.)

Hence, following Harman (1977), Clark argues that the infinite number of statements involved in mutual knowledge can now be represented as a single self-referential statement, a "**mental primitive**[s] of the form *A and B mutually know that p*" along with "the **inference rule**: *If A and B mutually believe that p, then: (a) A and B believe that p and believe that (a)*" [bold added], by-passing the first two steps in Schiffer's definition of mutual knowledge, and allowing the speaker and addressee to *infer* mutual knowledge (see also Cohen, 1978, for a similar representation). The

treatment of mutual knowledge as a mental primitive also makes redundant the need for postulating recursive statements which are inherently difficult to keep track of anyway. All that is needed now for *inferring* that mutual knowledge has been established is to make sure that a proper basis/ground *G* which satisfies all three requirements of the Induction Schema is established (Clark, 1992: 33).

However, Clark (1992: 6) also maintains that mutual knowledge can be held at varying degrees of conviction, depending on the nature of the evidence available. Note the contradiction between his claim that the Mutual Knowledge Induction Schema can be used to infer mutual knowledge, thus satisfying Assumptions 1 and 2, and *guaranteeing* definite reference, and the claim that mutual knowledge is *variable*. How can something that is in itself variable "guarantee" something else from varying? In a review of Clark's book, *Arenas of Language Use*, Brown (1994: 212) expresses a similar skepticism of Clark's rejection of the truncation heuristics in favour of the co-presence heuristics.

We should add, in Clark's defence, that he (1992: 5-6) categorically denies that a person's mental representation of mutual knowledge or mutual beliefs (his terminology) is based on "an infinitely long list of statements or even a truncated list". Rather, a person "can represent mutual knowledge or mutual beliefs fully and accurately in an elementary form", which we have seen above is the mental primitive he proposes. However, Clark's continued use of the term 'mutual knowledge' (up to his 1992 book) only confuses the situation even though he claims he doesn't use it in the philosophical sense. But note the similarity of his induction schema with Schiffer's finite set of conditions which is used to address the Mutual Knowledge (philosophical sense) Paradox. Note too Clark's et al (1981) interest in "guaranteeing" felicitous definite reference and the process of inferring mutual knowledge, reminiscent of Schiffer's proposal.

Because of all this confusion with the term 'mutual knowledge', Clark (1996) abandons the term in favour of the term 'common ground' in his lastest book (but see discussion below of CG-iterated in Section 4). However, it appears to us that for

Clark to exonerate himself of the terminological confusion entirely, he needs to do more than just switch labels. He has to, in our view, rework his concepts of the Mutual Knowledge Induction Schema, the mental primitive and its associated inference rule as well (see Chapter 7, Section 4 for further discussion of this point).

For example, although Clark's et al solution to the Mutual Knowledge Paradox is elegant and powerful, it is fraught with several difficulties. We highlight some of these difficulties below.

One criticism is that Clark and Carlson's analysis is essentially concerned with "situations of actual or potential co-presence, as when two people observe an object lying between them or go to a cinema together" (Wilks, 1986: 268). The problem is that not many real situations require assumptions of real co-presence. And as Wilks (ibid.) observes further,

> For all other cases, belief is a matter of cognitive solipism [sic]: I truly believe that you believe the world is *round* (rather than flat) just as I do. But this is *my* belief, not *yours*, and I am unlikely to have or have ever had any direct evidence of the matter.

In the above quotation, Wilks argues that situations involving actual or potential co-presence are hardly typical of many speech situations. The above quotation also shows that in the everyday solipsistic world, we have no guarantees that interlocutors know what each other knows, especially in situations without physical co-presence. Such assumptions about interlocutors' knowledge about each other are fallible and hence, "ex hypothesi, are not 'mutual knowledge'" (ibid.). Therefore, the more appropriate term to use is *shared belief*, being the more realistic goal in day-to-day communication than mutual knowledge (see Section 3 below for further comments).

Even if we do concede that physical co-presence (+ certain assumptions) may act as the secure ground on which mutual knowledge is to be inferred in certain limited situations, we are still wary of Clark's et al use of the notion of physical co-

presence. Surely, the outcome of physical co-presence, using Clark's et al notion of mutual knowledge, is in itself the result of a potentially infinite series of gazes and counter-gazes at the candle and at the other person gazing at the same candle.

In looking at the candle between them, A knows that there is a candle. He knows that B knows that there is a candle because he can see B looking at it. He knows that B knows that he knows that there is a candle between them because he is aware that B can see him and is equally able, like him, to track the direction of his gaze, and so on. In other words, there is a covert interaction (of eye gazes) here.

The question then is how far this awareness of each other's awareness of the candle is embedded. Technically speaking, they may well gaze at each other and the candle forever, if establishing mutual knowledge of the candle is indeed the goal of each other's gazing. Therefore, what Clark et al postulate to be the ground (physical co-presence) for mutual knowledge is in itself embroiled in a paradoxically infinite series of gazes and counter-gazes. Using this as the ground for inferring mutual knowledge of the candle only embeds a paradox within another. Therefore Clark's solution cannot be correct.

Clark is also aware of the pitfall of his reflexive conceptualisation of mutual knowledge which includes circular self-reference (see, for example, Condition 2 of the Induction Schema, and the inference rule of his proposed mental primitive above). But he argues that self-reference is only a problem if we subscribe to the brand of traditional logic where self-reference is said to lead to "such paradoxes as the liar's paradox and Russell's paradox". On the contrary, he argues further that self-reference is now "a legitimate part of certain logics and is no longer an issue" (see, for example, Barwise (1989) and Barwise et al (1986); cited in Clark (1996: 100)). However, we remain to be convinced that these two instances of self-reference have no effect on Clark's goal of "guaranteed" felicitous definite reference.

By introducing an Induction Schema and the inference rule associated with the mental primitive to resolve the Mutual Knowledge Paradox, Clark is in fact introducing another uncertainty/paradox into his argument, as Carroll ([1895] 1995)

argued in his thought-provoking paper *What the Tortoise said to Achilles* a hundred years ago - the topic of which is still warmly debated amongst philosophers today (see, for example, a recent issue of *Mind*, October 1995). Similarly, in invoking an induction schema to explain away a paradox, Clark et al have in fact invoked an *homunculus* (the little person in the head) to explain thinking. As Haugeland (1981: 4) rightly points out, invoking such an homunculus begs its own question because "the homunculus itself has to think, and *that* thinking has *not* been explained". We're of course not suggesting that there are easy explanations of the Tortoise's puzzle, nor of that little person's thinking; we're merely pointing out the obstacles to *any* attempt at developing an account of communication as risk-free, as Clark's account seems to suggest. Brown (1995: 219) expresses a similar sentiment regarding this difficulty with Clark's position.

It seems to us then that, forced to choose between the reflexive conceptualisation of Clark's argument and the replicative assumptions of adherents of limited regression of knowledge/beliefs, the latter may well be the lesser of the two "evils". The choice seems to be between a view of communication which regards mutual knowledge as a basic goal of people (in Clark's case, mutual knowledge is to be *inferred*) and a view of communication which does not regard mutual knowledge, whatever its attraction of guaranteed success may be, as the goal of people. We don't think that the notion of mutual knowledge is necessary in an account of successful communication. We believe that the weaker notion of shared knowledge or beliefs may be more helpful. But how are we to reconcile this weak view with the apparent ease with which people seem to be able to communicate successfully on a routine basis?

So far, we have only been theorising about the mutual knowledge problem and the current impasse. Perhaps, a more productive way of exploring this issue is to look at authentic data, specifically at what ordinary people do in every day communication. In the next sub-section, we shall examine one such attempt at exploring how people arrive at a sense of holding a piece of information in common.

3   Limited recursion of knowledge/beliefs

Drawing from her Map Task data, Brown (1995) attempts to shed light on the above problem. In the Map Task, two subjects, A and B, are given slightly different maps. They are both told that A's map is the correct one and that A's task is to guide B through the landscape on the map. During the task, they sit at opposite ends of a table. A low partition divides the table such that they are able to see each other but not each other's map. They are to communicate orally. The following extract is taken from two lines of one such pair's interaction (Brown's (1995: 224-225) example 7g, here renamed/renumbered as (Eg. 1)). For this particular example, we have added the configurations based in part on Brown's account. The system of configuring the beliefs is Brown's (1995; see pp. 48-49 for a detailed explanation of her system).

(Eg. 1)

				B	B/A	B/A/B
1	A:	you start below the palm beach right		+	+	
2	B:	+ right		+	+	+

In the text, as opposed to the configuration matrix, a '+' indicates a short pause of about half a second. In the configuration matrix, a '+' in the first column indicates that B believes that the referent referred to (in this case, 'palm beach') is on her map. A '+' in the second column (B/A) indicates that B believes that A believes that the palm beach is on B's map. A '+' in the third column (B/A/B) indicates that B believes that A believes that B believes that the palm beach is on B's map. By **configuration**, we mean the particular arrangement or pattern of values of the regression of a particular belief (in the above case, the belief that B believes that the palm beach is on her map). This is indicated by a single row of values (see above, either line 1 or 2). By

configuration matrix, we refer to the whole set of configurations. In the above, this is depicted by all the values indicated on both lines.

Let us consider the above data from B's point of view. In line 1, when A refers to the referent 'palm beach' for the first time, B believes that A believes (or takes for granted) that she has it on her map (B/A +). B of course knows whether or not she has it on her own map since she has the map in front of her. We know B has it on her map because she says so in line 2 (hence, the first column is configured B +). When B says *right* in line 2, she is in fact telling A that she has located the palm beach. The result is that she now believes that A believes (or has good reason to believe) that she believes that she has the palm beach on her map (B/A/B +). In other words, for B to concede that the palm beach is shared information, there has to be three steps in the recursion of beliefs. This example and several others in Brown (1995) lend support to the view that a **limited recursion** of three steps is necessary for establishing **shared beliefs**. It is on this basis that Brown (1995: 227) concludes that "participants do constantly use steps 1-3 in their interpretations". She cites only one example in which a participant utilises step 4, and declares that "it seems quite impossible, in this data, to find evidence that speakers are utilising any further depth of recursion" (p. 227).

Brown is of course acutely aware of the possible limitations of the findings arising from the restricted nature of her Map Task data. Her conclusion is also based solely on the tracking of reference. But in the absence of contradictory empirical evidence, it is hard to dispute her claim that a limited recursion of belief does indeed take place. Brown's finding also suggests that mutual knowledge is not an issue at all for her subjects. Their primary concern seems to be with establishing shared beliefs. Therefore, the issue of how an individual processes the infinite recursion of statements involved in mutual knowledge in human-size memory is not an empirical issue. Neither is there a need to postulate a heuristic to account for how people infer mutual knowledge. Therefore, Brown's account contradicts Clark's view which is based on mutual knowledge.

The pressing concern now is the need to analyse more data, particularly those of naturally occurring every day speech. There is also the need to look at interactive written data. In order to facilitate this process, the configuration technique pioneered by Brown can be enriched and developed further in order to analyse propositional content (in addition to tracking reference).

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4   Common ground

The term ***common ground*** has been used interchangeably with other related concepts by various scholars in order to facilitate their respective preference of use and expedience of argumentation. Sometimes, common ground is equated with mutual knowledge. For example, Clark (1992: 6) himself writes that he uses the term *common ground* in place of mutual knowledge to avoid the confusion (i.e., the infinite regression debate) associated with mutual knowledge (see also, Clark and Wilkes-Gibbs, 1986). Horton and Keysar (1996: 94) too use common ground interchangeably with mutual knowledge. Note that they use the term mutual knowledge to refer to that which is made known by physical co-presence (cf. Clark et al, 1981). It is not immediately clear to us if this "loose" use of mutual knowledge, common ground and physical co-presence in such an interchangeable way reflects a general "laxness" with terminological precision or a more fundamental and deeper conceptual confusion (see discussion below).

Common ground has also been used as a larger umbrella term to cover various combinations of related concepts. For example, Greene et al (1994) practically equate it with the three sorts of ground: community membership, physical co-presence and linguistic co-presence - covering just about everything Clark mentions in his co-presence heuristics.

Clark also uses it as an all-inclusive term. In Clark (1992: 6), he writes that common ground "covers mutual knowledge, mutual beliefs, mutual assumptions, and other mutual attitudes" (see also Clark et al, 1983). Elsewhere, he offers another but

similar definition: "Two people's common ground is, in effect, the sum of their mutual, common, or joint knowledge, beliefs, and suppositions" (Clark, 1996: 93). Note that here, he subsumes mutual knowledge under the larger term *common ground*, whereas previously, mutual knowledge is equated and used interchangeably with common ground. As we have also argued earlier, mutual knowledge is an idealised state which is not attainable even by his own Induction Schema. Note that Clark uses the term *mutual* instead of *shared*, to reflect the certainty which he ascribes to some of the notions on his list.

Having listed the key items to be included under the umbrella term *common ground*, he expands on his exposition by adding the further dimension of *representations* of common ground. The three representations postulated appear to be three stages in the development of common ground, where each higher stage is derived from the previous one (see Clark (1996: 94-95) for a discussion of this). In fact, if we look closely at his three representations of common ground (CG-shared basis, CG-reflexive and CG-iterated), they are really recast versions of his own Mutual Knowledge Induction Schema, the inference rule associated with the mental primitive, and the philosophical notion of mutual knowledge respectively. (Note that CG is short for common ground.) The implication here is that there are three levels of attainment of common ground. Level 1 is attained if the Induction Schema is applied. Level 2 can only be attained by applying the inference rule associated with the mental primitive. Level 3 is the ultimate level whose "attainment" can only be *inferred* from the first two levels. If we accept the conceptualisation of common ground in such progressive steps, does it mean too that we can conceptualise background knowledge, mutual belief and mutual assumption (and other related terms used interchangeably with common ground so far) in progressive steps as well? Such a conceptualisation will only lead to further proliferation of terms and confusion.

We believe our discussion above depicts accurately the current situation with the use of the term common ground. This lack of precision with the use of the term reflects, in our view, a fundamental confusion at the conceptual level of the notion of

common ground and the other notions associated with it. This conceptual confusion lies in part in the lack of the distinction between knowledge and belief, and between that which is shared, common or mutual (see Chapter 1, Section 3 for a discussion).

In all the papers cited above in this section, anything which has a vague sense of 'something being held in common' (whatever this means) is considered common ground. As such, background/common knowledge arising from community membership (part of Clark's co-presence heuristics) *is* common ground or is *part of* common ground. Recall my example (in Chapter 1, Section 3) about my background knowledge that my brother and I know the relative locations of London and Edinburgh even though we have never discussed their locations before. Going by the use of the term common ground in the above papers, this background knowledge is therefore part of our common ground. If my brother and I discuss the relative locations of the cities one day, then that background knowledge becomes a shared belief, which is also part of our common ground. Surely both background knowledge and shared belief, whatever their similarities may be to the non-expert, must be treated as information with very distinct cognitive status. This distinction becomes all the more important to us (as linguists or psychologists) if our claims about how common ground affects communication are to be taken seriously. We must be careful not to confuse the distinct cognitive status of various pieces of information which appear to be held vaguely in common with common ground. What is needed is a more precise and consistent use of the term common ground and its related notions. We shall proceed to address this concern below.

As we have argued above, we remain to be convinced that common ground, if used as an all-embracing term, can be conceptualised in terms of progressive steps of attainment as well. We are, however, perfectly happy with merely listing the types of information which may be included under this cover term. But we are concerned that this all-embracing term should not be used to cover just about any related notion, especially that which we have argued to be psychologically untenable. The following

is a list of the types of information we think may be included under the term *common ground* (the list is not meant to be exhaustive):

1. **Established CG**   :   shared belief/knowledge
2. **Assumed CG**   :   background/common knowledge/belief

We offer two "categories" of common ground. The first category includes those beliefs and knowledge which are ***established*** in the course of the interaction, whether verbal or written. These beliefs/knowledge are considered shared, and are therefore considered part of the established common ground The second "category" is, strictly speaking, not common ground since they have not been established during the discourse. However, such background knowledge, for example, is often ***assumed*** by people to be held in common by virtue of other sources of evidence, apart from that arising from interaction.

We reiterate that the distinction between established and assumed common ground is important, as our London-Edinburgh example shows. We have excluded mutual knowledge from our list because we do not believe it is attainable.

Later in Chapter 5 on *Information structure and common ground*, we shall argue that there is another "category" to our list above, i.e.,

3. **As though CG**   :   new belief

This refers to a new belief which the writer treats as though it is part of the reader's background knowledge or shared belief even though it is clearly a new belief to the reader. Once again, the third "category" is, strictly speaking, not common ground, but is treated as though it is part of the reader's common ground. We shall return to this issue in Chapter 5, Section 3.

In the next and last section, we move from our discussion of knowledge and beliefs to a general discussion of the difference between conversation and written correspondence.

5　　Conversation and written correspondence

We are concerned, in this section, with the distinction between spoken and written interaction, and not so much with the more basic phonemic-graphemic distinction of the language code. Writing from an educational context, Alderson et al (1984) state that the standard view of the relationship between spoken and written language abilities is often described in terms of a monologue situation, as the following table shows.

Table 2.1:　　The standard view of the relationship between spoken and written language (Monologue)

	Productive	Receptive
Spoken	*speech*	*listening*
Written	*writing*	*reading*

(Adapted from Alderson et al, 1984: 227)

Alderson's et al view of language as monologue is of course outdated even in 1984, but it has, as they point out, at least the virtue of singling out the similarity between listening and reading, in that both are receptive skills. Their view of language leaves out a significant realm of language use arising essentially from interaction. Note that in standard philosophical accounts, although this interaction is taken into consideration, the "canonical situation of utterance", as Lyons (1977) calls

it, is one in which a single speaker addresses a single addressee whose main role seems to be to take in the information passively. The speaker plays the dynamic prime agent in the interaction. However, in many situations, the listener may well be the "prime mover" of the interaction, as Brown (1994: 213) points out (e.g., a discussion between a client and a travel agent). Therefore in our view, the relationship between spoken and written language use has to be considered in the light of this expanded view of communication which is dynamic and interactive.

There are important differences between spoken and written language. Spoken language, whether in everyday conversation or in making a speech, differs from written language in that it , in varying degrees, has recourse to prosody and paralinguistic cues like facial expressions, gestures and gait not normally available to written language. On the other hand, written language offers the opportunity for visual persistence in that it allows the reader to read, linger on and re-read the text more deeply in a way the listener can't with spoken language, unless someone records the speech on tape.

There are of course complications to these basic observations when we allow for additional circumstances. For example, visual persistence normally available to written text may be hampered by situations where reading has to be done under strict time control, as in reading the credits at the end of a film or under more bizarre psycholinguistics experimental conditions. Or, consider the increasingly popular use of the Email system to "talk" on the Internet, when in fact only writing and reading is involved. Or indeed, multi-media packages on the computer involving the use of the four skills of reading, listening, writing and speaking in a single speech event. In fact, people have been doing this for a long time in more modest and commonplace speech situations like when a teacher conducts a tutorial in class. All four skills are involved.

For our purpose here, we are primarily interested in the difference between spoken and written discourse in interactive situations - in particular the difference between conversation and written correspondence. Both conversation and written correspondence often involve goal-driven production of discourse directed at an

equally non-passive goal-centred addressee who not only listens/reads purposefully and selectively, but also offers pointed feedback which further shapes this collaborative enterprise. However, several differences between the two come to mind.

Firstly, whereas in conversation, the feedback (both oral feedback and paralinguistic cues) is immediate, in written correspondence, it can be delayed from several days to weeks (or more). Although it is true that the long time lag can affect memory of the propositional content negotiated, the **visual permanence** of the letters compensates for a need to hold in memory large chunks of information for prolonged period. The permanent record of texts makes it possible for the reader to call to mind the propositions expressed in the utterances of the letters written some time ago so that they can be considered again with the expanding context without the effects of lapses in memory. This **virtual memory** is an important factor in considering the difference between processing spoken and written texts.

On the other hand, although this permanence of record allows for the virtual memory of previous utterances in written correspondence, it does not mean that the reader of the letters will necessarily pay attention to all available information. In conversation, if the speaker asks for a particular piece of information during her turn of speaking, she would expect an answer from the hearer when the hearer takes his turn to speak. Otherwise, the hearer may be deemed to be uncooperative in Gricean terms. In written correspondence, each letter, as in our case, can be long and often raises several issues. The reader, in his reply, can and often does choose to respond to only some of these issues, while ignoring others without appearing uncooperative.

This is not to suggest that in conversation it is not possible for the hearer to ignore the communicative demands of the speaker. Rather, the need for an immediate response in conversation makes the uncooperative gesture more glaring. In writing, the **lack of** this **face-to-face confrontation** makes the omission on the reader's part less immediate and obvious, especially since the reader has already attended to the other issues raised in the previous letter, giving the illusion of "total" co-operation. In

other words, the writer, in responding to a previous letter, can appear to be co-operative when in fact, he is evasive and only "**sufficiently co-operative**" for his current purpose. (This brings to mind a similar practice in spoken interaction - that of politicians giving long and largely irrelevant answers to questions raised by reporters so as to use up any remaining time for other questions rapidly, while giving the illusion that they have been fully co-operative during the entire interview.)

Thirdly, because letters written are often long and cover several points at a time, we can construe each letter as being a lengthy turn in the exchange. This **mega-turn** often covers several points which would normally take several turns to accomplish in conversation.

In writing an extended text, Widdowson (1984: 220) envisages the situation as one in which the writer can be said to conduct "a **covert interaction** whereby he anticipates the likely reactions of an imagined reader and negotiates with him as it were by proxy, by the vicarious assumption of the second person role" [bold added]. He cites the following constructed example of "the beginning of a discussion on the relevance of role in the understanding of social behaviour" (pp. 220-221):

A: The basic psychological function of roles is to provide the individual with a
       fairly specific model of interaction.

B: Why do you say it's a model?

A: It is a model in the sense that any role is defined in terms of its relation to other
       roles.

B: I'm still not quite clear. Give me an example.

A: The role of parent is defined in relation to that of children.

B: O.K. I'm with you. Now go on to tell me about roles.

which Widdowson claims may be the discourse underlying the following text in Kelvin (1971: 139):

The basic psychological function of roles is to provide the individual with a fairly specific model for interaction. It is a model in the sense that any role is defined in terms of its relation to other roles, as the role of 'parent', for example, is defined in relation to that of children. Each role is associated with what, for the moment, is best called norms of 'behaviour'.

Notwithstanding the contrived nature of Widdowson's constructed underlying discourse of Kelvin's expository text, the point made is valid nevertheless in that in writing, given the observation that the interaction is not face-to-face, the writer has to imagine and anticipate her reader's possible questions/objections to her earlier points, such that the text appears to be a projection of not only her intended message but also to pre-empt any imagined and possible objections her reader may raise.

Similarly, such an extensive coverage of content in the context of a letter will mean that the number of letters going back and forth between the two parties will be minimised.

In conversation, the ease with which immediate feedback is made available in face-to-face interaction makes this constant to-ing and fro-ing between turns more tolerable than in written correspondence. As such, the speaker may feel less compelled to pre-empt all the possible and major objections her hearer may raise against her contribution. The speaker may well adopt a "take-it-as-it-comes" attitude.

In other words, in written correspondence, the goal of the writer may be to cover as much ground as possible in as few letters (or turns) as possible. In conversation where there is a constraint on short-term memory and the relative ease with which feedback is given and received, economising on the number of turns taken to cover the same ground seems to be less of a priority.

Our final comment on the difference between written and spoken interaction is a more specific one related to the genre of our written data. Our data comprises a set of official correspondence exchanged between a prospective student and a university supervisor. We would therefore expect the style to be more formal than, say informal

messages on the fridge door meant for other members of the family. It is commonly held that official correspondence requires a more formal structure, format and layout (see, for example, Bovee and Thill, 1992, or any basic textbook on business communication). It would be interesting to see, for example, if the packaging of the referring expressions in our set of letters is affected by this need for greater formality (see Chapter 5, Section 1 for a discussion).

In examining our data, we should keep in mind these differences when we analyse our set of eight letters in terms of its interpretation, information structure and the building of common ground. A lot of research has been done based on conversation data. It would be interesting to compare some of these findings resulting from the spoken data with that of our written data. We draw your attention to the results of the comparisons made in the following chapters. See Chapter 5 for a comparison of Yule's (1981) account of spoken discourse with our account of written data in relation to the issue of information structure and the attenuation of referring expressions used. See Chapter 6 for a comparison of our CG configurations with the configurations arising from Brown's (1995) spoken data.

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6   Conclusion

In this chapter, we offer an extended discussion of some of the key notions and issues related to the establishment of common ground. In the next few chapters, we shall flesh out the details of our notion of common ground and of how common ground is established in the course of the exchange of the letters in our data. We shall begin our analysis by examining how utterances are interpreted in the expanding context of the on-going exchange of letters. The purpose of doing this is to examine the process in which the Base Propositions (BPs; described in Chapter 1, Section 4) get established as part of the reader's belief system.

Chapter 3

Interpreting Utterances
in Interactive Extended Written Discourse

The purpose of this chapter is to offer a systematic account of how utterances are interpreted in interactive extended written discourse. In particular, we examine how the expanding context of a complete set of letters affects the reader's generation and organisation of inferences related to his perception of what the writer's intention may be. Using the criterion of the writer's intention in constraining our generation of inferences, we demonstrate that the interpretation of utterances is not static but changing, especially in the light of feedback obtained from the writer.

We also consider how the reader's intention in reading affects this interpretative process, necessitating the further considerations of what the reader deems to be an adequate (as opposed to correct) interpretation and the level/depth of understanding he wishes to attain for his current purpose.

Finally, we examine how the interpretation of these utterances relates to the establishment of key propositions (Base Propositions; BPs) negotiated in the course of the correspondence. We demonstrate how these BPs may have been ordered by a and b in accordance with their respective goals and pragmatic reasoning schemas. We argue that their different reasoning schemas influence the way they try to establish the last BP eventually.

We begin our discussion in Section 1 below by describing the theoretical basis of our analyses in Sections 2 and 3. We shall also define some of the key terms to be used in this chapter in Section 1.

1 Theoretical underpinnings

1.1 Process of interpretation

We use as our basis for the generation of inferences and the constraining of this generation of inferences the criterion of the writer's intention in writing; or to be more specific, we mean the reader's perception of what the writer's intention is.

According to Vonk and Noordman (1990: 447), text understanding involves the "constructing [of] a coherent representation of the information in [the] text". The problem is that a text often contains more information than what is explicitly expressed. This implied information then has to be computed. This computing of that which is implied would involve the process of generating inferences. However, it has also been widely recognised that if we allow all the possible inferences of a text to be generated, we are likely to be faced with a infinite barrage of inferences. Obviously in every day discourse, people do not generate all possible inferences when they interpret an utterance. This has to be so because reading/listening to a simple utterance made by another party will otherwise take an unbearably long and complicated process of decoding. In fact, evidence from the rapid flow and intake of information particularly in face-to-face conversation, indicates that this potential proliferation of inferences must have somehow been constrained dramatically both in terms of its quantity and rate of generation. So far, there has been a fair amount of consensus that there must be a constraint on the process of inference generation. The answer, however, to the question of how the mind constrains the potential explosion of inferences is varied and far from unanimous.

A standard way of approaching this question is to examine particular utterances (whether invented or authentic) and attempt to list some of the inferences which are likely to be generated in interpreting them. These inferences can then be labelled and a system of classification based on certain criteria may be imposed on

them to offer some light on the nature of inferencing and interpretation. In the field of research of Philosophy of Language, interest (selected references to follow) has centred on the notions of entailment (Anderson and Belnap, 1975; Schnitzer, 1971), presupposition (Karttunen, 1973; Gazdar, 1979), implicature (Grice, 1975; 1978), indirect speech acts (Searle, 1975), etc. In the field of Psycholinguistics, interest has tended to centre on the nature of the distinction between on-line (spontaneous) and off-line (on-demand) inferences (Vonk and Noordman, 1990; Bloom et al, 1990; Graesser et al, 1994), necessary (for coherence) vs. optional inferences (O'Brien et al, 1988), clearly deducible vs. possible inferences (Harris and Monaco, 1978), forward vs. backward inferences (Duffy, 1986), etc. So we see in the above the interplay of various criteria - logical deducibility, intentionality, automaticity of activation, coherence, necessity/optionality, directionality - for classifying inferences. The plethora of labels and criteria for classification has shed valuable light on various aspects of the nature of inferencing and interpretation, but a purely descriptive account of the possible types of inferences that can or may be generated does not in itself answer *a priori* the question of why and how certain inferences are or should be constrained in the first place.

Herein lies the paradox. If a writer expresses something indirectly, the reader has to first access the intermediate inferences which bridge the literal interpretation of the utterance to its intended and eventual meaning before he can work out the intended meaning of the utterance. But how is the same reader to decide which bridging inferences to (not) generate without first identifying the writer's possible intended meaning? We believe this Catch-22 scenario is a serious obstacle to the development of a theory of coherence and inferencing. We would, however, like to argue that this paradox is more apparent than real because we know that in ordinary day-to-day conversation, people do in general communicate successfully (or adequately) most of the time. Otherwise, normal day-to-day conversations would be frustrating, to say the least.

We believe that the paradox is an issue if and only if we work within a view of communication which has to be fail-proof and risk-free. But if we accept a view of communication, although largely successful, as an essentially risky enterprise, the paradox may be resolved.

In reality, people are unlikely to be always sure of other people's intended meaning. On hearing an utterance, the hearer is likely to first make a literal interpretation of the utterance. He is then likely to construct a hypothesis of what the speaker's intended meaning may be, and generate the appropriate bridging inferences relevant to this hypothesis. If a logical link can be made, the hypothesis is reinforced and accepted. But if there is a problem with the link, then the hypothesis is either suspended upon clarification, revised or dropped in favour of another, which will in turn generate another chain of facilitative inferences. In this sense then, there is a sort of creative tension between the hearer's perception of the speaker's intended meaning and the bridging inferences he needs to make in order to arrive "logically' at this intended interpretation. The two forces act as complementary forces in this negotiation towards meaning.

We shall outline our conception of what this "hypothetical-deductive" reasoning procedure may include:

Process of Interpretation

Initial ----->	**Hypothesis** -----> formation	**Intermediate** ----->	**Eventual**
Stated info	a REQUEST?	Facilitative inferences	Convers implicature
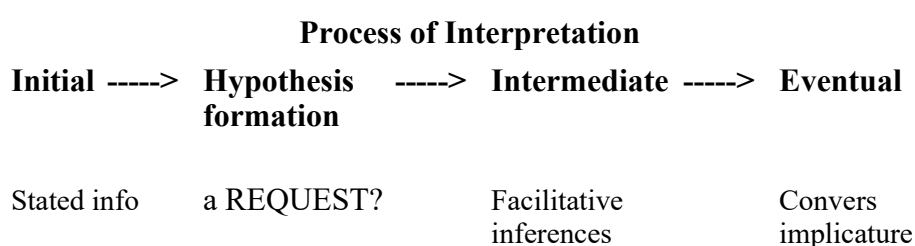
(Note: info = information; Convers = Conversational)

For example, if John feels cold and wants his friend, Jane, to shut the window next to her, he may say, "It's freezing in here". Jane's process of interpretation of John's utterance may go something like this: John states literally that the room is cold. Jane hypothesises that John may be requesting her to shut the window near her,

or he may be just stating his impression of the temperature of the room. Jane may decide tentatively, based on her background knowledge of John and of the conventions for making requests, to adopt the first hypothesis. Jane may then use the stated information arising from her literal "interpretation"/decoding of John's utterance to draw the following facilitative/bridging inferences - shutting the window will keep the cold air out; she is sitting by the window; it is more convenient for her to shut the window than John - and from which she therefore infers/supplies eventually the conversational implicature that John is making a REQUEST that she shuts the window. John's response (nod/smile/"Thanks") to her shutting the window will then confirm to her that her hypothesis is correct. John, on seeing Jane's action, may however choose to cancel Jane's implicature by saying, "Oh, that's not what I meant; but thanks anyway". And in which case, Jane adopts the second hypothesis to aid her interpretation process.

As an aside, we should add that we are aware of Morgan's (1978: 274-275) notion of **short-circuited implicature** which is an implicature the hearer supplies without the need to calculate the inference. For example, it is argued that the interrogative utterance *Can you close the window?* is so conventionalised in usage (Searle's (1975: 76) terminology) or is so idiomatic is usage (Gordon and Lakoff's (1971) *speech act idiom*) that the hearer need not infer the meaning of the utterance as a request by calculating the conversational implicature. In other words, the hearer may well recognise the utterance as a request instantly, by-passing the need to make intermediate inferences to arrive at the intended meaning, hence the notion of a short-circuited implicature (SCI). However, for the more indirect declarative utterance *It's freezing in here* used as a hint to close the window, Green (1975) observes that the utterance is too indirect to involve an SCI (cited in Horn, 1988: 139), unless of course John (in our example above) is in the habit of making the same utterance to Jane for the same purpose on many previous occasions. We shall assume that this is not the case in our example. As Horn (1988: 139) argues further, the view that the utterance is too indirect is "precisely to be expected" because "hints involve *non*-short-

circuited, and hence non-detachable, implicata; only the literal meaning and extralinguistic context can be relevant for determining what is hinted, not the choice of expression used to express that meaning". For our current purpose, we shall adopt Horn's (1988) and Green's (1975) views on this issue.

We should also add that our proposed interpretation process is similar to the one suggested in Clark and Clark (1977) which involves four steps in the interpretation process. The main difference is that they do not include a 'hypothesis-formation' stage.

In view of the above discussion, we shall therefore adopt the hypothesis-driven model of the interpretative process as our basis for generating inferences for the utterances we will be analysing and interpreting below.

Obviously, the more indirect the meaning, the more convoluted the series of bridging inferences which need to be generated by the reader in order to arrive at the intended meaning. On the other hand, the less indirect the intended meaning, the easier it will be for the reader to infer the intended meaning.

1.2   Levels of understanding

Our account of what might reasonably be supposed to be the interpretative/decoding process adopted by the two interactants in their role as readers of each other's letters is tempered by further considerations of how the readers' individual **goals** (to be explained in the next section) in interpretation may affect the decoding process. In particular, we further our account by drawing from Brown's (1995) notion of an adequate interpretation and her notion of levels of understanding.

According to Brown (1995: 22), an **adequate interpretation** is one in which the reader is satisfied that he has understood "an utterance adequately for a particular purpose on a particular occasion". As she puts it succinctly, "understanding an utterance is rarely an end in itself, in the way that it might appear to be in a test of ability in a foreign language" (p. 51). Brown adds further that in real life,

understanding an utterance is "typically the basis for some further activity" and that "the nature of the activity will often determine for the listener what can be accepted as an adequate interpretation". Does the reader intend to use the information acquired through the interpreted utterance to help him decipher more complex utterances which follow or does he just need to acquire a "working" understanding rapidly so that he can move on to reading other things? The former will require a "deeper" level of interpretation - one which is more certain than the latter.

The observation that the reader is able and does indeed entertain the notion of an adequate interpretation, instead of a correct one, for his current purpose of communication shows that the reader is prepared to take certain risks in communication. And whatever is considered adequate for the writer's current purpose in the communication depends on what he wants to do with his interpretation in the context of the current discourse or some future discourse.

In advocating the notion of an adequate understanding of an utterance, Brown is not suggesting that there is no place for a correct understanding of other utterances. In fact, she points out that there are many familiar everyday speech situations where a correct interpretation may be desirable and achievable. We shall point out some of these successful (and less successful) instances of communication under the following headings of levels of understanding as proposed by Brown. She (1995: 30-31) draws our attention to four possible **levels of understanding**, depending on whether a correct, adequate or incorrect understanding has been achieved.

The first level of understanding is one which is, or at least appears to be, complete and correct. She (p. 30-31) cites familiar everyday formulaic expressions (like *Can you tell me the time? - Five past four*), certain utterances (between close colleagues) occurring in repetitively similar everyday contexts, certain technical terminology and information which seems to have been transmitted satisfactorily.

The second level of understanding is one which is partial but adequate for the current purpose. The example Brown (p. 29) cites involves an account of a three-year-old boy handing a plastic watering can to his 18-month-old sister and asking her

to water some trees in the garden. On hearing the order *Now go and water the trees,* the girl seems unsure as to what to do. She looks at her brother, then at the garden, and then at him again. He repeats the order, this time gesturing. She appears to understand him this time, makes her way to the tree and waters its base. Although we have no evidence that she has indeed understood all the words in the utterance, we can safely conclude that there appears to be at the very least a partial but clearly adequate understanding achieved by the girl for her current purpose.

The third level of understanding is one which is adequate for the current purpose, but this time, it is partially incorrect. Brown (p. 8) recounts an episode in which a three-year-old boy was told on several occasions a story about an enormous turnip. In a friend's garden some three weeks later, he sees a large acanthus plant and goes on to ask if it is an enormous turnip. In querying whether the acanthus plant is an enormous turnip, he has obviously understood enough of the meaning of the expression *an enormous turnip* previously - that it was a very large plant - in order to understand the story. Although his understanding is partially incorrect, his understanding of the expression is adequate for his purpose then. (We note, however, that Brown's distinction between the second and third levels of understanding needs further clarification. A partially correct interpretation (Level 2) must necessarily be partially incorrect (Level 3) too. Clearly, more examples are needed to fine-tune this distinction.)

The fourth and final level is one in which understanding has clearly been incorrect and not achieved. An obvious example of this is when there is a clear failure of reference.

By highlighting the dual goals of **correctness** and **adequacy** in understanding, Brown is in fact drawing our attention to the dual need for truth and purpose in interpretation and understanding in communication. We place her categories in the following matrix:

Figure 3.1: Levels of understanding in terms of correctness and adequacy

	Adequate	Inadequate
Correct	1	
Partially correct	2	
Partially incorrect	3	
Incorrect		4

As the above figure shows, Brown's levels (numbered 1 - 4) cover four of the eight possibilities in the matrix. In our analysis below, in particular of BP 1, we explore the explanatory value of her classification system.

1.3   Goals and pragmatic reasoning schemas

In our account of the written data below, we will also concern ourselves with how the propositional content acquired with each relevant utterance interpreted builds upon previous contents in a systematic way, resulting in an intricate chain of propositions organised along a reasoning schema. This reasoning schema organises the propositional content hierarchically, showing how the eventual goals of the interactants can be achieved at the end of the discourse.

We are aware of the literature on "so-called decision theory" (see, for example, Jeffrey, 1983) which takes practical reasoning as a matter of "weighing desire-belief reasons for and against conflicting courses of action" (Bratman, 1990: 17). As Bratman (ibid.: 17) observes further, this approach to practical reasoning provides no distinctive role for an agent's future-directed intentions as inputs to such reasoning". *Future-directed intentions*, on the other hand, shapes later conduct "by way of their influence on *intervening practical reasoning* and the formation of derivative intentions, by way of this stability and by way of their tendency to control conduct when the time come" (p. 30; italics/emphasis added). And it is this notion of

future-directed intention which we will draw on in defining the goals of the interactants in our data.

In analysing the letters, we employ the notion of **goal** insofar as it relates to our interest in the pragmatic reasoning schema (to be explained below) which we shall argue is particularly suited to explaining our data. As we have mentioned briefly in Chapter 1, *a* and *b* seem to be driven by similar goals relating to the status of BP3f '*b* is willing in fact to supervise *a*'. These goals relate to a future state of affairs. For *a*, his goal is to persuade *b* to be willing to supervise him. For *b*, her complementary goal is to determine whether she is willing to supervise *a*. The pursuit of their goals in turn influences the reasoning employed by *a* and *b*. This is where we think the notion of pragmatic reasoning schema is particularly valuable in explaining our data.

In a recent article on human reasoning, Holyoak and Cheng (1995) argue that their subjects, given the same set of information to work with, use different **pragmatic reasoning schemas** to resolve the same "industrial dispute" depending on which role (employer or employee) they assume (see also, Cheng and Holyoak, 1985; Cheng et al, 1986; Girotto et al, 1988; Legrenzi and Murino, 1974). One of the "disputes" concerns whether a particular employee ought to or may be compensated for weekend overtime work with time off on a weekday. We use the expressions *ought to* and *may* to express the two deontic relations of obligation and permission. When subjects assume the employee's point of view, the conclusions they draw are usually specified in terms of what the employer ought to do (**obligation**) in resolving the dispute. But when subjects assume the employer's point of view, the conclusions drawn are often specified in terms of what compensation the employee may be entitled to (**permissibility**) in order to resolve the dispute.

As we will see in Section 3 below, we notice a similar dichotomy of reasoning strategies between *a* and *b* in our data. *a* first raises the request that *b* supervises him. As we have seen briefly in Chapter 1, this turns later into an issue of whether *b* is willing in principle and in fact to supervise him. From *a's* point of view, *b* ought to

be willing to supervise him, given that he has fulfilled some of *b's* conditions (i.e., *a* adopts a **deontic obligation mode of reasoning**). Note that the very fact that *a* tries to persuade *b* to supervise him even though he knows full well that he is unable to satisfy all the conditions stipulated by *b* shows that he is treating some of the conditions as though they are **optional** (a point we shall discuss in detail in Section 3). It also shows *a's* ability to **dissociate** (i.e., to distinguish) his own treatment of some conditions as optional from *b's* treatment of the same conditions as mandatory (see next paragraph).

From *b's* point of view, she can only agree to supervise *a* if all the conditions stipulated by her have been met (i.e., *b* adopts a **deontic permission mode of reasoning**). In other words, for *b*, each condition of in her reasoning is **mandatory** in order to arrive at the eventual goal.

We shall also demonstrate later how each pragmatic reasoning schema is realised as a series of **steps** leading to the goal. Each step in the reasoning schema can also be conceived of as a **condition** to be satisfied in order for the goal to be reached. As we have just mentioned above, some of the conditions may be treated as mandatory or optional, depending on the type of reasoning schema adopted. We shall expand on this discussion of *a's* and *b's* goal-driven reasoning schemas in Section 3. But before we do this, let us first discuss the interpretation of the key utterances related to Base Proposition 1.

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2   Interpreting utterances in interactive extended written discourse

In this section, we examine the way in which the prospective student *a* and lecturer/supervisor *b* interpret the utterances of each other's letters. As we have seen in Chapter 2, several pertinent issues have arisen in the course of the correspondence. These key issues, which we have labelled as Base Propositions (BPs) in Chapter 1, are:

BP 1:   *a* applied to take the M.A. in Linguistics

BP 2a: Linguistics Department is permitted to let *b* supervise *a*

BP 2b: Linguistics Department is willing to let *b* supervise *a*

BP 3a: *b* is constitutionally permitted to supervise *a*

BP 3b: *b* is interested in supervising *a*

BP 3c: *b* will continue to be interested in supervising *a*

BP 3d: *b* has time and so on to supervise *a*

BP 3e: *b* is willing in principle to supervise *a*

BP 3f: *b* is willing in fact to supervise *a*

In order to provide a focus and purpose to our analysis, we shall only discuss the interpretation of certain key utterances in the correspondence insofar as they relate to these Base Propositions. In particular, we are interested in how the reader's purpose in understanding and the dynamics of the expanding context of subsequent letters shape his interpretation of these key utterances. We are of course acutely aware that an account of the reader's interpretation of, say, a particular utterance will have to take into account not only the expanding context and the reader's purpose, but also the recursion of beliefs, i.e., the reader's beliefs about his writer's beliefs about his interpretation and so on. This latter complication to the reader's confidence in the certainty of his interpretation of the utterances will be addressed in detail in Chapters 6 and 7 on Shared Beliefs.

As we have already pointed out earlier, we assume that the reader's interpretative process is driven by his assumptions/hypotheses about what his writer's intentions are in writing. Our criterion for deciding which of these inferences to include is not meant to be exhaustive. We merely intend to list some of the inferences made which we think are crucial to an understanding of the utterances. We emphasise that these are *postulated* inferences; they are not experimentally

demonstrated. They are in our view *necessary* inferences which help to explain the reader's subsequent behaviour in his reply letter.

From a discourse processing point of view, we assume that both readers of the letters are not skimming their letters, but that they read and re-read the letters carefully, looking for local and global coherence all the time. Where coherence fails, readers will want to clarify the dissonant state of affairs.

It should be pointed out that there is a lot of background knowledge we can deem the two interactants to share even prior to their correspondence. This constitutes the sort of knowledge of the University an analyst may be reasonably justified to assume that the two interactants may share. This background knowledge has been listed in Chapter 1 (see Table 1.1).

The problem of miscommunication arises precisely because some of the knowledge listed on Table 1.1 is not entirely shared by both parties.

2.1   Analysis of Base Proposition 1 (BP 1)

BP 1: *a* applied to take the M.A. in Linguistics

In this section, we analyse the utterances relevant to BP 1. We are interested, in particular, in how *b*, in her role as reader, interprets *a's* utterances in letters A1 and A2, and arrives at a level of understanding which she deems to be adequate and sufficient for her purpose. We focus on *b* because it is she who is confused about the status of BP 1, and we will examine how she finally arrives at an adequate interpretation of the key utterances related to BP 1 with the expanding discourse context. We have teased out the utterances relevant to BP 1 from the letters and present them in chronological order for ease of reading. The left-most column indicates who the writer is. The second column indicates the location of the utterance (e.g., A1P2 means *a's* first letter, second paragraph). The third column lists the relevant utterances. Our mode of presentation does not imply that the "exchange"

below is a single continuous dialogue comprising four turns. We should bear in mind that each "mega-turn" corresponds with one particular letter. The letters are separated by long time lags of several days/weeks between them. (For a discussion of the difference between interactive continuous spoken discourse and interactive written discourse, see Chapter 2.)

Writer Location/Utterance

a: A1P2 *To extend my knowledge on this field ... I applied ... to take the M.A. in Linguistics ...*

[intervening sentences]

A1P3 *Therefore I would like to read two core courses of the M.A. in addition, 'Meaning in English' and 'Methods and Materials in English Language Teaching'*

b: B1P2 *I cannot quite work out from your letter exactly what you are going to be doing here during 1993/4;*
you say you have applied to take the M.A. in Linguistics, and I presume that that means what it says

[intervening sentences]

B1P4 *Or, do you mean that you have applied to take the M.A. in Applied Linguistics here in the Applied Linguistics Department?*

a: A2P2 *As you presume I have applied to take the M.A. in Linguistics at the Faculty of Languages.*
Lacking the teaching experience of four years I am not eligible for the M.A. in Applied Linguistics anyway.

b: B2P1 *Thank you for your letter of 3 December in which you clarify your future affiliation in the University.*

Firstly, let us offer an account of how the reader *b* interprets *a's* utterances in letter A1. The information stated in the utterance in A1P2 *... I applied ... to take the M.A. in Linguistics* seems quite straightforward and it is probably safe for us to assume that the reader *b* has no difficulty in understanding it. But when *b* reads the

utterance in A1P3 *Therefore I would like to read two core courses of the M.A. in addition, 'Meaning in English' and 'Methods and Materials in ... ',* we assume that *b* becomes confused about *a's* departmental affiliation. We know this is so because of *b's* reply in B1P2 *I cannot quite work out ... exactly what you are going to be doing ....* But why should *b* be confused in the first place? The expression *the M.A.* in A1P3 refers to the M.A. in Applied Linguistics because the two named additional courses, as *b*, the Director of the M.A. in Applied Linguistics programme would be very clear about, are part of her own Applied Linguistics programme. But the expression is still a source of confusion to *b* because of two reasons.

Firstly, the first mention of the M.A. in Applied Linguistics programme is referred to with the underspecified *the M.A.,* suggesting to *b* that the referent of the underspecified expression is "given" (or available, to be more precise) information, when in fact and at this juncture, only the M.A. in Linguistics has been explicitly mentioned previously (see Chapter 4 on Information Structure for an extended discussion of this). This probably contributed to *b's* thinking that *a* may have confused his application of one M.A. for the other.

The second reason has to do with discourse coherence. The stated information of A1P3 does not fit in with *b's* world view, or to be more specific, her knowledge of her University, the two Departments, their separate responsibilities for administering their own courses and the protocols governing across-department supervision. *a's* statement that he would like to read two additional courses of the M.A. in Applied Linguistics in addition to the M.A. in Linguistics programme suggests to *b* that *a* may be treating the two MA's as though they are modular, and this clearly contradicts *b's* existing background knowledge about the separate responsibilities of the two programmes.

The second problem of coherence has to do with the protocols governing across-department supervision. In *b's* view, although across-department supervision is permissible, it is not generally practised. *a's* request that *b* supervises him, as we will see later, suggests to *b* that *a* believes that this practice of across-department

supervision is not only possible but also widely practised. *a's* belief obviously contradicts *b's* background knowledge, making the stated information of A1P3 *Therefore I would like to read two core courses of the M.A. in addition ...* (although "understood literally") incoherent with her world view. This second source of discourse incoherence is probably the key difficulty for *b*. We assume this to be so because, and as we will see later when we discuss Base Propositions 2 and 3, in B1P2, *b* writes *you say you have applied to take the M.A. in Linguistics .... If that is the case, I am afraid that it would not really be the done thing for me to supervise you, since the Applied Linguistics Department is a separate department in a different faculty.* In other words, *b* does "understand" in part:

(i)   that *b* has applied for the M.A. in Linguistics, and

(ii)   that *a* is requesting that she supervises him.

but she is also trying to say here that (i) and (ii) are incompatible with her world view.

As such, we assume that *b's* understanding of *a's* utterance A1P3 is only partial because she says so herself in her reply B1P2 *I cannot quite work out ... exactly what you are going to be doing ....* Such a ***partially correct interpretation*** is surely ***far from adequate for b's current purpose***. As the Director of the M.A. in Applied Linguistics programme, *b's* purpose surely is to make sure that she has sufficient grasp of the facts so that she can then offer authoritative and correct advice to *a* regarding his request for supervision.

This notion about the inadequacy of *b's* interpretation for her current purpose brings us back to Brown's view about the receiver's subjective assessment of what constitutes an adequate interpretation. As Brown (1995: 23) puts it

It is not the case that we require the same level of certainty in all cases of communication in our assessment of whether or not our understanding is adequate, let alone correct. It is always necessary to consider this issue

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in the context of the listener's intentions in listening, and to formulate the

question as 'adequate for what?'.

Similarly, Popper (cited in Brown 1995: 23) speaks about a "commonsense

notion of certainty" of beliefs which is relative. According to Popper (1972: 78-79),

"subjective certainty ... depends not merely upon degrees of belief and upon evidence

but also upon the situation - upon the importance of what is at stake". And certainly

in our example above, a lot is at stake if *b* does indeed misread *a's* first letter and

consequently dispenses the wrong advice. Her current interpretation, although

partially correct, is far from adequate for her position and purpose.

Recall that Brown (1995: 30-31) offers four levels of understanding which we

have placed in the following matrix (here, modified and renumbered as Figure 3.2):

Figure 3.2: Levels of understanding in terms of correctness and adequacy (Modified)

	Adequate	Inadequate
Correct	1	
Partially correct	2	√
Partially incorrect	3	
Incorrect		4

Returning to our analysis of the utterance in A1P3 above in which *b* has to interpret

the underspecified *the M.A.*, we conclude that *b's* understanding is partial and that her

interpretation is inadequate for her current purpose. We therefore offer this as

another level of understanding in the above matrix (see √).

Coming back to *b's* beliefs at this juncture, we may summarise *b's* position as

such. *b* believes (or is doubtful; indicated by ?) that :

(A)   *regarding what a has done or intends to do*

     1.   *a* applied to take the M.A. in Linguistics (?)

     2.   *a* would like to read two core courses of the M.A. in addition (?)

(B)   *regarding her own background knowledge*

All the items 1- 6 are listed in full in Table 1.1 (see Chapter 1).

(C)   *regarding a's background knowledge*

As in *b's* list (B) 1 - 6 above, but all of which are doubtful (?)

Let us summarise what we have said so far regarding *b's* interpretative process as it relates to A1P2 *I applied ... to take the M.A. in Linguistics* and A1P3 *I would like to read two core courses of the M.A. [in Applied Linguistics] in addition*.

Initial interpretation	As per stated information in A1P2 and A1P3
Hypothesis	*b* hypothesises that *a's* intended meaning is as per stated information in A1P2 and A1P3.

Intermediate interpretation	With the expanding context, especially from:
	   A1P3 *I would like to read two core courses of the M.A.*
	   A1P4 *I really hope that you can be my supervisor*
	
	b infers that:
	   a thinks that both courses are modular
	   a is not aware of the University protocols governing across-department supervision
	
	Both inferences contradict *b's* view of the world/University. Therefore *b* becomes unsure of her initial interpretation. She considers her understanding as only partial and not adequate for her purpose which is to respond to *a's* request

Eventual interpretation	As per stated information in A1P2 and A1P3, but with doubt this time; ? attached

Therefore, *b's* hypothesis is not confirmed. She requires further clarification from *a*.

We see in the above an example of what we think *b's* interpretative process may look like. During the intermediate stage, certain bridging inferences (drawing here from *b's* background knowledge) are made, leading finally to the eventual interpretation. This eventual interpretation is not fixed, as the discussion of the expanding context below shows.

Let us now move on to discuss *b's* interpretation of *a's* utterances in his letter of clarification of A2. When *b* reads *a's* utterances in A2P2 *As you presume I have*

applied to take the M.A. in Linguistics at the Faculty of Languages and *Lacking the teaching experience of four years I am not eligible for the M.A. in Applied Linguistics anyway*, she probably sees the two utterances as a sort of a point-for-point clarification to her letter B1 in which she declares her confusion *I cannot quite work out ... exactly what you are going to be doing.* In B1, she points out her confusion about the two possible scenarios expressed in (i) *you say you have applied to take the M.A. in Linguistics, and I presume that that means what it says* and (ii) *Or, do you mean you have applied to take the M.A. in Applied Linguistics here... .*

a's first utterance in A2P2 *As you presume I have applied to take the M.A. in Linguistics at the Faculty of Languages* is a direct response to *b's* (i) above. Notice the way *a* echoes *b's* expression *I presume* with *As you presume*, perhaps as a means of expressing acquiescence or solidarity with *b*. *a's* second utterance in A2P2 *Lacking the teaching experience of four years I am not eligible for the M.A. in Applied Linguistics anyway* is a response to *b's* (ii). By declaring his knowledge of his ineligibility to apply for the Applied Linguistics programme anyway, *a* is in fact saying that he has not applied for the Applied Linguistics programme precisely *because* he is not eligible to apply in any case. Notice that the use of the adverbial expression *anyway* by *a* triggers the assumption that *a* already knows about his ineligibility; so the question of whether he has applied (or ought to apply) to take the M.A. in Applied Linguistics programme was never an issue to him and shouldn't have arisen. This is not to suggest that *a*, the prospective student, is being dismissive of *b's* suggestion that he may have confused his application of one M.A. for the other. After all, *a* has no reason to want to appear to be impolite as this may diminish any hope of his securing *b* as his supervisor. Rather, and as we will develop in full later, the use of the expression *anyway* seems to be in line with *a's* persuasive tone and argumentative style of writing/reasoning in his letter. (Note that we are not using the word *argumentative* in the negative sense of being quarrelsome.)

Having read *a's* clarification in the two utterances in A2P2 above, *b* is therefore able to "re-interpret" *a's* previous utterances A1P2 *To extend my knowledge*

on this field ... I applied ... to take the M.A. in Linguistics and A1P3 *Therefore I would like to read two core courses of the M.A. in addition* in his first letter A1. We said earlier that *b's* interpretation of these utterances has been partial and inadequate when she first read A1. Now, armed with *a's* clarification and her enriched context of interpretation, she is able to revise and accept her initial interpretation as being **adequate** for her current purpose. Hence she is able to write in her next letter in B2P1 *Thank you for your letter of 3 December in which you clarify your future affiliation in the University* and goes on to dispense additional information to *a* regarding his request for supervision. Therefore *b's* revised and updated state of beliefs as listed in (A), (B) and (C) above would now be cleared of all doubts.

Summing up, *b's* interpretative process of A1P2 and A1P3 may be presented as such:

Initial interpretation	Within the A1 context, as per stated information
Hypothesis	*b's* hypothesises that *a's* intended meaning is as per stated information in A1P2 and A1P3.
Intermediate interpretation	Within the A1 context, as per stated information, but with doubt
Eventual interpretation	Within the A1 context, as per stated information, but with doubt
Final interpretation	With the additional A2 context, as per stated information again, minus doubt

Therefore, *b's* hypothesis is confirmed. Her understanding of the two utterances is correct and adequate.

In the light of the above discussion, we conclude that BP 1 "*a* applied to take the M.A. in Linguistics" has been established as part of *b's* belief system.

2.2   Analysis of Base Propositions 2a, 2b and 3a - f

BP 2a: Linguistics Department is permitted to let *b* supervise *a*

BP 2b: Linguistics Department is willing to let *b* supervise *a*

BP 3a: *b* is constitutionally permitted to supervise *a*

BP 3b: *b* is interested in supervising *a*

BP 3c: *b* will continue to be interested in supervising *a*

BP 3d: *b* has time and so on to supervise *a*

BP 3e: *b* is willing in principle to supervise *a*

BP 3f: *b* is willing in fact to supervise *a*

In this sub-section, we shall analyse the utterances relevant to Base Propositions 2 and 3. This time, we shall consider both *a's* and *b's* point of view, in their respective roles of readers of each other's letters, in interpreting the utterances. The two sets of BPs are so inter-twined that we think it is best to consider them together. After all, both sets of BPs seem to draw from the same list of relevant utterances. Because of the complexities with which the two sets of BPs are inter-related and ordered idiosyncratically by both interactants, we shall focus our discussion on how *a* and *b* interpret each other's underlying goals and accompanying reasoning schemas. Once again, the list of utterances is presented chronologically.

a: A1P4   *b, I certainly share your interest for sociolinguistics and discourse analysis*
                         [intervening sentence]
               I really hope that you can be my supervisor, if it is at all possible.

b: B1P2   *you say you have applied to take the M.A. in Linguistics ....*
        If that is the case, I am afraid that it would not really be the done thing for me to supervise you, since the Applied Linguistics Department is a separate department in a different faculty (Education).

        B1P4   *Or, do you mean you have applied to take the M.A. in Applied Linguistics here?*
                            [intervening sentence]
        ... if such an application were successful ..., then I see no reason why I shouldn't supervise you, provided that our interests continue to coincide.

a: A2P3   *As to the problem of supervision I hoped that my belonging to a different department of the University would not be an obstacle for you to supervise me with the prospectus of the M.A. in Linguistics stating on page 2:*
        " ... Students taking the M.A. in Linguistics ... may in some cases be supervised for the research components ... by a specialist from outside the Department."
        A2P4   *Since your academic work covers my field of interest to the full, I should really be happy, if I could benefit from your supervision.*

b: B2P2   *I would really have nothing against supervising you, provided I have the time and so on; I merely think that it might be felt by the linguistics department that they are well able to provide supervision in your areas of interest themselves.*
        B2P3   *Anyway, I am sure that you will be able to discover their preference when you visit in April.*

a: A3P1   *Thank you very much for your letter ... in which you tell me that you would be willing to supervise me ...*
        A3P2   *I already told you that I intend to visit X University during my Easter holiday in April.*

b: B3P3   *I hope you have ... useful discussions with the Linguistics Department ...*

a: A4P1   *I decided to postpone my visit to X University to 19th-23rd of April.*

b: B4P2   *I suggest you try to visit c before you come to see me.*

Before we consider the readers' interpretations of the utterances above, a few general comments about the underlying reasoning processes are in order. Although the resulting "exchange" above is the collaborative process of both *a* and *b*, the reasoning processes which seem to underlie each individual's contribution are not only quite different, but actually in opposition to each other.

As we have pointed out earlier in Section 1.3, Holyoak and Cheng (1995) argue that their subjects, given the same set of information to work with, can use different pragmatic reasoning schemas (obligation/permission modes) to resolve the same "industrial dispute" depending on the role (employer or employee) they assume. Driven by their own goals, *a* employs the deontic obligation mode of reasoning in a bid to persuade *b* to supervise him, while *b* employs the deontic permission mode of reasoning to determine whether she is willing to supervise *a*.

This difference in pragmatic reasoning schema gives rise to quite different tactical procedures (borrowing Widdowson's (1984) terminology). One of the purposes of listing the utterances above in chronological order is to highlight the point-for-point style of rebuttal which seems to characterise *a's* reasoning. What seems to characterise *a's* "mega-turn"/letter is this argumentative style where several utterances (listed above) made by him seem to express counter-points to the relevant bits of contents expressed in *b's* previous letter. We shall expand on this observation in Section 3.

Let us now consider the interpretation of the utterances as they relate to BPs 2a - b and 3a - f. For ease of discussion and reference, we shall discuss the utterances from letters A1 and B1 first. They are reproduced below.

a: A1P4 *b, I certainly share your interest for sociolinguistics and discourse analysis*

[intervening sentence]

I really hope that you can be my supervisor, if it is at all possible.

b: B1P2 *you say you have applied to take the M.A. in Linguistics ....*

If that is the case, I am afraid that it would not really be the done thing for me to supervise you, since the Applied Linguistics Department is a separate department in a different faculty (Education).

B1P4 *Or, do you mean you have applied to take the M.A. in Applied Linguistics here?*

[intervening sentence]

... if such an application were successful ..., then I see no reason why I shouldn't supervise you, provided that our interests continue to coincide.

When the reader *b* reads the utterances *I certainly share your interest ...* and *I really hope that you can be my supervisor ...* in A1P4, we suspect that *b* probably has no difficulty in understanding the nature and content of *a's* request. But as we have seen in our discussion above, what is problematic is that *b* probably feels uneasy about *a's* assumption about the ease with which across-department supervision can be arranged. Evidence of this lies in her reply B1 in which she expresses her reservation in B1P2 *it would not really be the done thing for me to supervise you, since the Applied Linguistics Department is a separate department ...*, assuming that *a* has indeed applied to the Linguistics Department.

b then postulates the alternative scenario where if *a* has applied to the Applied Linguistics Department, she would then be willing to supervise him. Note, however, that *b* is careful to add the condition *provided that our interests continue to coincide* in B1P4. We consider this to be an additional condition because it relates to the future. This condition is different from *b's* implicit presupposition (triggered by the

verb *continue*) that she already shares his interest at the current time of writing. (In other words, she is agreeing with *a's* statement *I certainly share your interest* in A1P4.) This additional condition seems to be *b's* cautious response to *a's* enthusiastic affirmation that he *certainly* shares *b's* interest (A1P4).

In stating what she thinks the two possible scenarios are, what *b* is in fact doing here in her utterances is to make plain her world view and state of affairs, and how it may differ from *a's*. According to *b's* view of the University, although across department supervision is permissible, it is not generally practised unless the Linguistics Department approves of *a's* research proposal and is not able to assign an internal supervisor themselves. We know that this is so because *b*, being the Director of the M.A. in Applied Linguistics programme, is bound to be very familiar with the regulations of her department and her sister-department. (We confirmed this information via personal communication with *b*). Also, any show of unreserved interest on *b's* part in supervising *a,* especially since he has already applied to another department, may be misconstrued as an attempt to "poach" students from another department. Such an act will be considered most discourteous and certainly against department protocol.

To give us an indication of how *a*, who is now the reader, has interpreted *b's* utterances and reservation in B1, let us examine his responses in A2, reproduced below.

> *b:*   B1P2   *you say you have applied to take the M.A. in Linguistics ....*
> *If that is the case, I am afraid that it would not really be the done thing for me to supervise you, since the Applied Linguistics Department is a separate department in a different faculty (Education).*

B1P4 *Or, do you mean you have applied to take the M.A. in Applied Linguistics here?*

> [intervening sentence]

... if such an application were successful ..., then I see no reason why I shouldn't supervise you, provided that our interests continue to coincide.

a: A2P3 *As to the problem of supervision I hoped that my belonging to a different department of the University would not be an obstacle for you to supervise me with the prospectus of the M.A. in Linguistics stating on page 2:*

" ... Students taking the M.A. in Linguistics ... may in some cases be supervised for the research components ... by a specialist from outside the Department."

A2P4 *Since your academic work covers my field of interest to the full, I should really be happy, if I could benefit from your supervision.*

In A2P3, *a* refutes point-for-point *b's* objection to supervising him, as his expression *As to the problem of supervision ...* suggests. When *a* reads B1P2 *... it would not really be the done thing ...* he must have assumed that *b* may not be familiar with the Linguistics Department's prospectus or that her memory of its contents may have lapsed. In other words, *a* mistakenly thinks that *b* does not share his world view which includes the permissibility of across-department supervision. Hence he feels the need to quote from the prospectus. This assumption of course turns out to be wrong as *b* points out in her next letter. *b* is fully aware of the regulations which states the permissibility of across-department supervision; but she is less certain about the Linguistics Department's willingness. (See discussion below of *b's* utterance *it might be felt by the linguistics department that they are well able to provide supervision in your areas of interest themselves*.)

In A2P4, *a* addresses the condition laid down by *b* in B1P4 *I see no reason why I shouldn't supervise you, provided that our interests continue to coincide* by affirming in A2P4 that *Since your academic work covers my field of interest to the*

full, I should really be happy, if I could benefit from your supervision. Again, we see evidence of this point-for-point rebuttal, whose purpose seems to be to lead *b* to the "inevitable" conclusion that she should consent to supervising him. After all, she did say that she saw no reason why she shouldn't supervise him if their interests continued to coincide (but see discussion below on the lack of fit between *a's* alleged fulfilment of *b's* condition and *b's* actual condition).

Next let us consider *b's* interpretation of *a's* utterances in A2P3 and A2P4. We draw evidence of *b's* probable interpretation of *a's* utterances from her response in B2P2 and B2P4.

a:	A2P3	*As to the problem of supervision I hoped that my belonging to a different department of the University would not be an obstacle for you to supervise me with the prospectus of the M.A. in Linguistics stating on page 2:* *" ... Students taking the M.A. in Linguistics ... may in some cases be supervised for the research components ... by a specialist from outside the Department."*
	A2P4	*Since your academic work covers my field of interest to the full, I should really be happy, if I could benefit from your supervision.*
b:	B2P2	*I would really have nothing against supervising you ... ; I merely think that it might be felt by the linguistics department that they are well able to provide supervision in your areas of interest themselves.*
	B2P3	*Anyway, I am sure that you will be able to discover their preference when you visit in April.*

In writing *I would really have nothing against supervising you ... ; I merely think that ...* in B2P2, *b* is in fact counteracting *a's* previous utterance in A2P3 *I hoped that my belonging to a different department of the University would not be an obstacle for you to supervise me* which he goes on to support with evidence from the prospectus. *b* must have understood the "force" of *a's* rebuttal in A2P3, otherwise she wouldn't have gone on to explain that the Linguistics Department may be *well able to*

provide supervision ... themselves, suggesting that the Linguistics Department's willingness here is the issue, not constitutional permissibility, as stated in the prospectus.

b also realises that in using the set expression *I would really have nothing against supervising you*, she may appear to be "contradicting" her earlier utterance B1P2 *I am afraid that it would not really be the done thing for me to supervise you, since the Applied Linguistics Department is a separate department in a different faculty (Education)* in the previous letter. But if we consider *b's* use of the expression *I would really have nothing against supervising you* with the immediately following utterance *I merely think that it might be felt by the linguistics department that they are well able to provide supervision in your areas of interest themselves* (B2P2), we realise that the expression *I would really have nothing against supervising you* doesn't really mean 'yes' to *a's* request. In fact, *b* is expressing her reservation.

b's expression of her reservation is realised through the use of the "double" negative as in *nothing* (expressing negation) and *against* (expressing opposition). The double negative is further accentuated by the use of *really* in *would really have nothing against ...* which *b* uses to convince the addressee *a* of the truthfulness and sincerity of her claim that she has nothing against supervising *a*. But why should *b* emphasise the sincerity of her words unless she has reason to believe that *a* may have reason to doubt her? In expressing her reservation, *b* wants *a* to know that her reservation about supervising him should not be taken personally, especially since *a* has so far managed to show that he has fulfilled some of *b's* conditions, albeit partially.

Hence, *b* tries to mitigate the effect of her expression of reservation by continuing with the next utterance *I merely think that it might be felt by the Linguistics Department that they are well able to provide supervision in your areas of interest themselves* where the use of *merely* suggests that the ability of the Linguistics Department to supervise *a* themselves is really her only (or main) reason for her reservation. The juxtaposition of both utterances in B2P2 may therefore be *b's* way of

saying that she is not trying to be difficult and that she merely thinks that it is best that *a* speaks to the Linguistics Department first to find out their preference.

The use of *well* in *it might be felt by the Linguistics Department that they are well able to provide supervision ... themselves* also suggests that the Linguistics Department is very able to provide supervision and that an external supervisor will not only be unnecessary, but also undesirable since that would mean that the Linguistics Department will have to give up part of their evaluative control of their own student to someone outside their department. Hence, the Linguistics Department may prefer to supervise *a* themselves, and therefore may not be willing to let *b* supervise *a*.

Furthermore, and perhaps as a response to *a's* previous utterance in A2P4 *Since your academic work covers my field of interest to the full*, by saying that *it might be felt by the Linguistics Department that they are well able to provide supervision in your areas of interest themselves*, *b* may be implying that *a's* suggestion that their common research interest is "full" may be irrelevant (and misguided) at this juncture, since the issue of whether there is a suitable internal supervisor must be considered first, and that can only be found out if *a* visits the Linguistics Department first to discover their preference. (Incidentally, the statement by *a* that *b's* academic work covers his field of interest *to the full* is fallacious since *a's* proposal to submit a title on critical language study and critical linguistics for the thesis (see A1P3 in Chapter 2) is not within the stated research interest of either *b* or the Applied Linguistics Department as a whole. Hence, the alleged overlapping of interests cannot be full.)

This (i.e., that their overlapping interest is not the crucial issue at the moment) is the conclusion *b* seems to be alluding to in her utterance *Anyway, I am sure that you will be able to discover their preference when you visit in April* in B2P3 where she suggests that *a* speaks to the Linguistics Department first to find out their preference. Notice that *b*, in writing this, is in fact adding another condition to her

reply to *a's* request that he should find out the Linguistics Department's preference first before she can even consider whether to supervise him or not.

Therefore, based on all that *b* has written in B2, we assume that she must have interpreted *a's* utterance in A2 and understood the force of his counter arguments and his suggestion that she should be willing to supervise him.

Summarising what has been discussed so far, we think that it may be possible to postulate that *b* is really saying two things here. Firstly, she is saying that she may be willing ***in principle*** to supervise *a*, provided the conditions she has stipulated are met. Secondly, she may be willing ***in fact*** to supervise *a*, provided that *a* finds out the Linguistics Department's preference first and that their preference, although unlikely, is for an external supervisor to supervise *a*. This distinction between willingness$_{\text{in principle}}$ and willingness$_{\text{in fact}}$ is crucial, but it is a distinction which *a* does not seem to grasp (see discussion on reasoning schemas below).

It therefore seems astonishing to us to read *a's* declaration *Thank you very much for your letter ... in which you tell me that you would be willing to supervise me* in his reply in A3P1, which seems to confirm our suspicion that *a* may not have made the distinction mentioned above. This failure to make the distinction is probably due to the difference between *b's* intended meaning in uttering *I would really have nothing against supervising you ...* in B2P2 and *Anyway, I am sure you will be able to discover their preference ...* in B2P3, and the inferences actually made by *a* in reading the same utterances (which obviously don't include the crucial inference that *a* should find out the Linguistics Department's preference first before *b* is able to agree$_{\text{in fact}}$ to supervise *a*). Obviously, *a*, in his role now as reader, has failed to interpret *b's* utterances in B2P2 and B2P3 as intended.

The question remaining then is whether *a's* failure to discern the "in principle - in fact" distinction made by *b* is the result of an error in interpretation or whether *a's* "failure" is intentional? Our discussion so far suggests that *a's* failure to make this distinction is due solely to an error on his part - perhaps an error arising from problems with interlanguage pragmatics since *a's* country of origin is Western

European but his First Language is not English. We would like to argue that although this may well be a contributory factor to the problem, it may not be the only, or even the main, factor. (*b*, incidentally, is originally from another Western European country whose First Language is not English either. But *b* has been working in Britain for so many years that her linguistic competence is, in our view, virtually indistinguishable from that of an educated native speaker of British English.)

Our reason for this view (i.e., *a's* "failure" may be intentional) is two-fold. Firstly, although *a* may not be a native speaker of English, the quality of his writing/performance suggests a near native-like competency (although not as native-like as *b's*). My personal communication with *a* also reveals that he sought the help of a native speaker of American English (USA) during his composing process. This native speaker would have pointed out to him if he has misread *b's* letter. But one may argue that the American speaker may not be used to the "indirectness" of *b's* "British" English. Presumably, if the American was placed in *b's* shoes, he might have written something more directly, and perhaps to this effect:

> *I cannot supervise you because you are not from my department. If, however, you still wish to pursue this matter, you should consult with the Linguistics Department first. If they agree to your suggestion, then get back to me and I would be happy to discuss the matter further with you.*

Although I do not have empirical evidence for such a "British"-American English distinction, I did in fact receive comments about the "indirectness" of *b's* writing when I first presented this data to a predominantly white American audience at the International Linguistics Association Conference 1996 held in New York University, USA. The style of writing adopted by *b*, it was claimed, is characteristic of British indirectness and formality, which differs from America's directness and informality.

But even if we do accept this alleged difference between American and British English, we would still be reluctant to embrace the view that *a's* failure to understand

b is caused by problems with interlanguage (or trans-Atlantic) pragmatics, considering the fact that many non-native speakers of English of my country of origin (in South-East Asia) with comparable competence to *a* are unlikely to misinterpret *b's* utterances in B2P2 as consent, both in principle and in fact, to supervise *a*. Therefore, the reason for *a's* unexpected declaration lies elsewhere.

We believe, secondly, that the reason for *a's* unexpected declaration has more to do with his reasoning strategy and the perspective he chooses to adopt in his letters than with interlanguage difficulties. We shall draw support for this view from what has been said so far and from evidence found in the rest of the listed utterances below.

a: A3P1 *Thank you very much for your letter ... in which you tell me that you would be willing to supervise me ...*

A3P2 *I already told you that I intend to visit X University during my Easter holiday in April.*

b: B3P3 *I hope you have ... useful discussions with the Linguistics Department ...*

a: A4P1 *I decided to postpone my visit to X University to 19th-23rd of April.*

b: B4P2 *I suggest you try to visit c before you come to see me.*

Notice that in *b's* reply B3, *b* does not acknowledge nor follow up on *a's* declaration that she has agreed to supervise *a*, as one might expect *b* to if indeed she has agreed to do so, perhaps with an extended follow-up discussion of *a's* proposed research topic. (We have also observed earlier that *a's* proposed thesis topic on critical linguistics is not within the stated research interest of *b* nor of her Department.) Instead, *b* zooms in on the most important consideration remaining, which has to do with the Linguistics Department's preference. Hence in the remaining letters, she seems to write rather repetitively in B3P3 *I hope you have ... useful discussions with the Linguistics Department* and in B4P2 *I suggest you try to visit c before you come to see me,* both of which allude to the outstanding issue of the

Linguistics Department's preference. *a's* letters, on the other hand, practically ignores *b's* suggestion and instead focuses on more mundane administrative matters pertaining to the scheduling of appointments. This "selective reading" probably accounts for *a's* unexpected declaration above even in the face of contradictory evidence. In the next section, we shall expand on this final point on how *a's* and *b's* goals in the communication affect the way they interpret each other's utterances and the reasoning schemas which underlie their understanding of the Base Propositions.

3   *a's* and *b's* goals and pragmatic reasoning schemas

In the above section, we offer an account of how the reader is able to understand the stated information as well as the indirect and intended meaning of certain utterances by generating the appropriate inferences in the interpretation process. We also examined how the same utterances can be re-interpreted in the light of the expanding context. In addition to offering an account of how each reader may have interpreted the writer's utterances, we have also mentioned the need for the reader to understand the goal and trend of reasoning which motivates the writer's utterances. So far, we have suggested briefly that this reasoning strategy can be conceptualised in terms of the reader's perception of what the writer's reasoning schema might be. Let us now consider the reasoning strategies of the two interactants in detail.

We should emphasise that what follows is what we consider to be the reader *a's* assumptions about his writer *b's* reasoning schema based on his interpretation of B1. Note, firstly, that *a's* assumptions about *b's* reasoning schema is to be distinguished from *a's* own reasoning schema. *a* assumes that *b* adopts a deontic permission mode of reasoning while *a* himself adopts a deontic obligation mode of reasoning (see explanation of these modes of reasoning in Section 1.3 above; see also detailed discussion to follow). Secondly, *a's* assumptions about *b's* mode of reasoning should be distinguished from *b's* actual mode of reasoning. We shall argue

below that *a* is fully aware of *b's* permission mode of reasoning, i.e., *a's* assumptions about *b's* mode of reasoning match *b's* actual mode of reasoning. The importance of these distinctions will become apparent later in interpreting Tables 3.3 and 3.4 below. And then later in Figures 3.3 and 3.4, we shall place all these distinctions side by side in a series of flow diagrams for easy comparison. Having clarified this, let us examine *a's* interpretation of *b's* reasoning schema in B1.

Recall that *b* is confused at this juncture as to which M.A. *a* has applied to take. She therefore offers two sets of conditions for her decision on whether to supervise *a* or not. These two sets of conditions correspond with the two scenarios she postulates in her letter B1.

Table 3.1: *a's* assumptions about *b's* reasoning schema (Permission) under hypothetical Scenario 1 "*a* applied to take the M.A. in Linguistics" after reading B1 only

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b is not willing_{in principle and in fact} to supervise *a* because:

---

   i.   *a* applied to take the M.A. in Linguistics
   ii.   Linguistics Department is not permitted to let *b* supervise *a*
   iii. Linguistics Department is not willing to let *b* supervise *a*

Note: For ease of writing, we use the shorter expression *a applied to take the M.A. in Linguistics* to mean "*a* applied to take the M.A. in Linguistics Programme offered by the Linguistics Department of the Faculty of Languages".

(For the sake of completeness of discussion in this section, we ask that you allow us to repeat some of the relevant points made in Section 2.)

Table 3.1 above is based on *a's* assumptions about *b's* first hypothesised scenario that *a* has applied to take the M.A. in Linguistics. At this stage of the correspondence, *a* assumes that *b* is unwilling to supervise him because *b* writes *you say you have applied to take the M.A. in Linguistics .... If that is the case, I am afraid*

that it would really be the done thing for me to supervise you, since the Applied Linguistics Department is a separate Department (B1P2). On reading this, the reader *a* mistakenly assumes that *b* is not aware of the Linguistics Department's prospectus which clearly states that across-department supervision is permissible, resulting in *a's* assumptions about *b's* reasoning schema which includes conditions ii and iii above. *b* is of course aware of the contents of the prospectus of the Linguistics Department. *a*, however, mistakes *b's* rejection as caused by *b's* ignorance (or lapse of memory) of the contents of the prospectus. This explains why he goes on to quote from the prospectus in his reply.

In reading *b's* utterance B1P4 *Or, do you mean you have applied to take the M.A. in Applied Linguistics here?* in letter B1, *a* realises too that *b* entertains a second possibility regarding *a's* departmental affiliation, hence, the following reasoning schema based on a Scenario 2 situation (see Table 3.2 below).

Table 3.2:   *a's* assumptions about *b's* reasoning schema (Permission) under hypothetical Scenario 2 "*a* applied to take the M.A. in Applied Linguistics" after reading B1 only

---

b is willing$_{\text{in principle and in fact}}$ to supervise *a* if:

---

i.	*a* applied to take the M.A. in Applied Linguistics
ii.	*b* is interested in supervising *a*
iii.	*b* will continue to be interested in supervising *a*

Based on *a's* reading of *b's* words *if such an application [to the Applied Linguistics Department] were successful ... then I see no reason why I shouldn't supervise you, provided that our interests continue to coincide*, *a* probably assumes that the above Conditions i, ii and iii are part of *b's* reasoning schema under hypothetical Scenario 2. (Note that the verb *continue* triggers the presupposition that their interests already coincide at the time of writing, hence Condition ii.) By casting

her reasoning in terms of conditions which need to be fulfilled in order for her to act, *b* is in fact operating from a deontic mode of reasoning related to the permissibility of the nature of *a's* request. We have argued in the last section that *a* is aware of *b's* reasoning schema and that this awareness probably explains his point-for-point rebuttal style of writing.

However by the time *a* reads *b's* next letter B2, *a's* assumptions about *b's* hypothetical Scenario 2 reasoning schema are **abandoned**. *a* also assumes further that *b* has now modified her Scenario 1 reasoning schema in the light of the expanding context resulting from *a's* reply A2 regarding his actual departmental affiliation and the contents of the prospectus. Table 3.3 below is based on *a's* revised assumptions of *b's* reasoning schema in regard to a Scenario 1 situation "*a* applied to take the M.A. in Linguistics". We reiterate that the following is a list of *a's* assumptions about *b's* reasoning schema, not *a's* actual reasoning schema. (We shall also argue later (in Figure 3.3) that *a's* assumptions about *b's* reasoning schema match *b's* actual reasoning schema.)

Table 3.3: *a's* assumptions about *b's* reasoning schema (Permission) after reading B1 and B2.

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b is willing$_{\text{in principle}}$ to supervise a if:

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1. *a* applied to take the M.A. in Linguistics
2. Linguistics Department is permitted to let *b* supervise *a*
3. *b* is constitutionally permitted to supervise *a*
4. *b* is interested in supervising *a* [transferred from Scenario 2 above]
5. *b* will continue to be interested in supervising *a* [transferred from Scenario 2]
6. *b* has time and so on to supervise *a*

Conclusion: Therefore
7. *b* is willing$_{\text{in principle}}$ to supervise *a*

---

b is willing$_{\text{in fact}}$ to supervise a if:

Conditions 1 - 7 as above
8. Linguistics Department is willing to let *b* supervise *a*
8'. *a* finds out that 8 above is indeed the case

Conclusion: Therefore
9. *b* is willing$_{\text{in fact}}$ to supervise *a*

After reading *b's* utterances *I would really have nothing against supervising you ... ; I merely think that it might be felt by the linguistics department that they are well able to provide supervision in your areas of interest themselves* in letter B2, *a* is likely to assume that *b* has been forced to re-align her reasoning strategies to take into account *a's* previous rebuttal in A2 about the permissibility of across-department supervision and his re-assertion that her field of interest covers his to the full. *a* assumes now that *b* is aware that he has applied to take the M.A. in Linguistics and about regulations stated in the prospectus. Therefore, *a* can assume that Conditions 1

and 2 are now part of *b's* reasoning schema. Condition 3 follows naturally from 2. Conditions 4 and 5 are probably part of *b's* reasoning as well based on evidence from her utterance *I see no reason why I shouldn't supervise you, provided that our interests continue to coincide* in B1P4. These conditions are originally part of *b's* reasoning schema based on a Scenario 2 situation. But they continue to be relevant to *b's* reasoning in B2 as well.

Notice that Condition 5 does not tally entirely with *a's* re-assertion *Since your academic work covers my field of interest to the full, I should really be happy, if I could benefit from your supervision* in A2P4 since *a's* assumption about *b's* Condition 5 refers to future alignment of interests while his re-assertion in A2P4 refers to the current extent of alignment of interests. *a* is of course aware of the difference between the two, but his re-assertion seems to be deliberate nevertheless. Why then does he assert his alleged current fulfilment *to the full* (in A2P4) of *b's* "condition", while assuming correctly that Condition 5 of *b's* reasoning schema is about future fulfilment (*continue to coincide;* B1P4)?

We suspect that the reason for *a's* exaggerated statement about the current perfect fit of their overlapping interests is to draw attention away from *b's* condition regarding a future fit which he has no control of. In addition, the use of the expression *to the full* in *Since your academic work covers my field of interest to the full* also appears to have the effect of mitigating the lack of a perfect fit. And the persuasive force of *a's* words seems to work. We believe this to be so because it helps to explain why in her second letter B2, *b* appears to "relent" by writing *I would really have nothing against supervising you*. Compare this with her categorical 'No' in B1 *it would not really be the done thing*. We are not suggesting that *b* is unable to see the lack of fit between *a's* exaggerated statement and her actual condition. Rather, *b* recognises *a's* enthusiasm and persistence, and allows for some flexibility in their negotiation.

However, in yielding to *a's* persuasive tone, *b* adds the further Condition 6 as expressed in *provided I have the time and so on* immediately upon writing *I would*

really have nothing against supervising you. She goes on to explain that the Linguistics Department may prefer to supervise him themselves and that he should find out for himself their preference during his proposed visit in April. And as such, *a* is likely to assume now that conditions 8 and 8' have been added to *b's* reasoning schema as well.

In her reasoning, *b* seems to emphasise to *a* the need to follow certain protocols in his search for an answer to his request. *b* draws the line very clearly between what is "permissible" at this stage of their correspondence and what is not. In this sense then, we identify *b's* pragmatic reasoning schema as one of expressing the deontic relation of permission, and we argue that *a*, the reader of *b's* letters, is aware of it. We believe that when *a* writes in A3 to thank *b* for agreeing to supervise him, he is well aware that *b* hasn't really agreed$_{\text{in principle}}$ *and* $_{\text{in fact}}$ to supervise him, but he thanks her nevertheless. After all, *b's* reply in B2P2 *I would really have nothing against supervising you, provided I have time and so on; I merely think that it might be felt by the linguistics department that they are well able to provide supervision ... themselves* is so elaborately modalised and hedged that it can hardly be mistaken for anything more than a tentative agreement in principle only.

We believe that it is not the case that *a* is not able to discern *b's* reasoning schema and conditions. Rather, driven by his own reasoning schema and his goal of getting *b* to agree to supervise him, what *a* has chosen to do is to mitigate the severity of *b's* objections and reservations by ignoring/downplaying the importance of certain conditions. Note that what follows is a brief description of *a's* reasoning schema which we shall contrast with *b's* reasoning schema. (We shall argue later, *a's* reasoning schema matches *b's* assumptions about *a's* reasoning schema as shown in Table 3.4.) Coming back to our discussion, the conditions which *a* has chosen to ignore/downplay are:

5.	*b* will continue to be interested in supervising *a*

6.	*b* has time and so on to supervise *a*

8. Linguistics Department is willing to let *b* supervise *a*

8'. *a* finds out that 8 above is indeed the case

for which he has no control or evidence.

He does this by practically ignoring *b's* hints in letter B3 and B4 that he has useful discussion with the Linguistics Department and that he should see them first, while maintaining that *b* is willing to supervise him. He chooses not to make the distinction between willingness$_{in\ principle}$ and willingness$_{in\ fact}$. In addition, *a* tries to emphasise those conditions which he has satisfied. They are:

1. *a* has applied to take the M.A. in Linguistics

2. Linguistics Department is permitted to let *b* supervise *a*

4 *b* is interested in supervising *a*

a also tries to emphasise that which he has fulfilled in part:

5. *b* will continue to be interested in supervising *a*

by downplaying the lack of an exact match with the overstated *Since your academic work covers my field to the full* in A2P4. We have already observed above that *a* chooses to focus on the issue of the *current extent* of their overlapping interests rather than on the status of their overlapping interests in the *future*.

In highlighting point-for-point how he has met some of *b's* conditions, *a* is in fact appealing to *b's* sense of integrity and reasonableness in evaluating his eligibility and promise as a potential supervisee of hers. In repeating his request in A2 under these circumstances, he therefore places a certain obligation on *b* to act "reasonably" and "justly" towards him.

This ties in very well with Holyoak's et al (1995) conclusion about why and how some of their subjects, while adopting the role of employee in their reasoning

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experiments about their rights to a day off, operate on the deontic obligation mode of reasoning. *a*, who is in a position of need and subjugation in relation to his potential provider, adopts the **deontic obligation mode of reasoning** in an attempt to achieve his **goal** by persuading *b* with his repeated and enthusiastic request to agree to supervise him, thus imposing on *b* a certain obligation to consent to his request. The repeated request also places *b* in a doubly face-threatening situation should she decide against supervising him. The situation is face-threatening to *b* because *a's* request impinges on *b's* negative face (i.e., the need for freedom from imposition). By repeating his request, *a* makes the situation doubly face-threatening (see Brown and Levinson (1978) for a discussion of negative face and negative politeness).

(We hasten to add that we do not mean to cast *a* in such "crafty" terms. In fact, given similar circumstances, any prospective student, anxious for a place in the programme, is likely to choose only to highlight his strengths, while omitting mention of his weaknesses. Discrepancies in the application raised are likely to be downplayed, while points of possible consensus are emphasised.)

On the other hand, *b*, while adopting the opposite role of responsibility and power, operates on the **deontic permission mode of reasoning** in helping her to achieve her **goal** which is to determine whether she is willing to supervise *a*. We believe that *b*, in her capacity as the solicited/sought after supervisor and more importantly as the Director of the M.A. programme in Applied Linguistics, has to be very careful to dispense only the right amount of advice and only at the right time in accordance with that which is permissible under existing University regulations and protocols. Towards the close of the exchange of letters, *b* continues to hint to *a* to check with the Linguistics Department first and to have useful discussions with them. *b's* final decision on whether she is willing$_{in\ fact}$ to supervise *a* hinges on the Linguistics Department's willingness.

The above seems to us to be a rather arduous account of what must necessarily be a very complex issue. *a* and *b*, in their respective roles as prospective student and potential supervisor, have to assume quite different points of view and reasoning

procedures in order to achieve their goals. We are *not* suggesting that both interactants must have *consciously* processed all of the intricacies above in order to successfully interpret each other's utterances and intentions. But surely *b* must have picked up on at least the main thrust of *a's* underlying obligation-driven reasoning; otherwise we will not be able to account for *b's* cautious stance in her letters. Similarly, *a* must have picked up on *b's* continual reluctance to tread beyond that which is permissible in terms of protocols; otherwise we are hard pressed to explain *a's* need to be persistent and persuasive.

You will realise that the above account is based largely on what we assume to be *a's* assumptions about how *b* reasons about the issue of supervision. We have also briefly mentioned how this may differ from *a's* own reasoning schema. Let us now turn our attention to *b's* assumptions about *a's* reasoning (which we shall show later match *a's* actual reasoning). We summarise *b's* assumptions about *a's* reasoning schema in Table 3.4 below.

Table 3.4:   *b's* assumptions about *a's* reasoning schema (Obligation) after reading all his letters A1 - A4.

---

a hopes that *b* is willing_____ to supervise *a* because:

---

1.   *a* applied to take the M.A. in Linguistics
2.   Linguistics Department is permitted to let *b* supervise *a*
3.   *b* is constitutionally permitted to supervise *a*
4.   *b* is interested in supervising *a*
5.*   *b* will continue to be interested in supervising *a*
5'.†   *a's* and *b's* interests coincide to the full
6.*   *b* has time and so on to supervise *a*
8.*   Linguistics Department is willing to let *b* supervise *a*
8'.*   *a* finds out that 8 above is indeed the case

....

Conclusions: Therefore
7.   *b* is willing$_{\text{in principle}}$ to supervise *a*
9.   *b* is willing$_{\text{in fact}}$ to supervise *a*

Note: * Conditions 5, 6, 8 and 8' seem to be treated as optional conditions by *a*

† Condition 5' is not part of *b's* list of conditions (see Table 3.3)

b probably assumes that *a* casts Conclusions 7 and 9 together as *b is willing_____ to supervise a*

Strictly speaking, the above conditions should be cast as reasons; but for the sake of consistency, we shall continue to use the term 'condition'.

As the above table shows, *a* seems to operate with the same set of conditions (except 5', which he has added) as *b*, but he orders them differently in relation to the final goal of getting *b* to agree to supervise him.   *b* assumes that *a* has relegated Conditions 5, 6, 8 and 8' to being **non-crucial/optional** conditions in his reasoning schema because *a* persists by repeating his request in A2, even though he knows full well that he hasn't met these conditions yet. For *b*, the goal can only be achieved if all the conditions have been met, i.e., all the conditions are **mandatory** to *b*. But for *a*,

by repeating his request in A2, *a* acts as though the goal is attainable even though not all the conditions have been met. Condition 5 can only be determined after *a* has actually enrolled in the programme and made a more detailed/tangible proposal. Condition 6 can only be determined during the course of *b's* direction of her own M.A. in Applied Linguistics Programme in which she would be able to ascertain if she has not over-committed her availability to other students of her own Department and hence has time and so on to supervise *a*. *b* assumes that *a* is aware that conditions 8 and 8' can only be determined during *a's* proposed visit in April. Because *b* now believes that *a* has downplayed some of her conditions, *b* assumes that *a* believes (or at least hopes) that *b* is willing to supervise him in spite of the fact that certain conditions laid down by her have not been fulfilled.

By repeating his request (in spite of the above), *a* places a certain "obligation"/pressure on *b* to respond to his request favourably (see earlier discussion in this section on how *a's* request threatens *b's* negative face). We should not be surprised that *a* has chosen to operate on an obligation mode of reasoning. After all, his position as an anxious prospective student in need of a definite answer (preferably 'yes') from *b* is perfectly understandable. His anxiety is made worse if he, like many other students, depends on the success of this application (for a place/supervisor) to secure funding from a third source.

Finally, in terms of *a's* mode of reasoning, *b* probably assumes that *a* has collapsed the distinction between the two levels of willingness into one, as indicated by the use of "willing_____ " in the table above. In the absence of any acknowledgement on *a's* part in relation to *b's* hint that he sees the Linguistics Department first during his April visit, *b* is likely to assume that *a* has conveniently collapsed the two levels of willingness into one in his mode of reasoning.

Let us summarise all that we have said so far in this section regarding *a's* reasoning schema, *b's* reasoning schema, and their assumptions about each other's reasoning schema. We present the summary in terms of a series of flow diagrams to track the sequence in which the Base Propositions are to be established. We have

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recast the conditions of the reasoning schemas as Base Propositions (see Table 3.5 below).

Table 3.5:   Recasting the reasoning schema conditions as Base Propositions

Condition		Base Proposition
1	1	*a* applied to take the M.A. in Linguistics
2	2a	Linguistics Department is permitted to let *b* supervise *a*
3	3a	*b* is permitted to supervise *a*
4	3b	*b* is interested in supervising *a*
5	3c	*b* will continue to be interested in supervising *a*
5'	3c'	*a's* and *b's* interests coincide to the full
6	3d	*b* has time and so on to supervise *a*
7	3e	*b* is willing in principle to supervise *a*
8	2b	Linguistics Department is willing to let *b* supervise *a*
9	3f	*b* is willing in fact to supervise *a*

Note: To be consistent with the original set of BPs identified in Chapter 2, we have excluded Condition 8' from our final discussion below.

Note that establishing BP 3f, i.e., whether *b is willing$_{in\ fact}$ to supervise a,* is the goal of this line of reasoning. The order is linear and cumulative, capturing both the systematicity with which the BPs are arranged as well as the sense of the building of an edifice of shared beliefs with each step in the flow diagrams (see Figures 3.3 and 3.4 below). The flow diagrams are placed side by side for easy comparison of the effects of differing perspectives on the reasoning strategies. Note that each flow diagram consists of a series of shaded boxes to be read from top to bottom. For ease of reading, we will use the shorter expression *a assumes that b's reasoning schema is ...* and so on, instead of the correct but longer expression *we infer that a assumes that b's reasoning schema is ....*

Figure 3.3:   Flow diagrams comparing *a's* assumptions about *b's* reasoning, *b's* actual reasoning and *a's* actual reasoning regarding BP 3f

	Base Propositions	*a's: b's*	*b's*	*a's*
1	*a* applied to take the M.A. in Linguistics	1	1	1
		|	|	|
2a	Linguistics Department is permitted to let *b* supervise *a*	2a	2a	2a
		|	|	|
3a	*b* is constitutionally permitted to supervise *a*	3a	3a	3a
		|	|	|
3b	*b* is interested in supervising *a*	3b	3b	3b
		|	|	|
3c	*b* will continue to be interested in supervising *a*	3c	3c	3c
		|	|	|
3c'	(modified 3c) *a's* and *b's* interests coincide to the full			3c'
		|	|	|
3d	*b* has time and so on to supervise *a*	3d	3d	3d
		|	|	|
3e	*b* is willing in principle to supervise *a*	3e	3e	|
		|	|	|
2b	Linguistics Department is willing to let *b* supervise *a*	2b	2b	2b
		|	|	|
		v	v	v
3f	*b* is willing in fact to supervise *a*	3f	3f	3e & 3f

Note: *a's: b's*   *a's* assumptions about *b's* reasoning regarding BP 3f

b's   *b's* actual reasoning regarding BP 3f

a's   *a's* actual reasoning regarding BP 3f

Light boxes   Optional steps in the chain of reasoning

Heavy boxes   Mandatory steps in the chain of reasoning

Each column of shaded boxes constitutes a flow diagram to be read from top to bottom

The first column lists all the BPs, including *a's* modification of *b's* original BP 3c as BP 3c'. The second column tracks (reading from top to bottom) *a's* assumptions about *b's* chain of reasoning regarding BP 3f. The third column tracks *b's* chain of

reasoning regarding the same BP 3f, and the final column tracks *a's* chain of reasoning. We also assume that the establishing of the status of BP 3f is the collaborative and eventual goal of both interactants in the negotiation of their positions on the information in the exchange of letters. (We should emphasise that the above shows the chain of reasoning, we are not suggesting that all the BPs in the reasoning chain have been established at the end of the exchange of letters.)

Comparing the three columns of flow diagrams, we get an immediate feel of the intricacies of the reasoning schemas employed by *a* and *b*, and their assumptions about each other's reasoning schemas.

Firstly, the flow diagrams of the first two columns are identical, showing that *a's* assumptions about *b's* reasoning schema is the same as *b's* actual reasoning schema. This is a position we have argued for all along. This of course doesn't mean that *a* is not able to dissociate his assumptions about *b's* reasoning schema from his own schema (see flow diagram of third column). In fact, we have argued that it is this **dissociation** which enables *a* to operate quite independently in terms of his own reasoning schema. The result is the adoption of an obligation mode of reasoning in order to counteract his assumptions about *b's* permission mode of reasoning. (See Chapter 6, Section 7, for a similar discussion of *a's* ability to dissociate his actual belief BP3f from what he writes in his letters.)

Secondly, we see two distinct types of flow diagrams, each corresponding to a particular mode of reasoning. *b's* permission mode of reasoning is characterised by a series of boxes, each of which represents a mandatory step in the reasoning. In *b's* view, each step is mandatory in the sense that every intermediate step has to be satisfied before the final goal BP3f can be reached. In contrast, *a* operates on an obligation mode of reasoning which is characterised by a few optional steps (in addition to the mandatory ones), represented by the lightly shaded boxes. As we have explained earlier in this section, some of these steps are treated as optional by *a* because he repeats his request to *b* even though he knows full well that these steps are part of *b's* reasoning and that he hasn't satisfied them.

(This is not to suggest that there is necessarily an inherent relationship between a particular mode of reasoning, say, the obligation mode, and the occurrence of optional steps. It is just that in our data, we happen to have an example where *a* finds it advantageous to his purpose to ignore certain conditions laid down by *b* (hence, the "optional" status) while imposing on *b* a certain obligation/pressure to consider his request again.)

Finally, in *b's* reasoning schema, BP 3e has to be established first before the terminal BP 3f can be established. This chain of reasoning corresponds with *b's* position of authority which dictates a strict adherence to procedures and protocols. On the other hand, *a* operates on a mode of reasoning which enables him to project a certain sense of obligation on *b's* part to accede to his request. In the light of the fact that *a* is unable to fulfil certain conditions stipulated by *b*, *a* introduces a certain flexibility into his reasoning schema which enables him to not only relegate certain steps to optional status, but also move BP 3e to the end of the chain of reasoning, blurring the distinction between *b's* willingness$_{\text{in principle}}$ and *b's* willingness$_{\text{in fact}}$ to supervise him.

Figure 3.4: Flow diagrams comparing *b's* assumptions about *a's* reasoning, *a's* actual reasoning and *b's* actual reasoning regarding BP 3f

	Base Propositions	*b's: a's*	*a's*	*b's*
1	*a* applied to take the M.A. in Linguistics	1	1	1
		|	|	|
2a	Linguistics Department is permitted to let *b* supervise *a*	2a	2a	2a
		|	|	|
3a	*b* is constitutionally permitted to supervise *a*	3a	3a	3a
		|	|	|
3b	*b* is interested in supervising *a*	3b	3b	3b
		|	|	|
3c	*b* will continue to be interested in supervising *a*	3c	3c	3c
		|	|	|
3c'	(modified 3c) *a's* and *b's* interests coincide to the full	3c'	3c'	|
		|	|	|
3d	*b* has time and so on to supervise *a*	3d	3d	3d
		|	|	|
3e	*b* is willing in principle to supervise *a*	|	|	3e
		|	|	|
2b	Linguistics Department is willing to let *b* supervise *a*	2b	2b	2b
		v	v	v
3f	*b* is willing in fact to supervise *a*	3e & 3f	3e & 3f	3f

Note: *b's: a's*   *b's* assumptions about *a's* reasoning regarding BP 3f

   a's   *a's* actual reasoning regarding BP 3f

   b's   *b's* actual reasoning regarding BP 3f

   Light boxes   Optional steps in the chain of reasoning

   Heavy boxes   Mandatory steps in the chain of reasoning

   Each column of shaded boxes constitutes a flow diagram to be read from top to bottom

In Figure 3.4 above, we offer a comparison of *b's* assumptions about *a's* reasoning schema with *a's* schema and her own. The salient observations we can

make about the flow diagrams here are very similar in spirit to those of the previous figure.

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4   Conclusion

We have attempted to cover a lot of ground in this chapter. Based on our proposed process of interpretation and Brown's concept of levels on understanding, we are able to demonstrate how the expanding context affects the reader's interpretation of certain key utterances related to BP1. The reader's interpretation of an utterance, we have shown, is not static.

In our analyses of the reader's interpretation of key utterances related to BPs 2a, 2b and 3a-3f, we further demonstrate the need to consider the reader's assumptions about his writer's goal and pragmatic reasoning schema. By examining the order in which certain conditions of the reasoning schema are arranged, we are able to give an account of the way in which the BPs are/can be established in a linear and cumulative order as the exchange of letters continues.

In summary then, we have shown that the interpretation of utterances is a dynamic process influenced in part by the level of understanding the reader wishes to attain in reading, and in part by the reader's assumptions about his writer's goal and reasoning schema.

Chapter 4

Information Structure and Common Ground I

The purpose of this chapter is to investigate the distribution and dynamics of new-given information in extended and continuous written correspondence. The same set of eight letters will be analysed for this purpose. We begin by examining previous treatments/studies of new/given information and acknowledge the terminological confusion. We take Chafe's notion of consciousness as the defining factor for the information status of referents. We use a ternary division of information states: activated, available, new.

We propose as our conceptual framework for analysis a three-layer classification of information structure, combining the triple concerns of the speaker regarding her assumptions about the hearer's information state, and the speaker's assumptions about the hearer's ability and willingness to accept the speaker's packaging of information. The purpose of using a three-layer classification is to show that it is not sufficient to merely consider the speaker's assumptions about her hearer's actual information state, but that the speaker's assumptions about the hearer's ability and willingness states must be considered as well.

We demonstrate the explanatory value of our conceptual framework by resolving several issues arising from the lack of a one-to-one correspondence between the use of definite/indefinite expressions and the ternary conceptualisation of information status. Using our conceptual framework, we are able to offer a systematic account of how new information can be treated as though it is available (sometimes referred to in the literature as pragmatic boot-strapping). More interestingly, we are also able to offer an account of how activated/available information can be treated as though it is new (a phenomenon rarely discussed in the literature).

We end our discussion by showing how it may not always be helpful to take for granted that there is a "default" relation between the use of definite/indefinite expressions and activated/new information respectively.

1　Information structure and status

On an intuitive level, the packaging of information in a sentence, for example, reflects the speaker's/writer's desire to convey certain information to her intended hearer/reader as either new or given. (For the sake of brevity, we will refrain from using the term *speaker/writer* from now on. Instead we will use either *speaker* or *writer* depending on whether the examples we discuss concern written or spoken data. We will also use the pronoun *she* to refer to the generic writer, and *he* to refer to the generic reader. As in Chapter 3, we will continue to refer to the student *a* as *he* and the potential supervisor *b* as *she*.) Whether this information is solicited or not, the speaker, assuming she wishes to convey new information, would have to first consider what her intended hearer already knows or considers given. Otherwise she may run the risk of sounding excessively redundant and hence boring to her hearer. This is why Prince's remark below seems particularly helpful. According to Prince, information packaging is

> the tailoring of an utterance by a sender to meet the particular assumed
> needs of the intended receiver. That is, information packaging in
> natural language reflects the sender's hypotheses about the receiver's
> assumptions and beliefs and strategies.
>
> (Prince, 1981: 224)

The use of the expression *tailoring an utterance* suggests that the utterance made by the speaker is really a customised product of the speaker to meet specific perceived (whether real or apparent) informational needs of a specific hearer. We use

the expression *perceived informational needs* because it ties in with Prince's view that the packaging of the information is really based on the speaker's hypotheses about the hearers. In the examples to follow, we intend to expand on this observation. We will argue that this hypothesis-construction is actually based on several layers of assumptions. These assumptions involve not only the speaker's assumptions about the hearer's existing information state, but also the speaker's assumptions about the information the hearer ought to have, the speaker's assumptions about the hearer's ability to unpack the information which the speaker encodes in the utterance, and the speaker's assumptions about the hearer's willingness to co-operate with the entire enterprise. Of course the speaker may be wrong about any one or more of the above layers of assumptions, in which case the hearer will be free to accept, query or reject the way the speaker has packaged her information. This is why we think the term *hypotheses* is so apt for the tentative and speculative nature of the speaker's assumptions as reflected in the encoding process.

Lambrecht (1994: 3) makes a similar point by highlighting the fact that we are really talking about the perceived mental states of the hearer by asserting that these perceptions are in fact "hypotheses about the statuses of the mental representations of the referents of linguistic expressions in the mind of the receiver at the moment of utterance". It is important to point out from the outset that we take a similar stance that information status is a mental construct, a phenomenon located entirely in the head of the speaker.

Similarly, Chafe (1976: 27) points out that:

> The statuses to be discussed here have more to do with how the content
> is transmitted than with the content itself. Specifically, they all have to
> do with the speaker's assessment of how the addressee is able to
> process what he is saying against the background of a particular
> context. Not only do people's minds contain a large store of
> knowledge, they are also at any moment in certain temporary states

with relation to that knowledge ... Language functions effectively only

if the speaker takes account of such states in the mind of the person he

is talking to.

Notice that Chafe asserts that the hearer's mental state is a state of mind in the hearer which the speaker has to take into account. Following from what we have discussed in Chapter 1 regarding the nature of the enclosed mind of the hearer, we must then assume that the speaker's access to the hearer's mental state is by means of certain assumptions which the speaker chooses to hold in regard to the hearer. Such assumptions, as we've already pointed out, are solipsistic, often generated on-line and evaluated/calculated on a moment-by-moment basis in regard to the hearer's developing/evolving beliefs and state of mind. This concurs with Chafe's observation that the speaker assumes that the hearers' minds are *at any moment in certain temporary states* in relation to the hearer's existing store of knowledge. In other words, certain parts of the hearer's existing knowledge in long term memory can be temporarily called to mind or brought to the forefront of working memory or *activated* depending on how the speaker chooses to package her information. And it is this temporary activation of that which is in the hearer's long term memory store which is referred to when Chafe (1976: 30) writes about "what the speaker assumes he is introducing into the addressee's consciousness by what he says". And it is on this basis that Chafe claims that the notion of consciousness holds the key to the distinction between given and new information.

---

2   Defining given and new information and other key terms

In this section, we define some of the keys terms we shall use in the chapter. Our definition and discussion of given and new information is necessarily detailed because of the need to not only clear the confusion arising from the different ways scholars use the two terms, but also to justify our use of Chafe's notion of

consciousness as the key to defining given and new information. The definition of the other key terms are more straightforward.

According to Chafe (1976: 30; bold/emphasis added),

The key to this distinction [between given and new information] is the notion of **consciousness** (Chafe 1974). **Given** (or **old**) **information** is that knowledge which the speaker assumes to be in the consciousness of the addressee at the time of the utterance. So-called **new information** is what the speaker assumes he is introducing into the addressee's consciousness by what he says.

Chafe reiterates elsewhere that givenness should be restricted to that knowledge which is "in the forefront of the mind" and "spotlighted in the hearer's attention" (1970: 211). Hence in

(1)   Yesterday I saw a little girl get bitten by *a dog*.
          I tried to catch *the dog*, but *it* ran away.

<div align="right">(Chafe, 1972: 52)</div>

the first mention of the entity 'dog' in *a dog* activates the referent in the hearer's consciousness. This new referent is standardly introduced by an indefinite expression as new information. Once the referent has been activated in the hearer's consciousness it is then possible to refer to it again as a given referent. This givenness is standardly realised as a definite expression as given information.

It is generally accepted that in English there is a **"default" correlation** between the use of definite expression with given information, and the use of the indefinite expression with new information (Brown and Yule, 1983: 169). In the

above example, the given referent is realised as a full definite lexical expression *the dog* or as the attenuated pronominal (definite) form *it*.

By a **full definite lexical expression**, we mean that the referring expression used to refer to a given referent contains the same number of lexemes as the original referring expression (two lexemes, in the above example, *a dog --> the dog*). The only difference is a change of the article used from the indefinite *a* to the definite *the*. Therefore, *the dog* is a full definite lexical expression. Similarly, if the expression *the animal* had been used, we shall call it a full lexical expression as well since it contains the same number of lexemes.

If, however, we use a longer expression (as in *the horribly vicious animal*), this longer expression is called an **expanded/elaborate/extended lexical expression**. (In the discussion of our data in Section 4.2, we shall explain why an expanded lexical expression may be used.) If a shorter form is used (as in the pronominal *it*), we shall call it an **attenuated form**. Note that the attenuated form need not be a single lexeme expression. If the original referring expression had been a very elaborate lexical expression containing five lexemes (as in *a big, black, furry dog*), any subsequent mention of the dog with an expression containing four or fewer lexemes would be considered attenuated. Thus, a later mention of the referent referred to in the five-lexeme referring expression will be considered attenuated if the subsequent mention contains three lexemes, but considered highly attenuated if the subsequent mention is a single lexeme pronominal form.

In terms of prosody, the expression used to refer to a given referent is characteristically said with an attenuated phonological form (by which we mean, for example, lower pitch, weaker stress) while the expression referring to a new referent is said with intonational prominence (high pitch, strong stress) (see Chafe, 1976: 31; Brown and Yule, 1983: 189).

Brown and Yule (1983: 172-174) fine-tune the textually activated state of givenness by distinguishing between that which is currently activated and that which has been activated but is now displaced. In making this distinction, they introduce a

system of tracking mentions in conversational discourse which tags each referring expression with a numerical subscript. Consider the following example taken from the data arising from a diagram task:

(2)   draw *a line*$_1$ and above *it*$_1$ write *ON*$_2$

As the discourse proceeds, each new referent is labelled consecutively (as in *a line*$_1$, and *ON*$_2$). If the now given referent ('a line$_1$') is referred to again (as in *it$_1$*), the same numerical subscript is used. They then make a finer distinction between given information which is current and that which is displaced as the following expanded examples illustrate:

(3)   draw *a diameter*$_2$ across *it*$_1$
(4)   draw *a straight line*$_5$ across *the circle*$_1$

In (3), the textually evoked referent$_1$ (not shown in example) is still currently activated since it has just preceded the second referent 'a diameter$_2$', and is therefore referred to as *it*$_1$ during its second mention. In (4), the textually evoked referent 'the circle$_1$' was introduced previously (not shown in example) and has been displaced after the introduction of referents$_{2,3,4,5}$ (not shown in example except $_5$). Therefore when referent$_1$ is mentioned again, the full definite lexical expression *the circle*$_1$ is used in order to avoid confusion of reference with the intervening referents. They further observe that the two types of given information are not in free variation for the spoken data arising from their diagram task. They (Brown and Yule, 1983: 174) summarise their results as follows:

	Current	*Displaced*
the + property + NOUN	3	44
the + NOUN	21	56
pronoun	65	0
ellipsis	11	0
	____	____
Total	100	100

(In each case the figures represent the percentage of expressions under each head which have this particular form.)

The distribution pattern of the textually evoked referents clearly calls for a distinction between two types of givenness. In a sense then there appears to be at least two levels of consciousness: one in which a highly attenuated pronominal or zero form is sufficient for the hearer to identify the referent as currently in focus; and one in which a more expanded definite lexical expression seems to be needed to identify the referent (displaced) from the intervening referents. In both cases, the referents have already been activated in the minds of the listener.

The above should be distinguished from *recoverable* referents which have not been mentioned previously in the discourse but which the speaker assumes that the reader is able to recover from the context. For example, in

(5)   I took the bus home this evening. *The driver* was drunk.

the driver is recoverable from the referent 'bus' and its associated set. This is to be compared with (6) below

(6)   Robert went to the supermarket. *The bread* was stale.

where *the bread* would be considered as encoding recoverable information because it has been evoked via the supermarket scenario (Sanford and Garrod, 1981). One may certainly speculate, in the absence of experimental proof, that *the driver* is more

strongly associated with *the bus* and hence more easily inferred or recovered than, say, *bread* from *the supermarket*. Likewise one may also speculate on the extent to which presuppositions are recoverable from the source utterance (see example (8) below for a discussion). But the issue of whether current research in psycholinguistics/psychology supports such a continuum of recoverability is missing the point of what ordinary people do in everyday speech. Typically, when a speaker ponders on the state of the hearer's existing information state prior to making her utterance, the speaker has no access to experimental proof. She therefore has to rely on her own belief (or folk notion) of whatever may already or potentially be in the hearer's head. The speaker then packages her utterance on the basis of this folk notion. And it is this speaker's notion (rather than, say, the more objective experimental proof) which influences the packaging of the utterance. We will return to this issue in the next section when we discuss the different layers of assumptions made by the speaker regarding the hearer.

Chafe (1976: 30) also makes the distinction between *knowing* something and *being conscious* of something. In fact, Chafe has repeatedly emphasised (1974, 1976, 1987) that "the conveying of information in natural language not only involves KNOWLEDGE but also CONSCIOUSNESS". And as Lambrecht (1994: 93), a former research assistant of Chafe, rightly points out, "knowing something and thinking of something are different mental states". According to Lambrecht, the first has to do with *identifiability*, the second has to do with *activation*. Identifiability "has to do with a speaker's assessment of whether a discourse representation of a particular referent is already stored in the hearer's mind or not", while activation "has to do with the speaker's assessment of the status of the representation of an identifiable referent as already 'activated', as merely 'accessible', or as 'inactive' in the mind of the hearer at the time of the speech act" (Lambrecht, 1994: 76). It seems to us then that the former has to do with **knowledge store** while the latter has to do with **current attention**.

With this distinction in mind, Chafe examines Haviland and Clark's (1974) notion of "old information" as "what the listener is expected to know already" and

"new information" as "what the listener is not expected to know already" and is being introduced into the addressee's knowledge for the first time. Hence if a speaker says:

(7)   I saw *your father* yesterday.

Chafe would classify *your father* as new information since there is no prior mention of the hearer's father in the discourse, and that "the addressee ... [is certainly] not thinking about his father at the moment" (p. 30). But in Haviland and Clark's terminology, *your father* would have been classified as old information since the hearer will certainly have previous experience, prior to the speech event, of his own father.

(In contrast, Brown's (personal communication) current view is that *your father* refers to a referent which is made available via background knowledge that people have fathers or via some personal contacts with the addressee's father prior to the current speech event. Brown concedes that the referent referred to is certainly not activated, but she points out that it is not entirely new (or brand-new in Prince's terminology) either. In Prince's terminology, the referent referred to in *your father* is an unused new entity.)

In other words, when Chafe speaks about a referent being in the hearer's consciousness, he assumes that the hearer is already thinking about the referent at the moment of the utterance, or that the referent is "already activated" in the speaker's mind.

This view of givenness is contrasted with that of Haviland and Clark (which we have already alluded to briefly above). We will now expand on the Clarkian notion of givenness. In a subsequent paper, Clark and Haviland (1982, [1977]: 4) write:

He [the speaker] agrees to convey information he thinks the listener already knows as given information and to convey information he thinks the listener doesn't yet know as new information.

They claim that one of the possible use of the *it*-cleft construction is to convey "given" information, as the following example shows:

(8)   It was Percival who piqued the professor.

They argue that "for a speaker to utter this sentence, he must be confident that the listener already knows that someone piqued the professor" (p. 4). In philosophical terminology, they are in fact identifying the semantic presupposition as the given information or as the "antecedent" to (8). Similarly for (7), Clark and Haviland probably assume that the presupposition that the addressee has a father constitutes given information. Our observation here is that while Chafe draws on the psychological status of referents (e.g., 'father') as the basis of discussion, Clark and Haviland's example draws from propositional substance (in this instance, presupposition) as the basis of discussion. This is not to suggest that Chafe's interest in information is confined to the referent-level only; in fact, he argues that the "concept" of the verb, adjective, adverb or preposition can be "lit up" as well (see Chafe, 1976, 1987).

Coming back to our discussion of (8) above, Brown and Yule (1983: 178) express a similar sentiment when they point out that the term 'given' is "no longer being used as an analytical term to describe the status of the referents of expressions within the clause (or tone group), but is being used of the presuppositions attributed to clauses within sentences". A further complication is that the Clarkian view encompasses the notion of *shared knowledge* (by which they mean *mutual* in our terminology) as well, which opens the floodgates to problems associated with the exacting requirements of mutual knowledge discussed in Chapter 2. Finally, the

Clarkian notion of givenness is much more expansive than the restricted scope of Chafean givenness. This obviously poses difficulties in discussing the current literature on givenness because different scholars use the term to mean different things.

An even more expansive use of the term *givenness* is found in Sanford and Garrod's use of the notion of *scenario* (which has been mentioned in passing above). According to Sanford and Garrod (1981: 114), the scenario "enables referring to individuals to be made in the first instance by a definite noun-phrase, because they are already *given* in the representation". As Brown & Yule (1983: 181) rightly point out, givenness in this sense refers not only to that information which is activated in the hearer's consciousness (Chafe's notion), nor is it just that which is made/already known to the hearer (Clark's notion), but that which is evoked within the confines of the scenario. Hence in the previous example, here reproduced as (9):

(9)   Robert went to the supermarket. *The bread* was stale.

the bread would be considered as referring to a given referent because it has been evoked via the supermarket scenario.

It becomes apparent by now that what is considered "given" depends on whether we define it in terms of consciousness, shared assumptions arising from inferences, or a more expansive notion involving common and relevant background knowledge. Our view is that surely all three concerns of activation, availability and general knowledge are important to the speaker in helping her to decide on the way she should/wants to package the information. But our interest here lies in the notion of **consciousness**. We shall use the labels ***activated***, ***available*** and ***new*** to refer to the three states of hearer's consciousness as assumed by the speaker (see Section 3.1 for a discussion). As far as it is possible, we avoid the label *given*. We avoid the label *given* because it is bound to lead to a certain degree of conceptual confusion, as our discussion of the various uses of the term *given* above suggests.

We should also point out that because our interest here lies in the notion of consciousness, we will exclude discussion of **eclectic approaches** to "givenness". See, for example, Ariel's (1988, 1990, 1991) *accessibility hierarchy* and more recently, Gundel's et al (1993) *givenness hierarchy*. As Chafe (1994: 179) points out, all the above hierarchies are essentially "a conflation of activation cost, identifiability and the functioning of demonstratives", the forcing of which into a single dimension is something which "would be more profitable to keep apart".

In an early paper, Chafe (1976) warns against confusing "givenness" (i.e., in terms of consciousness/activation/attention state) with contrastiveness (p. 33) and identifiability (p. 39). And more recently, Chafe (1993: 179; cited above) points out again the problem with mixing the different concepts with givenness.

There is of course value in adopting an eclectic approach if the goal is to identify as many implicationally related cognitive statuses (six, in Gundel's et al case) as possible in order to give a "fuller" account of the various uses of referring expressions in natural language discourse. Our goal is different. Our aim is more narrow; we are only concerned with activation states (or consciousness) and the forms related to them. If we adopt Gundel's classification, we will be examining NP forms related to things other than the attention/activation state, like identifiability, familiarity and the use of demonstratives and even contrastiveness.

Gundel et al (1993: 275) identify six cognitive statuses relevant to the form of referring expressions (indicated below in { } brackets) in natural language discourse, which they place on a single hierarchical scale in which the higher statuses (to the left) will necessarily entail the lower statuses (to the right) but not vice versa (see hierarchy below). For example, if the pronominal *it* is used, this means that the cognitive status of the referent referred to is not only in focus, but also activated, familiar, uniquely identifiable and so on.

The Givenness Hierarchy

in focus		activated		familiar		uniquely		referential		type identifiable
{*it*} >		{*that*} {*this*} {*this* N} >		{*that* N} >		{*the* N} >		{indefinite *this* N} >		{*a* N}

The value of Gundel's et al hierarchy is that it encompasses the notions of activation cost, identifiability and the use of demonstratives. The drawback is that it, like Prince's (1981) taxonomy of given-new information, only takes into account the speaker's assumptions about the hearer's actual information state. It does not offer any account of the speaker's assumptions about the hearer's ability and willingness states. This is an important point because the speaker can and often does package that information she assumes to be new to her hearer as though it is "given" information, i.e., she assumes additionally that her hearer is able and willing to treat the new information as though it is already "given" information. This is exemplified in the "non-default" use (see discussion above) of the definite expression to refer to new information.

Another important account of information packaging lies in the work of Givon (1979; 1983; 1992) who offers an explanation of the range of forms used (and word ordering options) in terms of their relative degree of topicality/topic continuity. Givon (1983) sees *topic continuity* as a property of discourse referents. These referents are ranked on a scale of continuity from the most continuous (i.e., those referents mentioned most recently) to the least. The most continuous (most accessible) referents are encoded by the zero anaphora and/or unstressed pronouns, while the least continuous (least accessible) referents are encoded by indefinite NPs, as the following scale shows (Givon, 1983: 8):

Zero anaphora > unstressed pronouns > stressed pronouns > right-dislocated DEF NPs > neutral ordered DEF NPs > left-dislocated DEF NPs > Y-moved NPs (contrastive) > clefts > indefinite referential NPs

Note that the referents with intermediate statuses are encoded by the forms of the referring expression as well as by the word order options (as in the use of right-dislocation, cleft construction, etc.). Once again, the value of Givon's account, like the hierarchies postulated above, lies in its incorporation of different concerns. Givon's concerns include referential distance (by which he means recoverability/ predictability (see Givon, 1979: 60-61) as well as availability/identifiability (Givon, 1992: 12) and other considerations like emphasis and contrastiveness (as indicated by the incorporation of word order options above). Recall Chafe's warning above regarding the dangers of conceptual confusion arising from such a conflation of very different concerns. Notwithstanding Chafe's skepticism, we believe that Givon's goal is to address a larger issue. In Givon's (1979: xiv) own words, his purpose is to offer "a redefinition of syntax in terms of communicative function and discourse-pragmatics, and thus of the relation between the function of grammatical devices and their formal properties". This explains in part the broad range of concerns which Givon addresses in his notion of topic continuity. Our interest in this chapter is less expansive. We are primarily concerned with the forms of the referring expression, and not so much with word order options or other syntactic constructions. We adopt Chafe's more restrictive definition of "givenness" in terms of consciousness/attention states and extend this notion to our interest in the three layers of assumptions made by the speaker regarding her hearer's actual information state, ability and willingness states in helping her to package her referring expressions. Givon's framework, like the other frameworks mentioned above, does not take into consideration the speaker's layers of assumptions.

In Section 3 below, we offer an extended discussion of the importance of making this three-way distinction between the speaker's assumptions about her

hearer's actual information state in packaging her referring expressions and her assumptions about her hearer's ability and willingness to accept her packaging of information. We further argue that our conceptual framework (to be proposed in Section 3.3) accommodates these **three layers of assumptions** made by the speaker. We demonstrate the explanatory value of our framework by applying it to our data. We shall also demonstrate how our framework is able to handle referring expressions with **dual information status** (see Section 4.2). To the best of our knowledge, we are not aware of any other existing model/hierarchy/taxonomy which is able to account for all the above concerns regarding the speaker's layers of assumptions as well as account for expressions referring to referent units with dual information status.

We should just make one further comment before we move on to develop our conceptual framework. As our interest lies entirely in the packaging of referring expressions, we shall exclude discussion of information structure at the sentential level. According to Prince (1986; 1992), information packaging can take place at two levels: the sentential level and the noun phrase level. As Prince (1992: 399) points out, "the two levels are mutually independent, though statistical relationships may exist between them". We are aware of accounts of information packaging which relate to syntactic notions (selected references to follow) like theme-rheme (Halliday, 1967; 1985), topic-comment (Gundel, 1974; 1988), left- and right-dislocation (Ashby, 1988; Geluykens, 1987; Prince, 1984; Vallduvi, 1994), *it*-clefts (Atlas & Levinson, 1981; Ball, 1994) and others. But our current interest here is in the noun phrase level. In the next section, we explain our conceptual framework for analysing the data.

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3   The speaker's perspective of information status

We have seen so far that there is not only a terminological confusion related to the notion of *givenness*, but also a conceptual confusion of the notion at various levels. We have also explained briefly the need to take into account the three layers of assumptions made by the speaker in information packaging. In this section, we

shall take pains to explain our position in detail on the issue. It is hoped that our account will be sufficient to lay the foundation for our proposed conceptual framework.

We take as the starting point of our discussion that it is the **speaker** who determines what information is expressed as activated or new. Although various syntactic structures have been described in the literature as conveying activated/new information, we maintain that it is the speaker/writer who entertains an idea and encodes that idea in words. Often it is even possible for the writer to determine how she wants her reader to assess the information status of the encoded referents, quite independently of the default syntactic forms these referents normally take. We should qualify this by saying that there are certainly correlations between particular syntactic forms and particular information status; the correlations aren't necessarily causal nor rule-based. The correlations are at best described as "regularities", i.e., scholars have argued that definite noun phrases (NPs) are often used by the speaker to present "given" information while indefinite NPs are often used by the speaker to present new information, but not always.

Writing about oral communication, Halliday (1967: 211) states quite unequivocally that "what is new is in the last resort what the *speaker* chooses to present as new" [italics/emphasis mine]. Very similar sentiments have been expressed in Brown & Yule (1983: 189) that "information status is determined, not by the structure of discourse but by the speaker", and in Prince (1981: 224), "it is only the sender's assumptions at the time of producing the utterance that are relevant to the structure and distribution of given-new information".

A less obvious observation is that although it is true that what is activated is what the speaker chooses to present as activated, the hearer is at liberty to accept or reject the speaker's imposition on him. Therefore, of equal interest is the hearer's perception of the in-coming information: whether he perceives the information to be activated/new; the hearer's perception of how the speaker intends the information to

be received; and whether he wants to co-operate with the speaker's intention. (See Chapter 3 for a discussion of the reader's (or hearer's) perspective in interpretation.)

There is a third possible perspective on information status - that of the omniscient observer, a perspective which the discourse analyst should be careful not to assume. Technically speaking, the third perspective is possible, although it is unlikely that individuals will have direct access to such a Being during normal everyday discourse. Prince (1981) makes a similar point about the error of taking given information to mean something pertaining to "shared" knowledge (by which she means *mutual*). Such a position, she claims, is "taking the position of an omniscient observer and is not considering what ordinary, nonclairvoyant humans do when they interact verbally" (p. 233).

Coming back to the speaker's perspective, we have already suggested in Section 1 that the speaker's hypothesis-construction about the hearer's information state is based on several **layers of assumptions**. These assumptions involve:

(a)   the speaker's assumptions about the **hearer's existing information state**,

(b)   the speaker's assumptions about the **hearer's ability** to decode the information the speaker encodes in the utterance, whether this information is presented directly or indirectly,

(c)   the speaker's assumptions about the **hearer's willingness** to accept the speaker's presentation of the status of the information, whether or not this presentation concurs with the hearer's existing information state in (a)

We believe the point that there are layers of assumptions affecting information packaging has not been made sufficiently clear in the literature in analysing information structure and is probably one of the main sources of confusion remaining. The confusion over the different ways of conceptualising information status in terms of consciousness, sharedness, identifiability and predictability has received a fair amount of discussion and clarification. Prince (1981), in particular, offers a very

helpful discussion of the various ways givenness has been used in the literature in terms of the three factors of: predictability/recoverability, saliency, and shared knowledge/assumed familiarity.

But concerning the various layers of speaker's assumptions, nothing much has been discussed in the literature. To be fair though, the different layers of assumptions have been alluded to. For example, Prince (1981:224) speaks about the "sender's hypotheses about the receiver's assumptions and beliefs and strategies", and by *strategies* we assume that Prince is referring in part to the speaker's assumptions about the hearer's ability (layer (b) above) to unpack the information intended by the speaker. Similarly, Chafe (1976: 27) refers to this assumption of the hearer's ability when he writes about "the speaker's assessment of how the addressee is able to process what he is saying against the background of a particular context". In regard to the phenomenon of "delayed construal" of the expression *he* in:

(10) a Peter went to see Bill, but he was not at home.

b Peter went to see Bill, but he had to return

(Dahl, 1976; originally

attributed to Lashley, 1951)

Lambrecht (1994: 102) argues that "the hearer is able to keep the interpretation of the pronoun on hold until a referent can be assigned on the basis of the entire sentence in which it occurs". As such, he concludes that the use of the pronoun "cannot always be understood as evidence that the speaker assumes that a representation of the specific referent is already 'lit up' in the hearer's mind at the time the pronoun is uttered. Rather, the use of the pronoun indicates the speaker's assessment that the hearer is able to INFER the referent from contextual clues". Again, we see the reference to the importance of considering the notion of **hearer's ability** in information packaging. Implicit in Lambrecht's comments above is the suggestion that the speaker has to make certain assumptions about the **hearer's willingness** to

co-operate in the entire enterprise as well. The fact that the speaker assumes that the hearer is willing to keep the interpretation of *he* "on hold" is evidence of what we postulate to be the third layer of assumption which the speaker makes about her hearer's willingness (layer (c) above) to co-operate.

We need to clarify the distinction between the different layers because what might be assumed by the speaker to be new at one layer may not be so at another layer. But before we delve into an account of how a three-layer conceptualisation can help to clarify the process in which the speaker packages information, we should point out that there is a further layer of assumption which may be of interest to the speaker:

(d) the speaker's assumptions about what the hearer ought to be informed of (i.e., what the speaker wants/desires the hearer to know/believe)

The assumptions in (d) affect the speaker's choice of information to be presented, whereas the assumptions in (a) - (c) affect the packaging of such information as decided upon in (d). As our current concern here is with the *how* of information packaging, and not with the *what* of information packaging, we will only discuss issues pertaining to (a) - (c) below. (d) will only be referred to insofar as it relates directly to matters raised under (a) - (c).

3.1   The speaker's assumptions about the hearer's existing information state

First of all, regarding (a) above, what are the possible positions a speaker can take? Following Chafe (1987: 22ff), we believe the speaker may assume the following possibilities regarding the hearer's information state with respect to a referent:

(i) active

(ii)   available (semi-active/accessible)

(iii)   new (inactive)

Using the above classification, one immediate problem will be that of classifying referring expressions which refer to referent units with dual information status, as in the following example taken from Prince (1981: 237):

(11)   Susie went to visit her grandmother and *the sweet lady* was making Peking Duck.

where the referent 'grandmother', referred to in *the lady*, constitutes activated information while the attribute *sweet* constitutes new information. We could of course argue further that *the lady* may constitute new information as well since it tells the hearer something more about the speaker's perception of her grandmother as *a lady* (hence, a "lady-ish" grandmother), and not just *an ordinary woman*, whatever that means. But in Prince's classification, the NP *the sweet lady* refers to a given entity (Evoked) + attribute. (Prince's evoked entity is similar to that of Brown's textually given entity). In other words, the attribute is not analysed for its contribution to the information status of the referent referred to in the NP even though it is clearly part of the encoded information of the NP and intended by the writer. This is clearly unsatisfactory. Our solution is to assign the reference of the expression *the sweet lady* to two categories: the referent is activated, the attribute(s) new.

The conceptualisation of (ii) as involving the *availability*, rather than activation, of the referent is more difficult to grapple with. The notion of availability relies heavily on the assumptions that the intended referents are not referred to directly in the text but inferable via some form of commonsensical/general reasoning, back tracking to a not so recent previous mention, or via background/shared knowledge/belief of membership of a particular set/frame/schema/scenario. We shall

use the following terms to refer to the above types of availability: available$_{reasoning}$, available$_{displaced}$ and available$_{schema}$ respectively.

Obviously, what is available via schema depends on the extent the referent is a prototypical member of the schematic set. Similarly, what is available via reasoning depends on the number of intervening steps the speaker assumes the hearer needs to infer in order to arrive at the referent referred to; and how available a displaced referent is depends in general on its distance from its first mention.

Consider the following example (Kempson, forthcoming: 9):

(12)   John walked into the kitchen.
        The windows were filthy.

where "the marker of definiteness on *the windows* is not marking co-reference, but rather a different type of link with some preceding expression, a link we can establish via our knowledge that kitchens have windows". She makes the further observation that "unlike pronouns, definite NPs sometimes don't seem to be anaphoric at all". In other words, the expression refers to entities which are textually new (since there is no prior mention), but can be treated as available via inference from background knowledge/belief. (Brown (personal communication), however, points out that the expression *the windows* [note the plural] may be construed as being informative since the stereotypical British kitchen has a single window.)

Now consider:

(13)   Mary got some picnic supplies out of the car.
        The beer was warm.

where *the beer* has been classified by Haviland and Clark (1974: 515) as referring to "given" information on the basis that 'beer' is inferable from the semantic set and allegedly activated by the expression *picnic supplies* even though there is no explicit

mention of beer in the text. But if we use Chafe's notion of consciousness as the defining characteristic of "givenness", the use of *the beer* will presume availability on the part of the hearer rather than currency of activation. We wish to go one step further in the discussion by suggesting that there is really no hard evidence that *the beer* is any more available, psychologically speaking, from the speaker's point of view than, say,

(14)   Mary got some picnic supplies out of the car.
        The sushi was warm.

First of all, although *sushi* is not one of the prototypical foods associated with picnic supplies (at least from the point of view of a typical working class white British family), there is really no reason to suppose that the hearer will find the utterance any more difficult (discounting micro-second difference in processing time which the speaker is not conscious of anyway) to understand than the previous utterance (13). Secondly, although it can be argued, in the light of retrospective evidence from psychological experiments, that the reading times of *beer* versus *sushi* may prove to be different in relative availability, it must be remembered that the speaker at the time of the utterance has no such evidence. We suspect that the issue for the speaker in uttering the expression then is not just one of considering/assuming the availability of the referent in the hearer's mind *per se*, but also one of assuming that the hearer is *willing* to accept the information as *available* even though it is clearly textually new and probably only marginally available. Hence if I were to utter the following to a fellow citizen in your presence:

(15)   Mary got some picnic supplies out of the car.
        The beehoon was warm.

you, as an overhearer (and if you're not familiar with my cultural background), are quite likely to accept my utterance as intending you to accept the referent 'beehoon' as available. In fact, you are likely to infer that beehoon is probably a type of picnic food. [Gloss: Beehoon is the Hokkien word for rice noodles, a popular picnic food in my country.]

Lambrecht (1994: 105) expresses a similar view (but in relation to the active-inactive dichotomy):

> I believe that the main criterion in manipulating the pragmatic states of referents in a discourse is not whether some referent is "objectively" active or inactive in a hearer's mind but whether a speaker assumes that a hearer is willing and able, on the basis of grammatical forms with particular presuppositional structures, to draw certain inferences which are necessary to arrive at the correct interpretation of a referent.

Coming back to our original concern with what constitutes activation, we can safely conclude that apart from more objective evidence to be derived from psycholinguistic experiments, the speaker in reality has no access to such evidence on-line. The speaker can never really know for sure whether the referents are currently activated or merely available via inferencing.

Now consider (16) below which is an extract from a recent speech made by the current President of the United States of America, Bill Clinton, addressed to the American Congress (cited in Chipere, 1996b; see also 1996a for a discussion). The President's address was televised live nation-wide (USA). Prior to this extract, Clinton spoke on the evils of environmental pollution and why 'big polluters' ought to pay to clean up the environment. The speech is punctuated by applause on many occasions.

(16)   *My fellow Americans*, *we* have work to do. Let *us* seize those days and
         the century. Thank *you*, and God bless *you* and God bless *America*.
         (Applause.)

<div align="right">(Clinton, 1997)</div>

In (16), the definite expressions refer to various groups of referents: *My fellow Americans* (refers to Congress); *we*, *us* (Congress + Clinton); *you*, *you* (Congress); and *America* (Congress + Clinton + general public, including presumably the big polluters). The first use of the definite lexical expression *My fellow Americans* is for the purpose of referring to the intended audience which in this case is a situationally evoked entity (borrowing Prince's (1981) terminology). In Clarkian terminology (Clark et al, 1981), the use of the above expression involves the notion of physical co-presence.

What is interesting is the way Clinton exploits the antecedent in its various pronominal "anaphoric" realisations (all of which are definite and presumably activated). Chipere (1996b: 5) correctly observes that the "referring expressions create patterns of exclusion and inclusion" and that "the referent at any one time is whatever is included". He adds further that referring "does not simply involve connecting a referring expression with a pre-existing object" but that it is also "an act of attention which creates objects for particular purposes" (cf. discussion of (22) below).

From an information status point of view, each time the speaker (Clinton) partitions the referential scope of his pronouns, he expects his hearers to be able to work out his intended treatment of the information on-line, and that he expects his hearers to co-operate in this enterprise. While we agree entirely with Chipere's analysis of how Clinton partitions the referential scope of his pronouns, we would not go as far as to say that this process of partitioning actually "creates objects" for reference. It seems to us that the choice of either *us* or *you* depends on what the speaker picks out to be situationally salient at the time of speaking, rather than as

instances of creating/establishing new objects (see, however, the *Little Mermaid* example of (17) discussed below).

The next question is how Clinton's intended audience may be supposed to be able to partition the changing and supposedly "activated" referents of his definite expressions. We believe the answer lies in part in the fact that the speaker assumes (and often rightly so) that the hearer is able to infer the intended referent based on his existing background knowledge. This background knowledge is not simply a list of "shared" information but **structured** in the sense that the information is organised systematically. Hence, in Kempson's example (12) mentioned above, *the windows* is retrievable from the hearer's background knowledge that kitchens have windows, sinks, cookers, etc., but not sofas, beds, etc., because the hearer knows that only certain entities are functionally and systematically associated with kitchens. Greene et al (1994) (cited in Cornish, 1996: 26) make a similar point regarding the use of unheralded pronouns (i.e., pronouns without textual antecedents):

> The process by which unheralded pronouns pick out their referents cannot be mediated by textual antecedents in the immediate discourse; rather, these pronouns can only be comprehended if, in the course of constructing and understanding a discourse, speakers and addressees make knowledge that they hold in common relatively more accessible than other knowledge.

Regarding this common knowledge, Lambrecht (1994: 90) proposes the "existence of a cognitive SCHEMA" which he argues is similar to Chafe's (1987: 29) notion of "interrelated expectations" associated with a schema, and which is also similar to Fillmore's (1976, 1982 and 1985) notion of the frame (cf. Schank's (1973) script; Sanford and Garrod's (1981) scenario, schemata; Johnson-Laird's (1981) mental models):

By the term "frame" I have in mind any system of concepts related in such a way that to understand any of them you have to understand the whole structure in which it fits; when one of the things in such a structure is introduced into a text, or a conversation, all of the others are automatically made available.

(Fillmore, 1982: 111)

But regarding this frame, Lambrecht rightly observes:

The frame within which a referent becomes identifiable can be so broad as to coincide with the speaker/hearer's natural or social universe .... It can be narrower.... Or it can be the physical environment in which a speech act takes place.... the text-internal discourse world itself can be such a cognitive frame.

The issue of how context is constrained in the process of finding antecedents for anaphors is made more confounding if we want to get at the on-line level of figuring out exactly what is activated and what is merely available at the moment of hearing a particular referring expression.

Fortunately for the speaker, the need to determine with experimental objectivity the *actual* information state of the hearer is not at issue in information packaging. The speaker, obviously, has no access nor needs any direct access to such information. Indeed if such information were available to the speaker, she would have discovered that the hearer's actual state of consciousness would have been a *continuum* of various levels of alertness [gloss: I use the theory-neutral term *alertness* to include the various states of activation, availability and newness]. What is in fact at issue in information packaging is the *speaker's assumptions* about the hearer's state of consciousness. And evidence (from linguistic analysis) so far regarding the speaker's treatment of the hearer's information state suggests a *ternary* division. Since our

current concern is with the speaker's assumptions about the hearer's state of consciousness of, say, referents, and not with the hearer's actual state of consciousness, we shall employ a ternary division of information status.

The second issue is perhaps more important for our purpose here, and it concerns not so much the objective classification but the ***subjectivity*** with which the speaker makes her decisions about the hearer's state of consciousness. The point made earlier that the speaker has no direct access to the mind of the hearer is worth repeating, because it is the very substance (or lack of it) of the speaker's decision/hypothesis testing. Sometimes the speaker may have little idea about the status of certain background knowledge which the hearer may or may not share. Sometimes, we suspect the speaker may not worry too much about the hearer's state of consciousness regarding a particular referent; the speaker may simply present the information as available (or as if available) and expect the hearer to accept the information as it is. As has been pointed out elsewhere (see, for example, Hawkins, 1978, and Lyons, 1980), the hearer can choose to accept the definite reference as **establishing** the required knowledge. Lyons (1980: 86-87) cites a few examples of how the definite article *the* is used in instances where new information is involved. In one example, Lyons argues that *the Little Mermaid* in

(17)   I'm coming to Copenhagen tomorrow; I suggest we meet at *the Little Mermaid* at six o'clock.

may still be a successful instance of referring even if the hearer hasn't heard of it before, provided he is prepared to co-operate and assume that it refers to a famous landmark which most people on the street will be able to direct him to. Rather than appeal to some notion of inferable information, *the Little Mermaid* may well be used by the speaker to *inform* the hearer of the existence of the referent. As such, Lyons concludes that "the success of the definite reference ... depends on the hearer's

willingness and **ability** to co-operate in the conversation by using his imagination or powers of reasoning" (bold/emphasis added).

This is an important point because it is often assumed in the literature that the speaker *must* take into account the hearer's state of mind each time she produces a definite/indefinite expression. The speaker may choose not to do so at times. There are obviously situations where the speaker can resort to this practice (as in (17) above) without appearing incoherent and uncooperative to the hearer. The crucial point is how the speaker is able to decide when it is appropriate/possible to present new information as if it is available (or to present available information as if it is new) without appearing presumptuous or incoherent to the hearer, and when it would be considered inappropriate. We believe the answer to this question of appropriateness is very complex, but our data suggest that the answer does lie in part in the various notions of specificity (see discussion of (35)), generics (see (32)), and certain pragmatic principles pertaining to clarity (see (18)), economy (see (18)), expedience (see (31)), politeness (see (40)) and prudence (see (35) & (36)) (we shall return to these notions later in our discussion of the examples listed above).

If we consider the observation that:

(i)   there is a continuum of actual information states of referents which the hearer may hold,

(ii)   the speaker's assumptions of the hearer's information state are ternary, but

(iii)   there is a two-way distinction of definite and indefinite expressions,

then it is not entirely unexpected that we find so many exceptions to the "default" one-to-one correlation between the definite/indefinite expressions (or prosody features like low/high pitch) and activated/new information status respectively. We are understandably confronted with many instances of the "non-default" use of definite expressions to refer to referents which are new but treated as though they are available

(e.g., the case of pragmatic boot-strapping where a complex definite NP is used to refer to an unidentifiable referent (Lambrecht, 1994: 91-92)). Similarly, it may not be entirely out of order to find instances of the "non-default" use of indefinite expressions to refer to activated/available information but treated as though the referents are new. And this is precisely the same point made by Lambrecht (1994: 84) in the following:

> While the definite/indefinite contrast is in principle a matter of yes or no, identifiability is in principle a matter of degree. ..... Even though grammatical markers of definiteness are normally indicators of two-way distinctions and cannot mark degrees, there are interesting formal hedges between definiteness and indefiniteness marking, which seem to stem from a psychological need for the grammatical expression of intermediate degrees of identifiability.

While Lambrecht may be referring to identifiability in the above extract, we believe his observation is applicable to the notion of consciousness (or activation, in his terminology) as well. We depart from Lambrecht's stand that the psychological need is to express intermediate *degrees* of identifiability; we believe that the need is confined to expressing only a *ternary* distinction of identifiability (in our case, consciousness).

3.2 The speaker's assumptions about the hearer's ability to unpack the information

In discussing the psychological status of available and inferable information, we have inadvertently broached the issue of the nature of the speaker's assumptions about the hearer's ability to unpack the information the speaker packs into her utterance, whether this information is presented directly or indirectly. This is

unavoidable considering the fact that it is quite impossible, from the speaker's point of view, to tease apart the three layers of assumptions: i.e., the assumptions the speaker makes regarding the hearer's state of consciousness are inextricably bound to her assumptions about the hearer's ability and willingness to make sense of the utterances. Regarding the hearer's ability, the speaker may therefore assume that the hearer is:

(i)   able to receive the information as activated

(ii)   able to receive the information as available
        via displacement/schema/general reasoning

(iii)   able to receive the information as new

3.3   The speaker's assumptions about the hearer's willingness to accept the speaker's presentation of the status of the information

Regarding the above, the speaker may assume that the hearer is:

(i)   willing to accept the information as activated

(ii)   willing to accept the information as available

(iii) willing to accept the information as new

In addition, the speaker may simply *want* the hearer to treat the information as though it is available even though the information is clearly new. In this situation, the speaker assumes that the hearer will be *willing* to co-operate in this endeavour. And as we will see later in our analysis, there is a final possibility that the speaker may

want the hearer to treat the information as though it is new even though it is clearly available/activated. We therefore add the following to the list:

(iv) willing to accept the information as though it is available

(v) willing to accept the information as though it is new

If we accept the observation that there are (at least) three layers of assumptions, then we might intuitively assume that there are three layers of information structure as well, each layer of information structure with its own distribution of information types.

To recapitulate, we summarise our **conceptual framework** in the following table. For ease of presentation, the first layer of assumptions is shown in column (a), the second layer in column (b), and the third layer in column (c).

Table 4.1: Layers of information structure (a - b - c), and types of information status (activated, available, new)

The speaker assumes that :		
(a) the hearer's state of consciousness regarding a referent unit is:	(b) the hearer is able to unpack the referent unit as referring to _____ info	(c) the hearer is willing to treat the referent unit as referring to _____ info
Activated	Activated	Activated, or as though New
Available	Available	Available, or as though New
New (not available at all)	New	New, or as though Available

Note: We use the term *referent unit* to include both the referent and its attribute(s).

In addition, we shall employ the following breakdown of subtypes of information status in our labelling:

1.   Activated   i   Immediate/last preceding mention

ii   Situation salience

iii   Topical salience

2.   Available   i   Displaced

ii   Schema

iii   Reasoning

3.   New   (no distinction is made between brand new and unused)

You will notice later that in our analysis, the "default" pairing of activated/new information with definite/indefinite expressions respectively results from the writer's consistency of assumptions about her reader across the three layers. In other words, the **"default" use of a definite expression** to refer to an activated referent is the result of a **consistent set of across-layer assumption**s of the following combination:

Activated   -   Activated   -   Activated

where that which is assumed by the writer about the reader's information state (the first layer) is the same as her assumptions about the reader's ability and willingness states (the other two layers).   Similarly, the **"default" use of an indefinite expression** to refer to a new referent is the result of a consistent set of across-layer assumptions of the following combination:

New   -   New   -   New

On the other hand, where a "non-default" pairing is made, it is often the result of a lack of consistency of across-layer assumptions. Hence, the **"non-default" use of the definite expression** to refer to a new referent is often the result of an **inconsistent set of across-layer assumptions** of the following combination:

New   -   New   -   as though Available

where although the writer may assume that the referent referred to is newly introduced into the consciousness of the reader and that the reader is only able to accept the new referent as it stands, she assumes nevertheless that the reader is willing to accept the referent as though it is already available. As we have discussed earlier, this practice of pragmatic boot-strapping is not an uncommon practice in narratives where new information is often introduced to the reader as though it is already known or available to him. Similarly, the **"non-default" use of the indefinite expression** to refer to an activated/available referent is likewise the result of an inconsistent set of across-layer assumptions of the following combinations:

Activated   -   Activated   -   as though New   or
Available   -   Available   -   as though New

In the above, by using an indefinite expression to refer to an activated/available referent, the writer is signalling to the reader that he should treat the referent as though it is new. This "unlikely" pairing of the indefinite expression with activated/available information does occur in our data for several reasons to be discussed below. This observation may be of particular interest since it highlights a type of "non-default" pairing hardly discussed in the literature on information structure.

In the next section, we shall demonstrate the explanatory value of the three-layer classification system in accounting for the "default" pattern as well as the "non-default" pattern.

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4   Written correspondence and information structure

4.1   Clarification of terminology

We have thus far used the terms *referring expression*, *referent* and *entity* without explaining them. Let us clarify our position on the use of these and other related terms before we delve into the data. Following Brown (1995, Chapter 3; and personal communication), we distinguish between *entities* and *referents* (and later, *denotata*, below). **Entities** are "things" which exist in the world, while **referents** are discourse constructs. Therefore it is the referent (which exists in the user's head) which has information status within the discourse representation and not the entity (which exists in the world).

We also make the following distinction between reference and denotation, following Lyons (1977). According to Lyons, **reference** has to do with "the relationship which holds between an expression and what that expression stands for on particular occasions of its utterance" (p.174). The choice of the words 'expression' and 'utterance' is deliberate because as Lyons points later, "reference ... is an utterance-dependent notion ... it is not generally applicable to single word-forms ... and it is never applicable to lexemes" (p.176).

In contrast, **denotation** has to do with the relation "between lexemes and the whole class of individuals named by these lexemes" (p.176). This definition of denotation becomes clearer if we examine Mill's (1843; cited in Lyons, 1977: 175) distinction between denotation and connotation. According to Mill, "the word 'white' denotes all white things, as snow, paper, the foam of the sea, and so forth, and implies, or, as it was termed by the schoolmen, connotes the attribute whiteness".

And as Lyons rightly observes, this distinction between denotation and connotation is very closely connected to the distinction made between the extension (the set of all white things) and intension (the "whiteness" of white) of a term respectively (p.176).

If we adopt the above distinction, we are then well placed, following Lyons again, to assert that only expressions used by the writer when she has a specific identifiable entity in the world have reference. On the other hand, expressions used by the writer when she does not have a specific identifiable entity in the world don't have reference. The same can therefore be said for generic expressions since they are not "referring" to any particular individual or group of such individuals but denoting the class of such individuals. This three-way distinction between the **singular referring expression**, the **general referring expression** and the **generic non-referring** (or **denoting**) **expression** is exemplified in the following examples (a) - (c) respectively:

(a)   *My cat* is chasing after the rat.

(b)   *Those cats* are for adoption.

          [while looking at a group of cats in the RSPCA]

(c)   *Cats* make wonderful pets.

In (a) the referent of the expression *My cat* is the writer's cat and the expression refers to a specific and singular entity in the world. In (b), the expression *Those cats* refers to a specific group (hence, general) of entities in the world. In (c), the expression *Cats* denotes a generic class of feline mammals (the denotatum). (We use the word 'expression' loosely here. We are of course aware that denotation, in Lyons' use, has to do with relation between lexemes (and not expressions) and the denotata.)

But note that the above terminology may not work well in all circumstances. Consider the following invented example [C: Career Counsellor, S: Student].

(d)   C: What kind of work would you like to do when you leave school?

        S: I would like to be a doctor.

        C: If you do well in *your exams* next year, I'm sure you'll be able to get

            into a good medical college.

How are we to label the expression *your exams*? It is certainly not a referring expression in the above sense as used by Brown which requires a specific entity in the world, and not just a hypothetically existing entity of the future. The expression is neither a "denoting expression" (in Lyons' terminology) since the "expression" does not denote that which is included in the extension of the lexemes 'your' and 'exams'.

We are then forced to postulate another type of "referring" expression - one in which it is possible to speak in terms of an expression as referring hypothetically to an "entity" which exists in the discourse-world as determined by the user. We shall call such an entity the **hypothetical referent**.

One final caveat regarding our use of terms is in order. We should bear in mind that although we speak loosely about expressions referring to entities in the world, it is really the **speaker** who refers, and not the expressions *per se*. Lyons (1977: 177) rightly points out that:

> it is the speaker who refers (by using some appropriate expression); he invests the expression with reference by the act of referring. It is terminologically convenient, however, to be able to say that an expression refers to its referent (when the expression is used on some particular occasion and satisfies the relevant conditions).

Having clarified our terminology, we are ready to examine the data. In the next sub-section, we will analyse the way the two writers, *a* and *b*, package their noun phrases (whether in fact they are referring expressions or "denoting" expressions, etc.) in order to convey activated, available and new information. For ease of reading, we

shall use the terms *refer* and *referent* instead of the expressions *denote/refer* and *denotatum/referent* respectively unless we intend a deliberate distinction between them when discussing specific examples arising from our data.

We shall use the three-layer classification of information structure, combining the triple concerns of the speaker regarding her assumptions about the hearer's information state, and the hearer's ability and willingness to accept the speaker's packaging of information. We demonstrate the explanatory value of our conceptual framework by resolving several issues arising from the lack of a one-to-one correspondence between the two-way distinction of definite/indefinite expressions and the ternary conceptualisation of information status. The three-layer framework is also able to accommodate other factors (like specificity, generics, and some neo-Gricean pragmatic principles of language use) into an integrated account of the use of definite/indefinite expressions in referring. The final advantage of the conceptual framework presented here is its ability to handle nominal expressions referring to referent units with dual information status.

4.2   Referring expressions and information status

1.   Activated referents

Under this heading, there are three sub-types of activated referents. (i) A referent which is activated by virtue of immediate/last preceding mention refers to one whose currency of activation has not been displaced by an (or more) intervening referents(s). (ii) An activated referent which is situationally salient refers to one whose currency of activation persists because the entity is visibly present and salient in the speech event or because the entity is one of the interactants involved in the discourse (physical co-presence, in Clarkian terminology). Hence the pronominal forms are often used to refer to situationally salient referents. (iii) A topically salient activated referent is one which is still the current topic of discussion at the time of its

mention in the discourse. Although it may be difficult at times for the writer to determine with objectivity whether a topic is currently in focus in the reader's mind, we should remember that what counts ultimately is what the writer *chooses* to package as topically salient, and not that the writer actually *knows* that the topic is currently in focus in the reader's head. There are many examples of the three sub-types found in the data. We shall discuss some of them below.

The following are some examples of definite expressions referring to referents which are currently activated by virtue of immediate/last preceding mention. In A1, *a* writes:

(18)   To extend my knowledge on this field, I applied through the German National Scholarship Foundation scheme to take the M.A. in Linguistics in the academic year 1993/94. Within *this one-year course* I would like to follow my interest in sociolinguistics, especially in critical linguistics.

where the definite lexical expression *this one-year course* is used to refer to the last mentioned referent 'M.A. in Linguistics' in the academic year of 1993/94. (For ease of discussion, we shall treat this expression as referring to a referent unit with single information status first. See (38) below for a discussion of its dual information status.) This seems to contradict the popular view that a highly attenuated form is preferred in referring to currently activated referents in spontaneous spoken discourse. This view is of course based on the assumption that economy of expression is preferred in cases where the referent is activated. This view is also consistent with Geluyken's Principle of Economy of expression (henceforth **E-principle**) in referring to activated referents. Drawing from Grice's conversational maxims, Leech's (1983), Horn's (1985) and Levinson's (1987, 1988) principles, Geluykens (1994: 15-17) also postulates an opposite Principle of Clarity (henceforth C-principle) which is in tension with the first principle. The **C-principle** dictates that a full lexical expression is

preferred in referring when clarity of reference is needed (for example, in cases where they are intervening referents which may make the use of an attenuated form ambiguous), hence over-riding the E-principle. But in (18) above, it seems to us that the use of the full lexical expression has little to do with the drive for clarity since the highly attenuated form could have well been used without resulting in ambiguity of reference. (Note that the full definite lexical expression *this one-year course* used here does not contain the same lexemes as in *the M.A. in Linguistics*, but they have the same number of words, not considering the hyphen.)

What motivates the writer *a* to package the expression as *this one-year course* instead of the simpler and sufficiently clear *this course*? Obviously, the writer *a* must have been influenced by considerations other that those subsumed under the two principles postulated by Geluykens.

One possible explanation for the use of the full lexical expression is that the writer *a* is trying to show his familiarity with the details of the M.A. programme, perhaps as an indication to *b* that he takes the matter very seriously and has obviously put a lot of thought into it.

Another possibility has to do with appropriateness of style of writing. Perhaps in *a's* mind, he may have thought that in the genre of official written correspondence, greater formality may be more appropriate. This need for greater formality is often realised by the use of more elaborate nominal expressions. In technical writing (e.g., scientific papers), it is generally held that because information is dense and complex and that there are often several competing potential referents for a referring expression, the full lexical expression is preferred in order to avoid confusion. But in official correspondence (at least for our data here), the choice of the full lexical expression for a currently activated referent seems to be less motivated by the concern with confusion of reference, than by the desire to adopt an appropriate level of formality (see Chapter 2, Section 5 and Chapter 5, Section 1 for related discussions on formality of style).

A third possibility is that *a* may feel that the overspecified form may be a safer option, given the grave consequences which may arise in the event of an unexpected failure to refer. For the time being, we shall refer to the above considerations of appropriateness which seem to be in operation here as the **A-principle**. We therefore depart from Geluykens' stance that there are only two competing principles at work in the choice of definite/indefinite expressions. There is at least one other crucial principle at work here. (See also Chapter 5 for a detailed discussion of the correlation between the degree of attenuation of the expression and the information status of the referent referred to.)

However in (also written by *a* in A1):

(19)   Accordingly, I will submit a title on critical language study in educational contexts for the thesis. *This educational aspect* is rooted in my interest in foreign language teaching and in my desire to enter the teaching profession.

the less elaborate lexical expression *This educational aspect* is used to refer in part to the last mentioned referent referred to in the earlier and more elaborate lexical expression *a title on critical language study in educational contexts for the thesis*, showing a certain degree of attenuation (i.e., shortening of the lexical expression).

Similarly, in the following example in letter B1, a highly attenuated form *which* has been used to refer to a similarly currently activated referent 'your letter':

(20)   Thank you for your letter of 17 November 1992, in *which* you ask me to be your supervisor in 1993/4.

Note that the attenuated expression *which* is actually a relative pronoun (cf. discussion of the use of the dummy *it* in (26)).

The attenuated form can also be used to refer to a currently activated referent which happens to be a proposition rather than an entity. In the following example (21), the expression *it* has been used to refer to the proposition that *b* be *a's* supervisor.

(21)   I really hope that you can be my supervisor, if *it* is at all possible.

The second sub-type of activated referents are those which are situationally salient. These would include most instances of the use of proper names, the pronominals *you*, *I* and *me*. In B1, however, the writer *b* switches from *I* to *we* as in (22):

(22)   Of course that doesn't mean that *I* would not be happy to talk to you from time to time, ... Or, do you mean that you have applied to take the M.A. in Applied Linguistics here in the Applied Linguistics Department? If so, *we* have not received your application yet. However, if such an application were successful (and competition for places is severe), then *I* see no reason why *I* shouldn't supervise you, provided that our interests continue to coincide.

The switch from *I* to *we* and then back to *I* seems to signal a change in perspective from *b*, in her personal capacity as a potential supervisor, to *b*, the co-ordinator of the M.A. in Applied Linguistics programme and spokesperson for the Applied Linguistics Department (hence the use of *we*), and then a switch back to *b* as the potential supervisor again. This switch in the pronominal form used is interesting because it illustrates very well how the writer *b* partitions the referential scope of the expressions by determining what she wishes to treat as situationally salient at various points. Both pronominal forms refer to the same referent *b*, but the pronominal form *I* refers to *b* in her role as potential supervisor, while the pronominal form *we* refers to *b* in her role

as spokesperson for the department. In this sense then, the referent is "partitioned" into two parts, each part referred to with a different pronominal form (see discussion of (16) for additional comments on the partitioning of referential scope).

The third type of activated referents are those which are topically salient. In the opening two lines of B1, *b* writes,

(23)   Thank you for *your letter of 17 November 1992*, in which you ask me to be your supervisor in 1993/4. I cannot quite work out from *your letter* exactly what you are going to be doing here during 1993/4 ....

Given the time lag between letters A1 and B1, with the use of the expression *your letter of 17 November 1992*, the writer *b* probably assumes that the displaced referent 'letter A1' is available in the reader *a's* mind. In the second utterance, the use of the expression *your letter* refers to an activated referent, given that the referent is now topically salient. The overspecified expression *your letter* could well have been substituted with the pronominal expression *it* without loss of clarity. Like the previous writer *a*, *b* probably feels that the elaborate nominal expression may be more in keeping with the formality required of official correspondence (cf. (18)).

In all the examples above, you would have noticed that what the writer assumes to be activated in the reader's consciousness is the same as that which she assumes the reader is able and willing to accept as activated, hence the following combination of layers:

Activated   -   Activated   -   Activated

There is no discrepancy between the writer's assumptions about the reader's current information state and that which she thinks he is able and willing to receive as activated. This consistency of assumptions across the layers is to be expected, given

that the use of the definite expressions in the above examples conform to the "default" expectation that activated referents are referred to with definite expressions.

2. Available referents

Available referents may be of one of three sub-types: (i) those which have been activated in the discourse by previous mention but have since been displaced by intervening referents; (ii) those which have been made available via some schema previously activated in the discourse; and (iii) those which are made available via some form of general reasoning or inferencing mechanism.

Two examples of displaced entities from our data can be found in the following extract from the opening paragraph of *a's* first letter A1.

(24) For two years I studied English, French, American Studies, Education and Foreign Language Teaching at Y University (Germany) and at this moment I am doing the 'licence' in French and German Studies at Z University (France). During *this time* I have taken part in twelve courses of linguistics and *my studies of Foreign Language Teaching* cover applied linguistics to a great extent.

In the above extract, the expression *my studies of Foreign Language Teaching* clearly refers to a displaced referent previously mentioned in the first sentence. The next expression *this time* also refers to an available referent mentioned in the first sentence. To be precise, the expression *this time* seems to refer to two different referents: referent previously referred to in *two years* as well as the referent referred to in *this moment*.

In the next letter B1, the writer *b* demonstrates an equal ease with referring to displaced referents with full definite lexical expressions as in:

(25)   I cannot quite work out from your letter exactly what you are going to be doing here during *1993/4*; you say you have applied to take *the M.A. in Linguistics*, and I presume that that means what it says, i.e., that you will be a student of the Linguistics Department.

where the expressions *1993/4* and *M.A. in Linguistics* refer to referents previously mentioned by *a* in A1. The important difference is that now, the same referents are appropriated by another party *b* who now echoes two relevant bits of *a's* original expression in A1 *I applied through ... to take the M.A. in Linguistics in the academic year 1993/94* in order to refer to the original referents. Given the density of intervening referents which have been referred to since *a* wrote the last utterance, and that given the time lag of eight days which has lapsed between the two letters, it is not entirely surprising to find that *b* in her reply has chosen to use full definite lexical expressions to refer to the same referents.

Therefore it seems astonishing that we should be able to find an instance of the use of an attenuated pronominal expression to refer to a displaced referent as well. In the next sentence following (25) of the same letter B1, *b* writes

(26)   If that is the case, I am afraid that *it* would not really be the done thing for me to supervise you, since the Applied Linguistics Department is a separate department in a different faculty (Education).

The use of *it* above is of considerable interest because it exemplifies the use of a dummy *it* to refer both cataphorically and anaphorically to the same propositional content that *b* supervises *a*. It refers cataphorically to the referent of the expression *for me to supervise you* (which occurs later but within the same sentence) and anaphorically to *a's* request that *b* supervises him previously mentioned in *a's* first letter A1 (hence displaced). If the dummy *it* has been used to refer cataphorically only, the assignment of reference would have been delayed until the predicate has

been made known. In this sense, the dummy *it* might have been used to refer to new information, but whose referent will be assigned almost immediately. Because the dummy *it* here has been used anaphorically as well, the implication is that the reader will be forced to search in both directions for its antecedent. This imposition of a dual-directional search for an antecedent may be due to the writer's concern for a more coherent text. The text is more coherent because the pronominal *it* draws the reader's attention to what has been written previously and to what the writer is about to repeat. For this reason then, we are forced to rethink our assumption that the highly attenuated form can only be used to refer to activated information in accordance with the E-principle (see (20)). In the above example, the highly attenuated form may have less to do with currency of activation than with coherence of expression/propositional content.

The second sub-type of available referents are those which are made available via related schema information. Once again, we draw as our examples *a's* utterances from A1.

(27)   To extend my knowledge on this field, I applied through the German National Scholarship Foundation scheme to take the M.A. in Linguistics in the academic year 1993/94 .... Accordingly, I will submit a title on critical language study in educational contexts for *the thesis*.

In the above text, *a* uses the expression *the thesis* to refer hypothetically to a referent which he assumes has been made available via schematic information associated with the M.A. in Linguistics programme which includes information regarding the need to submit a thesis in partial fulfilment of the programme's requirements. In referring hypothetically to the thesis with a definite expression, *a* therefore assumes that the information is already available in the reader *b's* head.

In the next example, *b* writes in B1,

(28)   Of course that doesn't mean that I would not be happy to talk to you from time to time, and you might also be able to follow some courses here, provided *your Linguistics timetable* allowed it.

using the definite expression *your Linguistics timetable* to refer hypothetically to a referent which is presumably made available via schematic information associated with the M.A. in Linguistics programme. The writer of course has no direct access to the reader's mind and therefore cannot tell with certainty whether the referent is indeed available in the reader's head. What she does here is assume it is available nevertheless and that the reader is able and willing to accept her assumptions about him. In our framework of analysis, such a situation is exemplified by the following combination of layers of assumptions:

Available   -   Available   -   Available

Finally, the third sub-type of available entities are those made available via general inferencing or reasoning, as the next example taken from A1 shows.

(29)   During this time I have taken part in twelve courses of linguistics and my studies of Foreign Language Teaching cover applied linguistics to a great extent. ... To extend my knowledge on this field, I applied ... to take the M.A. in Linguistics .... Accordingly, I will submit a title on critical language study in educational contexts for the thesis. This educational aspect is rooted in my interest in foreign language teaching and in *my desire to enter the teaching profession*. Besides, I have a two-month teaching experience in English at a German Waldorf school.

In the above extract, when *a* uses the definite expression *my desire to enter the teaching profession*, he probably assumes that the referent it refers to is available via some form of reasoning which may go something like this: since *a* has all the above educational background in linguistics, applied linguistics and language teaching, he is very likely to be interested in entering the teaching profession as well. *a* is likely to assume that this is available information to *b* because he has gone to great lengths to elaborate on his educational background in foreign language teaching, which is suggestive of *a's* likely interest in the teaching profession. *a* also probably assumes that *b* may adopt this line of reasoning because of *b's* own interest in selecting candidates with teaching experience for her own M.A. in Applied Linguistics programme.

3. New referents

The next type of referent is considered new in the sense that it is introduced into the discourse for the first time and is not available via associated schema or general reasoning. If the writer chooses to use an indefinite expression, she probably wants the reader to treat the new referent as new information, hence the following combination:

New - New - New

(But if the definite expression is used, the writer probably wants the reader to treat the new information as though it is already available. This will be discussed in 4 below.)

In the following example, taken from *a's* opening utterance in A1,

(30) For *two years* I studied English, French, American Studies, Education and Foreign Language Teaching at Y University (Germany) ....

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a uses the expression *two years* to refer to a new referent. The referent is new because it is introduced into the hearer's attention for the first time and that it is not available via associated schema or general reasoning. The fact that *a* chooses to package the information as an indefinite expression further suggests that not only does he assume that the referent is new to his reader but that he also intends his reader to treat the referent as new too, hence the consistency of assumptions across the layers as in 'New-New-New'.

4.   New referents but treated as though available

As we have mentioned briefly above, new referents which the writer intends the reader to treat as available are often packaged as definite expressions ("non-default" use). The crucial aspect here has to do with the third layer of assumptions as in the following combination

New   -   New   -   as though Available

where the writer assumes that the reader is willing to accept the new information as though it is already available to the reader.

There are numerous examples of such new referents which the writer intends the reader to treat as though they are available, particularly in letter A1. It is in this opening letter that *a* introduces many new referents into the discourse, most of which are introduced for the first time with the use of definite expressions For example, in the opening line of *a's* first letter alone, *a* writes and introduces eight new referents/denotata (italicised expressions) which he wants the reader to treat as though they are already available. Note that we analyse the expressions *English*, *French*, *American Studies*, *Education* and *Foreign Language Teaching* as definite expressions since they are proper nouns and capitalised. If however the writer has chosen not to

capitalise the expressions, we assume that the writer intends the reader to treat them as common nouns and hence indefinite.

(31) For two years I studied *English*, *French*, *American Studies*, *Education* and *Foreign Language Teaching* at *Y University (Germany)* and at this moment I am doing *the 'licence' in French and German Studies* at *Z University (France)*.

This "non-default" practice allows the writer to introduce new information rapidly into the discourse. In using the definite expressions, the very act of referring/denoting establishes the referent/denotatum (see Hawkins (1978) and Lyons (1980), as discussed in the previous section). The reason for this use of definite expressions to refer to or denote new information is because of the writer's desire for expedience of reference/denoting and his desire to establish new information quickly.

5. Available referents but treated as though new

A less discussed combination type of information status of referents are those which are available but treated as though they are new. This status has the following combination of layers:

Available   -   Available   -   as though New

Referents/denotata with this information status are referred to with or denoted by indefinite expressions. For example in letter B1, *b* writes:

(32) ... you say you have applied to take the M.A. in Linguistics, and I presume that that means what it says, i.e., that you will be *a student of the Linguistics Department*.

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It is interesting to note that the indefinite expression *a student of the Linguistics Department* has been used to attribute an obviously available piece of information to the referent *a*. The information is available via reasoning in that if *a* has applied for the M.A. in Linguistics programme, he will become a student of the Linguistics Department, as opposed to the Applied Linguistics Department, if successful. Following Lyons (1977: 176) (see discussion in Section 4.1), we conclude that the **attributive use** of the expression is not meant to "refer" to an entity in the world, but to characterise in part what *a's* application to the M.A. programme may entail. We should be careful here to point out that whereas what is attributed of the reader *a* is the possibility of he being a student of the Linguistics Department, the expression *a student of the Linguistics Department* itself denotes something **generic**. Similarly, Hawkins (1978) observes that the construction 'a MEMBER of a SET' is often used not to pick out a particular member, but "any member of the total class" and that this fact "is responsible for the class idea inherent in singular indefinite generics" (p.215).

A final observation is that the utterance in (32), here reproduced as (33),

(33)   ... you say <u>you have applied to take the M.A. in Linguistics</u>, and I presume that <u>that</u> means <u>what</u> <u>it</u> <u>says</u>, i.e., that <u>you will be *a student of the Linguistics Department*</u>.

seems to involve a rather complex lexical chain of related propositions and referents. Notice that:

<u>that</u> refers deictically to the first expression <u>you have applied to ... Linguistics;</u>

<u>what it says</u> "refers" to the propositional content contained in the first expression;

it refers anaphorically to the first expression; and

you ... *student of the Linguistics Department* expresses the propositional content now made available via reasoning from the propositional content contained in the first expression

This complex lexical chain seems somewhat repetitive and is probably deployed by *b* to clarify and tell *a* her actual reading and interpretation of *a's* first letter A1 so that *a* can discern if she has misread him or not. It may further explain why the generic notion expressed in *a student of the Linguistics Department*, now made available via general reasoning involving several steps, is instantiated as an indefinite expression. The steps involved in *b's* reasoning may include:

(i)   *a* says he has applied to take the M.A. in Linguistics,

(ii)   *a* means what he says,

(iii)   If i and ii, then *a* has actually applied to take the M.A. in Linguistics,

(iv)   People who have applied to take the M.A. in Linguistics will, if successful, become students of the Linguistics Department,

(v)   Therefore, if iii and iv, then it is possible that *a* will become a student of the Linguistics Department,

The repetitive nature of the utterance may encourage this line of reasoning and its purpose seems to be to draw the reader's attention to the details of its contents, culminating with the contents of the generic expression. By drawing the reader's attention to the indefinite generic expression which is located at the utterance-final position, the writer *b* probably intends *a* to treat the attribute as though it is new information.

The next utterance in the letter which follows immediately after (33) is:

(34)   If that is the case, I am afraid that it would not really be the done thing
        for me to supervise you, since the Applied Linguistics Department is *a
        separate department* in *a different faculty (Education)*.

In (34), we see a similar use of indefinite expressions to attribute available information to the Applied Linguistics Department, but which the reader is to treat as though it is new. The expressions *a separate department* and *a different faculty (Education)* attribute information which is made available via the associated schema which contains and organises information about the relation which holds between the different departments and faculties of the University. The effect of using the two "non-default" indefinite expressions to attribute already available information is to draw the reader's attention to the contrast between and the autonomy of the two departments of Linguistics and Applied Linguistics, and their respective faculties.

Similarly in the next paragraph of the letter, where *b* uses the indefinite expression to refer to courses which have already been named in the previous letter,

(35)   Of course that doesn't mean that I would not be happy to talk to you
        from time to time, and you might also be able to follow *some courses*
        here, provided that your Linguistics timetable allowed it.

the issue seems to have more to do with **specificity** than availability. Although the implied referents of *some courses* are already available (and specified in the previous letter), the writer uses the indefinite *some*, probably intending the reader to take the referents as though they are new. It is not entirely clear what motivates this. Perhaps *b* feels that it is more prudent to be non-committal to a course of action proposed by *a* than to give *a* the green light prematurely to go ahead with his plans. As such, *b* takes the expedient route by being vague (in accordance with the Principle of Appropriateness/Prudence/Caution) in order to expedite the communication.

Linguistically speaking, it is interesting to note that this failure to meet specific descriptive content does not necessarily block reference. This ties in very well with Kripke's proposal (1977) that we can use general statements to convey information about specific individuals. As Kripke (cited in Larson et al, 1995: 342-343) observes, if you and I were in a queue and a stranger cuts in the queue somewhere ahead of us, I might utter the general "Some people have no manners" to mean someone very specific. Note that this is not to suggest that *b's* use of the expression *some courses* is meant to be ironic as in Kripke's *some people*; we only intend to draw attention to the similarity of use of an indefinite expression to refer to something specific.

Coming back to our present example *some courses*, although *b* may, literally speaking, be saying that there exist courses in general in the Applied Linguistics programme which *a* may be able to follow (literal interpretation), *b* is in fact saying something more specific (non-literal interpretation; intended meaning). Following Larson's et al (1995: 344) terminology, this is an instance of a **referential use** of the quantifier *some* (i.e., non-literal interpretation), rather than a **referential interpretation** of the quantifier (i.e., literal interpretation).

6.   Activated referents but treated as though new

This type of referent has the following combination of information status across the layers:

Activated   -   Activated   -   as though New

These referents are currently activated but the writer wishes the reader to treat them as though they are new. The writer does this by using "non-default" indefinite expressions to refer to the activated referents. The following expression *such an application* as used by *b* in letter B1 is one such example.

(36)   If so, we have not received your application yet. However, if *such an application* were successful (and competition for places is severe), then I see no reason why I shouldn't supervise you, provided that our interests continue to coincide.

We should clarify a few things before we proceed with our discussion of the expression *such an application*. Firstly, the expression *your application* in the preceding utterance "refers" to a **hypothetical referent** (see Section 4.1 for related discussion), if indeed the reader *a* has made an application to the Applied Linguistics Department. The next expression *such an application* refers back to this hypothetical referent. As Lyons (1977) points out in the following example, if X says to Y

(37)   A friend has just sent me a lovely Valentine card

he argues that

> [X] can refer subsequently to the same individual by means of the expression 'my friend', regardless of whether he had a specific person in mind originally or not .... The point is that, once any information at all has been supplied ..., it can then be treated by the participants as an individual that is known to them both and identifiable within the universe-of-discourse by means of a definite referring expression .... It is not a necessary condition of successful reference that the speaker or the hearer should be able to identify the individual being referred to in any sense of identification other than this.
>
> (Lyons 1977: 189)

Lyons' view above, if taken on board in its entirety, will have significant ramifications on the traditional understanding of the term reference and a theory of meaning. This is, of course, a complex issue of considerable interest, but it is beyond the scope of our concerns with information status in this chapter.

Coming back to our example, if we adopt Lyons' position, it is possible then to claim that the expression *such an application* refers to the hypothetical referent of the preceding expression *your application*. What is of further interest is that like the previous example *some courses*, the indefinite expression *such an application* is used to refer to something specific, i.e., *a's* alleged application. As such, this failure to meet specific descriptive content is probably due to the same Principle of Appropriateness/Prudence, given that the outcome of the application has not been made known yet.

We move now to discuss referring expressions which refer to referent units which have **dual information status**. Strictly speaking, this dual information status arises from the fact that the referent referred to and the attribute attributed to this referent are found in the same referring expression. Both the referent and its attribute have different information status. For ease of writing, we will continue to call this "referent + attribute" unit **the referent unit**. The various types of referent units with dual information status are best described by their combination of layers.

7.   **referent:**   **Activated - Activated - Activated**
        attribute: **Available - Available - Available**

An example of a referring expression which refers to such a referent unit is:

(38)   To extend my knowledge on this field, I applied through the German National Scholarship Foundation scheme to take the M.A. in Linguistics in the academic year 1993/94. Within *this one-year course*

I would like to follow my interest in sociolinguistics, especially in critical linguistics.

where the definite expression *this one year course*, as we have already discussed in (18) above, refers to an activated referent 'M.A. in Linguistics'. But the fact that it is a one-year M.A. and not a two-year programme is surely only available information (attribute) via background knowledge at this juncture.

The next type of referent unit with dual information status has the following combination:

8.   **referent:**   **Activated - Activated - as though New**

           attribute: **Available - Available - as though New**

Note that only indefinite expressions are used since the referents referred to are intended to be treated as though they are new. The attributes referred to, however, are merely available but are to be treated as though they are new as well. The following example is taken from *a's* reply A2 to *b's* hesitation to supervise him,

(39)   As to the problem of supervision I hoped that my belonging to a different department of the University would not be *an obstacle* for you to supervise me with the prospectus of the M.A. in Linguistics stating ....

The attributive expression *an obstacle* attributes available information to the activated propositional content expressed in the preceding expression *my belonging to a different department of the University*. The characterisation of *b* as belonging to another department as an obstacle is based on available information because the information is inferable via general reasoning from the text *it would not really be the done thing for me to supervise you, since the Applied Linguistics Department is a*

separate department written by *b* in the previous letter B1. The choice of the indefinite expression gives the impression that the activated/available information is as though new and its purpose seems to be to draw attention to the lack of specific descriptive content in the generic expression, perhaps as a means of downplaying the scale of the problem.

The final type of dual status referent units found in our data has the following combination:

9.   referent: Available - Available - as though New

attribute: New   - New   - New

In the example below, *a* writes the following in A2 to clarify his departmental affiliation:

(40)   For one point, I would like to clear up *a possible misunderstanding*

The "referent" referred to in the indefinite expression *a possible misunderstanding* is available information arising from *b's* previous letter in which she expresses her confusion over *a's* departmental status. The modal adjective *possible*, however, "refers" to a new attribute which describes the tentativeness of the 'misunderstanding' referred to. Since *a*, the prospective student, is suggesting here that *b* is mistaken, he is careful not to cause offence. By casting his suggestion in indefinite terms, he intends *b* to receive the referent as though it is new. The underlying principle governing *a's* choice here seems to be one of appropriateness (or politeness) of use.

5   **The nature of the writer's assumptions about the reader's consciousness of referents**

The analysis of the data above lends support to our earlier observation about the different positions the writer may assume regarding her assumptions about the

reader's consciousness of referents, i.e., the nature of consciousness can be best expressed as a ternary concept with three different types of assumed state of consciousness.

Figure 4.1: The three different states of assumed consciousness of referents

STATE OF CONSCIOUSNESS OF REFERENTS
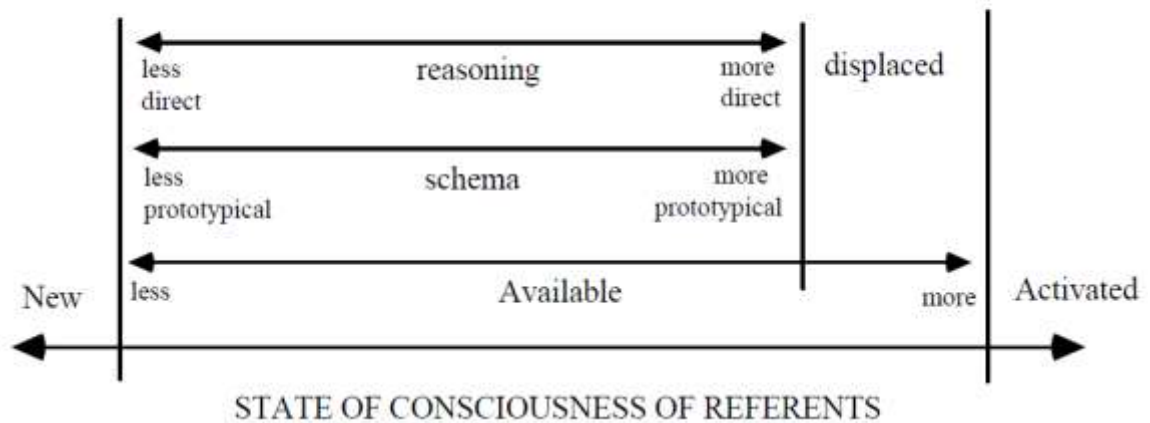
At the risk of sounding repetitive, we should emphasise that the above is our representation of what we take to be the range of the **writer's assumptions about her reader's state of consciousness of referents**, and not a representation of the reader's actual state of consciousness of referents. The reader's actual state of consciousness of different referents can be inferred from reading times measured under experimental conditions (see, for example, Gernsbacher (1990) for an influential view on how the level of activation of memory may be enhanced or suppressed by incoming information). The writer, however, in her choice of referring expressions at the time of writing, has no access to such experimental information regarding the reader's actual state of consciousness. What she does have is a set of assumptions of what might reasonably be considered to be in the reader's consciousness based on existing evidence like prior mention, shared beliefs, background knowledge, etc. We should point out that, based on the analysis of our data, we are only able to make the claim that the writer assumes a **ternary** division of the reader's consciousness of referents; we are not in a position to claim that the nature of the reader's actual consciousness of

these referents is in fact ternary. Our intuition on the latter is that the reader's actual state of consciousness is more likely to be a continuum of relative "alertness" with very fuzzy boundaries between and within the categories postulated by the writer. As we are not in a position to test this latter claim here, we shall leave the issue open for future research.

As we can see in the above figure, the writer may assume that the referent is new, available or currently activated in the reader's mind. Our first observation is that the three categories are not at points of equi-distance to each other on the scale of assumed reader's state of consciousness of referents. We also note that a very large group of referents fall into the category of available information state (see Section 6 below for the actual number of tokens). On one end of the availability scale are the displaced referents which are considered "more" available since they have been previously referred to explicitly in the text. On the "less" available side are two parallel states of availability determined by the level of availability resulting from schema information or resulting from general reasoning. These two states of availability via schema or reasoning are in parallel rather than as two points on the scale of availability. They differ from each other in kind (or source of availability) rather than degree. Information made available from schema varies from the more prototypical to the less prototypical associations. Information made available by general reasoning varies from that which is available via direct and straightforward reasoning to that which is available via more indirect reasoning involving several steps.

6   Distribution of combination information types

Using our three-layer classification of information status of the referent units, we isolate nine combinations of layers (also called **combination types**) in our data, here reordered and renumbered as 1 - 9 (see table below). There are of course other

possible combinations, but we have no evidence of them in our data. Let us recapitulate what has been said so far.

Table 4.2: A three-layer classification of information status: Observed combinations

_____
Combinations observed in the data
_____

Referent units with single information status

Definite expressions

1	Activ	-	Activ	-	Activ
2	Avail	-	Avail	-	Avail
3	New	-	New	-	asAvail

Indefinite expressions

4	Activ	-	Activ	-	asNew
5	Avail	-	Avail	-	asNew
6	New	-	New	-	New

Referent units with dual information status

Definite expressions

7	[	referent:	Activ	-	Activ	-	Activ
	[	attribute:	Avail	-	Avail	-	Avail

Indefinite expressions

8	[	referent:	Activ	-	Activ	-	asNew
	[	attribute:	Avail	-	Avail	-	asNew
9	[	referent:	Avail	-	Avail	-	asNew
	[	attribute:	New	-	New	-	New

_____

Note:
Activ	=	Activated
Avail	=	Available
asAvail	=	as though Available
asNew	=	as though New

We shall call each possible combination of layers a **combination type** because each type involves three layers of assumptions.

If we focus on the referent units with single information status first, we notice that there are essentially six observed combinations in the data. The first three combination types of information states are associated with the use of the **definite**

expression. The next three combination types of information states are associated with the use of the **indefinite expression**.

For referent units with dual information status, we observe that there are three possible combinations found in the data. The seventh combination type of information state is associated with the use of the **definite expression**. The last two combination types of information state are associated with the use of the **indefinite expression**.

The table below summarises the distribution of referent units of various combination types of information status (single information status only) for the entire series of letters in the correspondence.

Table 4.3: Distribution of Combination Information Types 1-6 (Single information status). (token *t* = referent unit)

Combination types	A1	B1	A2	B2	A3	B3	A4	B4	Tot
Single information status only									
Definite expressions									
1 Activ-Activ-Activ	23	33	24	13	17	9	8	9	136
Last mention	2	9	1	1	1	0	0	0	
Salience	21	24	23	12	16	9	8	9	
2 Avail-Avail-Avail	13	10	19	5	10	4	5	4	70
Displaced	4	8	13	5	6	3	5	4	
Schema	8	2	6	0	3	1	0	0	
Reasoning	1	0	0	0	1	0	0	0	
3 New-New-asAvail	17	1	3	2	0	1	2	0	26
Indefinite expressions									
4 Activ-Activ-asNew	0	1	0	0	0	0	0	0	1
Last mention	0	1	0	0	0	0	0	0	
Salience	0	0	0	0	0	0	0	0	
5 Avail-Avail-asNew	3	4	3	1	1	0	0	0	12
Displaced	0	1	3	1	1	0	0	0	
Schema	3	2	0	0	0	0	0	0	
Reasoning	0	1	0	0	0	0	0	0	
6 New-New-New	8	3	1	1	0	1	0	1	15
Sub-total (single info status)	64	52	50	22	28	15	15	14	260

Note: The non-shaded rows of numbers show the breakdown of the tokens of the shaded row immediately above them. For example, Type 1 can be subdivided into those activated referents which are current because of immediate/last preceding mention or because of situational/topical salience.

'Tot' refers to the total number of tokens counted across the series of letters.

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If we just look at the distribution of referents with single information status in *a's* opening letter A1 (see Table 4.3 above), we note that 17 (Type 3) out a total of 53 tokens of definite expressions are used to refer to new referents, i.e., about 32%. This percentage is even higher if we exclude the high proportion of pronominal expressions arising from situational/topical salience and proper nouns used ($t = 21$). In fact, the percentage of definite expressions used to refer to new information increases to 53% (17 out of 32 tokens). There are in fact only 2 tokens of definite expression used to refer to currently activated referents arising from immediately/last preceding mention, compared to 17 tokens of definite expressions used to refer to new referents. In other words, apart from the use of pronominal forms to refer to situationally/topically salient referents, definite expressions are hardly used to refer to activated referents arising from last preceding mention.

If we seriously consider the fact that in A1, there are a total of 17 definite expressions (Type 3) used to refer to new information compared to only 8 indefinite expressions (Type 6) used to refer to new information, in what sense then is it justified to assert that there is a "default" relation between the use of definite/indefinite expressions and activated/new information respectively? We believe it may not be helpful always to characterise the relationship in such default terms; in fact, it may well be misleading. New information is often recognised as new information by the reader quite independently of any conception of a "default" pairing of new information with the indefinite expression. The primary reason behind the writer's choice of say, the indefinite or definite expression to refer to new information, may have more to do with how the writer *intends* the new information to be treated (either as new or as though available) than with the writer's concern with maintaining "default" relations. This observation is particularly true of the first letter A1.

The next table below summarises the distribution pattern of combination information Types 7-9 (dual information status only) for the series of letters. The number of tokens involved is very small compared to the previous table for single information status referent units. The grand total of tokens for both single and dual

status referent units is indicated at the bottom of the table. The details are self-explanatory.

Table 4.4: Distribution of Combination Information Types 7-9 (Dual information status).

Combination type	A1	B1	A2	B2	A3	B3	A4	B4	Tot
Dual information status only									
Definite expressions									
7 referent: Activ-Activ-Activ	1	0	0	0	0	0	0	0	1
attribute: Avail-Avail-Avail									
Indefinite expressions									
8 referent: Activ-Activ-asNew	0	0	1	0	0	0	0	0	1
attribute: Avail-Avail-asNew									
9 referent: Avail-Avail-asNew	0	0	1	0	0	2	0	0	3
attribute: New-New-New									
Sub-total (dual info status)	1	0	2	0	0	2	0	0	5
Sub-total (single info status)	64	52	50	22	28	15	15	14	260
Grand Total (single and dual info status)	65	52	52	22	28	17	15	14	265

7   Conclusion

In this chapter, we take Chafe's notion of consciousness as the defining factor for the information status of referents, thus yielding a ternary division of information states: activated, available, new. We propose as our conceptual framework for analysis a three-layer classification of information structure, combining the triple concerns of the speaker regarding her assumptions about the hearer's information

state, and the speaker's assumptions about the hearer's ability and willingness to accept the speaker's packaging of information. The value of our three-layer classification lies in its ability to offer an integrated account of both the "default" and "non-default" patterns of use of definite/indefinite expressions to refer to activated/available/new information.

In the next chapter, we examine the interaction of the information status of the referent units with the information status of their related propositions. We shall conclude our investigation by suggesting how our discussion on the information structure of the letters relates to the larger issue of how common ground is established in written correspondence.

Chapter 5

Information Structure and Common Ground II

One of the findings of the previous chapter is that the claim that there is a "default" correlation between the definite/indefinite expression and activated/new information respectively may be misleading. We demonstrated this by using our three-tier analysis of information status of the referent units.

In this chapter, we look in detail at the case history of the two M.A. referents and the expressions used in the set of letters to refer to them. In a series of graphs, we examine the effect the changing information status of the two referents has on the degree of attenuation of the expressions used to refer to them. By comparing our findings with Yule's (1981), we are able to make further observations of the nature of the distinction between spoken and written data in regard to the relation between information status and attenuation of referring expressions.

Next, we analyse the information status of the two propositions related to these two referents. We then explore the nature of the interaction of the two levels of information status of the referents and their related propositions in a series of graphs and bar charts. We show, for the first time, how the two levels of information status are inter-related.

Note that an analysis of the information status at the propositional level (in our case, of the related propositions) is not to be confused with an analysis of the information status at the sentential level (realised in various syntactic constructions). Hence, Prince's (1992:339) comment (cited earlier in Chapter 4, Section 2) about the mutual independence of the two levels of information packaging at the NP level and sentential level does not affect our claims about the interaction of the two levels of

information packaging at the referent level and the propositional level. Our analysis of the information status of the related propositions is not to be confused with an analysis of the syntactic constructions.

We reiterate here that because our interest lies primarily in the forms of the referring expressions used in relation to the activation/attention states of the referents, we shall exclude considerations of syntactic issues. (For a discussion of this point, see Chapter 4, Section 2).

Once we have analysed the information status of the two M.A. referents, their two related propositions and the nature of the interaction of the two levels of information, we shall end our discussion of information structure in Chapters 4 and 5 by drawing your attention to the larger issue of common ground and of its categories as defined and discussed in Chapter 2, Section 4.

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1   Attenuation of referring expressions and information status

One early attempt at accounting for the distribution of attenuated forms which are used to refer to referents already mentioned in the discourse is that by Yule (1981). (Recall that previously mentioned referents can either be currently activated or displaced (but available) (see Chapter 4).) We highlight some of his results below (modified table from Yule, 1981: 48).

Table 5.1:   Types of 'non-new' information and choice of realisation forms.

Realisations	Types of 'non-new'	
	Current	Displaced
Lexicalisations	36%	92%
Non-lexicalisations	64%	8%
	100%	100%

Yule's "lexicalisations" (or **full/expanded lexical expressions**, in our terminology) include: *the* + NOUN, *this* + NOUN, *that* + NOUN, and *the* + property + NOUN. His "non-lexicalisations" (or **highly attenuated expressions**, in our terminology) include: *it*, *that* and *ø* (see Chapter 4, Section 2 for the definitions of our terms used). What the above table shows is that currently activated referents are more likely (64%) to be referred to by attenuated forms than displaced referents (8%). (This result is similar to Brown and Yule's (1983: 174) finding. See Chapter 4, Section 2 for a discussion.) He captures this correlation between degrees of attenuation and the current/displaced distinction in the graphical representation below. In the graph, he tracks the various forms used to refer to the same referent. This referent is originally referred to as *a red horizontal line of about two inches*. His data is drawn from the diagram task. (This task involves two parties, one of whom gives instructions to the other to draw certain geometric figures.)

Figure 5.1: Graph showing the relationship between degrees of attenuation and information status of a particular referent.
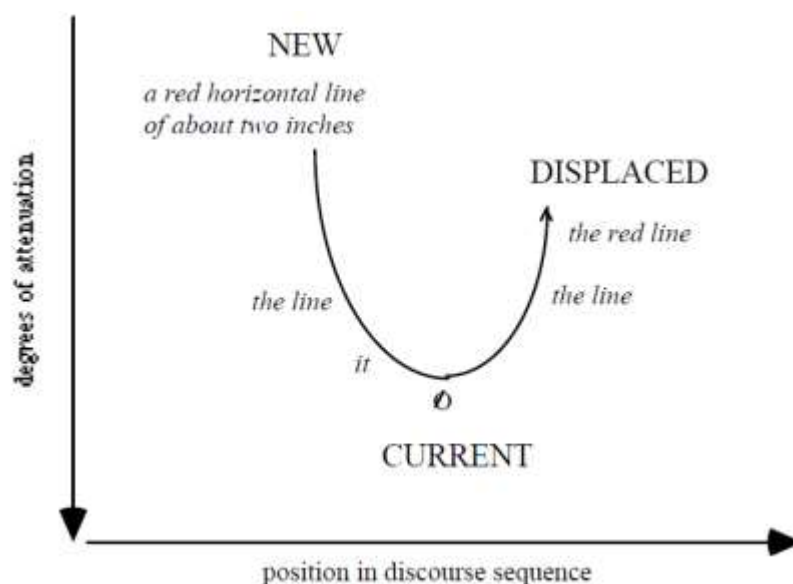
(Source: Yule, 1981: 49)

Of particular interest to our present discussion is the way the graph above shows how an increasingly attenuated form is used with a shift in information status

from new to current, and a reverse trend towards the full lexical expression with a further shift in information status from current to displaced. Note that Yule also considered intonation cues such as high and low pitch in his spoken data. This information, however, has been excluded from the graph.

Although the above representation is illuminating and insightful in terms of exposing the nature of the correlation between attenuation and information status, it glosses over other issues and runs the risk of over-simplification. For example, although the observation that currently activated referents are more likely (64%) to be referred to by attenuated forms (pronominal and $\emptyset$) than the displaced referents (8%) is helpful, Yule does not offer an account of why the currently activated referents are referred to by expanded (in the sense that they consist of more lexemes than the pronominal form) lexical expressions the other 36% of the time, and why displaced referents can be referred to by attenuated forms as well (8%). Yule is of course aware that the degree of attenuation is only attributable *in part* to this current-displaced distinction, and as we have discussed in Chapter 4, there are other factors to consider in offering an account of the linguistic forms employed in referring.

Returning to our data, we see a different distribution of attenuated forms with different information status. To illustrate what we mean, we need to carefully examine the various forms used to refer to the two referents: the 'M.A. in Linguistics' and 'M.A. in Applied Linguistics' programmes. The following table lists all the forms used to refer to these two referents. All the referring expressions which are analysed are in normal font size, italicised and underlined. The corresponding information status of the referents referred to is indicated in non-italicised and non-underlined font (New, Activ, Avail$_{displ}$). The italicised expressions/phrases in parentheses and in smaller font size are also taken from the letters. Their information status is not analysed, but they have been included here to show the reader what has been "predicated" of the two referents each time they are referred to subsequently. All quoted expressions/phrases are listed in sequence as they appear in the letters. We have used shading in the table to contrast *a's* (shaded) and *b's* (unshaded) choice of referring expressions.

Table 5.2: Forms used to refer to the referents of 'the M.A. in Linguistics' and 'the M.A. in Applied Linguistics'.

Letters	Forms used (in consecutive order) to refer to the referents of:		
	'the M.A. in Linguistics'		'the M.A. in Applied Linguistics'
A1	*the M.A. in Linguistics*	New	
	this one-year course	Activ	
			(two core courses of)
			the M.A. — New
B1	*the M.A. in Linguistics* — Avail$_{displ}$		
	(a student of the Linguistics Department)		
	(that)		
			(the Applied Linguistics Department)
			(a separate Department)
			(a different faculty)
			(some courses here)
	(your Linguistics timetable)		
			the M.A. in Applied Linguistics
			Avail$_{displ}$
			(in the Applied Linguistics Department)
A2			*(some courses)*
			(at the Applied Linguistics Department)
	the M.A. in Linguistics — Avail$_{displ}$		
	(at the Faculty of Language)		
			the M.A. in Applied Linguistics
	(my belonging to a different department		Avail$_{displ}$
	(the prospectus of)		
	the M.A. in Linguistics — Avail$_{displ}$		
	(c (Head of Linguistics Department))		
B2	*(your future affiliation in the University)*		
	(the linguistics department)		

As the above table shows, the following forms have been used to refer to the referent 'the M.A. in Linguistics':

A1	*the M.A. in Linguistics*	New
	this one-year course	Activ
B1	*the M.A. in Linguistics*	Avail$_{displ}$
A2	*the M.A. in Linguistics*	Avail$_{displ}$
	the M.A. in Linguistics	Avail$_{displ}$

The above seems to suggest that the full lexical expression can be used with equal ease to refer to the referent when it is presented for the first time (and hence new) and when it has been displaced. Even when it is currently activated, the highly attenuated pronominal form is avoided. Note that there is a fifth instance of the use of the expression *the M.A. in Linguistics* in A2 which we have not listed above. The reason is because this instance of use occurs in cited form and is not actually part of *a's* use of the form (see A2P3 for the details).

We should point out that our use of the term *displaced referent* is somewhat extended compared to that of Yule's use. In Yule's spoken data, referent displacement normally occurs within the same continuing discourse; whereas in our written data, referent displacement can and does occur across letters, i.e., the referent can be displaced in both the writer's and reader's minds for several days/weeks by other unrelated discourses. We would therefore expect this extended notion of displacement to have certain repercussions on the degree of attenuation of forms used to refer to available referents, as the above examples of the forms used to refer to the referent 'M.A. in Linguistics' reveal.

Using Yule's method of presentation, we yield the following graphical representation of degrees of attenuation associated with the referent as it is referred to in the letters.

Figure 5.2: Graph showing the relationship between degrees of attenuation and information status of the referent 'M.A. in Linguistics'.
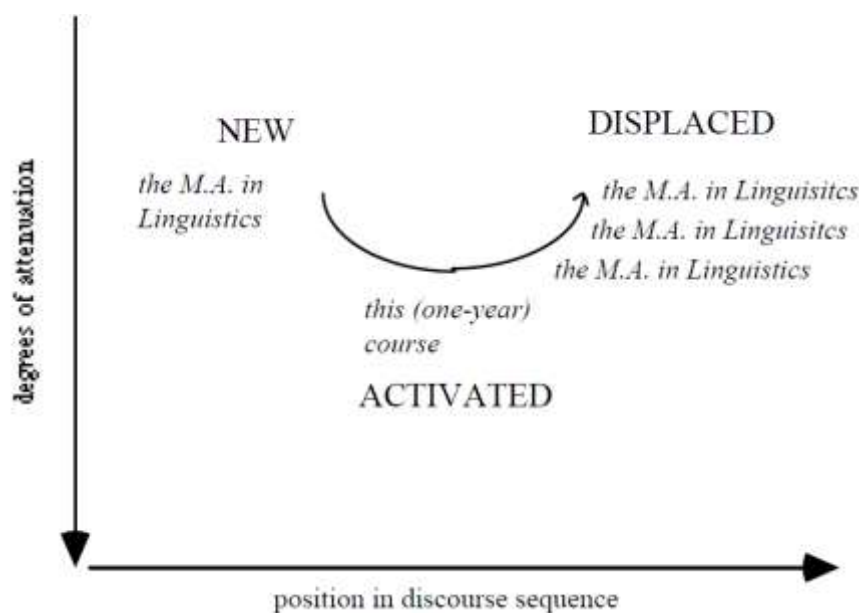
As the graph shows, a similar pattern with that suggested by Yule is visible, although the trough of the curve is a lot less deep. Note that since the expression *this one-year course* refers to a dual information status referent unit, we will accept the shorter and more attenuated expression *this course* as referring to the activated referent for the purpose of placing it on the graph above (see ACTIVATED), while acknowledging that the attribute referred to in *one-year* is available information (see Chapter 4, Section 4 for a discussion of this). Since the expression *this course* is less attenuated than, say, the pronominal or ø form, the trough of the curve is less deep than that suggested by Yule for his referent.

In order to gain further insights into the behaviour of the referring expressions used, we calibrate the horizontal scale to produce the following modified graph.

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Figure 5.3: Graph showing the relationship between degrees of attenuation and information status of the referent 'M.A. in Linguistics' in letters A1, B1 and A2.
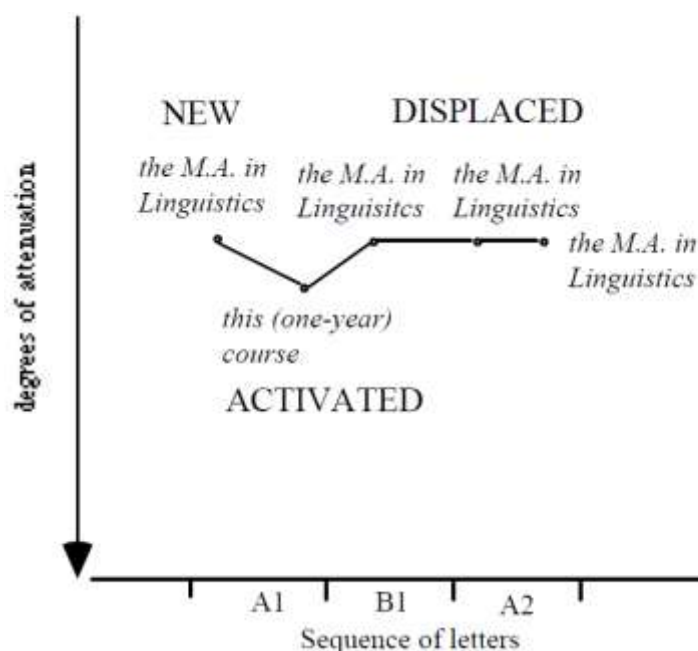
In the above graph, the points mark the five instances of the use of expressions to refer to the referent 'M.A. in Linguistics'. The points are not placed on the boundaries of the letters in order to mark roughly the place/sequence of use within and across the letters. This graph differs from Yule's graph in several important ways for various reasons.

Firstly, the trough of our graph is not as deep as Yule's. This means that in our data, the degree of attenuation of the form used is less than that in Yule's spoken data. We suspect that the reason for this difference may be due to the difference in genre of use. In official written correspondence of our nature, it is commonly held that a more formal style of writing is preferred. The choice of elaborate nominal expressions in our data may be a reflection of this formality of style (see Chapter 2, (Section 5) and Chapter 4 (Section 4.2) for related discussions).

Secondly, in our data, there are only two forms used to refer to the referent: *the M.A. in Linguistics* and *this course,* whereas for Yule's referent, there are five different forms used, ranging from *a red horizontal line of about two inches* [NEW] to *Ø* [CURRENT] to *the red line* [DISPLACED, last referring expression used]. Note that

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Yule's graph does not return to its original height, while ours does. What this difference amounts to is that in Yule's data, there seems to be a greater flexibility of attenuated forms used to refer to the same referent. The fact that the final reference to the displaced referent can be made by the use of the shorter expression *the red line* compared to the original referring expression *a red line of about two inches* attests to this flexibility of choice of referring expressions.

In contrast, our data show that only two possible forms have been used - perhaps an indication of the cautious stance adopted by both writers. This is shown not only in the avoidance of the pronominal form for the activated referent, but also by the return to the original full definite lexical expression upon displacement of the referent. This cautious stance is understandable, given that the nature of the contents of the letters are important to the writers, especially *a*. Also, in our letters, there are two similar MA's referred to; so the potential for confusion is great. And indeed, this is the case with *a's* use of the underspecified *the M.A.* to refer to the referent 'M.A. in Applied Linguistics' discussed in Chapter 4, which led to *b's* confusion over *a's* departmental affiliation. In order to clear up this confusion, both *a* and *b* have to resort to the use of full definite lexical expressions in order to "guarantee" referential success. This hyper-corrective stance adopted by both interactants seems to be the sensible thing to do in the light of the current confusion.

Although we won't go as far as to suggest that this binary treatment of attenuation is characteristic of written discourse, we would however argue that this inflexibility is probably attributable to the same hyper-corrective stance mentioned above. Because of this binary treatment of attenuation, the shift back to the full lexical expression upon displacement of the referent is total, i.e., the graph rises back to its original height; whereas in Yule's graph, the greater flexibility of forms used means that the return to the full lexical expression is partial, hence the graph does not return to its original height.

The third difference between Yule's graph and ours is that in Yule's graph, once displaced (available) status has been established, it requires an ***increasingly***

expanded lexical expression with each repeated reference to the available referent. This is indicated by the upward slope of Yule's graph. This contrasts with our flat line with the establishment of available status, showing the **stability** of use of the same full lexical expression.

The reason for Yule's upward slope and our flat line may be attributable to the difference between spoken discourse (in Yule's case) and written discourse (in our case). In spoken discourse, further displacement places increasing demand on short term conscious memory of the referent referred to. Subsequently, there may be a need for an increasingly expanded lexical expression (upward slope) for each displaced reference. In our written discourse, visual permanence (i.e., having the letter in front of the reader) places less demand on memory, while allowing for recursive cycles of long distance backward (or even forward) search in the text (or even across texts) for previous mentions of the referent. Hence there may not be a need for an increasingly expanded lexical expression.

Another feature of our written data is that they involve lengthy replies written in response to equally lengthy letters. As we have discussed in Chapter 2, Section 5, written discourse of this nature differs from spoken discourse in several crucial ways (see, in particular, Widdowson, 1984). Each lengthy letter in the exchange may be construed as a mega-turn, the contents of which (and the referents referred to in them) would normally take several turns in spoken discourse to be established. The density of complex and often abstract referents packed into this mega-turn would therefore impose severe constraints on the ease with which attenuated and underspecified referring expressions would normally be interpreted in spoken discourse; hence, the need for the return to the expanded lexical expression upon displacement.

Besides, the on-line interaction and constant checking of understanding (by giving instant feedback) which is highly characteristic of spoken discourse is slowed down somewhat drastically in the exchange of letters which is spread out over a period of several weeks. Needless to say, other sources of feedback normally available in spoken discourse like eye gaze, nodding/shaking of heads, facial expressions and

gestures are not available in written discourse (for a recent discussion of such paralinguistic cues to successful communication, see Boyle et al, 1994). As such, the dynamics of tracking and of maintaining reference is quite different for written discourse.

Having discussed the forms used to refer to the first M.A. referent, let us turn our attention to the second referent 'the M.A. in Applied Linguistics'. Going back to Table 5.2, we isolate the following expressions which have been used to refer to the referent 'the M.A. in Applied Linguistics':

A1	*the M.A.*	New
B1	*the M.A. in Applied Linguistics*	Avail$_{displ}$
A2	*the M.A. in Applied Linguistics*	Avail$_{displ}$

In this case history, the form used to refer to the referent when it is new is actually more attenuated than when the entity has already been made available. Note that although the first mention of the referent is not entirely successful, it is not totally unsuccessful either. The fact that in *b's* reply B1, she is able to isolate the two likely MA's from the 40 or more MA's offered by the University shows that reference has been partially successful. We therefore label the second mention *M.A. in Applied Linguistics* as Avail$_{displ}$ rather than as new information.

Using Yule's method of representation again, we yield the following graph. Notice that there is no instance of the use of a referring expression to refer to the referent when it is considered currently activated; hence there is no example of such a referring expression in the graph below.

Figure 5.4: Graph showing the relationship between degrees of attenuation and information status of the referent 'M.A. in Applied Linguistics'.
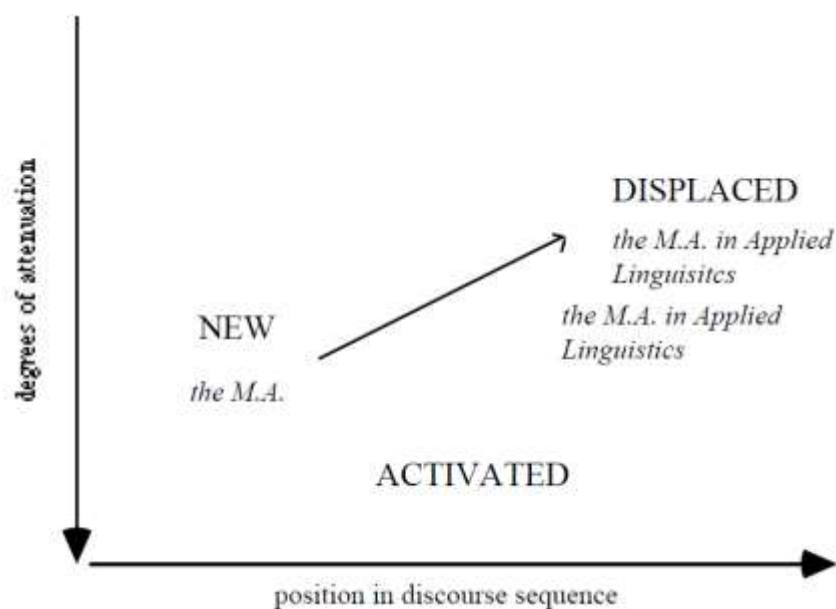
The gradient of the graph shows a totally different trend from that exhibited in the previous graph. In A1, the writer *a* introduces the referent 'M.A. in Applied Linguistics' by using the shorter lexical expression *the M.A.* *a* has obviously misjudged the referential adequacy of his choice of expression, resulting in *b's* confusion over his departmental affiliation. In order to register her confusion, *b* uses the expanded lexical expression *the M.A. in Applied Linguistics* in her reply/query B1; and *a* maintains the use of this full lexical expression in his clarification in A2.

Another reason why the full lexical expression *the M.A. in Applied Linguistics* is used is to contrast it with the other expression *the M.A. in Linguistics*. Finally, the expression *the M.A. in Applied Linguistics* is also used in spite of the fact that the number of predicates the referent (referred to) now carries with it has made it more than clear which M.A. is being referred to (see Table 5.2). As mentioned above, this "hyper-corrective" overspecification is not entirely unexpected, considering the current confusion.

In line with our previous practice, we calibrate the horizontal scale of the graph to yield the modified graph below. We observe a similar rise in the gradient of the graph, indicating a preference for the full lexical expression upon availability

(displaced) of the referent. Notice, however, that the graph flattens once availability has been established.

Figure 5.5: Graph showing the relationship between degrees of attenuation and information status of the referent 'M.A. in Applied Linguistics' in letters A1, B1 and A2.
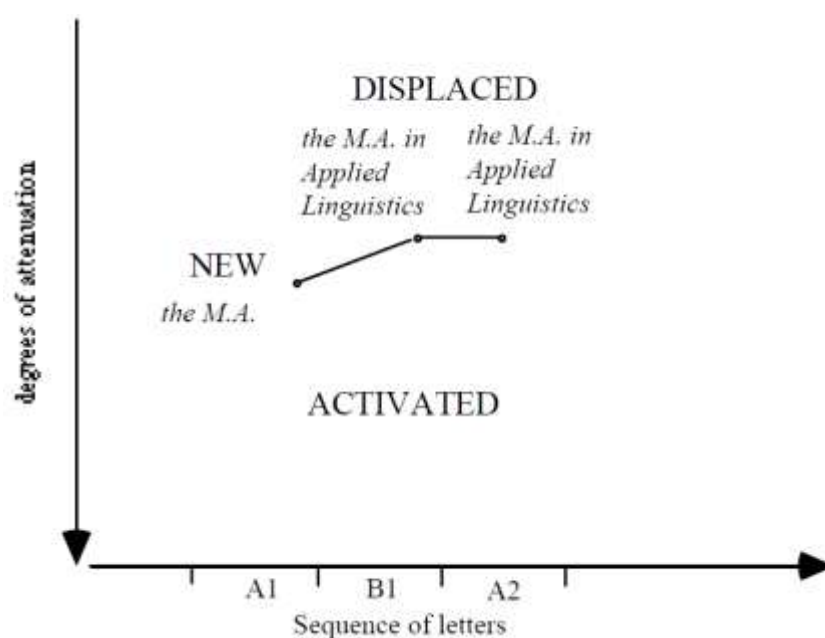
Based on the behaviour of the two revised graphs in Figures 5.3 and 5.5, we can therefore make additional generalisations about the shifts in information status of referents referred to in written discourse. Generally speaking, a downward sloping graph indicates a shift towards activated status, whereas an upward slope indicates a shift in information status towards displacement. When the graph levels off, it is a sign of displaced information status. Taken together, we would expect the graphical representation of a successful history of discourse reference to exhibit the three stages in sequence: a downward slope, an upward slope and a flat line. If any one stage is missing, we would expect a situation where referential success may have initially been inhibited or compromised. In our observations of the second referent, we note that the missing downward slope indicates that the establishment of activated status has been compromised initially. Note that this does not mean that there is a complete failure in

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establishing reference, as shown by the fact that *b* can respond to *a's* letter by suggesting *Or, do you mean that you have applied to take the M.A. in Applied Linguistics ...* (B1P4).

In the next section, we attempt an analysis of the information status of two key propositions as they relate to the two 'M.A.' referents discussed above.

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2   Attenuation of referring expressions, related propositions and information status

The purpose of this section is to offer an account of the interaction of the two levels of information status (referent and propositional) in this set of written correspondence. We have seen how the information status of the two referents can be represented in a series of graphs. In this section, we analyse the information status of the two propositions related to these referents. We present our results in a series of tables. By combining the results of the levels of analysis, we are able to investigate the interaction of the two levels of information status. We close our discussion in this section by presenting an idealised representation of the interaction of the two levels of information status.

We begin our discussion by identifying the two related propositions.

While the expression *the M.A. in Linguistics* used by *a* in the following utterance taken from his second letter A2

... I have applied to take the M.A. in Linguistics at the Faculty of Languages

refers to the available and displaced referent 'M.A. in Linguistics', the idea/thought that '*a* has applied to take the M.A. in Linguistics' as expressed in the above utterance is in fact new information to the reader *b* since the idea wasn't understood the first time it was made in A1. In other words, at the referent level, the referent referred to is available (displaced); whereas at the idea/propositional level, the relation which holds

between the referents *a* and 'M.A. in Linguistics' as expressed in the utterance is actually new information to the reader *b*. For our purpose here, we shall call this idea/thought, composed of the two referents and the relation which holds between them, the *proposition*.

When *a* writes his opening letter A1, he presents a lot of information about himself. In A1P2, he writes *I applied ... to take the M.A. in Linguistics* and then later in the next paragraph in A1P3, he writes *I would like to read two core courses of the M.A. [in Applied Linguistics] in addition*. Let us take the above contents to be expressing the following propositions:

(1)   *a* applied to take the M.A. in Linguistics

(4)   *a* would like to read two core courses of the M.A. in Applied Linguistics in addition

Note that these two propositions contain the two M.A. referents. You may also recall that proposition (1) above is actually BP1 (see Chapters 1 and 3).

We shall now track the information status of these two propositions over the series of letters. Just as it is possible to conceive of the notion of a discourse referent in extended texts, so we shall use the label ***discourse proposition*** to refer to the parallel notion/phenomenon for the proposition. What follows below is a table summarising the information status of the propositions (1) and (4) on-line as the exchange progresses.

Table 5.3: Information status of propositions (1) and (4).

Letter	Information status of propositions:	
	a's view	*a's* assumptions about *b's* view
A1	(1) (4) ——>	(1) (4)
		[unsuccessful transfer]
	b's assumptions about *a's* view	*b's* view
B1	(?1) (?4) <——	(?1) (?4)
	a's view	*a's* assumptions about *b's* view
A2	(?1) (?4) (1) (4) ——>	(1) (4)

Note: Lightly shaded area   =   New information
       Heavily shaded area   =   Known information

We analyse the information status of the propositions as either new or known. Unlike the referents, we are not using the notion of "consciousness" as the criterion for defining information status of the propositions. The reason for this is because our interest here lies in the *knowing* rather than the *thinking of* certain propositions.

Looking at the first row regarding A1, the heavily shaded area indicates that the two propositions are known information to *a*. Since *a* is the writer of the letter, it is not surprising that the propositions are known to him. The third column shows that, in writing A1, the writer *a* assumes that the reader *b* will accept the propositions as new information (light shade). Just as *a* has misjudged the referential adequacy of the expression *the M.A.* used to refer to the referent 'M.A. in Applied Linguistics', he has also misjudged the successful transmission of (1) and (4) as new information. This

unsuccessful transfer/transmission of information is caused by the confusion of the two M.A. referents discussed in the previous section (see also Chapters 3 and 4).

In B1, the writer *b* expresses her uncertainty about the two propositions by saying that she can't quite work out what *a* has applied to take. We use the notation (?1) and (?4) to indicate this uncertainty. In writing B1, the writer *b* assumes that the reader *a* will accept her uncertainties (?1) and (?4) as "new" (but uncertain) information. When *a* writes his reply in A2, he would have stored the uncertainties (?1) and (?4) as "known" information (hence, the heavy shade). He still has (1) and (4) as known information which he conveys to the reader *b* again, assuming that the reader will accept them as new information now.

Having looked at the information status of the referents and now of the related propositions which include these referents, we are in a position to examine the interaction of the two levels of analysis. In other words, is there a correlation between the information status of the referents on the one hand and their related propositions on the other?

In the following tables (5.4 - 5.6), we offer an analysis of this interaction. Note that the relevant texts have been provided in the second column. The expressions which have been used to refer to the two referents are underlined and their information status is indicated in bold and parentheses. The related proposition of the referent 'M.A. in Linguistics' is (1) '*a* applied to take the M.A. in Linguistics'. The related proposition of the referent 'M.A. in Applied Linguistics' is (4) '*a* would like to read two core courses of the M.A. in Applied Linguistics in addition'. The last two columns show the information status of the propositions. Once again, the lightly shaded areas indicate new information, while the heavily shaded areas indicate known information. One major difference between the representation of the information status of the propositions here with that of Table 5.3 is that in the following tables, the in-coming information within each letter is indicated in sequence as it appears in the letters. Note also that in Table 5.3, the text has not been indicated; whereas in the

following tables, we have included the relevant texts. This difference will become clearer as we work our way through the tables below.

Table 5.4: For letter A1 only: Correlating the information status of the two 'M.A.' referents with the information status of their related propositions (1) & (4).

Letters	Texts: Expressions referring to two referents (_underlined_) and supporting "predicates" (_smaller font_)	Information status of propositions:	
		_a's_ view	_a's_ assumptions about _b's_ view
A1	_... I applied ... to take_ <u>_the M.A. in Linguistics_</u> (**New**) _in the academic year 1993/94._	(1) ⟶	(1)
	Within <u>_this one-year course_</u> (**Activ**)_I like to ...._	(1) ⟶	(1)
	[3 intervening sentences]		
	Therefore I would like to read two core courses of <u>_the M.A._</u> (**New**) _in addition ..._	(4) ⟶	(1) (4)
			[undetected unsuccessful transfer]

Note: referents (<u>_underlined_</u>); information status (**Bold**)
related propositions (numbered); information status (heavy shade: Known;
light shade: New)

(1)   _a_ applied to take the M.A. in Linguistics
(4)   _a_ would like to read two core courses of the M.A. in Applied Linguistics in addition

When _a_ writes the utterance _... I applied ... to take the M.A. in Linguistics...,_ he assumes that the referent 'M.A. in Linguistics' will be established as new information in the reader _b's_ mind. The related proposition (1) '_a_ applied to take the M.A. in Linguistics' is also assumed to be established as new information (light shade). When _a_ writes the next utterance _Within this one-year course I like to ...,_ he

assumes that the 'M.A. in Linguistics' referent is currently activated while the related proposition is now known information (heavy shade). In writing the utterance *Therefore I would like to read two core courses of the M.A. in addition ...*, the writer *a* assumes that the reader *b* will accept the attenuated and underspecified *the M.A.* as referring to a new referent 'M.A. in Applied Linguistics' and its related proposition (4) '*a* would like to read two core courses of the M.A. in Applied Linguistics in addition' as new information.

Presumably at the end of the letter, *a's* assumptions about *b's* view is that *b* will hold (1) as known information and (4) as new information. *a's* assumptions about the reader *b's* eventual information state of the propositions are indicated in the last shaded box with borders. The vertical line running down the last column traces *a's* assumptions about the reader's information status with regard to the propositions. At the time of writing, *a* obviously has no idea that he has erred in using the attenuated form, resulting in confusion and the unsuccessful transfer of information (indicated on the table by square brackets). In reality, it is only in reading *b's* reply/query later on that he realises that neither proposition (1) nor (4) has been established as known information.

We should add the caveat that even though *a* has misjudged the referential adequacy of his underspecified expression *the M.A.* to refer to the referent 'M.A. in Applied Linguistics', *b's* failure to understand the expression is not total either. It is not as though *b* has no idea whatsoever which two MA's (of the 40 or more MA's offered by the University) *a* may be referring to. The fact that she can shortlist the exact two MA's which *a* has to be referring to is indicative of this partial failure/success to refer. As such, we suggest in the next table that instead of a total referential failure, *b* carries with her the two doubts/uncertainties (?1) and (?4).

Table 5.5: For letter B1 only: Correlating the information status of the two 'M.A.' referents with the uncertain information status of their related propositions (1) & (4).

Letters	Texts: Expressions referring to two referents (*underlined*) and supporting "predicates" (*smaller font*)	Information status of propositions: b's assumptions about a's view	b's view
B1	*I cannot quite work out ... exactly what you are going to be doing here ... ;*	(?1) (?4) ⟵	(?1) (?4)
	you say you have applied to take <u>*the M.A. in Linguistics*</u>, (**Avail**$_{\text{displ}}$) *and I presume ... you will be a student of the Linguistics Department.*	(?1) ⟵	(?1)
	If that is the case, I am afraid that it would not really be the done thing for me to supervise you, since the Applied Linguistics Department is a separate department in a different faculty.		
	[1 intervening sentence]		
	Or, do you mean that you have applied to take <u>*the M.A. in Applied Linguistics*</u> (**Avail**$_{\text{displ}}$) *here in the Applied Linguistics Department?*	(?1) (?4) ⟵	(?4)

In the second letter B1, *b* is now the writer who decides how she wants to package the referents and propositions. In writing *I cannot quite work out ... exactly what you are going to be doing here ...*, the writer *b* assumes that the reader *a* will be able to pick up her uncertainties (?1) and (?4). The writer *b* assumes that these uncertainties will be established as "new" information at this stage in *a's* mind. By the time *b* writes *you say you have applied to take the M.A. in Linguistics* and so on, *b* assumes that *a* will now take uncertainty (?1) as "known" information. When *b* writes *Or, do you mean you have applied to take the M.A. in Applied Linguistics*, she assumes that the reader *a* will now accept uncertainty (?4) as "known" information as

well. By the time the writer b comes to the end of the letter, her assumptions about the reader $a's$ eventual information state (shaded box with border) will be that uncertainties (?1) and (?4) will be treated as "known" information by a.

Table 5.6: For letters A2 & B2 only: Correlating the information status of the two 'M.A.' referents with the information status of their related propositions (1) & (4).

Letters	Texts: Expressions referring to two referents (_underlined_) and supporting "predicates" (_smaller font_)	Information status of propositions: *a's* view	*a's* assumptions about *b's* view
A2	*... you tell me that I may follow some courses at the Applied Linguistics Department.*	(4)	$\longrightarrow$ (4)
	[1 intervening sentence]		
	... I would like to clear up a possible misunderstanding: As you presume, I have applied to take <u>the M.A. in Linguistics</u> (**Avail**_{displ}) *at the Faculty of Languages.*	(1)	$\longrightarrow$ (1)
	Lacking the teaching experience of 4 years, I am not eligible for <u>the M.A. in Applied Linguistics</u> (**Avail**_{displ}) *anyway.*	(4)	$\longrightarrow$ (4)
	... I hoped that my belonging to a different department of the University would not be an obstacle ... with the prospectus of <u>the M.A. in Linguistics</u> (**Avail**_{displ}) *stating on page 2: ....*	(1)	$\longrightarrow$ (1) (4)
	[3 intervening sentences]		
	Would you consider it useful to talk things over with c?		
			b's view
B2	*Thank you ... you clarify your future affiliation in the University.*		(1) (4)

In the above table, by the time *a* finishes writing A2, he probably assumes that the reader *b's* eventual information state will include both propositions (1) and (4) as

known information. We notice that for both letters B1 (previous table) and A2 (above table), *a's* and *b's* negotiation of their positions on the propositions is accompanied by the use of the full lexical expressions to refer to both M.A. referents even though both referents are available (displaced).

The complexities of the interaction of the information status of the referents (and the degrees of attenuation of their referring expressions) and the information status of their related propositions are best captured in graphical form. The data for the following figures are drawn from *a's* letters A1 and A2 as shown in Tables 5.4 and 5.6 above. (Since we are taking the writer *a's* point of view here, we have excluded discussion of letter B1.) For ease of explanation, we will refrain from repeating the expression "the writer *a* assumes that *b's* view of the information status of the referent/proposition is ....". Instead, our assumption is that everything discussed below is based on the writer's assumptions about the reader's informational state.

Figures 5.6 (a) & (b): The interaction of the information status of referents (a) 'M.A. in Linguistics' and (b) 'M.A. in Applied Linguistics', and the information status of their related propositions (1) and (4) respectively.
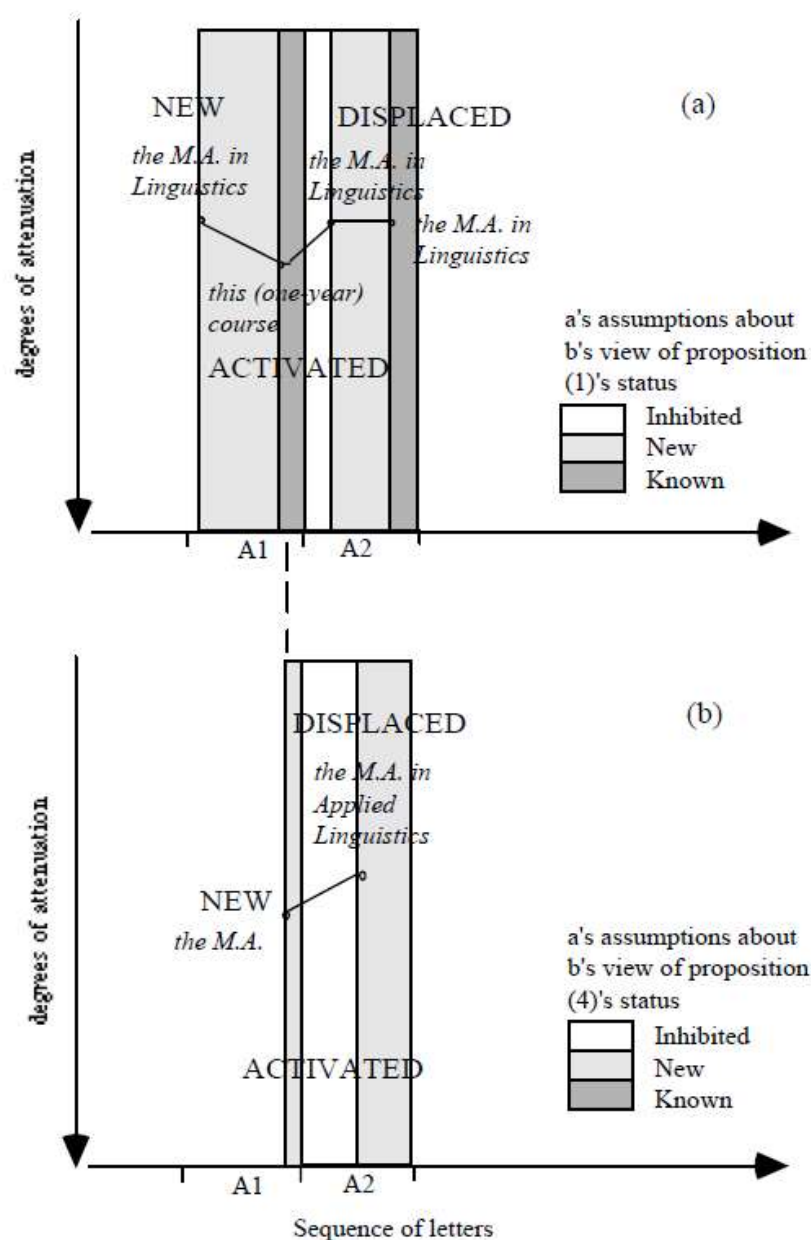
Note: (1)   *a* applied to take the M.A. in Linguistics
      (4)   *a* would like to read two core courses of the M.A. in Applied Linguistics in addition

Graph (a) above shows the interaction of the information status of the referent 'M.A. in Linguistics' and the information status of its related proposition (1) '*a* applied

to take the M.A. in Linguistics' as assumed by the writer *a* regarding his reader *b*. On the first mention of the referent early in the text of A1, the related proposition is established as new information (lightly shaded area) as well. The graph then moves downwards, showing a movement towards the use of an attenuated form.

Once activated status for the referent has been established, the related proposition is presumably established as known information (heavy shade). As we have discussed previously, the confusion arises when the other referent 'M.A. in Applied Linguistics' is mentioned with the underspecified expression *the M.A.*, resulting in *b's* confusion over *a's* departmental affiliation (see dotted line linking graphs (a) and (b)). This results in the unsuccessful communication of propositions (1) as well as (4), triggering the unshaded area of inhibited information transfer. Recall that the writer *a* only realises this communication failure when he reads *b's* response.

Coming back to graph (a), when the writer *a* writes his next letter A2, he assumes that proposition (1)'s information status has been inhibited (the unshaded area). As the graph enters the unshaded area (showing miscommunication), it rises rapidly to its original height, showing a shift back to the same full lexical expression.

Once the referent is established as available (displaced) during the first part of letter A2, the slope of the graph levels off. Notice that the graph flattens, rather than slopes down, the second time round in the lightly shaded area. This is so because the writer *a* is understandably cautious, and therefore chooses to use the full lexical expression for the already available (displaced) referent in order to avoid future confusion.

Summing up, in graphical terms, we expect the graph to slope down during its first entry into the lightly shaded area. The graph should then slope up in the resulting heavily shaded area. An unshaded area has the tendency to push the graph up to its original height. During its second entry (especially after an unshaded area) into the second lightly shaded area, the graph begins to level off rather than slope down.

Graph (b) shows the relationship between the information status of the referent 'M.A. in Applied Linguistics' and the information status of its related proposition (4) '*a*

would like to read two core courses of the M.A. in Applied Linguistics in addition'. As we have observed earlier, the shape of the graph contradicts that suggested by Yule (1981). The reason lies in *a's* misjudgement in using the underspecified *the M.A.* to refer to the referent 'M.A. in Applied Linguistics'. While still writing A1, *a* has no way of knowing that his underspecified expression has failed to refer for his reader *b*. In other words, while writing A1, *a* assumes that the reader *b* will treat the expression and its related proposition as establishing new information (lightly shaded area). By the time he writes his clarification to *b's* query in A2, he already knows that proposition (4)'s information status has been inhibited (unshaded area). (Similar to graph (a), this unshaded area sees a similar rise in the graph towards the full lexical expression.) With the second mention of the referent by a full lexical expression, displaced referent information status is established, while the related proposition is established as new information.

In both situations (a) and (b) above, we are looking at instances where referential success has not been immediate. We have no examples of referential chains (i.e., at least three mentions of the same referent at different information status) in our data where success of reference is achieved without recourse to further clarification. But it is not impossible to imagine the kind of graphical representation such an ideal situation might produce.

Figure 5.7: An idealised representation of the interaction of the information status of a referent and its related proposition.
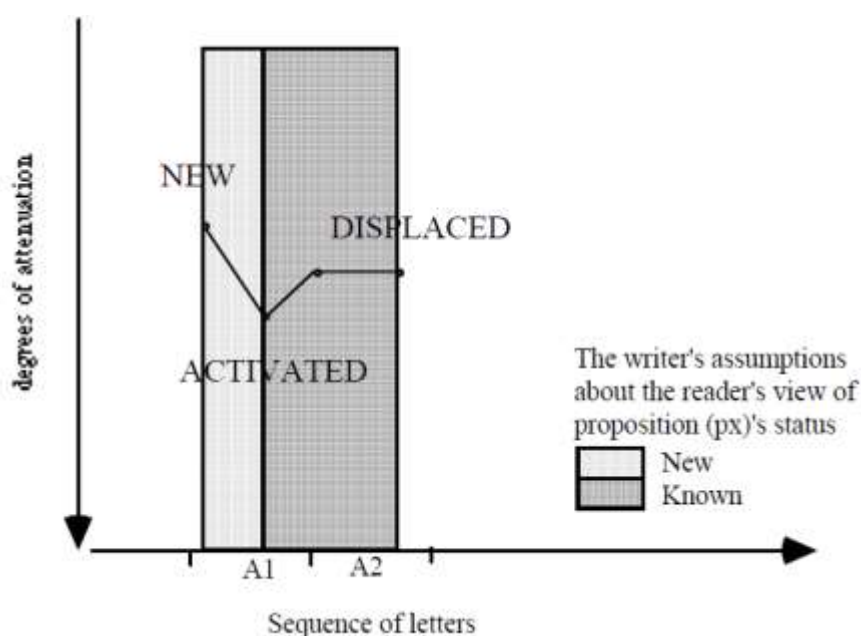
In a situation where an entity x and its related proposition p_x are established as new information without any setbacks, the above graph may well represent such an idealised discourse referent-proposition history. When the referent x is first referred to in a proposition p_x, the full definite lexical expression is used. Once activated, the referent is referred to again with a highly attenuated form. This is shown by the dip in the graph. Upon displacement, we would expect the initial reference to the available referent to be made with the use of a definite lexical expression although we do not expect the expression to be as extended as during its first mention (new). This is shown by a rise in the graph but which does not rise to its original height. With subsequent mention of the displaced referent x, we expect the stable use of the same definite lexical expression, hence the flat graph.

In such an idealised situation, the interaction of the two levels of information status is probably fairly straightforward too. Once the referent has been established as new information, we would expect the onset of the lightly shaded area, showing that the related proposition has been established as new information as well. When the

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referent is referred to again while activated, this will trigger the onset of the heavily shaded area, showing that the related proposition has been established as known information. The heavily shaded area will persist with subsequent mentions of the available referent, showing that the information status of the related proposition as known is maintained throughout. We do not expect to see an unshaded area of inhibited information status of the related proposition, and therefore do not expect the graph to be pushed up to its original height.

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3   Information structure and common ground

We shall close our discussion of information structure by highlighting its relation to common ground. Recall in Chapter 2, Section 4 that we classify shared beliefs as part of *established* common ground, and common/background knowledge as part of *assumed* common ground.

When the writer deliberates on her packaging of information in her utterances, she makes certain assumptions about what might reasonably be considered to be part of her reader's information state. If she assumes the information to be already activated, she is probably drawing from her assumptions about her reader's shared beliefs (i.e., established common ground), since that which is activated must have arisen from a previous and recent mention.

If she assumes the information to be merely available, she is probably drawing from her assumptions about her reader's shared beliefs (i.e., available$_{displaced}$ information) and/or her reader's background knowledge (available$_{schema}$, available$_{reasoning}$). In other words, she is accessing her reader's established common ground (shared beliefs) and assumed common ground (common/background knowledge). The above is summarised in Table 5.7 below.

Table 5.7: The basis of the writer's assumptions (1st layer) about her reader's actual information state.

Writer's assumption about the reader's actual information state	Basis of writer's assumption	Type of CG
Activated	Shared belief	Established CG
Available$_{displaced}$	Shared belief	Established CG
Available$_{schema}$	Background knowledge	Assumed CG
Available$_{reasoning}$	Background knowledge	Assumed CG

Note: CG   =   common ground.
The above is based on the writer's 1st layer of assumptions only. See Chapter 4, Section 3 for a discussion of our three-layer conceptualisation of the writer's assumptions about her reader's actual information state, ability and willingness states. Table 4.1 in Chapter 4 summarises our conceptual framework.

Our discussion in Chapter 4 also reveals that the writer can package her utterances quite independently of her assumptions about her reader's actual information state. In order words, she can make the additional assumption about her reader's willingness to accept the way she chooses to package her information (i.e., the writer's 3rd layer of assumptions about her reader). See Table 5.8 below.

Table 5.8: The basis of the writer's assumptions (1st and 3rd layers) about her reader's actual information state and willingness state.

Writer's assumption about the reader's actual information state (and willingness state in parenthesis)	Basis of writer's assumption	Type of CG
New (but the reader is willing to treat as though it is available)	New information	As though CG

For example, the writer can package new information (i.e., not part of her reader's common ground or assumed common ground) as though it is available, and expects him to treat the information as such. This takes place when the writer uses the "non-default" definite expression to refer to a piece of information which is new to the reader. This "non-default" use, as we have pointed out in our discussion of (19) and (31) in Chapter 4, is possible because the writer makes the further assumption about her reader's willingness to accept the way she packages her information. In doing this, we suspect that the writer is reaching a third "source" of information, apart from her reader's established common ground (shared beliefs) and assumed common ground (background knowledge). This third "source" of information (as we have pointed out in Chapter 2, Section 4) has to do with that which the writer assumes the reader is willing to treat as though it is part of his common ground. We have termed this third "category" of common ground as "*as though* common ground" (see Chapter 2, Section 4 for further discussion).

4   Conclusion

In Chapters 4 and 5, we offer a detailed account of information structure from the writer's point of view. We analyse this at the referent and propositional levels and also the interaction of the two levels. In conjunction with these analyses, we offer some observations on the nature of the difference between written and spoken discourse in relation to the issue of how information status affects the degree of attenuation of the expressions used. We conclude our discussion by commenting briefly on the relation between information structure and common ground from the writer's point of view. In the next two chapters, we shall return to the reader's point of view by looking closely at the configurations of the reader's beliefs in the process of establishing common ground.

Chapter 6

Configuring Shared Beliefs

In Chapter 3, we examined the role of the reader in interpreting utterances. One of our observations is that the reader has access to certain background knowledge which he assumes to be common ground to help him interpret the utterances. We also show that as the exchange of letters progresses, previous propositions expressed in the earlier letters become part of the reader's conception of his common ground (shared beliefs), and that this "accumulated" context helps him to confirm/modify/reject his interpretation of other previous utterances as well as interpret new utterances.

In Chapters 4 and 5, we take the writer's point of view by focusing on how the writer uses her common ground to help her package the expressions in her letters. We argue that she takes into account her reader's existing shared beliefs (established common ground) and her reader's existing background knowledge (assumed common ground) in packaging her utterances. We also argue that she can make the additional assumption of her reader's ability and willingness to, for example, accept her packaging of certain new information as though it is already part of her reader's established/assumed common ground ("as though common ground").

In this chapter and the next, we return to the reader's point of view. This chapter is concerned with the **regression of beliefs**. We should emphasise that we continue to use the term regression in the Schifferian sense, as expounded in Chapter 1 (Section 3) and Chapter 2 (Section 1). The term regression is used in the context of a two-party discourse, where, in the process of negotiation of their respective positions on particular propositions, the first party begins to form beliefs about the

second party's beliefs about these propositions, and beliefs about the second party's beliefs about the first party's beliefs about the same propositions, and so on.

So far, we have seen that the process of establishing common ground runs right through the entire series of letters. As the letters go back and forth between *a* and *b*, it becomes inevitable that there will be a certain degree of regression of beliefs involved. For example, *a* is bound to not only have beliefs about certain propositions, but also beliefs about what *b* may believe about his beliefs of the same propositions, and so on. In examining this regression of beliefs in detail in the current chapter, we offer a plausible solution to the Mutual Knowledge Paradox discussed in Chapter 2 by demonstrating that the regression is limited to a few steps. We do this by expanding on the method of configuring beliefs first developed in Brown (1995) (see Chapter 2 for a discussion of Brown's method). In doing this, we will be able to demonstrate the kinds of configurations which are associated with establishing shared beliefs.

Next we shall explore the relationship between the individual's goals/pragmatic reasoning schemas (as discussed in Chapter 3, Section 3) and the order in which the key beliefs are/are not established as shared. In order to investigate this interaction, we use the same set of Base Propositions (BPs) examined in Chapter 3 as the basis of our analysis in this chapter.

Finally, we shall consider the written-spoken language distinction in the light of our findings in this chapter which is based entirely on written data. We conclude by restating our position on the Mutual Knowledge Paradox, and by comparing our findings with those of Clark's (1996) and Brown's (1995) (as discussed in Chapter 2).

Note that in this chapter, as in the rest of the study, we refer to the generic writer as *she* and the generic reader as *he*. We shall continue to refer to *b* as *she*, and *a* as *he*.

1   Defining some key terms

We begin by introducing the use of several new terms to label the concepts/phenomena we will isolate in our analysis of the data. We define some of the crucial terms here but will leave the detailed discussion for later.

As we have seen in Chapter 2 (Section 3) of our discussion of the regression of B's beliefs in Brown's (1995) example, this regression can be represented by a series of values to indicate B's beliefs about the palm tree, and B's beliefs about A's beliefs about the palm tree and so on. We have used the term '**configuration**' to refer to this series of values which characterises B's regression of beliefs.

Likewise in our current study, in configuring the beliefs of the interactants, *a* and *b,* as the exchange of letters progresses, we are able to highlight the regression of their beliefs. This regression, we shall demonstrate later, is **solipsistic**. By a solipsistic regression, we mean that each interactant has his own set of beliefs and his own beliefs about the other interactant's beliefs. For example, *a* has his own set of regressed beliefs regarding the sharedness of, say, proposition (1) '*a* applied to take the M.A. in Linguistics'. *b*, on the other hand, has her own conception of (1) and of her conception of *a's* position on (1). We shall exemplify the complexities of this distinction in Section 3 below.

Because each interactant develops his own notion of sharedness when reading a particular letter, obviously only one interactant can establish sharedness for (1) at a time. Whoever establishes sharedness first for (1) depends on who has access to the information regarding (1) first. (We shall explain what we mean by "having access to information first" later in Section 4.) For the time being, we should just point out that the first person to establish sharedness for (1) has, what shall call, **1st Party Sharedness**. The second person to establish sharedness for the same belief has **2nd Party Sharedness**. We shall demonstrate, in the discussion of our data below, the difference between the configurations of 1st Party and 2nd Party Sharedness.

We shall also demonstrate that once sharedness has been established, this regression of, say, belief (1) is terminated or **arrested**. Once we have ascertained that sharedness has been established, we can count, quite literally, the **number of steps** in the regression. By counting the number of steps and the actual values of each step, we are able to identify the kind of **configuration** that is associated with the sharedness. (This is best exemplified later when we look at the data.)

By looking at the configuration of various beliefs we are then able to identify **generic patterns of configurations**, each pattern depicting a different type of sharedness. These patterns will reveal that there are three types of sharedness: shared belief, shared doubt and shared disbelief. **Shared belief** (also called **common ground (CG)**)is a state where one interactant, say a, believes (1), and a also believes that the other interactant b believes (1). **Shared doubt** is a state where a is uncertain about (1) and where he believes that b is uncertain about (1) as well. **Shared disbelief** is a state where a does not believe (1) and where he believes that b does not believe (1) either.

Although each interactant's goal is to establish CG, it is not always achieved. This is attributed to three problems (to be discussed in Section 2). These problems are: (i) **conflicting initial beliefs**; (ii) **inaccurate representation** of the other party's beliefs; and (iii) **conflicting resultant beliefs**. The state of (i) pertains to a lack of sharedness *prior* to the interaction; whereas the state of (iii) pertains to a lack of sharedness even *after* an attempt at bridging this gap through some interaction has been made. (ii) is a situation where one interactant forms an inaccurate representation of the other interactant's beliefs during the interaction, possibly due to a lack of understanding or misinterpretation of the other interactant's utterances. Having defined these terms briefly, we are now in a position to examine the data.

2   List of assumptions made by the writer *a* in writing A1

We begin our discussion by listing the assumptions made by *a* in writing letter A1. We use the propositional content expressed in these assumptions as our basis for tracking whether these assumptions are established as shared beliefs subsequently as the exchange progresses.

The list of assumptions made by *a* in writing A1 may be subdivided into three categories: those pertaining to *a* himself; those pertaining to the world (i.e., University regulations and protocols, prospectus, etc.); and those pertaining to *b*. (See Chapter 1 or Appendix 1 for the text of letter A1.) We shall use the term *assumption* interchangeably with *belief*; hence by *a's* assumptions we mean too *a's* beliefs. Strictly speaking, we think there is a fundamental difference between *a's* beliefs about himself and *a's* beliefs about the world and *b*. The second set of beliefs concerns propositions whose contents are external to *a*, the writer, while the first set concerns propositions whose contents are internal to *a* . In this sense then, one may say that *a knows* the propositions concerning himself; while *a* can only *believe* propositions about the world and *b*, or anything else external to him. The first set of assumptions is more secure, while the second is less secure. After all, *a* is more likely to be mistaken about others than he would be about himself, his actions and intentions, barring any cognitive/mental abnormalities.

The following table lists the assumptions made by *a* in writing letter A1. You will notice that these assumptions are in fact the list of Base Propositions (BPs) listed in Chapters 1 and 3. For our purpose here, we shall refer to them as assumptions/beliefs instead of BPs. We have however retained their original numbering for easy cross-referencing with Chapters 1 and 3. So, BP 1 is now assumption/belief 1, BP 2a is assumption/belief 2a, and so on.

Table 6.1: Assumptions/beliefs made/held by *a*, the writer, in writing letter A1 (including those which *a* is unsure of; marked by [?])

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a **believes that:**

(regarding a)

1   *a* applied to take the M.A. in Linguistics

(regarding the world: University regulations, prospectus, etc.)

2a   The Linguistics Department is permitted to let *b* supervise *a*
2b   The Linguistics Department is willing to let *b* supervise *a*

(regarding b)

3a   *b* is constitutionally permitted to supervise *a*
3b   *b* is interested in supervising *a* [?]
3e   *b* is willing in principle to supervise *a* [?]
3f   *b* is willing in fact to supervise *a* [?]

(Note that we have excluded BP 3c '*b* will continue to be interested in supervising *a*' and BP 3d '*b* has time and so on to supervise *a*' from the table because these BPs have not arisen yet in letter A1.)

The first of *a's* beliefs (1) concerns *a* himself. In a sense then, it is really *a's* knowledge of himself. Surely *a* knows his own action. Assumption (1) is based on stated information found in the text in A1P2.

Assumptions (2a) - (2b) pertain to the state of the world, especially that concerning the University regulations, organisation, procedures and practices. They are largely taken/adapted from the list of background knowledge (assumed common ground) listed on Table 1.1 of Chapter 1.

a's assumptions (3a) - (3f) pertain to *a's* assumptions/beliefs about *b*. Assumption (3b) is drawn from A1P4. Assumption (3a) is very similar to (2a), but

written from *b's* point of view. Notice that we have included on the list, *a's* beliefs (3b), (3e) and (3f) pertaining to *b* which he is unsure of.

Being the writer and source of the information in letter A1, *a* may be assumed to believe all of the above information, except (3b), (3e) and (3f) which he isn't sure of. See Table 6.2 below for a summary of *a's* beliefs in writing A1. (A '+' indicates that *a* believes the proposition expressed; while a '?' indicates uncertainty/doubt. 'Assms' = Assumptions.)

Table 6.2:   *a's* beliefs in writing letter A1

Letter	Assms/Beliefs	*a's* beliefs
A1	1	+
	2a	+
	3a	+
	3b	?
	3e	?
	2b	+
	3f	?

Note that we have rearranged the order of the beliefs/assumptions to reflect the order in which they are arranged sequentially as conditions in terms of *b's* pragmatic reasoning schema (see Chapter 3, Section 3 for a discussion). The purpose is to see if the order in which these beliefs are established as shared corresponds with the order in which the conditions of the reasoning schema of *b* are arranged. As we have shown in Chapter 3, the order in which the beliefs (BPs in Chapter 3) are arranged sequentially is driven by *b's* goal which is to determine the status of the terminal BP3f '*b* is willing in fact to supervise *a*'. As we have seen in Chapter 3, *a's* goal also pertains to the status of the terminal BP 3f. If the order in which the beliefs are established as shared reflects the same order in which the conditions of the schema are arranged, we are then well placed to assume that the order in which shared beliefs are established is similarly goal-driven.

3   The reader *b's* beliefs after reading A1

We have seen in Chapter 3 how *b*, in reading A1, has doubts about which M.A. (i.e., Linguistics or Applied Linguistics) *a* has applied to take. Based on the evidence found in *b's* reply B1, we therefore assume that *b* believes that *a* may have confused his application for one M.A. for the other. *b* is also quite convinced that although across department supervision is permissible, she has no reason to suppose that the Linguistics Department would be willing to let an external expert like her supervise *a*, given that the Linguistics Department already has a sociolinguistics expert. Hence, she believes at this juncture that neither is the Linguistics Department willing to let her nor is she willing to supervise *a*. As such *b* does *not* believe that:

2b.   The Linguistics Department is willing to let *b* supervise *a*

3e.   *b* is willing in principle to supervise *a*

3f.   *b* is willing in fact to supervise *a*

b's beliefs may be represented in the following way in the table below.

Table 6.3:   A comparison of *a's* and *b's* beliefs after writing/reading letter A1

| Letter | Belief | a's beliefs (Steps) | | b's beliefs (Steps) | | |
		a (Step 1)	a/b (Step 2)	b (Step 1)	b/a (Step 2)	b/a/b (St 3)
A1	1	+		?	?	
	2a	+		+	+	
	3a	+		+	+	
	3b	?		-	?	
	3e	?		-	?	
	2b	+		-	+	
	3f	?		-	?	

Note: a   +   =   *a* believes that ...

a/b   +   =   *a* believes that *b* believes that ...

a   ?   =   *a* is not sure that ...

a/b   ?   =   *a* believes that *b* is not sure that ...

a	-	=	*a* does not believe that ...
a/b	-	=	*a* believes that *b* does not believe that ...
b	+	=	*b* believes that ...
b/a	+	=	*b* believes that *a* believes that ...
b	?	=	*b* is not sure that ...
and so on ...			

(For our purpose here, note also that 'a -' means that *a* does not believe that *p* (the proposition); it does not mean that *a* believes that not *p*. Furthermore, 'a/b -' means that *a* believes that *b* does not believe that *p*; it does not mean that *a* believes that *b* believes that not *p*. Note too that the negation of belief extends to the last individual named in the regression only (in this case, *b*, for 'a/b -'); it does not extend to prior individual(s) mentioned in the regression (in this case, *a*). Hence, 'a/b/a -', for example, means that *a* believes that *b* believes that **a does not believe that p**.)

In order to facilitate our discussion of the above table, we shall examine it in this order:

(i)   A comparison of columns a and b.

Firstly, we shall compare *a's* and *b's* own (i.e., only Step 1) beliefs. In Table 6.3 above, this is done by comparing column a with column b. This amounts to a comparison of *a's* and *b's* own beliefs *prior* to the exchange of letters. What our analysis will show below is that there are **conflicting initial beliefs**.

(ii)   A comparison of columns a and b/a (both shaded).

Secondly, we shall track *b's* conceptualisation/representation of *a's* beliefs. (This is done by comparing columns a and b/a (both shaded).) On the table, this representation is presented visually by the "transfer" of beliefs from the shaded column on the left to the shaded column on the right. In Table 6.3, *a's* beliefs (column a; Step 1; shaded) get "transferred" to *b* and become *b's* beliefs about *a's* beliefs (column b/a; Step 2; shaded). In reality, there is no

actual transfer of beliefs from *a* to *b* since beliefs are held solipsistically and reside entirely in the head of an individual. We merely use the term 'transfer' as a convenient way of describing the visual presentation of the beliefs on the table. Rather, and in psychological terms, the "transfer" of beliefs from *a's* Step 1 beliefs to *b's* Step 2 beliefs is in fact *b's* representation of *a's* beliefs (b/a). In our analysis below, we will show that *b's* **inaccurate representation** of *a's* beliefs shows a lack of understanding on *b's* part of *a's* intended meaning. Evidence of this lies in *b's* remark that *she cannot quite work out ... exactly what you [a] are going to be doing ...* in B1P2. Please refer to Chapter 3 for an earlier discussion of this communication problem.

(iii)   A comparison of columns b and b/a.

Once we have examined (i) and (ii) above, we are then in a position to see if there is a match between *b's* own beliefs (b, Step 1) and *b's* beliefs about *a's* beliefs (b/a, Steps 1-2). (As you can see, this is done by comparing *b's* columns b (Step 1) and b/a (Step 2).) If there is a Step 1-2 match, we can safely say that shared beliefs (or shared doubts; to be discussed later) have been established. If there is a lack of match of beliefs after *b* has formed a representation of *a's* beliefs, we shall refer to this outcome as a state of **conflicting resultant beliefs**.

We shall exemplify the above order of investigation by looking more closely at Table 6.3.

Firstly, let us compare *a's* (a; Step 1) and *b's* (b; Step 1) own beliefs about (1), (2a), (3a), (3b), (3e), (2b) and (3f) in letter A1. The following is an extract of the relevant parts from Table 6.3.

	a's beliefs	*b's* beliefs
	a	b
1	+	?
2a	+	+
3a	+	+
3b	?	-
3e	?	-
2b	+	-
3f	?	-

We have already discussed *a's* beliefs (column a above) when we discussed Table 6.2 previously. Now, looking at *b's* beliefs only, the column b (Step 1) shows that, like *a*, *b* believes (2a) 'The Linguistics Department is permitted to let *b* supervise *a*' and (3a) '*b* is constitutionally permitted to supervise *a'*. We know that this is so because *b* is familiar with the Linguistics Department's regulations (see Chapter 3, Section 2.2 for a discussion).

b, however, is not sure of (1) '*a* applied to take the M.A. in Linguistics'. The evidence for this lies in *b's* reply B1 where she declares that she is not sure what *a* has applied to do. In contrast to *a*, *b* doesn't believe (3b) '*b* is interested in supervising *a*', (3e) '*b* is willing in principle to supervise *a*', (2b) 'The Linguistics Department is willing to let *b* supervise *a*' and (3f) '*b* is willing in fact to supervise *a*'. Recall that *b* does not hold (3b) '*b* is interested in supervising *a*' because she still doesn't know at this juncture what *a's* departmental affiliation is. See Chapter 3 for a detailed discussion of why *b* is uncertain about *a's* status as a student of the Linguistics Department, and why she is unwilling, at this juncture, both in principle and in fact to supervise *a*. Hence for (1), (3b), (3e), (2b) and (3f), *a's* and *b's* initial beliefs are in conflict (**conflicting initial beliefs**).

Having compared *a's* and *b's* own beliefs (Step 1 only), let us consider *b's* representation of *a's* beliefs. This is indicated on the second column b/a (Step 2) of

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b's beliefs in Table 6.3. The column b/a concerns *b's* beliefs of *a's* beliefs. We reproduce below relevant extracts (originally shaded columns) from Table 6.3.

	a's beliefs	*b's* beliefs
	a	b/a
1	+	?
2a	+	+
3a	+	+
3b	?	?
3e	?	?
2b	+	+
3f	?	?

Notice that all the Step 2 beliefs in the column b/a are new to *b* because this is *b's* first encounter with *a's* beliefs. In fact, another way of looking at it is that *a's* beliefs are "transferred" *en bloc* to column b/a (note that in Table 6.3, the "transfer" from columns a to b/a is indicated by the shaded columns). Notice that the beliefs of b/a are Step 2 beliefs of *b* concerning *a's* beliefs. This may also be described as the second step (Step 2) in the regression of *b's* beliefs. The above shows that *a's* beliefs and *b's* beliefs about *a's* beliefs are the same for all the beliefs except (1) after reading A1, i.e., the "transfer" is accurate except for (1).

If we examine the second column b/a closely, it shows that *b* now realises/believes that *a* believes (2a) 'The Linguistics Department is permitted to let *b* supervise *a*', (3a) '*b* is constitutionally permitted to supervise *a*' and (2b) 'The Linguistics Department is willing to let *b* supervise *a*' (indicated by [+] above). *b* also realises/believes that *a* is not sure of (3b) '*b* is interested in supervising *a*', (3e) '*b* is willing in principle to supervise *a*' and (3f) '*b* is willing in fact to supervise *a*' (indicated by [?]).

A crucial difference between *a's* belief (column a; [+]) about (1) '*a* applied to take the M.A. in Linguistics' and *b's* Step 2 belief (column b/a; [?]) about the same is that while *a* knows full well which M.A. he has applied for, *b* believes that *a* may have got the two MA's mixed up and is therefore not sure which M.A. he has applied for.

	a's beliefs	*b's* beliefs
	a	b/a
1	+	?

As such, when *a's* belief (1) in column a (Step 1) gets "transferred" to *b* as *b's* beliefs about *a's* belief (b/a; Step 2), the "transfer" is less than perfect. What this imperfect representation on *b's* part of *a's* belief amounts to is that *b* has not understood in full *a's* intended meaning regarding his department affiliation (**inaccurate representation**).

Once *b* has figured out and formed a representation of (or "transferred") *a's* beliefs, the next thing for *b* to do is to see if their beliefs are the same. This is done by comparing both of *b's* columns b (*b's* beliefs) and b/a (*b's* beliefs about *a's* beliefs). The values for columns b and b/a have been explained above. In the following extract from Table 6.3, we see that *b's* beliefs and *b's* beliefs about *a's* beliefs differ in regard to (3b), (3e), (2b) and (3f). This mismatch between columns b and b/a shows that shared beliefs have not been achieved because their beliefs contradict each other's (**conflicting resultant beliefs**).

	b's beliefs	
	b	b/a
1	?	?
2a	+	+
3a	+	+

3b	-	?
3e	-	?
2b	-	+
3f	-	?

However, for beliefs (2a) 'The Linguistics Department is permitted to let *b* supervise *a*' and (3a) '*b* is constitutionally permitted to supervise *a*', there is a match of Step 1-2 values, showing that what *b* believes (b; Step 1) and what she believes *a* believes (b/a; Step 2) are the same. In other words, *b* has established shared beliefs for (2a) and (3a). These **shared beliefs** become part of her notion of **common ground** (**CG**). It is important to emphasise here that it is *b* who has achieved CG at this juncture, not *a*. (In fact, evidence from *a's* next letter A2 shows that he mistakenly thinks that *b* does not believe (2a) and (3a). This explains why *a* feels the need to quote from the Linguistics Prospectus in A2 regarding the permissibility of across department supervision. (Please refer to the discussion of Table 6.11 below for the details.)

The observation that only one person, in the above case *b*, has achieved CG so far shows that CG is a **solipsistic** notion; it is a condition of sharedness which *b* holds to be true in her head regarding (2a) and (3a). In fact, our discussion below will show that the belief is established as shared by one interactant at a time (see Sections 4-7 below).

Once sharedness of (2a) and (3a) has been established by *b* (i.e., CG), the regression of the beliefs is arrested, since it is no longer necessary for *b* to pursue the matter further. We indicate this cessation of regression by the dotted line at the end of shaded region to the right (see Table 6.3a below; reproduced from Table 6.3). Note that for (2a) and (3a), *b's* CG has a Step 1-2 [+ +] configuration, showing that *b* believes (2a) and (3a) to be true (b; Step 1), and that she believes that *a* believes that (2a) and (3a) are true (b/a; Step 2). In other words, shared truth has been established.

Table 6.3a: (Reproduced 6.3) A comparison of *a's* and *b's* beliefs after writing/reading letter A1

Letter	Belief	*a's* beliefs (Steps)		*b's* beliefs (Steps)		
		a (Step 1)	a/b (Step 2)	b (Step 1)	b/a (Step 2)	b/a/b (St 3)
A1	1	+		?	?	
	2a	+		+	+	
	3a	+		+	+	
	3b	?		-	?	
	3e	?		-	?	
	2b	+		-	+	
	3f	?		-	?	

Similarly for (1), there is a Step 1-2 match, but this time it is a state of **shared doubt**, where *b* is not sure about (1), and *b* believes that *a* is confused (and hence not sure) about (1) too. Since sharedness has been established, the regression is arrested too (see dotted line at the end of *b's* configuration on the table above). Note that this shared doubt has a Step 1-2 [? ?] configuration. This is obviously not the desired state of affairs. Surely the purpose of the communication between *a* and *b* is not only to establish sharedness, but also truth. We shall term the desired state of [+ +] sharedness as a **resolved** state of **shared belief** or **CG** (plus truth). The less desired state of [? ?] sharedness is as yet **unresolved** in terms of its truth although its regression has been arrested. We shall continue to refer to this state as **shared doubt** (minus truth). We reserve the use of the term CG or shared belief for [+ +] sharedness only.

Having looked at the reader *b's* configuration of beliefs of (1), (2a), (3a), (3b), (3e), (2b) and (3f) after she has read letter A1, let us move on to consider the other letters. The analyses of the configuration of all seven beliefs (1) - (3f) in the next few letters will get increasingly complex and difficult to grasp. For ease of reading, we shall consider the beliefs separately. For example, we shall track the regression of belief (1) first over the entire series of letters until its regression has been arrested. Next, we shall track the regression of beliefs (2a) and (3a) together, since both beliefs are very closely related in that they both pertain to the permissibility of *b* supervising

a. We shall then track the regression of (3b). This is followed finally by tracking the regression of the last three beliefs of (3e), (2b) and (3f). Note that the order in which we track the beliefs correspond with *b's* goal-driven reasoning schema as discussed in Section 3 of Chapter 3. The purpose is to see if there is a correlation between the order in which the conditions of the reasoning schema are arranged and the order in which shared beliefs are established.

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4   *a's* and *b's* regressions of belief (1)

> (1)   '*a* applied to take the M.A. in Linguistics'

In this section, we shall consider *a's* and *b's* regression of belief (1) '*a* applied to take the M.A. in Linguistics' over the next few letters until CG has been established. We shall only consider *a* and *b* in their respective roles of readers of each other letters. For example, when analysing letter B1, we shall only look at the reader *a's* regression of beliefs. When we analyse A2, we shall only look at the reader *b's* point of view, and so on. The only exception is for A1 where we shall look at both the reader *b's* regression as well as the writer *a's* point of view. Since *a* is the initiator of the exchange of letters, we shall take his initial beliefs as the basis for discussion in the correspondence.

We have already shown in Section 3 above that when *b* reads *a's* first letter, *b* would have necessarily made two steps in her regression of beliefs: her beliefs about certain propositions (*p*) and her beliefs about *a's* beliefs about *p*. As for belief (1) '*a* applied to take the M.A. in Linguistics', we know that when *b* reads *a's* first letter, she is confused about *a's* department affiliation and she believes that *a* may have confused his application of one M.A. for the other. The following table summarises what has been said so far regarding (1).

Table 6.4:   *b's* regression of belief (1) after reading A1

Letter	Belief	*a's* beliefs (Steps)						*b's* beliefs (Steps)					
		St 1	St 2	St 3	St 4	St 5	St 6	St 1	St 2	St 3	St 4	St 5	St 6
A1	1	+						?	?				

As we have discussed in the previous section (see discussion of Table 6.3a above), *b* achieves a state of **shared doubt** for (1). This is shown in the Step 1-2 [? ?] configuration above. We have argued that this state of affairs is a non-desired state. We know that this is so because we observe that in spite of the sense of sharedness achieved, *b* seeks further clarification of *a's* department affiliation in her reply B1 to *a*.

Next, let us look at *a's* regression of belief (1) '*a* applied to take the M.A. in Linguistics' after he has read *b's* letter B1. When *a* reads *b's* utterance *I cannot quite work out from your letter exactly what you are going to be doing* in B1P2, *a's* belief would have regressed one step further to Step 3. We configure *a's* regression of belief (1) in Table 6.5 below. Recall that:

		a's beliefs		*b's* beliefs
Step 1 (St 1)	=	a	or	b
Step 2 (St 2)	=	a/b		b/a
Step 3 (St 3)	=	a/b/a		b/a/b
and so on ...				

All shaded columns show the ongoing regression of beliefs to the right with each step in the regression. The **heavily** shaded columns show the corresponding columns of beliefs which have been "transferred" from the top half of the table to the bottom half.

In Table 6.5 below, *b's* regression of beliefs (Steps 1 and 2; b & b/a; heavily shaded region) gets "transferred" to *a* and is realised as *a's* beliefs as Steps 2 and 3 (a/b & a/b/a; heavily shaded region). In psychological terms, these "transferred"

beliefs are in fact *a's* representation of *b's* beliefs (Step 2; a/b), and *a's* representation of *b's* beliefs about *a's* beliefs (Step 3; a/b/a). When *a* reads *b's* words *I cannot quite work out from your letter exactly what you are going to be doing* in B1P2, *a* realises that *b* has established a state of shared doubt.

Table 6.5:   *a's* regression of belief (1) after reading B1

Letter	Belief	*a's* beliefs (Steps)						*b's* beliefs (Steps)					
		St 1	St 2	St 3	St 4	St 5	St 6	St 1	St 2	St 3	St 4	St 5	St 6
A1	1	+						?	?				
B1	1	+	?	?									

These "transferred" beliefs (*a's* Steps 2-3; [? ?]) do not match *a's* own belief (*a's* Step 1; [+]), showing that *a* has not established CG. We know that *a* is aware of this lack of match because he goes on to clarify to *b* regarding his department affiliation in the next letter in A2P2 *As you presume I have applied to take the M.A. in Linguistics at the Faculty of Languages*.

When *b* reads *a's* clarification in A2P2, she realises that *a* has indeed applied to take the M.A. in Linguistics (*b's* Step 2; b/a; [+]) (see Table 6.6 below for the "transfer" from *a* to *b*; heavy shade). *b* therefore believes (1) too (*b's* Step 1; b; [+]).

Table 6.6:   *b's* regression of belief (1) after reading A2

Letter	Belief	*a's* beliefs (Steps)						*b's* beliefs (Steps)					
		St 1	St 2	St 3	St 4	St 5	St 6	St 1	St 2	St 3	St 4	St 5	St 6
B1	1	+	?	?									
A2	1							+	+	?	?		

As such, *b's* belief (b; Step 1) of (1) now matches that of her belief about *a's* belief (b/a; Step 2), and it is on this basis that she is prepared to declare later in her reply B2 that she is satisfied with and thankful for *a's* clarification of his departmental affiliation. In other words, for *b* to concede that CG for (1) has been established in

her mind, it is sufficient for her that the **first two steps** in her regression of beliefs match. It appears to us that for *b*, the fact that her belief about *a's* belief about her belief (Step 3; b/a/b; [?]) of (1) does not match the first two steps [+ +] does not seem to be crucial to her for her to be satisfied that CG has been established. The same can be said about Step 4 (b/a/b/a; [?]) of her belief. **Steps 3 and 4** seem to be **secondary** to her notion of CG and merely an **incidental** occurrence resulting from the regression of beliefs with each turn taken in the exchange of letters in order to clarify *a's* department affiliation.

In view of the above, we suspect that people in general have **a strong sense of awareness of Steps 1 and 2** (and **Step 3** as well for 2nd Party CG; see discussion below) being shared (or different), and only **a vague notion of the other steps** being 'similar' (or different). This seems to us to be a sensible position to take because otherwise the processing load would be too mind boggling for rapid on-line processing.) This is a view we shall maintain throughout this chapter in interpreting all our configurations.

You may realise that this is the second time *b* is achieving a sense of sharedness for (1). Recall that after reading *a's* first letter A1, although *b* establishes sharedness [? ?], *b* is confused about *a's* department affiliation (see discussion of Table 6.4 above). We shall pull together *b's* configuration of belief (1) '*a* applied to take the M.A. in Linguistics' at the two points of reading A1 and A2 for easy comparison. Compare *b's* configuration of belief (1) at A1 and A2 on Table 6.7 below.

Table 6.7:   *b's* regression of belief (1) at the point of reading A1 and A2

Letter	Belief	*a's* beliefs (Steps)						*b's* beliefs (Steps)					
		St 1	St 2	St 3	St 4	St 5	St 6	St 1	St 2	St 3	St 4	St 5	St 6
A1	1							?	?				
A2	1							+	+	?	?		

When *b* first reads *a's* opening letter A1, she establishes a sense of shared doubt. We have argued that once sharedness has been established, the regression is arrested. There is no sense in which this regression should persist even if clarification is not forthcoming subsequently. What does persist is the doubt itself and not so much its regression. But this state of **shared doubt** is not the desired outcome, as evidenced in *b's* request for clarification. Without establishing truth as well, the issue of *a's* department affiliation is unresolved. Such an unresolved state is **potentially unstable** in that change/clarification is desired and eagerly sought after.

However, when *b* reads *a's* clarification in A2, *b* establishes **CG** or **shared belief** for (1). Because the truth of (1) has been established this time, this state of sharedness is a resolved state in that it is the desired outcome and that further clarification is not needed. Such a state is **potentially stable**. It is potentially stable in the sense that *b* does not desire or foresee any change to her belief. This, however, does *not* mean that her belief will never change in the future, since *b* may well find out later that *a* is lying about the whole matter. (We hasten to add that this isn't the case.) But this is beside the point. The point is that *b* finds it *sufficient for her to hold* (1) as true based on the evidence of *a's* letters A1 and A2, and not so much that *b* knows for sure that (1) is true (which, we suppose, she can find out for sure if she checks directly with the Linguistics Department).

Having looked at how *b* has established CG for (1) after reading A2, let us see if *a* establishes CG for (1) next in reading B2 (see Table 6.8 below). When *a* reads *b's* acknowledgement in B2P2 *Thank you for your letter ... in which you clarify your future affiliation in the University*, *a* realises that *b* is satisfied with his clarification. It is on the basis of this realisation that *a* is prepared to accept (1) as CG as well. We assume that this is so because he doesn't go on to offer further clarification of his university affiliation in his next letter. Table 6.8 below depicts the configuration of this CG.

Table 6.8:   *a's* regression of belief (1) after reading B2

Letter	Belief	*a's* beliefs (Steps)						*b's* beliefs (Steps)					
		St 1	St 2	St 3	St 4	St 5	St 6	St 1	St 2	St 3	St 4	St 5	St 6
A2	1							+	+	?	?		
B2	1	+	+	+	+	+							

As the above table shows, when *a* reads *b's* second letter B2, *a* inherits *b's* beliefs (Steps 1-4; heavy shade). These beliefs are "transferred" to *a* as *a's* beliefs (Steps 2-5; heavy shade). From *a's* point of view, CG is established only after

(i)   *a* detects that *b* has established CG, i.e., *b's* Step 1-2 match, which in turn becomes *a's* Step 2-3 match; and

(ii)   *a* detects that his Step 1 matches his Step 2-3 match.

In other words, for *a* to establish CG, Steps 1-3 must match. As we have just mentioned above, we know that this is so because *a* does not continue to clarify this matter (i.e., his department affiliation) further in his next letter A3. Notice that *a's* Steps 4 and 5 are [+] instead of the anticipated transfer of *b's* Steps 3 and 4 which are [?]. This is so because once *a* realises that *b* has achieved CG prior to him, there is no need for him to retain the uncertainty anymore by "transferring" them. Hence, they are **modified/normalised** in the "transfer". By 'normalised', we mean that all the steps in the regression are **standardised** in the "transfer", in this example, as [+]. Once again, from *a's* point of view, the fact that Steps 4-5 (a/b/a/b; a/b/a/b/a) match that of Steps 1-3 is incidental to *a's* satisfaction that CG has been established.

Why is it the case that *b* only needs a Step 1-2 match for establishing CG for (1) while *a* needs a Step 1-3 match for the same belief? The reason is that for belief (1) '*a* applied to take the M.A. in Linguistics', although *a* is the source of information regarding the truth status of (1), it is *b* who is the *receiver* of the information. By virtue of the fact that *b* is the receiver, she is by default the first to have *both* the

information that she believes that (1) and the information that she believes that *a* believes that (1). As such she would be the first to achieve CG. In order for *a* to achieve CG after *b* for the same belief (1), *a* would have to "transfer" *b's* notion of CG (as reflected in her Step 1-2 match) to his own belief (as Steps 2-3). *a* then has to match his belief (Step 1) with those of Steps 2 and 3 to ascertain if CG has been established. Such a CG, if achieved, will necessarily involve a Step 1-3 match.

We shall term the CG achieved by *b* for (1) as **1st Party CG**, while that achieved by *a* as **2nd Party CG**. A 1st Party CG requires **a minimum Step 1-2 match**, while a 2nd Party CG requires **a minimum Step 1-3 match**. Take note that whoever achieves 1st Party or 2nd Party CG for (1) depends on who has control of the source of information regarding the truth status of that belief.

For belief (1) '*a* applied to take the M.A. in Linguistics', it is *a* who is the source of the information. *b*, on the other hand, being the receiver of the information, will be the first to receive *both* the information regarding *a's* belief of (1) and her own belief of (1). In other words, she is by default the first to be in a position to see if there is a Step 1-2 match, if CG is indeed established. *a*, being the giver of the information, has to wait till he receives *b's* reply letter before he can have *both* information regarding his belief of (1) and *b's* belief of (1).

Note that for both 1st Party and 2nd Party CGs, the regression of (1) is **arrested**. This is indicated on Table 6.8 above by the dotted lines at the end of Step 4 for *b* and at the end of Step 5 for *a*.

Recall that when *a* establishes **2nd Party CG** for (1) after *b*, the values of the "transferred" steps in excess of the minimum Step 1-3 match are **normalised**. The reason for this, as we have stated above, is that there is no need for *a* to retain the uncertainty once he knows that *both* he and *b* have established CG for (1). Our claim here is that the normalisation of the values accompanies the establishment of 2nd Party CG.

The final issue remaining is the question of what happens to (1) after it has been established as CG. As we have said briefly above, the belief itself persists in the

sense that it remains at the back of the individual's mind. (We reiterate that the regression, however, does not persist.) *b*, for example, has to continue to bring to bear the truth of (1) in evaluating the sharedness and truth of the other beliefs (2a) - (3f). We represent this persistent belief which continues to be relevant to the exchange of letters in the following way.

Table 6.9:   *b's* state of belief (1) after reading A3

		a's beliefs (Steps)						*b's* beliefs (Steps)					
Letter	Belief	St 1	St 2	St 3	St 4	St 5	St 6	St 1	St 2	St 3	St 4	St 5	St 6
A2	1							+	+	?	?		
A3	1												

Beyond letter A2, we indicate the persistence of (1) at the back of *b's* mind by representing it in light shade in A3. Note that we have taken out the values to emphasise that it is the belief (1) which persists and not its regression.

Having looked in detail at the case history of (1), let us move on to consider (2a) and (3a).

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5   *a's* and *b's* regressions of beliefs (2a) and (3a)

(2a)   'The Linguistics Department is permitted to let *b* supervise *a*'

(3a)   '*b* is constitutionally permitted to supervise *a*'

In Sections 2 and 3, we have examined *a's* and *b's* configuration of beliefs (1) - (3f) in writing/reading the first letter A1. We have argued that when *b* reads *a's* first letter, common ground for (2a) and (3a) is established (see discussion of Table 6.3a above). We draw your attention to the relevant information from Sections 2 and 3 in the following table.

Table 6.10:   *b's* regression of beliefs (2a) and (3a) after reading A1

Letter	Belief	*a's* beliefs (Steps)						*b's* beliefs (Steps)					
		St 1	St 2	St 3	St 4	St 5	St 6	St 1	St 2	St 3	St 4	St 5	St 6
A1	2a	+						+	+				
	3a	+						+	+				

As we have discussed previously, the fact that *a* writes to *b* to ask her to be his supervisor shows that *a* believes that across department supervision is permissible (a; Step 1; [+]). Otherwise, why should *a* ask *b* to consider being his supervisor in the first place. We also know that *b* believes (2a) 'The Linguistics Department is permitted to let *b* supervise *a*' and (3a) '*b* is constitutionally permitted to supervise *a*' (b; Step 1; [+]) We know that this is so because *b* is familiar with the Linguistics Department's regulations.   (This   observation   is   confirmed   via   personal communication by the author with *b*.) When *b* reads A1, *b* realises that *a* believes (2a) and (3a) (b/a; Step 2; [+]), and that this matches her beliefs (b; Step 1; [+]). It is on this basis that *b* establishes a Step 1-2 match for these beliefs, i.e., 1st Party CG of (2a) and (3a) is established by *b*. This is a desirable and resolved state of affairs and is therefore potentially stable. Once CG for (2a) and (3a) has been established by *b*, the regression of the beliefs is arrested, since it is no longer necessary for *b* to pursue the matter further.

At this juncture, *b* has no reason to suppose that anything is amiss, and will therefore expect *a* to establish 2nd Party CG for (2a) and (3a) after her. But as we will see later in *a's* reply in A2, *a* does not establish 2nd Party CG because *a* thinks that *b* does not believe that across department supervision is permissible. This is why he quotes from the Linguistics Department's prospectus in A2, explaining the permissibility of across department supervision. But we must keep in mind that this misunderstanding on *a's* part is not apparent to *b* yet at the point of her reading A1. As far as *b* is concerned at this juncture, potentially stable CG of (2a) and (3a) has

been established for her after reading A1. Let us now look in detail at *a's* regression of beliefs for (2a) and (3a), as shown in Table 6.11 below.

Table 6.11:   *a's* regression of beliefs (2a) and (3a) after reading B1

Letter	Belief	*a's* beliefs (Steps)						*b's* beliefs (Steps)					
		St 1	St 2	St 3	St 4	St 5	St 6	St 1	St 2	St 3	St 4	St 5	St 6
A1	2a	+						+	+				
	3a	+						+	+				
B1	2a	+	-	+									
	3a	+	-	+									

In Table 6.11 above, *a's* Steps 2 and 3 (a/b, a/b/a; heavy shade) are in fact *a's* representation of (or "transferred" from) *b's* beliefs (b, b/a; Steps 1 and 2; heavy shade). Notice, however, *b's* beliefs (b; Step 1) are not "transferred" unaltered to *a* as *a's* beliefs (a/b; Step 2). What this faulty "transference" amounts to is an **inaccurate representation** (see Section 3 for an explanation) on *a's* part of *b's* beliefs about (2a) and (3a). This constitutes a misunderstanding on *a's* part since *b* has all along held that (2a) and (3a), while *a* mistakenly believes that *b* does not believe them.

Notwithstanding this inaccurate representation (or faulty "transference"), the final problem is that *a's* beliefs (Step 1) of (2a) and (3a), and *a's* belief about *b's* beliefs (Step 2) about the same do not match (**conflicting resultant beliefs**; see Section 3 for an explanation). This constitutes a lack of CG because *a* now believes (2a) and (3a), but mistakenly believes that *b* does not believe them. As we will see below, this failure on *a's* part to establish 2nd Party CG for these beliefs has ramifications on *b's* 1st Party CG which he has already achieved so far.

Let us now consider *b's* regression in the next letter. When *b* reads *a's* next letter A2 where *a* quotes from the prospectus in a bid to convince *b* of the permissibility of across department supervision, *b* has to reactivate the CG which she has already established for (2a) and (3a) previously in A1 (see Table 6.10 above for A1), in order to take into account *a's* misunderstanding (see Table 6.12 below).

Table 6.12:   *b's* regression of beliefs (2a) and (3a) after reading A2

Letter	Belief	*a's* beliefs (Steps)						*b's* beliefs (Steps)					
		St 1	St 2	St 3	St 4	St 5	St 6	St 1	St 2	St 3	St 4	St 5	St 6
B1	2a	+	-	+									
	3a	+	-	+									
A2	2a							+	+	-	+		
	3a							+	+	-	+		

When *b* reads *a's* unsolicited affirmation that across department supervision is permissible in A2, she forms a mental representation of *a's* Step 1-3 beliefs. In the above table, this representation is shown by the "transference" of *a's* Step 1-3 beliefs to *b* as *b's* Step 2-4 beliefs (see heavy shade). *b* establishes CG for (2a) and (3a) again with the "transference" after reading A2, and updates *a's* latest position on these beliefs as part of her Steps 3-4. This brings *b's* regression of beliefs of (2a) and (3a) to Step 4. Because CG is established, the regression is arrested at Step 4.

The question arising is that if *b* has already established potentially stable CG for (2a) 'The Linguistics Department is permitted to let *b* supervise *a*' and (3a) '*b* is constitutionally permitted to supervise *a*' by the time she reads A1, and that the regression has been arrested at Step 2 then, why is it the case that (2a) and (3a) regress further to Step 4 in A2? Recall that we said that the [+ +] CG established by *b* after reading A1 is considered potentially stable and desirable because (2a) and (3a) are held to be true by *b*. *b* has no reason to suspect at the point of reading A1 that *a* is going to misunderstand her subsequently. As far as *b* is concerned at the point of reading A1, (2a) and (3a) are no longer an issue for further discussion. Therefore the 1st Party CG established by *b* then must have been held to be potentially stable - not in the sense that, say, (2a)'s truth and CG is objectively/unequivocally stable, but that it is *held to be stable* in *b's* mind. This solipsistic notion of CG and stability is consistent with our argument in Section 3 above and in Chapter 2. It is only after *b* has read *a's* next letter A2 that she realises that *a* hasn't established 2nd Party CG after

her.   After reading *a's* reiteration of the permissibility of across department supervision (which *b* already believes), *b* establishes CG again, this time taking on board *a's* misunderstanding (represented as *b's* Step 3; b/a/b; [-]) as well.

Hence when *b* replies to A2, she writes in her reply B2 that *I would have really have nothing against supervising you ...; I merely think that it might be felt by the linguistics department that they are well able to supervise you themselves* (B2P2), suggesting to *a* that it is not that she believes that across department supervision is not permissible, rather that the Linguistics Department may be unwilling to let an outside expert like her supervise *a* (see Chapter 3 for a discussion of this interpretation of the utterance). In writing this, *b* assures *a* of her awareness of the permissibility of across department supervision. From *a's* point of view, *a* realises now in reading B2 that *b* does believe (2a) and (3a). This is shown in the following table.

Table 6.13:   *a's* regression of beliefs (2a) and (3a) after reading B2

Letter	Belief	*a's* beliefs (Steps)						*b's* beliefs (Steps)					
		St 1	St 2	St 3	St 4	St 5	St 6	St 1	St 2	St 3	St 4	St 5	St 6
A2	2a							+	+	-	+		
	3a							+	+	-	+		
B2	2a	+	+	+	+	+							
	3a	+	+	+	+	+							

When *a* reads *b's* response in B2P2, *a* realises now that *b*, like him, believes (2a) and (3a), and that *b* believes that *a* believes the same too. In other words, he realises that *b* has established 1st Party CG for (2a) and (3a). In the above table, this is shown by the "transference" of *b's* Step 1-2 [+ +] match to *a* as *a's* Steps 2-3. *a* realises too that now his Step 2-3 values match his Step 1 value which is also [+]. It is on this basis that *a* establishes CG for (2a) and (3a) too. In other words, for *a* to establish 2nd Party CG for (2a) and (3a), he requires a Step 1-3 match. (We know that CG has been established for *a* because *a* does not pursue this matter further in his next letter.) This confirms our earlier observation that a 2nd Party CG requires a

minimum Step 1-3 match (see Section 4 above for a discussion of 1st and 2nd Party CGs in relation to (1)).

Similar to the 2nd Party CG achieved for (1) discussed in Section 4 above, *b's* Step 3 [-] value of (2a) and (3a) is normalised in the "transfer" to *a* as *a's* Steps 4 [+]. Since *a* realises that *b* has already achieved 1st Party CG for (2a) and (3a) prior to him, there is no need for *a* to retain the disbelief [-] when he establishes 2nd Party CG. (Recall that in Section 4, we explained that by 'normalised', we mean that all the steps in the regression are standardised in the "transfer", as in this example, as [+].)

We reiterate that whoever achieves 1st Party or 2nd Party CG for a particular belief depends on who has control of the source of information regarding the truth status of that belief. In the case of (2a) and (3a), it is *a* who first introduces them into the discourse. *b*, being the receiver of *a's* information, will by default be the first party to have access to both information regarding *a's* belief about (2a) and (3a) and regarding her own belief about the same. The receiver *b* is thus in the position to establish CG first after (2a) and (3a).

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6 *a's* and *b's* regressions of belief (3b)

(3b)   '*b* is interested in supervising *a*'

When *a* first writes to *b* in A1, asking *b* to be his supervisor, *a* has no idea whether *b* is interested in supervising him. This is shown in the table below by the [?] value of *a's* Step 1 for (3b) '*b* is interested in supervising *a*'.

Table 6.14:   *b's* regression of belief (3b) after reading A1

Letter	Belief	a's beliefs (Steps)						b's beliefs (Steps)					
		St 1	St 2	St 3	St 4	St 5	St 6	St 1	St 2	St 3	St 4	St 5	St 6
A1	3b	?						-	?				

When *b* reads *a's* letter A1, she decides that she is not interested in supervising *a* (*b's* Step 1; [-]) and she believes that *a* doesn't know yet if she is interested in supervising him (*b's* Step 2, "transferred" from *a's* Step 1; heavy shade). Evidence of *b's* reluctance to supervise *a* lies in *b's* reply in B1P2 *... you say you have applied to take the M.A. in Linguistics .... If that is the case, I am afraid that it would not really be the done thing for me to supervise you ....* This seems to us to be a rather firm 'No' to *a's* request that *b* supervises *a*.

When *a* reads *b's* response in B1P2, *a* now does not believe (3b) (*a's* Step 1; [-]; see Table 6.15 below).

Table 6.15:   *a's* regression of belief (3b) after reading B1

Letter	Belief	a's beliefs (Steps)						b's beliefs (Steps)					
		St 1	St 2	St 3	St 4	St 5	St 6	St 1	St 2	St 3	St 4	St 5	St 6
A1	3b	?						-	?				
B1	3b	-	-	?									

We know that this is so because *a* goes on in his next letter to persuade *b* to supervise him by quoting from the prospectus, etc. *a's* realisation/representation of *b's* position on (3b) is also indicated on Table 6.15 above by the "transfer" of *b's* Steps 1-2 to *a* as *a's* Steps 2-3 (see heavy shade). Note that by this time, *a's* belief of (3b) would have regressed to Step 3. Since there is a Step 1-2 [- -] match, *a* has now established a state of **shared disbelief** for (3b). Like the state of shared doubt, the state of shared disbelief is an unresolved state since it is not the desired state of affairs. Surely *a's* desire is for *b* to be interested in supervising him. To be consistent with our treatment

of shared belief and shared doubt, the regression of (3b) is similarly arrested once sharedness has been established. Note however that because sharedness of disbelief is not the desired state of affairs, it is potentially unstable, as we shall see later.

Let us now consider *b's* regression of beliefs in the next letter. When *a* writes to *b* next in A2 to clarify his department affiliation (A2P2, *As you presume I have applied to take the M.A. in Linguistics*) and the permissibility of across department supervision (A2P3, *I hope that my belonging to a different department ... would not be an obstacle for you to supervise me with the prospectus ... stating ....*), *b* relents from her previous position which was a firm 'No'. Evidence of this lies in her reply B2 where she writes *I would really have nothing against supervising you, provided that I have time and so on; I merely think that ....* (B2P2). (See Chapter 3 for a discussion of the interpretation of utterance B2P2.) This change is indicated in the revision of *b's* Step 1 value from [-] in A1 (see table above) to [+] in A2 (see Table 6.16 below).

Table 6.16:   *b's* regression of belief (3b) after reading A2

		a's beliefs (Steps)						*b's* beliefs (Steps)					
Letter	Belief	St 1	St 2	St 3	St 4	St 5	St 6	St 1	St 2	St 3	St 4	St 5	St 6
B1	3b	-	-	?									
A2	3b							+	-	-	?		

Next, when *a* reads *b's* reply in B2P2 *I would really have nothing against supervising you*, *a* now believes (3b) '*b* is interested in supervising *a*' (see Table 6.17 below).

Table 6.17:   *a's* regression of belief (3b) after reading B2

		a's beliefs (Steps)						*b's* beliefs (Steps)					
Letter	Belief	St 1	St 2	St 3	St 4	St 5	St 6	St 1	St 2	St 3	St 4	St 5	St 6
A2	3b							+	-	-	?		
B2	3b	+	+	-	-	?							

As you can see in the table above, *a's* Step 1 has also been revised to [+] after reading B2. *a's* Step 1 was [-] in B1 previously. This means that *a* now believes (3b). Having read and understood *b's* letter B2, *a* represents *b's* beliefs (Steps 1-4) as his Step 2-5 beliefs (see heavy shade; "transfer" from *b* to *a*). Notice that with this "transfer", *a* now believes that *b* believes (3b) too (*a's* Step 2;[+]). It is on this basis of a Step 1-2 [+ +] match that *a* is satisfied that CG for (3b) has been established for him. The regression is thus arrested. We know that this is so because *a* doesn't pursue this matter further with *b*. Note that because *a* achieves CG first (1st Party CG) for (3b), it only requires a Step 1-2 match. The fact that the regression has gone on to Step 5 is incidental to *a's* CG. Steps 3-5 seem to be secondary to *a's* notion of CG and merely an incidental occurrence resulting from the regression of beliefs with each turn taken in the exchange of letters in order to clarify *b's* interest in supervising *a* (see Section 4 above for a similar discussion of belief (1)).

Finally, when *b* reads *a's* reply A3 where he writes *Thank you very much for your letter ... in which you tell me that you would be willing to supervise me ...* in A3P1, *b* realises that *a* believes (3b) '*b* is interested in supervising *a*', and that *a* believes that *b* believes (3b) (but subject to certain conditions; see Chapter 3 for a discussion of these conditions). This means that *a's* Step 1-2 match is "transferred" to *b* as *b's* Steps 2-3 (see Table 6.18 below).

Table 6.18:   *b's* regression of belief (3b) after reading A3

Letter	Belief	*a's* beliefs (Steps)						*b's* beliefs (Steps)					
		St 1	St 2	St 3	St 4	St 5	St 6	St 1	St 2	St 3	St 4	St 5	St 6
B2	3b	+	+	-	-	?							
A3	3b							+	+	+	+	+	+

Because *b* already believes (3b) (Step 1) since reading A2 previously (see Table 6.16 above), this means that *b* now has a Step 1-3 match, thus establishing 2nd Party CG for (3b). The regression is arrested at Step 6. Once again the fact that the

regression has gone on to Step 6 is incidental to the 2nd Party CG established and is the result of the extended number of letters exchanged in order to clarify *b's* interest in supervising *a*. Because *b* establishes 2nd Party CG for (3b) after *a*, *b's* Steps 4-6 configurations are normalised [+] in the "transfer" from *a's* Steps 3-5, since there is no point in *b* representing *a's* previous disbelief/doubt in the wake of *a's* prior establishment of 1st Party CG in B2.

Note that because the truth status of (3b) '*b* is interested in supervising *a*' is determined by *b*, who alone decides if she is interested in supervising *a*, *a* will by default have access to both *b's* belief about (3b) as well as his own belief about (3b) first. This means that *a* will be in a position to establish CG first for (3b). This explains why *b* (as seen in Table 6.18 above) establishes 2nd Party CG for (3b) after reading A3.

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7   ***a's* and *b's* regressions of beliefs (3e), (2b) and (3f)**

(3e)   '*b* is willing in principle to supervise *a*'

(2b)   'The Linguistics Department is willing to let *b* supervise *a*'

(3f)   '*b* is willing in fact to supervise *a*'

In this section, we shall consider the last three beliefs of (3e), (2b) and (3f) to see if CG is established for them. These three beliefs are listed above.

We have already seen in Sections 2 and 3 what *a's* and *b's* positions on (3e), (2b) and (3f) are at the point of writing/reading A1. The following Table 6.19 (extracts from Table 6.3, Section 3) summarises what has been said so far.

Table 6.19:   *b's* regression of beliefs (3e), (2b) and (3f) after reading A1

Letter	Belief	*a's* beliefs (Steps)						*b's* beliefs (Steps)					
		St 1	St 2	St 3	St 4	St 5	St 6	St 1	St 2	St 3	St 4	St 5	St 6
A1	3e	?						-	?				
	2b	+						-	+				
	3f	?						-	?				

Recall that when *a* writes his opening letter A1, he is not sure about (3e) and (3f) regarding *b's* willingness (in principle and fact) to supervise him. This is to be expected since he has no prior contact with *b*. *a* however believes (2b) 'The Linguistics Department is willing to let *b* supervise *a*'. This is so because it would otherwise seem pointless to us for *a* to ask *b* to supervise him if *a* doesn't believe that his future department is willing at all to let *b* supervise him in the first place. We confirmed this observation with *a* (personal communication) who claimed that he indeed believed (2b) when he first wrote A1. According to *a*, across department supervision in the universities is routinely practised in his country. *a* assumes that the university he is applying to do his M.A. has the same policy.

Recall next that when *b* reads *a's* letter, *a's* Step 1 beliefs (3e), (2b) and (3f) are "transferred" to *b* as *b's* Step 2 beliefs (heavy shade). Notice however that these Step 2 beliefs (*b's* beliefs about *a's* beliefs) conflict with *b's* actual position (Step 1) on these beliefs, showing a lack of sharedness. We know that *b* does not believe (3e), (2b) and (3f) based on the evidence of her reply B1 where she writes in B1P2 *I am afraid that it would not really be the done thing for me to supervise you, since the Applied Linguistics Department is a separate department ....*

In the next table, we configure *a's* beliefs after he has read *b's* reply B1, in particular *b's* utterance in B1P2 (see Table 6.20 below).

Table 6.20:   *a's* regression of beliefs (3e), (2b) and (3f) after reading B1

Letter	Belief	*a's* beliefs (Steps)						*b's* beliefs (Steps)					
		St 1	St 2	St 3	St 4	St 5	St 6	St 1	St 2	St 3	St 4	St 5	St 6
A1	3e	?						-	?				
	2b	+						-	+				
	3f	?						-	?				
B1	3e	-	-	?									
	2b	?	-	+									
	3f	-	-	?									

When *a* reads *b's* remarks in B1P2 *I am afraid that it would not really be the done thing for me to supervise you, a* doesn't believe (*a's* Step 1) (3e) '*b* is willing in principle to supervise *a*' and (3f) '*b* is willing in fact to supervise *a*' anymore. *a* also realises that *b* does not believe (*a's* Step 2) (3e) and (3f) either. Because a Step 1-2 [- -] match has been achieved for (3e) and (3f), we can say that *a* has now established a state of **shared disbelief** for (3e) and (3f). This state of shared disbelief (like the state of shared doubt) is obviously not a resolved state in that it is not the desired state of affairs. Surely, *a's* purpose is to establish CG, i.e., shared belief of the [+ +] kind, and not a state of shared disbelief of (3e) and (3f). Once sharedness of disbeliefs has been established by *a* for (3e) and (3f), the regression is similarly arrested (cf. Table 6.15; see discussion of how the regression of shared disbelief (3b) is arrested at B1). This arresting of *a's* regression of (3e) and (3f) is indicated on the above table by the dotted lines.

We should reiterate that although the regression is arrested, the state of shared disbelief is a non-desired and unresolved state of affairs. This makes the sharedness potentially unstable. It is potentially unstable in the sense that further clarification of the unresolved state of affairs is likely to be actively sought by *a*, and that this further clarification, if forthcoming, is likely to reactivate the regression of (3e) and (3f) until another state of sharedness is established (this time, hopefully, of the [+ +] kind). And as we will see below, this quest for clarification comes in the form of *a* countering *b's*

reasons for not believing (3e) and (3f) (see Chapter 3 for a discussion of *a's* point-for-point rebuttal style of writing).

In *a's* reply to B1, *a* counters *b's* reluctance to supervise him in A2 with *I hoped that my belonging to a different department would not be an obstacle for you to supervise me with the prospectus stating ...* (A2P3) and with *Since your academic work covers my field of interest to the full, I should really be happy, if I could benefit from your supervision* (A2P3).

Let us now look at *b's* configurations after reading *a's* counter-points in A2. When *b* reads *a's* rebuttal in A2, she "relents" in part from her previous position expressed in *I am afraid that it would not really be the done thing* (B1P2). We know that this is so because *b* writes in her reply *I would really have nothing against supervising you provided I have time and so on; I merely think that it might be felt by the linguistics department that they are well able to provide supervision ... themselves* (B2P2), showing that she no longer rejects (3e) '*b* is willing in principle to supervise *a*' and (3f) '*b* is willing in fact to supervise *a*' categorically (see B1P2 *I am afraid it would not really be the done thing for me to supervise you* in her previous letter). Note, however, that *b* is not saying 'yes' either to *a's* request. She is unsure at this juncture because the truth of (3e) depends on the condition *provided I have time and so on* which she has just stipulated in the same utterance (B2P2). This condition has not been met by *a*. As a result, she is unsure of (3f) too because the truth of (3f) depends on (3e) being established as true first (see Chapter 3 for a discussion of this sequential arrangement of the beliefs/conditions in her pragmatic reasoning schema). This revision of *b's* beliefs is indicated on Table 6.21 below (see *b's* Step 1). After reading A2, all of *b's* Step 1 beliefs are [?] now, compared with [-] in A1 (cf. Table 6.20 above).

Table 6.21:   *b's* regression of beliefs (3e), (2b) and (3f) after reading A2

Letter	Belief	*a's* beliefs (Steps)						*b's* beliefs (Steps)					
		St 1	St 2	St 3	St 4	St 5	St 6	St 1	St 2	St 3	St 4	St 5	St 6
B1	3e	-	-	?									
	2b	?	-	+									
	3f	-	-	?									
A2	3e							?	-	-	?		
	2b							?	?	-	+		
	3f							?	-	-	?		

Note that whereas previously (i.e., after reading A1) *b* does not believe (2b) 'The Linguistics Department is willing to let *b* supervise *a*', *b* now (after reading A2) is uncertain about (2b). We know that *b* is uncertain about (2b) because she suggests to *a* that he should try to find out the Linguistics Department's preference, as the utterance *I am sure you will be able to discover their preference when you visit in April* in B2P3 shows. If *b* didn't believe (2b) at all, she wouldn't have hinted to *a* to check the Linguistics Department's preference first.

Having looked at how *b's* Step 1 configurations above have changed when *b* reads A2, let us see if sharedness has been established for any of the beliefs. When *b* reads *a's* letter A2, *b* would have formed a representation of *a's* Steps 1-3 as *b's* own Steps 2-4 ("transference" indicated by the heavy shade). After reading A2, *b* realises that her own doubt (*b's* Step 1) about (2b) matches her representation (*b's* Step 2) of *a's* doubt about (2b), thus establishing a state of shared doubt. Once again, this regression is arrested at Step 4 (see dotted line on the table above); but note that this state of affairs regarding (2b) is far from resolved. As such, we expect the shared doubt to be potentially unstable. Like 1st Party CG which requires a Step 1-2 match, 1st Party shared doubt requires a minimum Step 1-2 match too.

In the following table, let us consider *a's* regression of beliefs after he has read B2. When *a* reads *b's* reply B2, he realises that *b* has already established 1st Party shared doubt for (2b) (see Table 6.22 below).

Table 6.22:   *a's* regression of beliefs (3e), (2b) and (3f) after reading B2

Letter	Belief	*a's* beliefs (Steps)						*b's* beliefs (Steps)					
		St 1	St 2	St 3	St 4	St 5	St 6	St 1	St 2	St 3	St 4	St 5	St 6
A2	3e							?	-	-	?		
	2b							?	?	-	+		
	3f							?	-	-	?		
B2	3e	?	?	-	-	?							
	2b	?	?	?	?	?							
	3f	?	?	-	-	?							

In the above table, *b's* Steps 1-4 are "transferred" to *a* as *a's* Step 2-5 (heavy shade). As for (2b), *a* realises now that his Step 2-3 [? ?] configuration ("transferred" from *b*) matches his existing doubt (*a's* Step 1) regarding (2b). With this Step 1-3 match, *a* therefore establishes shared doubt (2nd Party) as well. Like 2nd Party CG, 2nd Party shared doubt requires a Step 1-3 match. Note that when *a* establishes 2nd Party shared doubt [? ? ?] for (2b), *a's* Step 4-5 values for (2b) are normalised in the "transfer".

Note that whereas for (2b) where *a* establishes 2nd Party shared doubt; for (3e) '*b* is willing in principle to supervise *a*' and (3f) '*b* is willing in fact to supervise *a*', *a* establishes 1st Party shared doubt (see Table 2.22 above). We are not surprised that *a* establishes sharedness for (3e) and (3f) first because *a*, being the receiver of the information has access to *both* information regarding his own belief and *b's* belief about the same first. *b*, on the other hand, alone determines the status of (3e) and (3f) regarding her willingness to supervise *a* and has to give this information to *a*, the receiver. When *a* reads *b's* letter B2, he realises that *b* is unsure of (3e) and (3f) ("transference of *b's* Step 1 to *a* as *a's* Step 2). *a* too becomes unsure of *b's* willingness (in principle and fact) to supervise him (*a's* Step 1). With this Step 1-2 [? ?] match, *a* thus establishes 1st Party shared doubt for (3e) and (3f).

We have argued in Chapter 3 that although *a* is aware that *b* is unsure of (3e) and (3f) regarding her willingness (in principle and fact) to supervise *a* because *a* has

not fulfilled all the conditions she has laid down for her consent, *a* persists in repeating his request that she supervises him in letter A2, and even goes as far as to thank *b* in letter A3 for "agreeing" to supervise him even though he surely knows full well that this is not the case (see A3P1 *Thank you for your letter ... in which you tell me that you would be willing to supervise me ...*). This, we have argued, exemplifies very clearly what it means for *a* to be able to **dissociate** his actual beliefs regarding (3e) and (3f) and what he chooses to say in his letter A3. (See Section 3 of Chapter 3 for a parallel discussion of *a's* ability to dissociate his own reasoning schema from his assumptions about *b's* reasoning schema in pursuing his goal of getting *b* to agree to supervise him.)

By repeating his request in A2 and thanking *b* in A3 subsequently, he gives the impression that he assumes the truth of (3e) and (3f). We have also argued that this phenomenon is the result of *a's* argumentative style of writing which is driven by his obligation mode of reasoning (see Chapter 3, Section 3 on his pragmatic reasoning schema). *a* tries to impose on *b* a certain obligation to accede to his request by showing how he has "fulfilled" (some of) her conditions. Therefore, we conclude that although *a* has only established shared doubt for (3e) and (3f) after reading B2, in his reply in A3 (where he thanks *b* for "agreeing" to supervise him), he writes as though (3e) and (3f) have already been established as CG by both *b* and him.

Finally, let us move on to discuss *b's* reading of letter A3. When *b* reads A3, *a's* Steps 1-5 for (3e) and (3f) are "transferred" to *b* as *b's* Steps 2-6 (see Table 6.23 below; heavy shade). *b* finally establishes 2nd Party shared doubt for (3e) and (3f). (Note that the *a's* Step 3-5 values are normalised as [?] in the "transfer" to *b* as *b's* Steps 4-6.)

Table 6.23:   *b's* regression of beliefs (3e), (2b) and (3f) after reading A3

Letter	Belief	*a's* beliefs (Steps)						*b's* beliefs (Steps)					
		St 1	St 2	St 3	St 4	St 5	St 6	St 1	St 2	St 3	St 4	St 5	St 6
B2	3e	?	?	-	-	?							
	2b	?	?	?	?	?							
	3f	?	?	-	-	?							
A3	3e							?	?	?	?	?	?
	2b												
	3f							?	?	?	?	?	?

Because *b* has already established 1st Party CG for (2b) previously in A2 (see discussion of A2 of Table 6.21 above), its regression has also been arrested then. As we don't expect any further change in the configuration of (2b) on *b's* part in reading the current letter A3 and since its regression has already been arrested previously, we indicate the previously arrested configuration by the light shade without values (cf. Table 6.9 for a similar discussion of (1)'s configuration (light shade) at A3).

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8   Goals, pragmatic reasoning schemas and the establishment of sharedness

We have seen in the above sections a detailed account of how the various beliefs are established as shared beliefs (CG), shared doubts or shared disbeliefs by *a* and *b*. We have shown that *a* has to establish his own sense of sharedness, while *b* has to establish her own, i.e., the sense of sharedness established is solipsistic. There is no sense in which the sharedness is established in some publicly available space independent of the minds of these two individuals. In developing the configurations of both interactants' regressions separately, we are able to identify and demonstrate various concepts/notions not previously discussed in the literature.

In Chapter 3 (Section 3), we argue that *b's* reasoning schema, for example, is organised in terms of various conditions which *a* is supposed to fulfil before she can consent to being *a's* supervisor. The ordering of these conditions coincides with the

ordering of the beliefs of (1), (2a), (3a), (3b), (3e), (2b) and (3f) which we have analysed systematically in this chapter. What this means is that the order in which these beliefs are established as shared corresponds with the order in which the conditions of the reasoning schema are arranged. As we have argued in Chapter 3, the terminal "condition" (3f) '*b* is willing in fact to supervise *a*' is the eventual goal of *a* in the correspondence. Before goal (3f) can be achieved, *a* realises that the other conditions have to be satisfied first.

Table 6.24 below pulls together all that we have said so far regarding *a's* configurations of all seven beliefs after reading B2. In the table below, the heavily shaded regions indicate those beliefs which have been established as CG (shared beliefs) by *a*. The lightly shaded regions indicate those which have only been established as shared doubts. In other words, only the first four beliefs on the table (and hence the first four conditions of *b's* reasoning schema which *a* is fully aware of) have been established as CG. The last three have not been established as CG. This means that while sharedness (of doubt) of the last three conditions has been established, truth has not been established.

Table 6.24:   *a's* configuration of all seven beliefs after reading B2

Letter	Belief	*a's* beliefs (Steps)						*b's* beliefs (Steps)					
		St 1	St 2	St 3	St 4	St 5	St 6	St 1	St 2	St 3	St 4	St 5	St 6
B2	1	+	+	+	+	+							
	2a	+	+	+	+	+							
	3a	+	+	+	+	+							
	3b	+	+	-	-	?							
	3e	?	?	-	-	?							
	2b	?	?	?	?	?							
	3f	?	?	-	-	?							

Notes:

Heavy shade   :   CG (Shared belief) established

Light shade   :   Shared doubt/disbelief established

1   *a* applied to take the M.A. in Linguistics

2a   The Linguistics Department is permitted to let *b* supervise *a*

3a	*b* is constitutionally permitted to supervise *a*
3b	*b* is interested in supervising *a*
3e	*b* is willing in principle to supervise *a*
2b	The Linguistics Department is willing to let *b* supervise *a*
3f	*b* is willing in fact to supervise *a*

We should be careful to distinguish between holding the propositional content expressed by the three conditions of (3e), (2b) and (3f) as shared and holding the propositional content expressed by these conditions as true. Sharedness of the propositional content expressed by these three conditions is shown in the fact that *a* is aware that these conditions are stipulated and required by *b*, and that *a* is aware that *b* is aware that these three conditions are stipulated by *b* herself. For *a*, the awareness that these conditions are shared constitutes sharedness of the existence of these conditions; it does not necessarily mean that *a*, for example, is actually committed to the truth of the propositional content expressed by these conditions.

This shouldn't surprise us as we have already shown and discussed in Chapter 3, Section 3, that the three conditions of (3e), (2b) and (3f) have not been met by *a*. Condition (2b) 'Linguistics Department is willing to let *b* supervise *a*' has not been met by *a* since *a* has, at the point of reading B2, still not visited the Linguistics Department to find out their preference. Because condition (2b) has not been met, the eventual goal (3f) '*b* is willing in fact to supervise *a*' cannot be attained either. By the time *a* reads B2, he realises that these conditions have not been met, and he is aware that *b* realises the same. This is indicated on the table below by the state of shared doubt for (3e), (2b) and (3f). We have argued in the above sections that although sharedness of doubt has been established, this is a non-desired and unresolved state of affairs, precisely because the final goal (3f) has not been achieved.

Having looked at *a's* situation, let us consider *b's* position. *b's* configuration of these beliefs shows a similar lack of CG established for (3e), (2b) and (3f) (see Table 6.25 below). Considering the fact that *a* has not satisfied all her conditions, we would

expect *b* to be able to only establish shared doubt for (3e), (2b) and (3f) at most, and not CG.

Table 6.25:   *b's* configuration of all seven beliefs after reading A3

Letter	Belief	a's beliefs (Steps)						b's beliefs (Steps)					
		St 1	St 2	St 3	St 4	St 5	St 6	St 1	St 2	St 3	St 4	St 5	St 6
A3	1												
	2a												
	3a												
	3b							+	+	+	+	+	+
	3e							?	?	?	?	?	?
	2b												
	3f							?	?	?	?	?	?

Notes:

Heavy shade plus values	:	CG (Shared belief) established
Light shade plus values	:	Shared doubt/disbelief established
Heavy shade minus values	:	CG (Shared belief) established previously
Light shade minus values	:	Shared doubt/disbelief established previously

1	*a* applied to take the M.A. in Linguistics
2a	The Linguistics Department is permitted to let *b* supervise *a*
3a	*b* is constitutionally permitted to supervise *a*
3b	*b* is interested in supervising *a*
3e	*b* is willing in principle to supervise *a*
2b	The Linguistics Department is willing to let *b* supervise *a*
3f	*b* is willing in fact to supervise *a*

In the above table, by the time *b* reads A3, she establishes 2nd CG for (3b). As for (1), (2a) and (3a), recall that *b* has already established CG for them previously in the last letter A2. (This is shown by the heavy shade above without the values added to indicate a previously established CG whose regression has been arrested then.) As expected, (3e), (2b) and (3f) are only established as shared doubts by *b* (showing only an awareness of the existence of these conditions and that *a* is also aware of the existence of these conditions). For them to be established as CG, *b* will

have to be satisfied that the truth of (3e), (2b) and (3f) has been determined as well (presumably by *a's* proposed and forthcoming visit to the Linguistics Department).

Finally, as we have just discussed in the previous section (and in Chapter 3, Section 3 as well), *a* is able to **dissociate** his lack of attainment of conditions (3e), (2b) and (3f) with that which he projects in letter A3 *Thank you very much for your letter ... in which you tell me that you would be willing to supervise me ...* (A3P1) which seems to suggest the contrary situation that conditions (3e), (2b) and (3f) have been satisfied. This dissociation strategy, as we have argued in Chapter 3, suits *a's* argumentative style of writing, which he uses to persuade *b* to agree to supervise him even though he knows full well that he hasn't met all of *b's* conditions in *b's* reasoning schema. It therefore shouldn't surprise us that the use of this dissociation strategy is only supported by a state of shared doubt (rather than CG) for (3e), (2b) and (3f).

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9   Shared beliefs and written correspondence

In this section, we return to some of the issues raised in Chapter 2 regarding the distinction between mutual knowledge, shared beliefs and common ground. We shall also offer an account of the how the configuration of CG in written correspondence differs from that of spoken interaction. (See Chapter 2 for a general discussion of the distinction between written and spoken discourse.)

We have seen how the notion of mutual knowledge is not psychologically viable since it requires an infinite regression of knowledge to be processed in an infinite amount of time. Arguing that mutual knowledge is needed for successful communication also presupposes a model of communication which is essentially risk-free. We acknowledge the substantial contribution of Clark and his colleagues, in particular, in addressing the Mutual Knowledge Paradox and their novel way of accommodating the exact requirements of mutual knowledge in their theory of communication. But as we have argued in Chapter 2, their solution to the paradox is fundamentally flawed in two major respects.

Firstly, their solution to the Mutual Knowledge Paradox raises another paradox - that of a potentially infinite regression of gazes and counter gazes in their conceptualisation of physical co-presence which is supposed to act as the secure ground for establishing mutual knowledge (see Chapter 2, Section 2 for a discussion). In spite of the psychological underpinnings/motivation of Clark's et al solution, their account is still essentially untenable from a human-sized memory and processing point of view.

Secondly, and drawing from Brown's (1995) analysis and empirical evidence, we have argued in Chapter 2 that this regression can be demonstrated to be limited to a few steps, thus disproving further the need to appeal to the notion of mutual knowledge to explain common ground in successful communication. This is a vast improvement over the claims (arising from invented examples) made by other scholars regarding this limited regression (cf. Bach and Harnish, 1979; Harder and Kock, 1976; and Kaspar, 1976; see discussion in Chapter 2).

However, in spite of its ingenuity, Brown's (1995) account of the recursion of steps is based on the examination of only a few short extracts from her data. This is understandable, considering the fact that the configuring of shared belief is not the focus of her book.

Our discussion above also shows that practically all that has been said so far regarding common ground is either based on invented data or on authentic spoken data only. Authentic written data has not been explored. Our detailed analysis of written data in this chapter shows that the notion of shared belief, rather than mutual knowledge, is at the heart of the issue of establishing common ground in written correspondence. The question then is whether our findings arising from written correspondence is generalisable to spoken interaction as well.

We shall now make an initial and brief attempt at applying the details of our method of configuration to spoken data. We shall not look at a substantial amount of data. This in itself can be a fruitful area of study for an extended research project in

the future. We do, however, wish to make some preliminary observations of the generalisibility of our findings to spoken data.

We shall attempt to do this rapidly by re-analysing a small fragment of Brown's (1995) data. Recall that her account of her spoken data (Map Task) shows that it is shared belief, rather than mutual knowledge, which is established in spoken interaction. We shall now re-analyse Brown's (1995: 221) data from example (7f) using our method of configuring shared beliefs. The purpose is to standardise the method of analysis used for both written and spoken data so as to ensure greater comparability. We should point out that although the underlying principle of our method of configuring shared beliefs is based on Brown's (1995) pioneering work, our method of configuring shared beliefs differs from hers in two crucial ways.

Firstly, in analysing the data of example (7f), Brown limits her analysis of the speaker's/listener's recursion of beliefs to two steps; whereas in our analysis to follow, we configure the whole course of the regression until it is arrested. Secondly, Brown's analysis considers the speaker's and listener's (i.e., both giver's and receiver's) point of view simultaneously for each utterance; whereas in our analysis, we only consider the reader's (i.e., the receiver's) point of view. The advantage of Brown's dual perspective analysis is that it captures very vividly the sense in which the configurations are constantly evolving on-line in spoken interaction. In our analysis, the exclusive focus on the reader (the receiver) makes it possible for us to tease out the exact details of the solipsistic nature of establishing shared beliefs, thus making it possible for us to distinguish between 1st and 2nd Party sharedness.

We digress from the task at hand if we go on to make further comparison of Brown's pioneering work and of our extension of her work. Our immediate concern here in this section is to explore the intricacies of the distinction between spoken and written discourse in relation to the issue of the regression of beliefs in establishing sharedness. Our concern here is *not* with comparing the two methods of configuring shared beliefs. By standardising the method of configuration used, we allow for greater comparability of the difference between written and spoken interactions. We

shall therefore employ our method of analysis to Brown's (1995: 221) example (7f), reproduced below as Eg. 1.

(Eg. 1) A.   do you have the start marked

B.   yes

A.   all right

+ do you have palm trees?

B.   + yes

A.   right

+ the swamp?

B.   ++ what swamp

A.   + to the - left of the palm trees

B.   no

Note: A '+' in the text above indicates a short pause of half a second. '++' indicates a slightly longer pause.

In the above data, it seems to us that there are essentially three "issues" discussed. The point of A's line of questioning seems to be to establish the status of three items of propositional content, which we shall label as:

(11)   'B has the start marked on her map'

(12)   'B has the palm trees marked on her map'

(13)   'B has the swamp marked on her map'

A's immediate concern in asking the three questions is to establish whether (11), (12) and (13) are true and shared information, i.e., whether B has the three features marked on her map. A's overall purpose in establishing (11), (12) and (13) is to enable himself to guide B through the Map Task. Using our system of configuring shared beliefs, we produce the following results which we shall present in Tables 6.26 - 6.28.

In Table 6.26 below, we configure A's and B's regression of (11) 'B has the start marked on her map'. Once again we shall only configure the receiver's (in this case, the listener's) point of view, except for the first row where we have indicated the configuration of the speaker A as well (in parenthesis) since he introduces the proposition into the discourse. We shall refer to A as *he* and B as *she*.

Table 6.26:   A's and B's configurations of belief (11) 'B has the start marked on her map'

Spea-ker	Utterance	A's beliefs (Steps)						B's beliefs (Steps)				
		St 1	St 2	St 3	St 4	St 5	St 6	St 1	St 2	St 3	St 4	St 5
A	Do you have the start marked	(?)						+	?			
B	yes		+	+	?							
A	all right							+	+	+	+	

Note that the lightly shaded regions indicate that sharedness has not been established. The heavily shaded regions with dotted lines indicate that shared belief (CG) has been established and the regression is arrested.

When A utters *Do you have the start marked*, A is uncertain about the status of (11) 'B has the start marked' (A's Step 1; [?]). When B hears this utterance, B realises that A does not know whether (11) (B's Step 2; B/A; [?]). B, however, has the start marked on her map. We therefore configure B's Step 1 as [+]. We know that B has the start marked on her map because she says *yes* in her reply on the next line. As there is no Step 1-2 match established by B at this stage, CG is not established.

When A hears B's reply *yes*, A believes (11) (A's Step 1; [+]). A also forms a representation of B's beliefs ("transfer" from B's Steps 1-2 to A's Steps 2-3). As there is a Step 1-2 [+ +] match now, B establishes 1st Party CG for (11) and the regression is arrested. A indicates his satisfaction that CG has been established by uttering *all right*.

When B hears A say *all right*, B realises that A has established (11) as 1st Party CG. B in turn establishes 2nd Party CG. Note that A's Step 3 [?] is normalised in the "transfer" to B as B's Step 4 [+] since there is no point in B retaining the doubt

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once 1st Party CG has already been established prior to her. The regression is arrested at Step 4.

In Table 6.27 below, we offer A's and B's configurations of (12) 'B has the palm trees marked on her map' at the onset of A's next question *do you have palm trees?* The analysis of how (12) is established as CG is very similar to the analysis for (11) above. In fact the configurations for (11) and (12) are identical. We shall not repeat our explanation here, except to offer a summary of our analysis in Table 6.27 below for your reference.

Table 6.27: A's and B's configurations of belief (12) 'B has the palm trees marked on her map'

Spea-ker	Utterance	A's beliefs (Steps)						B's beliefs (Steps)				
		St 1	St 2	St 3	St 4	St 5	St 6	St 1	St 2	St 3	St 4	St 5
A	+ do you have palm trees?	(?)						+	?			
B	+yes	+	+	?								
A	right							+	+	+	+	

In Table 6.28 below, the analysis is complicated by the fact that (13) 'B has the swamp marked on her map' is not established as CG. Consider the analysis below.

Table 6.28: A's and B's configurations of belief (13) 'B has the swamp marked on her map'

Spea-ker	Utterance	A's beliefs (Steps)						B's beliefs (Steps)				
		St 1	St 2	St 3	St 4	St 5	St 6	St 1	St 2	St 3	St 4	St 5
A	+ the swamp?	(?)						?	?			
B	++ what swamp	?	?	?								
A	+ to the - left of the palm trees							-	?	?	?	
B	no	-	-	?	?	?						

In the above sequence, A's goal is to determine the truth status of (13) 'B has the swamp marked on her map' and to establish it as shared information. When A asks B whether she has *the swamp*, B realises that she is not sure whether she has the

swamp on her map. (Perhaps B has more than one swamp on her map, or perhaps she can't locate the swamp yet because she hasn't given herself enough time to look through her map carefully. If B is aware that she has no swamp at this juncture, she would have said 'No'.) We configure B's Step 1 as [?]. B also realises that A is not sure whether she has the swamp on her map (B's Step 2; [?]). At this juncture, B establishes a state of shared doubt (1st Party) for (13) and the regression is arrested.

When B answers *What swamp*, A realises that B is not sure about (13), and that B believes that A is not sure about (13) either, establishing a Step 1-3 [? ? ?] match. A thus establishes 2nd Party shared doubt and the regression is arrested. But surely, establishing a state of shared doubt is not A's desired state of affairs. We have evidence of this because A continues in his pursuit for the truth of (13) by offering more information to B to help her locate the swamp.

When A offers further information/clue to the location of the swamp by uttering *to the left of the palm trees*, B realises that she doesn't have the swamp after all. We mark this as [-] in B's Step 1 column. Note that the sharedness of doubt previously established is no longer maintained in the light of B's realisation. B indicates her lack of a swamp with *no* in her reply.

When A hears B's *no*, A does not believe (13) any more (A's Step 1), and A believes that B does not believe (13) either (A's Step 2), thus establishing 1st Party shared disbelief. Unfortunately for us, Brown's data stops short here and we are unable to determine if 2nd Party shared disbelief is established by B after A.

Our analysis of Brown's spoken data above seems to support most of the claims we have made earlier regarding our set of written data. Firstly, our analysis of the spoken data above shows that sharedness for certain propositions/beliefs is established by one interactant at a time; hence we are able to make the distinction between 1st Party and 2nd Party sharedness. This observation agrees with the analysis of the written data, and confirms our view of the solipsistic nature of shared belief.

Secondly, the analysis of the spoken data above shows that 1st Party sharedness requires a minimum Step 1-2 match while 2nd Party sharedness requires a Step 1-3 match. Again, this concurs with our findings for written correspondence.

Thirdly, we have evidence from our analysis of the spoken data that **shared doubt** is not a desired state of affairs and is potentially unstable, judging by the clarification strategy used by B (as in *what swamp*; see Table 6.28 above) to resolve the non-desired state of affairs.

However, in our analysis of the spoken data above, we are unable to find an example to demonstrate that **shared disbelief** is also a non-desired state of affairs since the data ends prematurely with B's *no* (see belief (13) 'B has the swamp marked on her map' of Table 6.28 above). Our guess is that A is unlikely to pursue the status of 'the swamp' any further since he is likely to use another "entity" on his map as his next strategy in helping B to advance further on her map. In other words, once shared disbelief is established, the entity under discussion is of no further use to A anymore in helping A to guide B through the Map Task. Obviously, establishing the existence of the swamp on B's map is not crucial to A in his attempt to guide B through the task. He can use other entities to help him achieve his **goal** which is to guide B successfully through the task.

In written discourse (at least of the type reported here), however, the truth of a shared disbelief is pursued actively. For example, shared disbelief of (3b) '*b* is interested in supervising *a*' established by *a* after reading B1 (see Table 6.15). Recall that *a* continues to pursue the matter until the truth of (3b) has been established as well. The reason for this persistent pursuit obviously lies in the importance of establishing the truth of (3b) in helping *a* to establish CG for the other beliefs, in particular, his final **goal** which is to establish the truth of (3f) '*b* is willing in fact to supervise *a*'.

In other words, for *both* Brown's spoken data and our written data, it is *equally important* to consider the participants' goals in establishing sharedness. What differs is the effect different goals have on the way participants treat an unresolved state of

shared disbelief. In our data, a shared disbelief is an unresolved state of affairs to be pursued actively. In Brown's spoken data, the need to resolve the state of shared disbelief of (13) is less pressing. This difference appears to us to be caused more by the nature of the demands of the Map Task, than by a difference between written and spoken data. In the Map Task, A uses different entities on the map to achieve his goal which is to guide B through the task. If a particular entity is not available, he can use another entity easily . In our set of written correspondence, each proposition to be established is considered to be important in *b's* chain of reasoning in reaching the goal and cannot be disposed of without repercussions on the attainment of the goal. Therefore we conclude that for both Brown's spoken data and our written data, it is equally important to consider the participants' goals in establishing sharedness.

This utilitarian view of the pursuit of sharedness and truth also ties in very well with Brown's (1995) notion of establishing an adequate interpretation (see Chapter 3, Section 1.2 for the details). In discussing the issue of whether an interpretation is adequate (as opposed to correct), Brown asks the question: *adequate for what?*, drawing our attention to the need to consider the purpose of interpretation in considering what an adequate interpretation is. This distinction points to the need to not only look at how an interpretation may be constructed based on a particular context but also how the interpretation thus constructed can be utilised further by the person to achieve a further goal in the communicative situation. This view concurs with our account of the role played by goals and pragmatic reasoning schemas in interpretation (see Chapter 3, Section 3).

Summing up what we have said so far, our analysis of the spoken data above shows that our method of analysis can be employed quite readily for spoken data . We are able to identify similar minimum configurations for 1st and 2nd Party shared beliefs/doubts/disbeliefs. The only complication so far to our analysis of the spoken data above is that it shows that we need to consider further the participant's goal in the discourse in determining whether truth is pursued in addition to sharedness.

Our analysis of the spoken data above also shows that there are other important differences between the way CG is established in interactive spoken and written discourse.

In the spoken data reported above, we note that A's and B's positions on the status of each of the three propositions (11), (12) and (13) are negotiated one at a time. Only one propositions/belief may be considered and established as shared during a single turn in the exchange. This may be due to the constraints on short term memory in spoken interaction which makes it necessary for the interactants to consider only one belief at a time (but see discussion below of how speakers can take long turns too).

On the other hand, the constant to-ing and fro-ing of short turns (and the ease with which this takes place) between the interactants in spoken discourse also makes it possible for the interactants to choose to consider only one belief at a time during each turn taken in the interaction/exchange. However, for written data, and as we have argued in Chapter 1, the goal of the writer may be to cover as much ground as possible in as few letters (or turns) as possible.

In the written data we have considered, the visual permanence/record allowed for in written discourse makes it easier for the interactants to co-ordinate their positions on several beliefs within each turn. Each lengthy letter in the exchange may be construed as a mega-turn, the contents of which would normally take several turns in spoken discourse to be established as common ground (see Chapter 2, Section 5 for further discussion of this point). In our written data, we note that *a's* and *b's* positions on all seven beliefs (1), (2a), (3a), (3b), (3e), (2b) and (3f) are considered together within each letter/turn. This "collective" consideration of the various propositions within each letter affects the way CG is established. As we have shown in the earlier sections of the current chapter, this chunking of information within each letter makes it possible for several beliefs to be established as shared within each turn.

This is not to suggest that the speaker, like the writer, cannot take an extended turn in discourse. It would be interesting to see how this extended turn of spoken

interaction (as when a politician takes an extended turn to answer a question from another politician of the opposition party) compares with written correspondence. We would expect the extended turn of spoken interaction of the above nature to exhibit similar effects of chunking of information and of establishing sharedness of several propositions/beliefs within each turn. However we should add the caveat that we would also assume a more liberal interpretation of co-operative behaviour (in terms of the desirability of establishing a state of sharedness) in wilfully confrontational and "uncooperative" discourse of some political debates. Certainly, in written correspondence of the type reported here, we do not expect the kind of interruptions (nor is it possible) typical of face-to-face discourse of live political debates to take place.

Our final comment regarding the difference between the configurations of sharedness established for written and spoken discourse is that in our analysis of the spoken data, we have not made allowance for the effect of paralinguistic cues/feedback on the configurations of the regression of beliefs. In spoken interaction, surely the verbal input is not the only source of information the listener depends on in determining if CG has been established. For example, verbal confirmation (e.g., when A hears B's *yes* to confirm that she has established CG for proposition (12); see Table 6.27 above) may have been supplemented by paralinguistic cues (e.g., perhaps, B's nodding and action of drawing on her map?). How are we to configure these additional cues in spoken interaction? Consider the data from Table 6.27 again, here reproduced and renumbered as Table 6.29 below.

Table 6.29:   (Renumbered) A's and B's configurations of belief (12) 'B has the palm trees marked on her map'

Spea-ker	Utterance	A's beliefs (Steps)						B's beliefs (Steps)				
		St 1	St 2	St 3	St 4	St 5	St 6	St 1	St 2	St 3	St 4	St 5
A	+ do you have palm trees?	(?)						+	?			
B	+yes	+	+	?								
A	right							+	+	+	?	

When B answers *yes*, A's regression would have regressed to Step 3 (see Table 6.29 above). If B has nodded in addition to saying yes, what is the effect of this nodding on A's regression? Intuitively we would assume that the effect of B's nodding is to strengthen A's certainty that he has established CG for (12) 'B has the palm trees marked on her map'. But is this enhanced certainty of truth and sharedness to be expressed in quantitative terms (by adding an additional step) or in qualitative terms (by representing the [+] in bold **[+]**)? Or perhaps, we should postulate a second but parallel regression of (12) arising from paralinguistic cues to this effect (see Table 6.30 below):

Table 6.30: A hypothetical and parallel representation of A's and B's configurations of belief (12) 'B has the palm trees marked on her map' based on paralinguistic cues

Spea-ker	Utterance	A's beliefs (Steps)						B's beliefs (Steps)				
		St 1	St 2	St 3	St 4	St 5	St 6	St 1	St 2	St 3	St 4	St 5
A	+ do you have palm trees?	(?)						+	?			
B	[nod]	+	+	?								
A	[smile]							+	+	+	?	

Admittedly, there are no easy answers to the questions raised above. For our purpose here, we merely wish to highlight the complexities of the nature of the difference between establishing CG in written and spoken interactions. This appears to us to be another fruitful line of investigation if we wish to explore the spoken-written discourse distinction in the future.

10 Conclusion

In this chapter we offer for the first time a detailed case study of how seven key beliefs/assumptions (called Base Propositions in Chapters 1 and 3) come to be established as shared beliefs/doubts/disbeliefs in interactive written discourse. Using

the method of configuring which we have developed in this chapter, we are able to demonstrate that it is the notion of shared belief, rather than mutual knowledge, which is relevant to establishing common ground. Our key finding is that the regression of beliefs is limited to a few steps - the minimum being two steps for 1st Party sharedness and three steps for 2nd Party sharedness - and that this regression is distinct for each interactant. There is no sense in which the sharedness established is available in some publicly available space.

By analysing the establishment of the seven beliefs in the same order in which they are ordered as conditions in the pragmatic reasoning schema, we are also able to show the relationship between the reader's goal and reasoning and the establishment of sharedness. Conditions stipulated by b which are met by a, for example, are eventually established as shared beliefs (CG), while those conditions which are not met are only established as shared doubts at best.

In the last section, we apply our method of analysis to a small sample of spoken data. Our comparative analysis highlights some interesting similarities and differences between the way CG is established in interactive written discourse of our nature and Brown's Map Task spoken data.

Chapter 7

Describing and Characterising CG Configurations

We continue our discussion in the previous chapter by looking more closely at the configurations in order to make further generalisations about the nature of common ground (see Appendix 2, Tables 8.1 - 8.5, for a summary of the configurations of all seven beliefs). We shall take into account the configurations of those beliefs which have been established as shared beliefs (CG) as well as those beliefs which are held as shared doubts/disbeliefs. The key technical terms used in this chapter are the same as those found in Chapter 6, except for one. This is defined below.

We have seen in the previous chapter that once CG (shared beliefs) or shared doubts/disbeliefs have been established, the regression is arrested. We have argued that only CG is potentially stable since it is based on a resolved and desired state of affairs. Shared doubts/disbeliefs, however, are potentially unstable in that they are based on an unresolved and non-desired state of affairs.

You will recall that by the time *a* reads letter B2, he has established CG/shared doubts for all seven beliefs. This final state of *a's* configurations in B2 is what we shall call **Eventual State CG/Shared doubt configurations**. We should point out that *a* actually arrived at a certain state of sharedness for some of the beliefs earlier on after reading the previous letter B1. But these configurations, as we have demonstrated and argued in Chapter 6, are not his final configurations since they have been modified further after reading B2. Likewise for *b*, she has her own set of Eventual State CG/Shared doubt configurations. In the following sections, we shall

be careful to point out to you when we are referring to this eventual or non-eventual state of configurations and when we are not.

In the rest of this chapter, we shall do the following. Firstly, we shall make certain generalisations arising from our detailed analyses of the seven beliefs in Chapter 6 regarding who (*a* or *b*) achieves Eventual State CG/shared doubts first for the various beliefs. Secondly, we shall move on to discuss the order in which these beliefs are established as shared by the two interactants. Thirdly, we shall identify generic patterns of Eventual State CG/shared doubt configurations. The purpose is to offer a taxonomy of the various configurations. Fourthly, we present a cognitive model of the process of establishing potentially stable CG. In our model, we assume that what drives the reader in his search for CG (shared beliefs) is his dual concern for sharedness and truth. This dual concern for sharedness and truth has been discussed in detail in Chapter 6. The explanatory value of our model will be defended, in particular, against the claims made by Clark and his colleagues (see Chapter 2 for a critique of their position).

Finally, we end this chapter by summarising our current study. We draw your attention to the major findings of our study and to the possible areas of future research.

1   Who achieves Eventual State CG/shared doubts first for different beliefs?

As we have seen in Chapter 6, *b* achieves CG first for beliefs (1), (2a) and (3a). *a*, on the other hand, achieves CG first for belief (3b). As for the rest of the beliefs, *b* arrives at a state of shared doubt for (2b) first, whereas *a* arrives at a state of shared doubt for (3e) and (3f) first. We list the beliefs/assumptions again below for ease of reading (here renumbered as Table 7.1, previously Table 6.1).

Table 7.1: (renumbered) Assumptions/beliefs made/held by *a*, the writer, in writing letter A1 (including those which *a* is unsure of; marked by [?])

---

a **believes that:**

(regarding a)

1   *a* applied to take the M.A. in Linguistics

(regarding the world: University regulations, prospectus, etc.)

2a   The Linguistics Department is permitted to let *b* supervise *a*

2b   The Linguistics Department is willing to let *b* supervise *a*

(regarding b)

3a   *b* is constitutionally permitted to supervise *a*

3b   *b* is interested in supervising *a* [?]

3e   *b* is willing in principle to supervise *a* [?]

3f   *b* is willing in fact to supervise *a* [?]

      The reason why *b* achieves CG first for (2a) and (3a) is because *a* is the source of the information related to these beliefs. By source of information, we mean that it is *a* who introduces this information in his opening letter and/or that it is he who is aware of the truth status of the propositions expressed. The originator *a* of these beliefs has access to Step 1 belief first naturally, but it is the receiver *b* who is in the position to match her Step 1 beliefs with the incoming beliefs (which become her Step 2 beliefs) first. In contrast, for belief (3b) where *b* is the source of information (i.e., she determines the truth of it), the reader *a* achieves CG first. Likewise, a similar account can be given to explain why *b* arrives at a state of shared doubt for (2b) first, while *a* arrives at a state of shared doubt for the other beliefs (3e) and (3f) first (see Chapter 6 for detailed discussions of the above).

What is the significance of the order in which the interactants achieve CG? Firstly, there is a simple inverse correlation between the party who achieves CG first and her control of the information exchanged. Notice that it is the 2nd party who achieves CG who actually has control of the information and determines if the recipient can attain CG. In our case, although *b* achieves CG first regarding *a's* prospective departmental affiliation (i.e., (1)), it is *a* who controls and releases the information (1) and makes possible *b's* attainment of CG.

Secondly, there is no simple correlation between one party's control of the information and her control of the whole exchange of letters. While *a* may control the flow of information (e.g., (1)) and the means by which *b's* information needs are satisfied, he is constrained by his overarching need/goal to effect a particular action on *b's* part which is ultimately to *a's* advantage, i.e., *a* gets *b* to agree to supervise him. In other words, the giver *a* has more to gain from releasing the information to the receiver *b*, than *b* to gain in receiving the information. But note that for beliefs (3b) '*b* is interested in supervising *a*' and (3e) '*b* is willing in principle to supervise *a*', the situation is different. *b* controls the information while *a* receives the information. In this situation, it is the receiver *a* who has more to gain than the giver *b* in the exchange.

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2   Which beliefs are established as Eventual State CG/shared doubts first?

We will address this question by looking first at the beliefs which have been established as CG (regressions arrested). We will then examine those beliefs which are held as shared doubts (regressions arrested). We should emphasise that we concerned here with the eventual states of the configurations of the beliefs. For this reason, we shall not discuss the CG/shared doubt configurations of the beliefs established in the earlier letters of A1 and B1 since they do not represent the eventual states.

From *b's* point of view, two sets of beliefs are established as Eventual State CG in two stages.

		b's beliefs: CG established
Stage 1	By A2	1, 2a, 3a
Stage 2	By A3	3b

Compare this with *a's* point of view where there seems to be only one stage in which his beliefs are established as Eventual State CG.

		a's beliefs: CG established
Stage 1a	By B2	1, 2a, 3a, 3b

Why is it the case that *b's* arrested CGs are established in two stages while those of *a* are established in one? It seems to us that *b's* two stages are more a result of who has control of the information rather than any inherent difference in the hierarchical organisation of the two sets of beliefs. Hence, belief (3b) is established in Stage 2 simply because *b* has control of the information and as such has to wait for *a* to establish CG for it first in the preceding letter B2. Further evidence of the impact which the control of the information has on the sequence in which CG for different beliefs is established lies in the observation that for *a*, the *same* set of beliefs (both Stages 1 and 2 of *b's*) are established in a single stage. In real time, *a's* Stage 1a is sandwiched between *b's* Stages 1 and 2.

Stage 1	By A2	*b* achieves CG for	1, 2a, 3a
Stage 1a	By B2	*a* achieves CG for	1, 2a, 3a, 3b
Stage 2	By A3	*b* achieves CG for	3b

a establishes 2nd Party CG for (1), (2a) and (3a) one letter later than *b* because *a* is the source of information for these beliefs. On the other hand, *a* establishes 1st Party CG for (3b) one letter earlier than *b* because *a* is now the recipient of the information. It is a matter of coincidence that *a's* 2nd Party CG of (1), (2a) and (3a) and *a's* 1st Party CG of (3b) occur at the same time in B2. But for *b*, her 1st Party and 2nd Party CGs occur in two separate letters A2 and A3.

What about those beliefs which are established as shared doubts? For both *a* and *b*, beliefs (2b), (3e) and (3f) are held as shared doubts.

		b's beliefs: shared doubt established	
Stage 1	By A2	2b	
Stage 2	By A3	3e	3f

		a's beliefs: shared doubt established
Stage 1a	By B2	3e, 2b, 3f

We see a similar pattern here with those beliefs which have been established as CG in that the above shared doubts are "established" in two stages for *b* but in one stage for *a*. In real time, *a's* Stage 1a is again sandwiched between *b's* Stages 1 and 2.

Stage 1	By A2	*b* holds as shared doubt	2b	
Stage 1a	By B2	*a* holds as shared doubt	3e, 2b, 3f	
Stage 2	By A3	*b* holds as shared doubt	3e	3f

The reasons are the same as that of the beliefs discussed previously. The sequence is once again the product of control of information. We summarise the above information in Table 7.2 below.

Table 7.2:   Sequence in which Eventual State CG/shared doubts are established by *b* and *a*

Sequence	1st/2nd Party	*b's* beliefs		*a's* beliefs	
		CG	Shared doubt	CG	Shared doubt
By A2	1st	1, 2a, 3a	2b		
	2nd				
By B2	1st			3b	3e, 3f
	2nd			1, 2a, 3a	2b
By A3	1st				
	2nd	3b	3e, 3f		

3   A taxonomy of CG/shared doubts according to their eventual state configurations

In this section, we will attempt to classify the different types of CG/shared doubt not according to who achieves them first or according to which beliefs are established as shared first, but according to their eventual state of configurations of values. In the following table, we list all the different possible configurations first (both eventual and non-eventual states) which we have identified in our analyses of *b's* beliefs in Chapter 6. In our discussion to follow, we shall isolate the eventual states from the non-eventual states.

Table 7.3: *b's* CG/shared doubt configurations

Letter	Belief	Configuration	1st/2nd Party
A1	2a, 3a	+ +	1st
	1	? ?	1st
A2	2a, 3a	+ + - +	1st
	1	+ + ? ?	1st
	2b	? ? - +	1st
A3	3b	+ + + + + +	2nd
	3e, 3f	? ? ? ? ? ?	2nd

Note: Eventual State CG /shared doubt configurations are shaded

The above table shows the evolving configuration of *b's* beliefs with each letter he reads. The **Eventual State CG** (or shared doubt) **configuration** refers to the final configuration of the beliefs achieved in the correspondence; and it is this final configuration that we shall now focus on in our discussion.

For beliefs (1), (2a) and (3a), their final configurations are achieved in A2 where the regression of beliefs is arrested. Belief (3b)'s regression is arrested in A3. The arrested state, as we have argued in Chapter 6, remains unchanged till the end of the correspondence. For shared doubts (2b), (3e) and (3f), their regression is similarly arrested although this is an unresolved state and potentially unstable.

If we look closely at the *eventual* configuration of the various beliefs (see shaded rows only), we observe several possible **generic patterns**. For beliefs (1), (2a) and (3a), we find the following pattern:

$$[+ + n]$$

where: (+ +) shows a Step 1-2 match and that both steps are (+);

                 (n) refers to the few number of steps beyond Steps 1 and 2, whatever their values, (+), (-) or (?), may be

In the above scheme of categorising, the [+ + n] CG configuration depicts a 1st Party CG whose regression has been arrested. As we have already discussed previously, this type of CG requires a minimal Step 1-2 match. The occurrence of Steps 3 and 4 is incidental to the CG, and the values of Steps 3 and 4 can vary. The arrest of the regression suggests that the eventual status of the belief is potentially stable and that the party holding this belief is sufficiently satisfied with its truth status.

Since a Step 1-2 match is sufficient for a 1st Party CG, the question which arises is why the regression doesn't stop at Step 2 at A1 for, say, beliefs (2a) and (3a) (see Table 7.3 above).

Technically speaking, if a [+ +] CG is achieved by letter A1, there is no reason why these beliefs should continue to regress beyond A1. As we have argued in Chapter 6 (see discussion of Tables 6.10 & 6.12), the regression of (2a) 'The Linguistics Department is permitted to let *b* supervise *a*' and (3a) '*b* is constitutionally permitted to supervise *a*' has been arrested and the state of affairs is considered resolved and potentially stable since *b* has no reason to believe, at this stage, that anything is amiss. However in reading A2, *b* realises that *a* has misunderstood her, causing her to re-evaluate her CG in A2. Because of this further change to her configurations in A2, the configurations in A1 are not considered eventual CG states. (Technically speaking, in another set of data, we may well be able to identify an eventual state [+ +] CG.)

For a 2nd Party CG, a minimal Step 1-3 match is required. For belief (3b), where 2nd Party CG for *b* has been established, the configuration is:

$$[+ + + ... \text{ etc. }]$$

where: (+ + +) shows a Step 1-3 match and that all three steps are

(+); and

[+ + + ... etc.] shows that the few steps beyond the first three

have been normalised/standardised

Another possible Eventual State configuration found in our analysis arises from a state of shared doubt. The generic pattern of such a shared doubt (1st Party) (see (2b) from Table 7.3 above) is:

$$[\, ? \, ? \, n \,]$$

where: (? ?) shows a Step 1-2 match and that both steps are (?); and

(n) refers to the few number of steps beyond Steps 1 and 2,

whatever their values, (+), (-) or (?), may be

The 2nd Party version of an Eventual State configuration arising from a similar state of shared doubt is evident from the configuration of (3e) and (3f). Recall that because they are 2nd Party shared doubts, the configuration beyond the Step 1-3 match have been normalised. This generic pattern is indicated below:

$$[\, ? \, ? \, ? \, ... \text{ etc. }]$$

where: (? ? ?) shows a Step 1-3 match and that all three steps are

(?); and

[? ? ? ... etc.] shows that the few steps beyond the first three

have been normalised

We should reiterate that only the first two steps (for the 1st Party) or three steps (for the 2nd Party) of the regression are paid attention to, as we have argued in Chapter 6. The steps exceeding the minimum number required for sharedness are incidental to the CG/shared doubt established, resulting entirely from the continued exchange of letters in the process of clarification. If further clarification hasn't been sought, there wouldn't be any need to configure the regressions beyond the minimum number of steps. Note that we do not claim here that the interactants actually keep track of the steps beyond the minimum required. This seems to us a sensible position to adopt; otherwise, the process of establishing sharedness would be too mind-boggling for the interactants (see discussion of Table 6.6 in Chapter 6).

If we look at *a's* beliefs (see Table 7.4 below), we can identify the same generic configurations of 1st and 2nd Party Eventual State CG/shared doubts. The table below is self-explanatory.

Table 7.4: *a's* CG/shared doubt configurations

Letter	Belief	Configuration	1st/2nd Party
B1	3b, 3e, 3f	- - ?	1st
B2	1, 2a, 3a	+ + + + +	2nd
	3b	+ + - - ?	1st
	2b	? ? ? ? ?	2nd
	3e, 3f	? ? - - ?	1st

Note: Eventual State CG/shared doubts are shaded

Based on our discussion so far, we offer a preliminary classification/taxonomy of Eventual State CG/Shared doubt/Shared disbelief configurations (see Table 7.5 below and explanatory notes). In the table, we shall include those patterns we have identified above in our data as well as those patterns which we have argued to be technically possible and which may be found in another set of data.

Table 7.5:   A taxonomy of Eventual State CG/Shared doubt/Shared disbelief configurations, and notes

Type	Configuration	Notes
Resolved 1st Party CG		
Type 1	+ +	Not found in our data, but theoretically possible.
Type 1a	+ + n	Regression occurs in excess of Step 2 (minimum); caused by initial uncertainty with truth; a few number of n beyond Step 2 possible; any value of n possible.
Resolved 2nd Party CG		
Type 2	+ + +	Not found in our data, but theoretically possible.
Type 2a	+ + + ... etc.	Regression occurs in excess of Step 3 (minimum); caused by initial uncertainty with truth; a few number of steps beyond Step 3 possible; all values beyond Step 3 are normalised.
Unresolved 1st Party Shared doubt		
Type 3	? ? n	Regression in excess of Step 2 caused by uncertainty with truth; a few number of n beyond Step 2 possible; any value of n possible.

Unresolved 2nd Party Shared doubt

Type 4	? ? ? ... etc.	Regression in excess of Step 3 caused by uncertainty with truth; a few number of steps beyond Step 3 possible; all values beyond Step 3 are normalised.

Unresolved 1st Party Shared disbelief

Type 5	- - n	Not found in our data, but theoretically possible. Regression in excess of Step 2 caused by disbelief; a few number of n beyond Step 2 possible; any value of n possible.

Unstable 2nd Party Shared disbelief

Type 6	- - - ... etc.	Not found in our data, but theoretically possible. Regression in excess of Step 3 caused by disbelief; a few number of steps beyond Step 3 possible; all values beyond Step 3 are normalised.

For completeness, we postulate Type 1, Type 2, Type 5 and Type 6 as possible Eventual State configurations relating to the sharedness of disbelief although this is not supported by our data (but see our analyses of Brown's (1995) data in Table 6.28, Chapter 6 for an example of Type 5 [- - n] Eventual State configuration). Note too that a non-regressive terminal two-step [? ?] or [- -] configuration is not a possible Eventual State shared doubt/disbelief configuration in this taxonomy because we assume that what drives the correspondence is a search for truth. Hence, a non-regressive terminal two-step [+ +] configuration is the only desirable two-step eventual state. We also assume that the correspondence is not terminated prematurely

after the 1st letter because this will take away the opportunity for either party to arrive at the desired outcome.

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4   A model of the process of establishing potentially stable CG

In this section, we shall attempt to pull together some of the comments made earlier regarding the reader's concern for sharedness and truth in his quest for CG. This dual concern for sharedness and truth can be expressed in a processing model for establishing potentially stable common ground. Such a model may be represented in a flow chart depicting various stages in the decision making process of interactants as they attempt to interpret relevant utterances and build upon their existing beliefs (see Figure 7.1 below). But before we do that, we should add that the model to be presented applies only under certain conditions. The assumptions are:

1.   The model is intended to represent **the reader's point of view** only.

2.   The processing model only holds for **goal-driven** written discourse where the objective of the reader is **to establish potentially stable (+ +) CG** of Types 1, 1a, 2 & 2a (see Table 7.5). (**Route A**; to be explained below)

3.   A potentially unstable shared doubt/disbelief is not the final objective. Where potentially unstable shared doubt/disbelief has been established, we assume that the reader will want to seek further clarification. (**Route B**)

4.   Where sharedness (Step 1-2/3 match) has not been established, we assume that the reader will want to seek clarification. (**Route C**)

5.   The reader may, of course, choose to opt out by not seeking further clarification even when sharedness and/or truth have/has not been established. (See discussion below for possible reasons.) (**Route D**)

6.   The model does not make any claims about the nature of the distinction between on-line and off-line inferences in reading comprehension. It also doesn't make any claims about whether the sequence of the different levels of

processing indicated in the model can be distinguished in real time processing when an interactant is reading a letter.

7.   The model does not represent the process of establishing CG in a single reading/sitting. Rather with each subsequent letter read, the status of each relevant belief is reconsidered and updated until a potentially stable CG has been achieved or when the correspondence has been terminated (whichever comes first). The recursive nature of the process of establishing CG is represented in our model by the arrows which lead back into the box at the top of the flow chart.

Figure 7.1: A model of the process of establishing potentially stable CG: Reader's point of view
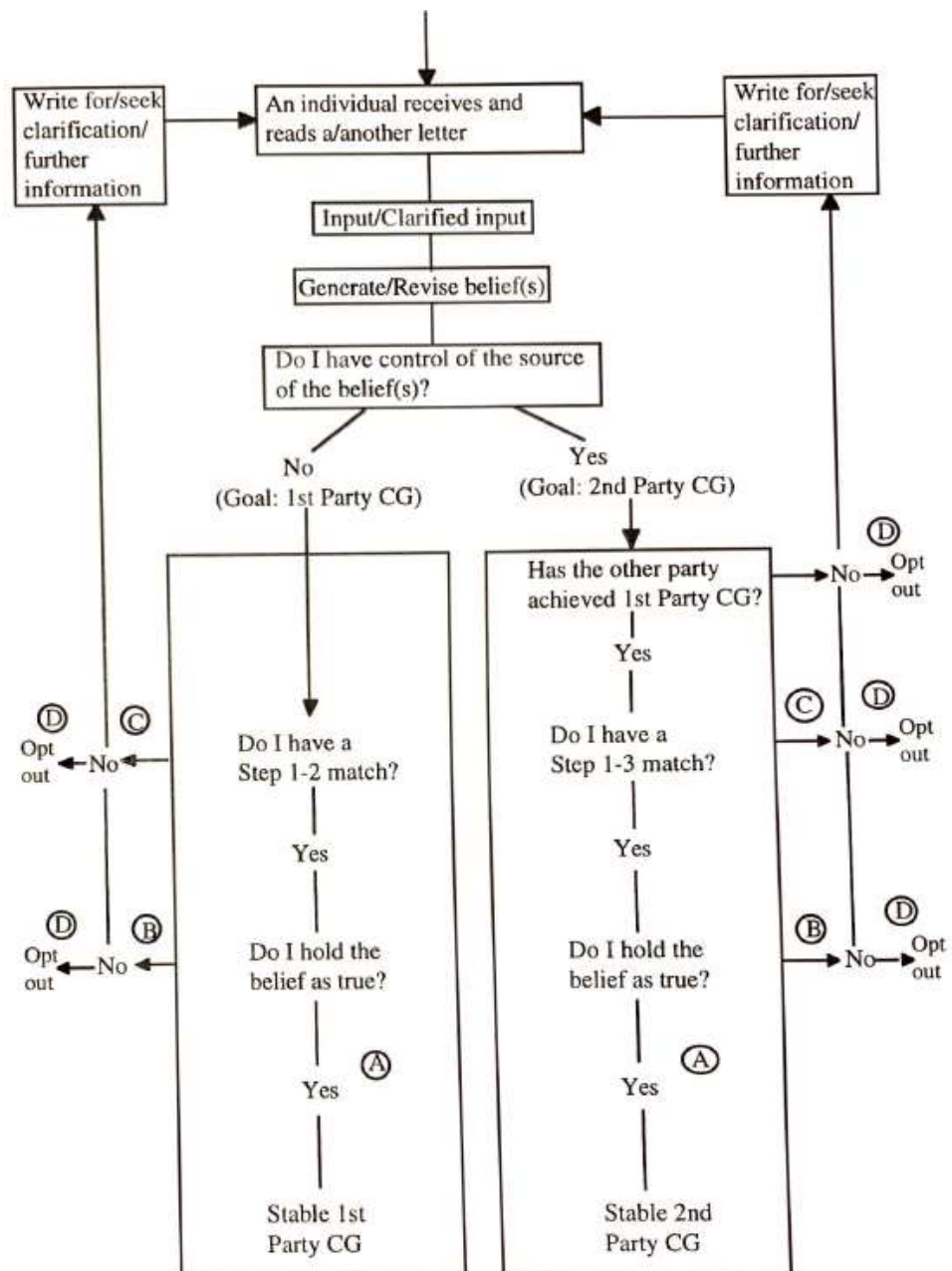
Having listed the assumptions, let us describe the model. Starting from the top, an individual receives a letter, reads it and begins to process the input/utterances. In reading the letter, the reader generates certain beliefs (as discussed in Chapter 3) arising from certain utterances in the letter which are relevant to the goal at hand. In our case, *a's* goal is to find out whether *b* is willing to supervise *a* and to persuade *b* to do so if the situation calls for it. Likewise, *b's* complementary goal (assuming that *b* is co-operating) is to ascertain if she has sufficient reasons to be willing to supervise *a*.

In the next level of processing, the reader asks the question *Do I have control of the source of the beliefs?* or a similar question which helps him to distinguish between a potential 1st or 2nd Party CG. This is not to suggest that it is all done consciously. Every level outlined in this process is probably subconscious. If the reader realises that the other party has control of the status of the information, he takes the 1st Party CG route on the left side of the model. Alternatively, if the reader has control of the status of the information, he may decide that the incoming belief has 2nd Party CG potential instead, and therefore takes the other CG route on the right.

If the goal is to establish 1st Party CG (see left column), the reader may move on to ask two questions.[1] The first question *Do I have a Step 1-2 match?* reflects the reader's concern for **sharedness**. The second question *Do I hold the belief as true?* reflects the reader's concern for **truth**.[2] At any level of questioning, the answer may well be *No*. Assuming that the reader's goal is to achieve a potentially stable CG (as indicated in the most direct and vertical route (Route A) down the box), a *No* answer to any of the two questions will drive the reader to ask for clarification or further information from the other interactant in his reply letter (Routes B & C). The clarification offered by the other interactant features as another letter and will again feed into the top of the process as clarified input. The number of cycles of clarification depends on the number of letters exchanged. This recursive process results in the regression of beliefs/doubts as the correspondence progresses. The

reader can, of course, choose to opt out (Route D) for various reasons (see discussion below).

Alternatively, a 2nd Party CG (see right column) may be the reader's goal instead. Achieving a 2nd Party CG is similar to the above, except for an additional complication. Because a 2nd Party CG requires a three-step match, the reader will have to first discern if the other interactant has already achieved 1st Party CG for the same belief under consideration. The subsequent levels of processing for 2nd Party CG are the same as those for 1st Party CG.

Assuming Grice's (1975) *Co-operative Principle* to be in operation, both parties *want* to establish potentially stable CG. In reality of course, people engaging in written correspondence *do* choose not to co-operate for various reasons. This, however, doesn't mean that the CG processing model is any more invalid than, say, Grice's *Co-operative Principle* is invalid just because a particular maxim has been flouted. If the reader does indeed choose to opt out, it can occur at any stage of the process (see Route D). Some possible reasons for opting out are: the belief has ceased to be salient/relevant to the reader and in which case, the reader may not care to seek clarification; the belief cannot be resolved until another belief has been established as shared first; protocol/politeness/courtesy may dictate that certain beliefs are more appropriately left hanging than discussed explicitly; there may be a muddle in either interactant's memory; etc.

In the above model, we observe that whether the interactant's goal is to achieve 1st Party or 2nd Party CG, both goals require the reader to ask two key questions if potentially stable CG is to be established. These two cruces pertain to the reader's two concerns for sharedness and truth. The different combinations of concerns are represented in the following table (based on a 1st Party perspective).

Table 7.6: Characterising the reader's view of 1st Party Eventual and Non-eventual State shared belief (CG)/doubt/disbelief configurations in terms of Sharedness and Truth

Route	Eventual and Non-Eventual Type		Sharedness	Truth
A	Stable CG (Shared belief)	(+ +)	Yes	Yes
B	Unstable Shared doubt	(? ?)	Yes	No
B	Unstable Shared disbelief	(- -)	Yes	No
C	Not shared at all		No	n.a.
D	Opt-Out		n.a.	n.a.

Note: n.a. stands for "Not Applicable".
We use a Yes/No dichotomy to indicate the status of the reader's two concerns for sharedness and truth.
For there to be CG, the values of the *Sharedness* and *Truth* columns must be both 'Yes'.

The left most column refers to the various routes (A-D) a reader can take in his search for potentially stable CG. These routes are indicated in the model for processing potentially stable CG (please refer to Figure 7.1 to trace the routes). If the reader takes the A-route, he will establish potentially stable CG (non-regressive) of a minimal Step 1-2 match, while satisfying the dual concerns of [+ Sharedness, + Truth]. If he takes the B-route, he arrives at a potentially unstable state of shared doubt/disbelief [+ Sharedness, - Truth]. The C-route results in a total failure at

establishing any form of sharedness. The D-route refers to a situation where the reader chooses to opt out of the process of establishing CG.

Having just presented our processing model, we shall explore the explanatory value of our model against the claims made by other scholars, in particular, Clark and his colleagues. We begin our discussion by making three general points about the basis of our current study.

Our first general remark is that our model is based on our analysis of shared phenomenon arising directly from interaction. The set of correspondence we draw on as our data is **authentic** and uninfluenced by prior theories of common ground in its composing process. On this basis alone, the claims we can make arising from an analysis of this data are likely to be more reliable than those claims made on the basis of analysis of invented data. In the process of composing such invented data, the author is likely to be influenced by her own pre-existing notion of what common ground ought to be like and how it is likely to be established. This in-built bias means that any such claims arising from an analysis of the invented data should be treated with caution. Our authentic data has no such in-built bias.

Our second remark is that our model of how common ground is established is also based on the **psychologically plausible** notion of shared belief arising from interaction. This is in contrast with other theories based on the psychologically implausible notion of mutual knowledge.

On the two strengths of the authenticity of our data and our use of the psychologically plausible notion of shared belief, we are well placed to make stronger claims about the way common ground is established based on our analysis of the data.

Our final general remark concerns the **replicability** of our results and the **falsifiability** of our claims. In our detailed analysis of the configurations of the shared beliefs/doubts/disbeliefs, we have employed a fairly sophisticated and rigorous method of analysis based initially on Brown's (1995) method. This is an important point because it means then that further analyses of a whole range of different kinds of data arising from interactive discourse can be done to see if our present claims

about the process of establishing CG are generalisable to other types of data. We have shown, in an initial attempt in our re-analysis of Brown's spoken data, that the method we have developed here can be applied successfully to interactive spoken data as well (see Chapter 6, Section 9 for a discussion). More importantly, we have demonstrated that the claims we make about the solipsistic nature of establishing CG (as in the distinction between 1st and 2nd Party CGs) and the minimum number of steps in establishing CG are generalisable to another type of interactive discourse (spoken). Future research may well prove the resilience of our claims and method of analysis. We acknowledge, however, that future research may also prove that some of our claims are inaccurate. This is not necessarily a bad thing, since claims made by way of empirical research based on a rigorous, transparent and replicable method of analysis should be inherently falsifiable anyway. An unfalsifiable claim/theory is as good as blind faith. But for the time being, our method of analysing shared belief has proven to be fairly effective in analysing spoken data as well.

How does Clark's et al views of CG stand up to the three "tests" above? Here, we shall rehearse our criticisms of Clark's et al position again (see Chapter 2 for the full discussion). Firstly of all, their claims are based on invented data which we believe are not entirely uninfluenced by pre-existing notion of what common ground ought to be like. Their intuitive claim that common ground is not based on an infinite regression of beliefs is probably right, but the evidence is based on rather informal reasoning. Clark's (1996: 93 ff.) anecdotal example of the way he and his son establishes common ground of the conch shell between them against the backdrop of a Californian beach on a sunny afternoon is hardly reliable evidence on which to base his notion of CG-shared basis (based on his Mutual Knowledge Induction Schema) and CG-reflexive (based on the inference rule associated with the mental primitive). Note the similarity of his conch shell example with Schiffer's candle example.

Secondly, although Clark (1992: 5-6) claims that his notion of common ground is not based on the psychologically untenable notion of an infinite regression, the similarity of his induction schema with Schiffer's finite set of conditions (which

constrains the infinite regression) is uncanny. Clark too writes about how his induction schema can be used to constrain the regression and in the process infer mutual knowledge. We note earlier in Chapter 2 that Clark's interchangeable use (up to 1992) of the term mutual knowledge with common ground reflects more than a terminological confusion. It may be symptomatic of a deeper underlying conceptual confusion as well. We remain to be convinced that Clark's notion of mutual knowledge and common ground is conceptually consistent and plausible.

Thirdly, his Induction Schema and inference rule associated with the mental primitive are, in principle, unfalsifiable. They are unfalsifiable because his reflexive conceptualisation of mutual knowledge includes circular self-reference (Clark, 1996: 100) (see Chapter 2 for a discussion). In devising such a circular conceptualisation of common ground, we suspect that Clark is in fact trying to strike some sort of middle ground between a notion of common ground which is based on mutual knowledge (philosophical sense; involving an infinite regression and certainty of knowledge) and a notion of common ground based on a truncation heuristics which limits the regression to a few steps (a position we adopt; except we wouldn't call our method of configuration a truncation heuristic which has connotations of arbitrary judgements). Clark rejects both notions of CG, hence the need to develop a "third" notion of CG based on a reflexive conceptualisation of mutual knowledge. As we have pointed out above, Clark's reflexive conceptualisation also bears a striking resemblance to Schiffer's approach which is based on the notion of mutual knowledge (philosophical sense).

In Clark's defence, we should add that his view of common ground (Clark, 1996) is by far the most developed currently and his influence can be seen in the many references in the psychology literature to his notion of common ground, in particular, his physical co-presence heuristics (see Chapter 2 for the details). Clark claims that the outcome of his co-presence heuristics is the mental primitive from which people can then infer mutual knowledge. We suspect that what they postulate to be the basis of physical co-presence, for example, may be demonstrated to be

nothing more that the establishment of shared beliefs (our definition). Although we have no firm suggestions at the moment as to how this can be demonstrated experimentally, we certainly think that this line of investigation based on tracking the establishment of shared beliefs will be more productive than a line of investigation based on proving the mental primitive. As we have pointed out above, we don't think his notions of a mental primitive and the induction schema are plausible. For all the above reasons, we are cautious about embracing Clark's view of common ground.

Other studies done so far, with the exception of Brown (1995), on truncation heuristics have been based on informal arguments about the limited number of steps involved in the regression. Most notably, Harder and Kock's (1976) informal analysis uses the fourth level as the *arbitrary* cut-off point in the regression. This is hardly satisfactory. We note that the other studies (Bach and Harnish, 1979; Kaspar, 1976) are also based on informal arguments arising from invented data (see Chapter 2, Section 2 for a discussion).

Brown (195) offers, to the best of our knowledge, the only empirical account (other than the present study) of how CG is established based on a limited regression. This is made possible by the novel method of analysis which she has devised. Although her method has only been applied to a few short extracts of her spoken data so far, the strength of her method lies in its simplicity of application, transparency of principle and the replicability of her results. In Chapter 6 and the present chapter, we have sought to extend her pioneering technique by adding more details to the method, making it possible for us to make more sophisticated claims about the process of establishing common ground.

Our current method of analysing the configurations of CG is of course not without limitations (see, for example, the list of assumptions which constrains the application of our model in Figure 7.1). The method of analysis is arguably in need of further refinement to take into account the different goals participants may have in various types of written and spoken interactions (see, for example, our discussion of the application of our method to the Map Task data in Chapter 6, Section 9). But we

have provided sufficient rigour to the development of our method and our analyses that we are optimistic that they can be applied, with modifications, to other types of interactive discourse in future empirical investigations.

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5   Conclusion

Let us close our current study by restating our contribution to the field of study related to common ground. Our first area of contribution is theoretical. We have examined the notions of *common ground* from various angles. Our study is driven by a close analysis of authentic written data. We start our discussion by identifying the notion of *shared belief* as our basis for discussing CG. We place the notion of *background knowledge* under the category of assumed CG.

We then explored the reader's use of his CG in interpreting utterances and how this interpretation in turn builds upon his existing CG.

Our excursion into the writer's point of view shows that her packaging of utterances is also influenced by what she perceives to be her reader's existing CG or assumed CG or that information which she assumes her reader is willing to treat as though it is already part of his CG (as though CG).

Our final angle of investigation is to configure this common ground. Our configurations reveal several important insights into the nature of CG, particularly in relation to its solipsistic nature, a taxonomy of the Eventual State CG/Shared doubt/disbelief configurations and a cognitive model of the process of establishing potentially stable CG. The model we have developed, to the best of our knowledge, is the only one available based on empirical findings related to the notion of shared belief.

Our second area of contribution to the field of research in CG is methodological. We have developed a package of methods of analysis relating to: the process of interpretation, the reader's reasoning schema, the writer's three-tier conceptualisation of information structure, the interaction of the two levels of

information structure, and the configuration of shared beliefs/doubts/disbeliefs. Armed with this package of novel methods, we are able to make several important claims about various aspects of CG.

This leaves us with the question *What next?*. For a start, more empirical studies involving written (and spoken) data need to be done in the future. Obviously, the methods and models developed in our current study need further refinement. The refinement of some of these methods will necessarily involve a more systematic incorporation of certain pragmatic factors into the discussion. Some of these 'pragmatic' considerations concern: politeness, appropriateness, prudence, evasion, clarity, economy, truth, coherence, goal/motive and reasoning.

Our study places a high premium on explaining and expressing the core issues involved in establishing CG in an economical and elegant way. It is hoped that deeper consideration of the pragmatic factors in future studies will build upon the theoretical framework we have developed here.

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[1] In fact, no claims are made as to the order in which the various questions are raised subconsciously. The point here is that at the subconscious level, all the questions must have been considered at some point in order for stable CG to be secured. The different concerns may well have been interactive and/or simultaneous.

[2] We use the expression *to hold something true* in the sense of Davidson (1984; *Radical Interpretation*). The attitude of holding an utterance true is analogous with accepting in one's mind that the utterance (and the beliefs it embodies) is true, and with accepting in one's mind that the writer/speaker's intention is that the utterance be accepted as true. This of course doesn't mean that one can't be mistaken in holding false beliefs as true in one's mind.

Appendix 1

Letters A1 - B4

Letter A1 (17 November 1992)

Paragraph	Text
	Dear *b*
1	For two years I studied English, French, American Studies, Education and Foreign Language Teaching at Y University (Germany) and at this moment I am doing the 'licence' in French and German Studies at Z University (France). During this time I have taken part in twelve courses of linguistics and my studies of Foreign Language Teaching cover applied linguistics to a great extent.
2	To extend my knowledge on this field, I applied through the German National Scholarship Foundation scheme to take the M.A. in Linguistics in the academic year 1993/94. Within this one-year course I would like to follow my interest in sociolinguistics, especially in critical linguistics. Accordingly, I will submit a title on critical language study in educational contexts for the thesis. This educational aspect is rooted in my interest in foreign language teaching and in my desire to enter the teaching profession. Besides, I have a two-month teaching experience in English at a German Waldorf school.
3	Therefore I would like to read two core courses of the M.A. in addition, 'Meaning in English' and 'Methods and Materials in English Language Teaching'. Furthermore, I wish to take part in the Research Design Course because I want to go on to undertake research.
4	*b*, I certainly share your interest for sociolinguistics and discourse analysis. In fact, one of the main reasons why I want to study at X University [Britain] is because I would like to have the opportunity to benefit from your expertise. I really hope that you can be my supervisor, if it is at all possible.
5	I should be happy to get a positive reply at your convenience and I thank you very much in advance for your help.
	Yours sincerely, *a*

Letter B1 (25 November 1992)

Paragraph	Text
	Dear *a*
1	Thank you for your letter of 17 November 1992, in which you ask me to be your supervisor in 1993/4.
2	I cannot quite work out from your letter exactly what you are going to be doing here during 1993/4; you say you have applied to take the M.A. in Linguistics, and I presume that that means what it says, i.e., that you will be a student of the Linguistics Department. If that is the case, I am afraid that it would not really be the done thing for me to supervise you, since the Applied Linguistics Department is a separate department in a different faculty (Education).
3	Of course that doesn't mean that I would not be happy to talk to you from time to time, and you might also be able to follow some courses here, provided that your Linguistics timetable allowed it.
4	Or, do you mean that you have applied to take the M.A. in Applied Linguistics here in the Applied Linguistics Department? If so, we have not received your application yet. However, if such an application were successful (and competition for places is severe), then I see no reason why I shouldn't supervise you, provided that our interests continue to coincide.
5	Please don't hesitate to contact me again if you want any more information.
	Yours sincerely, *b*

Paragraph	Text
	Dear *b*
1	Thank you very much for your letter of 25 November, in which you tell me that I may follow some courses at the Applied Linguistics Department. I am very glad that you are willing to see me occasionally during 1993/4.
2	For one point, I would like to clear up a possible misunderstanding: As you presume I have applied to take the M.A. in Linguistics at the Faculty of Languages. Lacking the teaching experience of four years I am not eligible for the M.A. in Applied Linguistics anyway.
3	As to the problem of supervision I hoped that my belonging to a different department of the University would not be an obstacle for you to supervise me with the prospectus of the M.A. in Linguistics stating on page 2: " ... Students taking the M.A. in Linguistics benefit from this interdisciplinary environment. They ... may in some cases be supervised for the research components of the degree by a specialist from outside the Department."
4	Since your academic work covers my field of interest to the full, I should really be happy, if I could benefit from your supervision. Would you consider it useful to talk things over with *c* [gloss: Head of Linguistics Department]?
5	In any case I am going to visit X University during my Easter holiday in April where I hope to settle this question on the spot.
6	I thank you very much in advance for any benevolence and I am looking forward to your reply at your convenience.
	Yours sincerely, *a*

Letter B2 (mid-December 1992*)

Paragraph	Text
	Dear *a*
1	Thank you for your letter of 3 December in which you clarify your future affiliation in the University.
2	I would really have nothing against supervising you, provided I have the time and so on; I merely think that it might be felt by the linguistics department that they are well able to provide supervision in your areas of interest themselves.
3	Anyway, I am sure that you will be able to discover their preference when you visit in April.
	Yours sincerely, *b*

*   The exact date of the letter is not known.

Letter A3 (7 February 1993)

Paragraph	Text
	Dear *b*
1	Thank you very much for your letter of December in which you tell me that you would be willing to supervise me during 1993/4.
2	I already told you that I intend to visit X University during my Easter holiday in April. I should be happy to talk things over with you on this occasion. So, would it be possible to see you within the period from 13 to 16 April?
3	I thank you very much in advance for your help and I am looking forward to your reply at your convenience.
	Yours sincerely, *a*

Letter B3 (10 February 1993)

Paragraph	Text
	Dear *a*
1	Thank you for your letter of 7 February.
2	Unfortunately I shall be away from the university at a conference (TESOL) between the 13th and 17th of April, so I'm afraid I won't be able to meet you then.
3	I hope you have a pleasant visit to X University and useful discussions with the Linguistics Department, and that we will meet in the autumn.
	With best wishes, *b*

Letter A4 (10 March 1993)

Paragraph	Text
	Dear *b*
1	Thank you for your letter of 10 February. Considering the fact that neither you nor *c* [Head of Linguistics Department] will be available from 13th-16th April, I decided to postpone my visit to X University to 19th-23rd of April.
2	I hope that I'll be able to see you at your convenience during this period.
	Yours sincerely, *a*

Letter B4 (15 March 1993)

Paragraph	Text
	Dear *a*
1	Thank you for your letter of 10 March.
2	I'm glad that it looks as if we'll be able to meet after all in April. I suggest you try to visit *c* before you come to see me. You can telephone or visit the Applied Linguistics Department to find a suitable time.
	Best wishes, *b*

Appendix 2

Tables 8.1 - 8.5

Notes: *Shading with values added*

Light shade   :   Shared doubt/disbelief established
Heavy shade   :   CG (shared belief) established

Shading without values added

Light shade   :   Shared doubt/disbelief established previously
Heavy shade   :   CG (shared belief) established previously

No shading   :   Sharedness not established at all

Table 8.1:   *b's* configuration of beliefs after reading A1

Letter	BPs	*a's* beliefs (Steps)						*b's* beliefs (Steps)					
		St 1	St 2	St 3	St 4	St 5	St 6	St 1	St 2	St 3	St 4	St 5	St 6
A1	1	+						?	?				
	2a	+						+	+				
	3a	+						+	+				
	3b	?						-	?				
	3e	?						-	?				
	2b	+						-	+				
	3f	?						-	?				

Table 8.2:   *a's* configuration of beliefs after reading B1

Letter	BPs	*a's* beliefs (Steps)						*b's* beliefs (Steps)					
		St 1	St 2	St 3	St 4	St 5	St 6	St 1	St 2	St 3	St 4	St 5	St 6
B1	1	+	?	?									
	2a	+	-	+									
	3a	+	-	+									
	3b	-	-	?									
	3e	-	-	?									
	2b	?	-	+									
	3f	-	-	?									

Table 8.3:   *b's* configuration of beliefs after reading A2

Letter	BPs	a's beliefs (Steps)						b's beliefs (Steps)					
		St 1	St 2	St 3	St 4	St 5	St 6	St 1	St 2	St 3	St 4	St 5	St 6
A2	1							+	+	?	?		
	2a							+	+	-	+		
	3a							+	+	-	+		
	3b							+	-	-	?		
	3e							?	-	-	?		
	2b							?	?	-	+		
	3f							?	-	-	?		

Table 8.4:   *a's* configuration of beliefs after reading B2

Letter	BPs	a's beliefs (Steps)						b's beliefs (Steps)					
		St 1	St 2	St 3	St 4	St 5	St 6	St 1	St 2	St 3	St 4	St 5	St 6
B2	1	+	+	+	+	+							
	2a	+	+	+	+	+							
	3a	+	+	+	+	+							
	3b	+	+	-	-	?							
	3e	?	?	-	-	?							
	2b	?	?	?	?	?							
	3f	?	?	-	-	?							

Table 8.5:   *b's* configuration of beliefs after reading A3

Letter	BPs	a's beliefs (Steps)						b's beliefs (Steps)					
		St 1	St 2	St 3	St 4	St 5	St 6	St 1	St 2	St 3	St 4	St 5	St 6
A3	1												
	2a												
	3a												
	3b							+	+	+	+	+	+
	3e							?	?	?	?	?	?
	2b												
	3f							?	?	?	?	?	?

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Bibliography

Alderson, J.C. and A.H. Urquhart. (Eds.). (1984). *Reading in a Foreign Language*. Longman Group UK Ltd.

Anderson, A. and N. Belnap, Jr. (1975). *Entailment*. Volume 1. Princeton, NJ: Princeton University Press.

Ariel, M. (1988). Referring and accessibility. *Journal of Linguistics*, 24: 65-87.

Ariel, M. (1990). *Accessing Noun-Phrase Antecedents*. London: Routledge.

Ariel, M. (1991). The function of accessibility in a theory of grammar. *Journal of Pragmatics*, 16: 443-463.

Ashby, W.J. (1988). The syntax, pragmatics, and socio-linguistics of left- and right-dislocation in French. *Lingua*, 75: 203-229.

Atlas, J.D. and S.C. Levinson. (1981). *It*-clefts, informativeness, and logical form. In P. Cole. (Ed.)., pp. 1-61.

Bach, K. and R.M. Harnish. (1979). *Linguistics Communication and Speech Acts*. Cambridge MA: MIT Press.

Ball, C.N. (1994). The origins of the informative-presupposition *it*-clef. *Journal of Pragmatics*, 22: 603-628.

Balota, D.A., G.B. Flores d'Arcais and K. Rayner. (Eds.). (1990). *Comprehension Processes in Reading*. Lawrence Erlbaum Associates, Inc.

Barwise, J. (1989). *The Situation in Logic*. Stanford CA: Center for the Study of Language and Information.

Barwise, J. and Etchemendy, J. (1986). *The Liar*. London: Oxford University Press.

Bloom, C.P., Fletcher, C.R., Van Den Broek, P., Reitz, L. and B.P. Shapiro. (1990). An on-line assessment of causal reasoning during comprehension. *Memory and Cognition*, 18: 65-71.

Bovee, C.L. and J.V. Thill. (1992). *Business Communication Today*. McGraw Hill.

Boyle, E. and A. Anderson. (1994). The effects of visibility on dialogue and performance in a cooperative problem solving task. *Language and Speech*, 37, 1: 1-20.

Bratman, M.E. (1990). What is intention? In Cohen et al. (Eds.)., pp. 15-32.

Bright, W. (Ed.). (1992). *International Encyclopedia of Linguistics*, Vol. 3: 399-401. Oxford: Oxford University Press.

Brown, G. (1983a). Intonation, the categories given/new and other sorts of knowledge. In A. Cutler et al. (Eds.).

Brown, G. (1983b). Prosodic structure and the given/new distinction. In A. Cutler et al (Eds.)., pp. 67-77.

Brown, G. (1994). Review of H.H. Clark's 'Arenas of Language Use'. *Language and Speech*, 37, 2: 211-215.

Brown, G. (1995). *Speakers, Listeners and Communication: Explorations in Discourse Analysis.* Cambridge University Press.

Brown, G. and G. Yule. (1983). *Discourse Analysis*. Cambridge University Press.

Brown, P. and S. Levinson. (1978). Universals in language usage: Politeness phenomena. In E. Goody. (Ed.)., pp. 56-311.

Carroll, L. (1895). What the Tortoise said to Achilles. *Mind*, 4: 278-280. Reprinted in *Mind*, 104, 416: 691-693. (1995).

Chafe, W.L. (1970). *Meaning and the Structure of Language*. Chicago: University of Chicago Press.

Chafe, W.L. (1972). Discourse structure and human knowledge. In Freedle et al. (Eds.).

Chafe, W.L. (1974). Language and consciousness. *Language*, 50: 111-133.

Chafe, W.L. (1976). Givenness, contrastiveness, definiteness, subjects, topics, and point of view. In C. Li. (Ed.)., pp. 25-55.

Chafe, W.L. (1987). Cognitive constraints on information flow. In R. Tomlin. (Ed.).

Chafe, W.L. (1994). *Discourse, Consciousness and Time: The Flow and*

Displacement of Conscious Experience in Speaking and Writing. University of Chicago Press.

Cheng, P.W. and K.J. Holyoak. (1985). Pragmatic reasoning schemas. *Cognitive Psychology*, 17: 391-416.

Cheng, P.W., Holyoak, K.J., Nisbett, R.E. and L.M. Oliver. (1986). Pragmatic versus syntactic approaches to training deductive reasoning. *Cognitive Psychology*, 18: 293-328.

Chipere, N. (1996a). Attentional dynamics of anaphoric reference. *Working Papers in English and Applied Linguistics*, 3: 79-84. University of Cambridge.

Chipere, N. (1996b). Anaphora and attention. Unpublished manuscript. University of Cambridge.

Clark, H.H. (1992). *Arenas of Language Use.* The University of Chicago Press and Center for the Study of Language and Information.

Clark, H.H. (1996). *Using Language.* Cambridge University Press.

Clark, H.H. and C.R. Marshall. (1981). Definite reference and mutual knowledge. In A.K. Joshi et al. (Eds.).

Clark, H.H. and D. Wilkes-Gibbs. (1986). Referring as a collaborative process. *Cognition*, 22: 1-39.

Clark, H.H. and E.V. Clark. (1977). *Psychology and Language: An Introduction to Psycholinguistics*. New York: Harcourt Brace Jovanovich.

Clark, H.H. and S.E. Haviland. (1977). Comprehension and the given-new contract. In Freedle, R.O. (Ed.)., pp. 1-40.

Clark, H.H. and T.B. Carlson. (1982). Context for comprehension. In J. Long et al. (Eds.).

Clark, H.H., R, Schreuder, and S. Buttrick. (1983). Common ground and the understanding of demonstrative reference. *Journal of Verbal Learning and Verbal Behavior*, 22: 245-258.

Clinton, B. (1997). Remarks by the President in the State of the Union Address. Office of the Press Secretary. The White House.

Cohen, P.R. (1978). On knowing what to say: Planning speech acts. Ph.D. dissertation, University of Toronto.

Cohen, P.R., Morgan, J. and M.E. Pollack. (Eds.). (1990). *Intentions in Communication*. MIT Press.

Cole, P. (Ed.). (1978). *Syntax and Semantics 9: Pragmatics*. London and New York: Academic Press.

Cole, P. (Ed.). (1981). *Radical Pragmatics*. New York: Academic Press.

Cole, P. and J. Morgan. (Eds.). (1975). *Syntax and Semantics 3: Speech Acts*. New York: Academic Press.

Cornish, F. (1996). Antecedentless anaphors: deixis, anaphora, or what? Some evidence from English and French. *Linguistics*, 32: 19-41.

Cutler, A. & D.R. Ladd. (Eds.). (1983a). *Prosodic Function and Prosodic Representation*. Cambridge University Press.

Cutler, A. & D.R. Ladd. (Eds.). (1983b). *Prosody: Models and Measurements.* Springler-Verlag.

Dahl, O. (1976). What is new information? In N.E. Enkvist et al. (Eds.).

Davidson, D. (1984). *Inquiries into Truth and Interpretation*. Oxford: Clarendon Press.

Dennett, D.C. (1990). Making sense of ourselves. In W.G. Lycan. (Ed.)., pp. 184-199.

Duffy, S.A. (1986). Role of expectations in sentence integration. *Journal of Experimental Psychology: Learning, Memory and Cognition*, 12: 208-219.

Enkvist, N.E. and V. Kohonen. (Eds.). (1976). *Reports on Text Linguistics: Approaches to Word Order*. Abo, Finland: Abo Akademi Foundation.

Fillmore, C.J. (1976). Pragmatics and the description of discourse. In S. Schmidt. (Ed.)., *Pragmatik II*. Munich: Wilhelm Fink Verlag. Reprinted in P. Cole (Ed.). (1981).

Fillmore, C.J. (1982). Frame semantics. In Linguistics Society of Korea. (Ed.)., pp. 111-138.

Fillmore, C.J. (1985). Frames and semantics of understanding. *Quaderni di semantica*, 6, 2: 222-254.

Freedle, R.O. (Ed.). (1977). *Discourse Production and Comprehension*. Hillsdale, NJ: Erlbaum.

Freedle, R.O. and J.B. Carroll. (Eds.). (1972). *Language and the Acquisition of Knowledge*. Washington, D.C.: V.H. Winston.

French, P., T. Uehling, Jr., and H. Wettstein. (Eds.). (1977). *Contemporary Perspectives in the Philosophy of Language.* Minneapolis: University of Minnesota Press.

Gazdar, G. (1979). *Pragmatics: Implicature, Presupposition and Logical Form.* New York: Academic Press.

Geluykens, R. (1987). Tails (right-dislocations) as a repair mechanism in English conversation. In J. Nuyts. et al. (Eds.)., pp. 119-129.

Geluykens, R. (1994). *The Pragmatics of Discourse Anaphora in English: Evidence from Conversational Repair.* Mouton de Gruyter.

Gernsbacher, M.A. (1990). *Language Comprehension as Structure Building*. Hillsdale, New Jersey: Lawrence Erlbaum Associates.

Girotto, V., Light, P.H. and C.J. Colburn. (1988). Pragmatic schemas and conditional reasoning in children. *Quarterly Journal of Experimental Psychology*, 41A: 469-482.

Givon, T. (1979). *On Understanding Grammar*. New York: Academic Press.

Givon, T. (1983). Introduction. In T. Givon. (Ed.).

Givon, T. (1992). The grammar of referential coherence as mental processing instructions. *Linguistics*, 30: 5-55.

Givon, T. (Ed.). (1983). *Topic Continuity in Discourse: Quantitative Cross-language Studies*. Amsterdam: Benjamins.

Goody, E. (Ed.). (1978). *Questions and Politeness: Strategies in Social Interaction*. Cambridge: Cambridge University Press.

Gordon, D. and G. Lakoff. (1971). Conversational postulates. In *CLS* 7. Reprinted

in P. Cole and J. Morgan. (Eds.). (1975).

Graesser, A.C., Singer, M. and T. Trabasso. (1994). Constructing inferences during narrative text comprehension. *Psychological Review*, 101: 371-395

Green, G. (1975). How to get people to do things with words: The whimperative question. In P. Cole & J. Morgan. (Eds.).

Greene, S.B., R.J. Gerrif, G. McKoon and R. Ratcliff. (1994). Unheralded pronoun and management by common ground. *Journal of Memory and Language*, 33: 511-526.

Grice, H.P. (1957). Meaning. *Philosophical Review*, 66: 377-388.

Grice, H.P. (1969). Utterer's meaning and intentions. *Philosophical Review*, 78: 147-177.

Grice, H.P. (1975). Logic and conversation. In P. Cole et al. (Eds.)., pp. 41-58.

Grice, H.P. (1978). Further notes on logic and conversation. In P. Cole. (Ed.)., pp. 113-128.

Gundel, J.K. (1974). The role of topic and comment in linguistic theory. Ph.D. Dissertation, University of Texas.

Gundel, J.K. (1988). Universals of topic-comment structure. In M. Hammon. (Ed.)., pp. 209-239.

Gundel, J.K., N. Hedberg and R. Zacharski. (1993). Cognitive status and the form of referring expressions in discourse. *Language*, 69: 274-307.

Halliday, M.A.K. (1967). Notes on transitivity and theme in English: Part 2. *Journal of Linguistics*, 3: 199-244.

Halliday, M.A.K. (1985). *An Introduction to Functional Grammar*. London: Arnold.

Hammond, M. (Ed.). (1988). *Studies in Syntactic Typology*. Amsterdam/ Philadelphia: Benjamins.

Harder, P. and C. Kock. (1976). *The Theory of Presupposition Failure*. Copenhagen: Akademisk Forlag.

Harman, G. (1977). Review of 'Linguistic Behavior' by Jonathan Bennett.

Language, 53: 417-424.

Harris, R.J. and G.E. Monaco. (1978). Psychology of pragmatic implication: Information processing between the lines. *Journal of Experimental Psychology: General*, 107: 1-22.

Haugeland, J. (1981). Semantic engines: An introduction to mind design. In J. Haugeland. (Ed.), pp. 1-34.

Haugeland, J. (Ed.). (1981). *Mind Design: Philosophy , Psychology, Artificial Intelligence*. Bradford Books Publishers.

Haviland, S. and H.H. Clark. (1974). What's new? Acquiring new information as a process in comprehension. *Journal of Verbal Learning and Verbal Behavior*, 13: 512-521.

Hawkins, J.A. (1978). *Definiteness and Indefiniteness: A Study in Reference and Grammaticality Prediction.* Croom Helm Ltd.

Hinds, J. (1985). Misinterpretations and common knowledge in Japanese. *Journal of Pragmatics,* 9: 7-19. North Holland.

Holyoak, K.J. and P.W. Cheng. (1995). Pragmatic reasoning with a point of view. *Thinking and Reasoning*, 1, 4: 289-313.

Horn, L.R. (1985). Toward a taxonomy for pragmatic inference: Q-based and R-based implicature. In D. Schiffrin. (Ed.).

Horn, L.R. (1988). Pragmatic theory. In F.J. Newmeyer. (Ed.)., pp. 113-145.

Horton, W.S. and B. Keysar. (1996). When do speakers take into account common ground? *Cognition*, 59: 91-117.

Jeffrey, R. (1983). *The Logic of Decision*. Chicago: University of Chicago Press.

Jefress, L.A. (Ed.). (1951). *Cerebral Mechanisms in Behavior*. New York: Wiley.

Johnson-Laird, P.N. (1981). Mental models of meaning. In A.K. Joshi et al. (Eds.).

Joshi, A.K. (1982). Mutual beliefs in Q-A systems. In Smith (Ed.).

Joshi, A.K., B. Webber and I. Sag. (Eds.). (1981). *Elements of Discourse Understanding*. Cambridge University Press, pp. 10-64.

Just, M.A. and P.A. Carpenter. (1987). *The Psychology of Reading and Language Comprehension*. Newton, MA: Allyn and Bacon.

Karttunen, L. (1973). Presuppositions of compound sentences. *Linguistic Inquiry*, 4: 169-271.

Kaspar, W. (1976). Gemeinsames Wissen: zu einem wissensorientierten Wahrheitsbegriff. *Zeitschrift fur germanistische Linguistik*, 4: 17-25.

Kelvin, P. (1971). *The Bases of Social Behaviour*. London: Holt, Rinehart and Winston.

Kempson, R.M. (forthcoming). Anaphora and truth-theoretical semantics (Chapter 2). *Language and Cognition: Licensing Grammar*. Oxford: Blackwell.

Kreckel, M. (1981). *Communicative Acts and Shared Knowledge in Natural Discourse*. Academic Press.

Kripke, S. (1977). Speaker reference and semantic reference. In P. French et al (Eds.)., pp. 6-27.

Lambrecht, K. (1994). *Information Structure and Sentence Form: Topic , Focus and the Mental Representations of Discourse Referents*. Cambridge University Press.

Larson, R. and G. Segal. (1995). *Knowledge of Meaning: An Introduction to Semantic Theory.* MIT Press.

Lashley, K.S. (1951). The problem of serial order in behavior. In L.A. Jefress. (Ed.).

Lee, B.P.H. (1996). Generating entailments, presuppositions, implicatures and inferences in written discourse. Paper presented at the International Linguistic Association 41st Annual Conference, New York University, 12-14 April.

Leech, G. (1983). *Principles of Pragmatics*. London: Longman.

Legrenzi, P. and M. Murino. (1974). Falsification at the pre-operational level. *Italian Journal of Psychology*, 1: 361-368.

Levinson, S.C. (1983). *Pragmatics*. Cambridge University Press.

Levinson, S.C. (1987). Pragmatics and the grammar of anaphora: A partial pragmatic reduction of Binding and Control phenomena. *Journal of Linguistics,* 23: 379-

434.

Levinson, S.C. (1988). Minimization and conversational inference. In J. Verschueren et al. (Eds.)., pp. 61-129.

Lewis, D.K. (1969). *Convention: A Philosophical Study*. Cambridge, MA: Harvard University Press.

Li, C.N. (Ed.). (1976). *Subject and Topic*. New York: Academic Press.

Linguistics Society of Korea. (Ed.). (1982). *Linguistics in the Morning Calm*. Hanshin Publishing Company.

Long, J. and A. Baddeley. (Eds.). (1982). *Attention and Performance IX*. Hillsdale, NJ: Lawrence Erlbaum Associates, pp. 313-330.

Lycan, W.G. (Ed.). (1990). *Mind and Cognition*. Oxford: Basil Blackwell.

Lyons, CG. (1980). The meaning of the English definite article. In Johan Van der Auwera (Ed.)., pp. 81-95.

Lyons, J. (1977). *Semantics I*. Cambridge University Press.

Mill, J.S. (1843). *A System of Logic*. London: Longman.

Morgan, J. (1978). Two types of convention in indirect speech acts. In P. Cole. (Ed.).

Myers, T., K. Brown and B. McGonigle. (Eds.). (1986). *Reasoning and Discourse Processes*. London: Academic Press Inc. Ltd.

Newmeyer, F.J. (Ed.). (1988). *Linguistics: The Cambridge Survey 1: Linguistic Theory: Foundations*. Cambridge: Cambridge University Press.

Nuyts, J. and G. de Schutter. (Eds.). (1987). *Getting One's Word into Line*. Dordrecht: Foris.

O'Brien, E.J., Shank, D.M., Myers, J.L. and K. Rayner. (1988). Elaborative inferences during reading: Do they occur on-line? *Journal of Experimental Psychology: Learning, Memory and Cognition*, 14: 410-420.

Popper, K.R. (1972). *Objective Knowledge*. Oxford: The Clarendon Press.

Prince, E.F. (1981). Toward a taxonomy of given-new information. In Cole, P. (Ed.)., pp. 223-255.

Prince, E.F. (1984). Topicalisation and left-dislocation: A functional analysis. *Annals of the New York Academy of Sciences*, 433: 208-222.

Prince, E.F. (1986). On the syntactic marking of presupposed open propositions. *Chicago Linguistics Society (Parasession)* 22: 208-222.

Prince, E.F. (1992). Informational and rhetorical structure. In W. Bright. (Ed.).

Russell, B. (1912). *The Problems of Philosophy*. New York: Oxford University Press.

Sanford, A.J. and S.C. Garrod. (1981). *Understanding Written Language*. Chichester: Wiley.

Schiffer, S. (1972). *Meaning*. Oxford: Oxford University Press.

Schiffrin, D. (Ed.). (1985). *Meaning, Form and Use in Context*. (GURT 1984). Washington, D.C.: Georgetown University Press, pp. 11-42.

Schnitzer, M. (1971). Presupposition, entailment, and Russell's theory of descriptions. *Foundations of Language* 7: 297-299.

Searle, J.R. (1975). Indirect speech acts. In Cole, P. and J.L. Morgan. (Eds.)., pp. 59-82.

Searle, J.R. (1983). *Intentionality*. Cambridge University Press.

Smith, N.V. (Ed.). (1982). *Mutual Knowledge*. London: Academic Press.

Strawson, P.F. (1964). Intention and convention in speech acts. *Philosophical Review*, 73, 439-60

Tomlin, R. (Ed.). (1987). *Coherence and Grounding in Discourse*. Amsterdam and Philadelphia: John Benjamins.

Vallduvi, E. (1994). Detachment in Catalan and information packaging. *Journal of Pragmatics*, 22: 573-601.

van der Auwera, J. (Ed.). (1980). *The Semantics of Determiners*. London: Croom Helm.

Verschueren, J. and M. Bertucelli-Pappi. (Eds.). (1988). *The Pragmatic Perspective*. Amsterdam: John Benjamins.

Vonk, W. and L.G.M. Noordman. (1990). On the control of inferences in text

understanding. In Balota et al. (Eds.), pp. 447-464.

Widdowson, H.G. (1984). Reading and communication. In Alderson et al. (Eds.).,
pp. 213-226.

Wilks, Y. (1986). Relevance and beliefs. In Myers et. al. (Eds.)., pp. 265-289.

Williams, J.N. (1993). Processing of anaphoric nouns in extended texts: The role of
surface information. *Language and Speech*, 36, 4: 373-391.

Yule, G. (1981). New, current and displaced entity reference. *Lingua*, 55: 41-52.
North-Holland.