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COMMUNICATIVE BREAKDOWN IN CONVERSATION:
ARGUMENTS FOR A CORPUS-BASED ANALYSIS

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ABSTRACT

Scholars from various different disciplines have argued that
the study of communicative breakdown in everyday verbal exchange
provides valuable evidence of how human interactive endeavour is
accomplished, since the nature of such accomplishment is not amenable
to direct investigation. However, to our knowledge, there has
been no systematic programme of research to consider the nature of
this evidence nor indeed any attempt, other than on an ad hoc basis,
to identify the structural criteria and types of interaction that
can occur because of some failure to communicate successfully. By
discussing what such a programme might involve with reference to
the study of one particular type of breakdown, namely 'misunder-
standing', this paper aims to illustrate the potentially rich
contribution that a study of this kind can make in developing an
appropriately evidenced analysis of communicative events in general.[1]

1. Introduction

Since scholars in various different disciplines have
increasingly responded to Firth's (1957:35) suggestion that we study
'conversation' as a means of facilitating our understanding of
'what language really is and how it works', the question of what
it is to achieve communicative success in everyday talk has become
the subject of considerable, and often cross-disciplinary,
fascination. However, whatever the disciplinary motivation of the
individual concerned or the particular nature of his/her interest,
the would be analyst of the communicative process is faced with a
difficulty as perplexing in kind as Labov's ubiquitous 'Observer's
Paradox.' The difficulty is essentially 'interpretive' in nature
and is neatly summarized by Goffman (1976:278) who notes, 'How
individuals arrive at an effective interpretation on all those
occasions when the stream of experience makes this easy and
instantaneous is not much explored, this exploration being rather
difficult to undertake from a sitting position.' But if not from
a 'sitting position' where else can the analyst start? How can we

begin to access the dynamism of interactional processes that are simply not amenable to direct investigation?

Widdowson (1979:70-71) suggests that there are essentially two ways of broaching these questions:

> One can on the one hand, deal with instances
> of discourse from the point of view of the
> third person analyst, that is to say; one can
> treat discourse in detachment from its
> instantiation, after the event, as a product.
> On the other hand, one can deal with the
> discourse from the point of view of the
> participants caught, as it were, in the act;
> that is to say, one can treat discourse as a
> process.

Although we shall consider the kinds of contribution that may be made by both these approaches, our primary concern on this occasion will be to discuss the possibilities offered by developing a 'process' type analysis of the kind presented in Humphreys-Jones (1986a; 1986b; 1986c; 1987).

Whatever approach one chooses, however, it should be remembered that any analysis of what speakers have achieved or are perceived to be 'doing' through talk is, in participant terms, 'always an EMERGENT phenomenon, explicitly specifiable only in retrospect (and then by way of simplifying procedures that may well distort their experience)' (Dore and McDermott 1982:386). Consequently, the very best we can achieve as analysts of 'what has gone on' is to provide EVIDENCE for our claims. What evidence, then, can we provide for establishing that something has gone wrong in the course of some particular conversational exchange and what can this contribute to our understanding of the nature of everyday communicative activity?

2.   The Study of Communicative Breakdown

Communicative breakdown has been investigated by scholars from various different disciplinary backgrounds who make very similar kinds of claim about what such research has to offer. Compare, for example, the research orientation of Gumperz and Tannen (1979:329) who explain that 'by studying what has gone wrong when communication breaks down, we seek to understand a process that goes unnoticed when it is successful', with that of Stubbs (1983:241) who argues that, 'By looking at what happens when people fail to get the message across, at why this happens and at what speakers do in order to reinstate the normal smooth flow of interaction,

one can gain insight into the routine structures of behaviour' (Stubbs 1983:241). There is thus a strong belief that the study of communicative breakdown can offer insight into the process of communication itself.

How then might one proceed to analyse instances of communicative breakdown? What kinds of structure can be identified? And what kinds of problem does the analyst have to face in the process? These questions are best considered in the light of current attempts to investigate discourse that is perceived to have caused interactional difficulties for its participants.

Primarily sociolinguistic in orientation, these studies have variously focussed on repair sequencing in conversation; how particular understandings, including misunderstanding, have been reached; interpretive procedures and participant roles in discourse contexts that have resulted in misunderstandings; and inter-ethnic and inter-dialectal misunderstandings. The nature of this work is worth considering in some detail and consequently we shall review the contribution of selected studies from each area of focus in turn.

Early work on communicative breakdown was to emerge as a consequence of ethnomethodological interest in sequential patterning in the organization of conversation. Jefferson (1972), for example, dealt with the issue of whether or not participants resolve misunderstandings when something is perceived to have gone wrong and investigated the procedures by which participants then went on to repair any breakdown so that the conversation might continue. Jefferson argued that the repair sequences which she isolated are rule-governed. One of the 'side sequences' which she details (1972:304) is a 'misapprehension sequence' in which 'there is a statement of sorts, a misapprehension of sorts and a clarification of sorts: (s) - (m) - (c).' The option to clarify is the clarifier's when it is he/she who shows the (m) has occurred, the (m) being open to other interpretations, and is the (m) - speaker's when the (m) - speaker shows that (s) needs to be clarified, thus obliging the (s) - speaker to clarify his/her utterance. These two options refer to different conversational problems for the participants: the first of these is a misunderstanding in the sense it will be used in this paper, that is, a failure to understand correctly; the second is a request for clarification or a signal that something in (s) is not correct or cannot be interpreted, which effectively enables the interlocutors to avoid a potential misunderstanding.

Adjacency between the three utterances (s) - (m) - (c), is implied and indeed if they were not adjacent the notion of 'side sequence' would be lost because the metatopic it constitutes would

be integrated with the overall topic. However, the hearer' response which manifests his/her misunderstanding of the speaker's utterance could occur several utterances and/or speaker turns after the original misunderstood utterance; clarification could follow at an indeterminate number of utterances and speaker turns later. This clarification could be undertaken by more than one participant and could extend through more than one utterance and/or turn. The extent of a misunderstanding could thus be potentially greater and more complex than (s) - (m) - (c). Jefferson does not intend the three parts of her 'misapprehension sequence' to be definitive and she names them 'for convenience,' the names providing 'a way to handle them readily' (1972:304). This approach is unfortunate because by not defining 'misapprehension', Jefferson risks talking about different, though related, phenomena as one phenomenon; 'misunderstanding,' 'misapprehension' and 'no comprehension' are used inter-changeably. Thus experiencing difficulty in understanding an utterance differs from incorrectly understanding an utterance which also differs from not having any understanding of an utterance. Yet all of these possibilities concern communicative problems which participants have the capacity to resolve and all may well involve sequences within the conversation.

Schwartz (1977) is similarly concerned with the sequencing of misunderstanding and also with the ways in which misunderstandings are detected and resolved. His 'interpretive method' yields an elaborate commentary on the three utterances which constitute his example of a misunderstanding. The commentary is supported by additional data but is specific to the example given so that the cause of that misunderstanding, the roles of the interlocutors and the content of the utterances are detailed.

Schwartz's definition of misunderstanding, 'By "misunder-standing" I mean an interpretive error that is discovered by its maker at least two utterances after it has been made' (1977, in 1978:3) raises a number of questions which we would suggest warrant further examination. Is the 'maker' of a misunderstanding the one whose utterance is misunderstood or the one who misunderstands it? In what way is a misunderstanding 'discovered' - is it the realization that it has occurred or is it the admission of its occurrence in the conversation? What, in the turn sequence, constitutes 'two utterances after it has been made'? When, indeed, is a misunderstanding made - after the utterance has been expressed or simultaneously on hearing it? Why should 'two utterances' be significant? '

As a result of limiting himself to one datum, Schwartz can claim that 'utterance,' 'reply' and 'correction' follow successively and that a misunderstanding is discovered in a certain order, namely, by the speaker first and then by the hearer when the speaker corrects

him/her. This order need not necessarily be the only one: it is quite possible that a hearer realizes that he/she has misunderstood an utterance before the speaker of that utterance realizes the misunderstanding has occurred, or indeed the hearer may have realized that a misunderstanding has occurred in the light of utterances subsequent to the one misunderstood, in which case the sequence of utterance, reply and correction is broken by other utterances.

However, Schwartz makes the interesting observation that there is a communicative skill in dealing with a misunderstanding as a misunderstanding. He points out that failure to share an interpretation of an utterance is not necessarily a misunderstanding:

> A hearer interpreting a remark's meaning differently than its producer, and the hearer showing the producer this, doth not, by itself, a misunderstanding make. Conversationalists may not treat this as a technical or linguistic difficulty, but as a political, moral, or psychological one. Treating something as a misunderstanding, then, is as much an interpretive accomplishment of speaker-hearer as treating something as a joke or story.

We can usefully contrast Schwartz's definition of misunderstanding with that cited by Zaefferer (1977) who focusses on the cause of misunderstanding from a theoretical pragmatic point of view.

Zaefferer (1977) gives a formal definition of misunderstanding and discusses a constructed datum. His definition incorporates context, in terms of the environment in which the utterance is situated:

> A person I has misunderstood or has an incorrect understanding (with respect to language L) of some sound event SE in context C if and only if there are states of affairs SA', C' such that

(1) SE has occurred
(2) C holds
(3) SA holds because SE counts in C as bringing about SA (according to L),
(4) I believes (i) that (1), (ii) that C' holds (iii) that SA' holds because SE counts in C' as bringing about SA' (according to L) and
(5) SA is not the same as SA' (Zaefferer 1977:331-2).

According to this definition a misunderstanding occurs when a hearer, ('I'), has an incorrect belief about the context in which an utterance is expressed.   A particular state of affairs automatically holds if it is brought about by a sound event in a particular context.   A hearer could not therefore misunderstand a sound event if he/she believed the context to be the one which actually obtained at the time of the sound event.   Zaefferer does not explain what is meant by 'context,' although the burden of his definition rests on it.   One has to assume that it refers to constraints which restrict an utterance to a particular meaning in a particular spatio-temporal location.   It seems possible that a hearer can correctly believe what context holds but nevertheless misunderstand an utterance.

Zaefferer's constructed datum (1977:338) is used to illustrate the use of decision analysis to explain and predict a particular reading choice, that is, explain and predict why a particular understanding is reached. His datum is reproduced here to illustrate the different interpretations which different analysts may make of a datum.

(1)   A: There are even fishes that nurse their young.
(2)   B: You're kidding me!
(3)   A: No.
(4)   :   Why?
(5)   B: Fishes aren't mammals.
(6)   A: But of course, dolphins for instance.

According to Zaefferer, 'we can state that the outcome of B's interpretation of A's utterance of (1) is a reading which implies that by uttering (1) A was kidding B, while the correct reading implies that A was not' (1977:339).   In other words A intended to make a serious statement but B understood (1) to be a joke or a tease.   It seems to us, however, that the misunderstanding is not about the seriousness of (1) but is about what 'fishes' refer to. B misunderstands 'fishes' to refer to the biological notion of 'fish,' _viz_, a vertebrate with cold blood which breathes through gills.   B therefore responds to (1) as a joke because he cannot reconcile this incorrect understanding with his knowledge of the real world.

The task of analysing a misunderstanding of this kind is problematic because it depends on the analyst's interpretation of the datum.   Zaefferer's datum highlights the difficulty: the datum is constructed and therefore one would not expect it to be open to interpretations other than those which Zaefferer intends it to illustrate, yet other interpretations remain possible.   This possibility leads us to consider the role of the analyst in

undertaking interpretive work on selected episodes of discourse where misunderstanding is involved.

We consider in this respect the difficulties faced by Grimshaw (1982) who was a participant in the exchange sequence he presents for analysis. In the course of trying to explain the nature of a misunderstanding which occurred during the exchange, Grimshaw notes 'As a participant, I did not, apparently, know "what was going on." As an analyst I believe something was going on - I still don't know exactly what is was' (1982:37).

Grimshaw uses the term 'mishearing' for failing to understand correctly; it is this failure that we have reserved for the term 'misunderstanding.' The term 'misunderstanding' is used by Grimshaw to refer to anti-understanding which, he explains in a previous paper (Grimshaw 1980:36), occurs when having understood an utterance correctly, one chooses to respond as though it had not been understood correctly, or in where the misunderstanding has been intentional. Grimshaw discusses a taxonomy of outcomes of communicative events which provides the following outcomes: nonhearing, understood as intended, non (or partial or ambiguous) understanding, mishearing and misunderstanding (that is, intentional misunderstanding).

The criteria which distinguish mishearing (that is, misunderstanding) from the others are (a) that the hearer is confident of having correctly heard and interpreted the speaker's utterance and (b) that the hearer has the linguistic capacity to understand the utterance correctly, that is, should know the meaning of the constituents and so on. Despite these criteria, Grimshaw has difficulty in determining the outcomes for some of his data: 'Five and six represent cases of partial understanding ... that shade off into mishearing. Both could also be read as Misunderstanding' (1980:49). 'Five' and 'six' are in fact constructed data and therefore lack a context which might have helped in the analysis. Consequently, in a later paper, Grimshaw was to investigate an episode of naturally occurring conversation in which details of context could be recovered since he was a participant in the exchange.

Grimshaw subjects this episode to an adaptation of Labov and Fanshel's (1977) comprehensive discourse analysis. In addition, he elicits comments from one of the two other participants/ interlocutors. In spite of the extra resources upon which he draws (his own ethnographic knowledge, his participation, commentary from another participant), Grimshaw is not able to determine exactly what the episode is 'about' and which communicative outcome ensues.

He nevertheless makes some instructive observations about the episode, namely that: (i) 'those involved appeared to be talking at cross-purposes,' (ii) that at least two of the participants were not aware that there was any problem in understanding, (iii) that the 'impasse' was not resolved and (iv) that 'even minimal "sense" could be made out of the exchange only by recourse to deeper and deeper examination of a number of contextual dimensions' (1982:20). Thus in this instance it would appear that the participants are not themselves troubled by a miscommunication which subsequently cannot be understood, even with the benefit of hindsight.

Despite undertaking a very detailed analysis of the episode, Grimshaw acknowledges that his analysis has limitations:

> The expansions in the appended text are tentative and the characterizations of interactional moves even more subject to challenge. It is not clear, in short, that an analyst can confidently claim to understand either 'what has been said' or 'what was done' in the colloquy (of the participants) (1982: 22).

The fact that the analysis cannot explain the datum is one major problem. The fact that Grimshaw is unable to place the communicative nonsuccess within his taxonomy is another:

> None of the participants in this episode has misunderstood. Neither have they, however, understood as intended, partially understood, or misheard - misread (as I use those terms) (Grimshaw 1982:23).

Grimshaw's distinctions between partial understanding, mishearing and misunderstanding seem difficult to apply. It is possible that he has tried to be too specific. By assigning indeterminate illocutionary force and different levels of knowledge to partial or nonunderstanding and problems with signals and defeasibilities such as shortcomings in capacity or attention to mishearings ('misunderstandings' in this paper), he focusses on the cause of the difficulty rather than the outcome. It might be easier to distinguish between the different types of miscommunication if one were to focus instead on whether the hearer suspects nonsuccess, knows nonsuccess is the outcome or does not know that nonsuccess is the outcome; indeed, one of the criteria for mishearing (misunderstanding) is that the hearer believes he has correctly heard and interrupted the utterance.

This erroneous belief may be in respect of an utterance of indeterminate illocutionary force which Grimshaw seems to restrict

to partial or nonunderstanding. Of course, if one is to focus on the hearer's beliefs about the outcome, one has to be able to determine what the hearer's beliefs are (for a detailed discussion of the hearer's role in misunderstanding, see Humphreys-Jones 1986b), and this leaves the analyst with the kind of interpretive problems we raised earlier.

Grimshaw's honest declarations of the difficulties encountered in analysing the episode are not simply salutory, they also provide considerable impetus for further methodological and theoretical exposition. However, whilst he cannot resolve to his own satisfaction the overall problem of 'what is going on,' Grimshaw is able to establish (i) that participants may gradually become aware of nonsuccess, (ii) that not all participants may necessarily become aware of nonsuccess and (iii) that the resolving of nonsuccess is often a complex task which may be subject to considerations such as the importance which participants attach to the conversation and so on.

Grimshaw's findings are borne out by the work on inter-ethnic and inter-dialectal misunderstandings (Gumperz 1982a; Gumperz and Tannen 1979; Milroy 1984; Milroy and McTear 1983; Varonis and Gass 1985), which is the final area of focus that we consider for our present purpose. The data in these studies are drawn from actual conversations and are subjected to detailed interpretation, some of which is corroborated by questioning the participants.

Gumperz (1982a) and Gumperz and Tannen (1979) investigate discourse strategies by using data from actual conversations in which communication is not successful. The object of their research is to determine the sociocultural knowledge which interlocutors draw on in conversation. The miscommunications which they discuss all 'involve mistaken judgements of others' conversational intent' (Gumperz and Tannen 1979:321). Those judgements tend to be attitudinal and are mostly due to inter-cultural differences between interlocutors. The fact that the judgements are mistaken is detected retrospectively by the participants and by outside observers.

Milroy (1984) and Milroy and McTear (1983) are similarly concerned with the causes and consequences of breakdowns in communication. Their examples are drawn from interlocutors who have different dialectal backgrounds because the 'internal grammars' of such interlocutors are assumed to differ, thus enabling the analyst to examine the role of 'linguistic knowledge in comprehension' (Milroy 1984:7-8).

Miscommunication is specified in the following way: 'A miscommunication may be said to take place when there is a mismatch between the speaker's intention and the hearer's interpretation'

(Milroy 1984:8). The speaker's intention is not limited to any one utterance and the miscommunication can therefore presumably be in respect of a larger part of the conversation than one particular utterance or in respect of what could be called the underlying social motives rather than intended propositional content of the utterances.

Milroy (1984) makes an important distinction between 'misunderstandings,' which involve differences in speaker-hearers' semantic analysis of an utterance and which do not interrupt the conversation's flow, and 'communication breakdown,' which happens when participants are aware that 'something has gone wrong' in the conversation. Thus, Milroy's 'misunderstandings' are not separate entities within conversation whereas her 'communicative breakdowns' are.

From both an applied linguistic and sociolinguistic viewpoint, Varonis and Gass (1985) discuss miscommunication between native and non-native speakers. They argue that in addition to having different language systems, a lack of shared belief space can cause communication problems. They suggest seven ways in which participants can behave after there has been a lack of understanding and they illustrate each of these with actual data. The seven ways in which participants can behave are as follows:

1.   Immediate recognition of problem but no comment.
2.   Immediate recognition of problem and makes comment.
3.   Later recognition of problem but no comment.
4.   Later recognition of problem and makes comment.
5.   Recognition after conversation but no comment.
6.   Recognition after conversation and makes comment.
7.   No recognition (Varonis and Gass 1985:328).

These criteria provide a valuable guide to the possible outcomes of misunderstanding but the distinction between 'immediately' and 'later' is not clearly drawn. From the examples given, 'immediate' recognition of a communication problem is made when the next speaker produces an utterance which comments on or corrects the problem and which is adjacent to the utterance which has manifested the problem. 'Later' recognition is made when the next speaker pauses before producing his comment or correction; in the example of 'later' recognition, the correcting utterance is similarly adjacent to the utterance which has manifested the problem. It is possible that within a conversation a comment or correction could occur 'later' in the sense that a number of other utterances and/or speaker turns elapse between the utterance which manifests the problem and the correction of it.

Varonis and Gass (1985) analyse an 'extended misunderstanding' between a native and a non-native speaker in a telephone service encounter. Their analysis considers the participants' beliefs about the conversation, the differences between their goals and the correlation between the confidence of each participant in his/her interpretation and the correctness/incorrectness of that interpretation. Although a 'heuristic' for explaining participants' confidence in their interpretations is offered, there is no explicit account of how the analyst assesses participants' beliefs and goals, nor of how confidence in interpretation is actually determined and corroborated. Not all the utterances in the datum are given accuracy/confidence coding; two are given the code 'NC' ('Not coded'), perhaps because they are deemed incidental to the miscommunication.

Whilst the datum is very complex, with one participant changing goals five times and the other misunderstanding eleven times, Varonis and Gass make a number of important points as a result of their analysis. These are enumerated as follows: (i) native speakers and non-native speakers have particular problems in communicating, (ii) conversing in accordance with the Co-operative Principle and turn-taking conventions does not necessarily result in understanding, (iii) participants use 'negotiation routines in which one interlocutor indicates difficulty with the interpretation of another's utterance' (1985:341) and (iv) when meaning is not negotiated between native and non-native speakers their conversation is prone to problems. Despite the insights offered by studies such as this, approaches to analysing misunderstandings remain problematic in a number of different respects and we might now try to briefly summarize these.

Firstly, the studies which we have outlined, though often highly detailed, rely to varying degrees on informal and inadequately evidenced descriptions of the data. Secondly, whilst many of the datum are drawn from actual conversations, these tend to be single instances of communicative breakdown which appear to have been selected in an ad hoc way. Thirdly, there is no agreed model or system for analysing such breakdowns. Fourthly, definitions of misunderstanding tend to be either extremely vague or ignore the interactional dynamic which is negotiated between speaker and hearer. Fifthly, the sequencing of misunderstandings can be extremely complex and evidence for explaining what has gone wrong may not always reside in the text. Finally, we raise the analytic problem of 'correct interpretation,' a problem which is evident even on occasions when, like Grimshaw, we have been participant in the episode in question.

Given the nature of these difficulties, we suggest, in the

following section, how a systematic corpus based analysis of misunderstandings may help in beginning to tackle them.

3.   A Corpus Based Analysis

    The procedure for analysing misunderstandings discussed in this section is based on the detailed study presented in Humphreys-Jones (1986a). The rationale for undertaking a corpus based approach was to determine, in the first instance, the nature and range of textual evidence that could be accumulated from interactional contexts in which communicative breakdown had occurred. However, the would be analyst of such breakdown is faced with the difficulty of deciding in advance what some instance of the phenomenon in question might consist of. Whilst the nature of this decision must obviously affect the kind of corpus that is collected, subsequent additions to the corpus may be used to modify the original criteria used in the selection of examples. But how can we collect instances of misunderstandings when they involve the kind of conversational phenomenon whose occurrence cannot be predicted in advance?

    One could of course collect huge amounts of data in the hope that enough instances of the phenomenon will emerge. On the other hand, such an approach could prove not only to be time consuming but also unproductive; we may fail to provide _any_ instance of the kind we are interested in. Fortunately, a precedent for collecting chance data of the kind we have in mind has been set by researchers of speech error in verbal exchange, many of whom have adopted the 'diary method.' This method is particularly well illustrated in the work of Fromkin (1971) who provides a corpus of over six hundred speech errors collected by herself, colleagues and friends. By being on the spot, so to speak, the researcher is not only able to record the instance in which an error is produced but also has the possibility of collecting advantitious data in the form of immediately questioning the utterer of the error that has been realized. Something of a similar approach was adopted for the recording of misunderstandings which formed the corpus collected by Humphreys-Jones where these were defined as a type of communicative breakdown which 'occurs when a hearer, H, incorrectly understands a proposition expressed by a speaker, S, in an utterance in interactive conversation where S and H are native speakers' (1986:28).

    Using the 'diary method' and notwithstanding its limitations (for detailed discussion of both the advantages and disadvantages of this approach to data collection, see Humphreys-Jones (1986a, Chapter II)), a corpus of some one hundred misunderstandings was collected along with whatever additional information the analyst

was able to glean, subsequent to the interactional sequence noted. Each datum was then transcribed in ordinary orthography to enable inspection and subsequent analysis of the exchange that transpired. The question that was subsequently posed in regard to this data was simply, 'what if any, kinds of evidence are available in each instance to enable the analyst to claim that a misunderstanding has occurred?'

In a large number of data in the corpus, one or more of the participants actually made overt reference to the fact that something had gone wrong and futhermore would frequently provide explanations of what had been misunderstood. For example, speakers made statements such as 'No that's not what I mean,' indicating to their interlocutors that some interpretation of what they had said was inappropriate or inaccurate. The same speakers might then continue, 'What I mean is (such and such)' as a means of further indicating what they originally intended to express. In the same way, when responding to such utterances as hearers, individuals might acknowledge the misunderstanding and apologize as a consequence, 'Oh I'm sorry, I thought you meant (such and such).' Similar evidence is provided for 'mishearing' in statements such as, 'I thought you said (such and such).' Where statements of this kind are offered, the analyst can make use of them to investigate what has happened in the discourse in question and indeed can compare such statements in various different interactional contexts.

In the absence of statements of this kind, the analyst must look for other kinds of evidence. This evidence may emerge as a result of inspecting the relationship between the utterance which is thought to have been misunderstood and the utterance which is subsequently based on or derives from that misunderstanding.

Within flexible but not infinite limits certain responses to utterances are appropriate while others are inappropriate. In the case of misunderstandings, the response by the hearer is to a different proposition than the one actually expressed by the speaker in his/her utterance and therefore the hearer's responding utterance is likely to be an inappropriate response, as is shown in the following example from the H-J corpus, in which S and H are talking about morris dancing:

(1)   S: Where do you do this?
(2)   H: To make the crops grow.

In response to a question concerning the location of an activity, a response detailing a place is appropriate but a response explaining the purpose of the activity is inappropriate. In this example, H has misunderstood what S was intending to express. Having misheard 'where' as 'why,' H believes that he is being asked why he morris

dances and his response in (2) is an answer to this question. In (2), therefore, H, manifests his misunderstanding of (1). The utterance by H which manifests his misunderstanding in the conversation is termed the manifestation and the definition of what counted as a misunderstanding in the H-J corpus was extended to include the presence of a manifestation. Without a manifestation there may be no evidence that the misunderstanding has occurred, should there be no reference to the misunderstanding in subsequent utterances. In addition, the requirement of the presence of a manifestation excluded data in which the hearer thought he might have misunderstood or encountered a possible problem in understanding what the speaker expressed. Rather than believing his/her understanding to be correct and basing his response on that understanding, the hearer could query the speaker's utterance or his own understanding of it and could thus avoid a potential misunderstanding.

When the hearer's manifestation is an appropriate response, evidence for the occurrence of a misunderstanding is only provided by any other utterances which have been exchanged, as in the following example in which S and H are listening to a tape which S has made of H's record:

(1)   S: I've only got one side of it.
(2)   H: Why?
(3)   S: Because I've got Peer Gynt on the other.
(4)   H: Oh I thought you meant it was in mono.
(5)   S: No I meant only one side of the album.

In (4) H explains her understanding of (1) and in (5) S refutes this understanding and explains what she intended to express. From these two utterances it is possible to determine that a misunderstanding originated in (1). It is not directly manifested in (2) because H's response, 'Why?,' is an appropriate response. The response to the manifestation elaborates what was expressed in (1) and thus makes H realize, that is, become aware that she has misunderstood (1). H's explanation of her understanding of (1) not only provides S with an indication that something has gone wrong but also enables the analyst to cite evidence for this realization.

In order to ascertain that a misunderstanding has indeed occurred, then, the analyst must not only make recourse to what has actually been said but must also scrutinize the data for contextualization cues that may indicate some response has been communicatively inappropriate or problematic in some way. However, in undertaking such analyses of the data it is clear that the analyst can only judge what has gone on in his or her own terms, that is,

by imposing an interpretation on the data. But how can the analyst validate his/her own interpretation of what has gone wrong?

An important and often neglected source of supportive evidence for undertaking interpretive work of the kind we have considered can in fact be provided by the participants themselves. If, for example, a misunderstanding is reported to a third party after it has occurred, it is obvious that the individual making the report must have <u>realized</u> that something had gone wrong. This <u>realization</u> may help to confirm the analyst's own interpretation of events in something of the manner of Bertrand Russell who suggested that 'the oftener things are found together, the more probable it becomes that they will be found together another time, and that, if they have been found together often enough, the probability will amount <u>almost</u> to certainty...probability is all we seek' (1912:22).

With regard to misunderstandings, it is possible to examine a corpus of collected examples with a view to identifying their probable structural characteristics. Thus in the example we have just considered, the misunderstanding originates in (1) and is manifested in (2); these utterances are termed <u>origin</u> and <u>manifestation</u> respectively and they correspond with the sequencing discussed in the majority of studies discussed in the previous section. Both Jefferson and Schwartz, for example, discuss a sequence in which the misunderstood utterance is followed by an utterance based on the misunderstanding which in turn is followed by a correction. Such adjacency is not the case in the example since the 'correction' is made by (5), the utterance in which S reputes H's understanding and explains what was intended. The 'correction' is the consequence of an utterance by H which acknowledges and explains the misunderstanding; this utterance by H follows S's elaboration of the origin utterance. The datum is considerably shorter and less complex than the examples discussed by Grimshaw and by Varonis and Gass yet, like their data it is not amenable to an analysis based on sequencing.

Isolating embedded sequences within an exchange seems to be a clumsy way of analysing the utterances involved in a misunderstanding when we can make reference not only to the <u>origin</u> and <u>manifestation</u> of the breakdown but also the utterance which resolves the misunderstanding. In the misunderstanding about the tape recording, for example, both participants <u>realize</u> that the misunderstanding has occurred and go on to resolve it so that it is effectively <u>closed</u> and thus extends no further into the exchange. In the H-J corpus, it is notable that 72% of the examples were realized in this manner, that is, the participants were aware that communication had broken down due to misunderstanding and took steps to repair or resolve the damage.

However, we also need to account for more problematic cases
of misunderstanding where the breakdown may be resolved for one
participant but not the other as in the following example.

(1)   S: Tim and Harry were going to the Ayr races with Steven
          Jackson
(2)   H: Where?
(3)   S: Ayr
(4)   H: Oh

Because S, Tim and Harry are all airport staff, H understands (1)
to refer to 'air races' and wishes to find to out where they are
being held. On being told 'Ayr,' a partial repetition of (1), she
realizes that she has misunderstood (1) and consequently appreciates
that S is talking about 'horse' as opposed to 'aeroplane' racing
as the former takes place in the town of 'Ayr.' S does not realize
that a misunderstanding has occurred and the sequence is unaffected
for him. H, on the other hand, does realize a misunderstanding
has occurred, acknowledges this fact (this acknowledgement is taken
by S to be a neutral comment on the information he imparts in (1))
and closes the sequence accordingly.

Only, 12% of examples in the corpus were of this type, though
there were a further 3% of cases where neither participant realized
that a misunderstanding had occurred. In these instances, the
participants presumably left the conversation with different
understandings of what had gone on but had not perceived this to
be communicatively problematic.

In the remaining 13% of examples, it was not possible to
determine whether or not one or more participants realized that
any problem existed. Thus, in 25% of the corpus, one could analyse
different sequences for the misunderstanding according to which
participant's perspective one was adopting. What is detected as a
misunderstanding for one participant may not be detected as such
by the other. Consequently, the different understandings which
participants may have of the conversation means that the course of
any misunderstanding has to be charted differently for each
participant.

However, dealing with discourse from the point of view of the
participants requires attention to be paid to their 'intentions'
and 'understandings' as well as to their utterances and to this
end a system of reference was devised to account for (i) what the
speaker intended to express, (ii) what utterance the speaker produced
(origin), (iii) what utterance the hearer perceived and decoded,
(iv) what the hearer understood to have been expressed and (v)
what utterance the hearer produced in response, based on and
manifesting his misunderstanding (manifestation). These criteria

were thought to be of particular importance because a misunderstanding involves disparity between (i) and (iv) and this disparity is the consequence of problems which the hearer has with either (ii) or (iii) or both; the disparity is manifested in the conversation in (v). Many of the other utterances in each datum could be analysed in terms of their relationship with these five reference points, which avoided the lengthy descriptions that are possible in the detailing of one or two misunderstands but are not practicable in respect of a corpus of one hundred.

In addition to these factors, the points in the conversation at which each participant <u>realized</u> the misunderstanding had occurred were identified so that the change from one understanding to another could be delimited, wherever possible.

4.   Concluding Remarks

By applying the analysis outlined above, it was possible to undertake a systematic classification of the types and structural characteristics of misunderstandings within the corpus. We would suggest that this exercise is not mere 'listing' but rather agree with the view of Carvell and Svartik (1969:29) who argue that 'a classification of a set of objects is a system of reference for the objects together with rules for referring them to it' (1969:29).

However, when the 'objects' are misunderstandings, the reference system and its rules must embrace all aspects of the communication process, or at least as many as the analyst can identify. By recognizing the need for such an approach, the work being developed by Humphreys-Jones aims to demonstrate the methodological and theoretical advantages of undertaking a 'process' type analysis as suggested by Widdowson (1979). But that is not all, since the analysis put forward is also sensitive to Widdowson's other line of approach which is to deal with discourse 'in detachment from its instantiation, after the event, as a product' (1979:70-71). To this end, commentary and corroboration of what went on in the exchanges which constitute the corpus were sought from the participants. Although only drawn on informally in Humphreys-Jones (1986a), the nature of these comments were considered as extremely important for the research, since they provided evidence and information that would otherwise not have been accessible to the analyst.

Detailed discussion of the nature of this evidence and information are outside the scope of this paper. Nevertheless, we suggest that further exploration of participant commentaries of this kind can and would help to provide an important data base for launching work on conversational inferencing such as Gumperz (1986a;

1986b) has pioneered and that McGregor (1985; 1986; forthcoming) is seeking to develop.

By focussing on the inferential skills of third person participant and non-participant judges, this work aims to model the kinds of sociolinguistic knowledge that may be utilised by individuals in situated interpretation of communicative events. It also enables us to provide a framework to account for the possibilities of multiple interpretation of conversational data such as were raised at various point in our discussion. Indeed, McGregor (1985) argues that the need to account for these differences is paramount since analysts ought to provide a framework for inferencing that goes beyond their own subjective platforms. If we take the difficulties expounded by Grimshaw (1982) as a case in point, then there is little doubt of the care that must be taken.

Whatever research path we choose to follow, it is clear that any attempt to investigate the complex processes that underpin the nature of everyday communicative activity can gain much from the kind of approach we have outlined here, not only when this activity is perceived to have broken down, as in the case of misunderstandings, but also when it is considered as successful or at the very least unproblematic by its participants.

FOOTNOTES

[1]This paper is the consequence of a long standing series of discussions and reflects the often overlapping research interests of the authors. Whilst work on the paper was equally shared, the data and findings are based on the doctoral research presented in Humphreys-Jones (1986a).

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NEGATION:
AN INSIGHT INTO THE STRUCTURE OF MAIN CLAUSES IN WOODS CREE

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ABSTRACT

Two distinct types of verbs occur in Woods Cree: the Independent and the Conjunct. Independent verbs occur in main clauses; Conjunct verbs occur in both main and subordinate clauses. Woods Cree has a number of distinct negative particles. Descriptions of Cree dialects indicate that the distinction between two of these negative particles is dependent on the inflection of the verb. mwāc negates clauses with Independent verbs, īkā clauses with Conjunct verbs. This paper demonstrates that in fact, the negative morphemes are independent of verb inflection. Presupposed clauses are negated with the negative particle īkā, asserted clauses with the negative particle mwāc.

1.   Introduction

Descriptions of the various Cree dialects only briefly mention the topic of negation. A few statements in the published works indicate there are two negative morphemes: an Independent verb negator and a Conjunct verb negator (Ellis 1983:29,426, Wolfart 1973:41). All Cree dialects distinguish two main types of verbs: an Independent verb used in main clauses and a Conjunct verb used in subordinate clauses. It would be then logical to assume that the Independent verb negator negates main clauses and the Conjunct verb negator negates subordinate clauses. However, scholars such as Ellis 1983 do not make that overt deduction for I believe, the logical reason: the situation is far more complex.

There are three basic problems. First, main clauses can occur with both Independent and Conjunct inflections. In narrative texts, Independent verb inflections are often a minority. There are however more Independent verbs than Conjunct verbs in the main clauses of conversational texts. The use of the Conjunct in main clauses creates the following two problems. I) The Independent verb negator can occur in a main clause with a Conjunct verb, and II) A Conjunct verb negator can occur in a main clause.

Cree scholars have failed to mention these irregularities. As a result, scholars working on North Shore (Quebec) Montagnais have assumed that Montagnais main clause negation is radically different from Cree negation, since the verb in a negated main clause in North Shore Montagnais must be marked with a Conjunct inflection (MacKenzie and Clarke 1981:143).

In this paper I will outline the various types of negative clauses in Woods Cree, a dialect spoken in north-western Manitoba,[1] focussing on the problems discussed above. I will demonstrate how these irregularities can be neatly incorporated into the grammar as a whole. As a result, not only will the analysis of negation be more detailed and precise, but also it will add insights into the problem of why main clauses can occur with a Conjunct verb, a topic too broad to cover in any detail in this paper (see Rogers 1979 for one analysis of Ojibwa). The analysis will also de-mystify the origin of Montagnais negative clauses, clauses where the verb always occurs with a Conjunct.

Before I discuss negation, I will provide a very brief synopsis of the structure of Woods Cree. Then, the various negative morphemes in Woods Cree will be outlined. Syntactic and semantic distinctions between the various morphemes will be discussed. Finally, an attempt will be made to explain the function of conjunct verbs in negative main clauses.

2.   Verbal Structure of Woods Cree

There are four types of verb stems, divided on the basis of the transitivity of the verb and on the animacy of the noun.[2] There are two sets of intransitive verb stems, one for intransitive animate subjects (AI), and one for intransitive inanimate subjects (II). There are also two transitive verb stems, both with animate subjects. The transitive verb stems differ in respect to the animacy of the object. A Transitive Animate verb (TA) is a verb with an animate subject and an animate object, while a Transitive Inanimate verb (TI) is a verb with a animate subject and an inanimate object. The four verb stems are inflected with four distinct sets of inflectional endings. The following illustrate the four types of verb stems in Woods Cree.[3]   Independent verb forms will be used here for illustration.

1)   'hard/strong'   AI   he is strong   maskawisiw
                      II   it is hard   maskawāw
                      TA   he hardens him   maskawisihīw
                      TI   he hardens it   maskawisihtāw

There are three types of verb paradigms for each of the four verb stems discussed above. They are the <u>Independent</u>, the <u>Conjunct</u> and the <u>Imperative</u>.[4] The following illustrate these, using the 3sg. form of each verb stem.

2) 'hard/strong'

	AI	II	TA	TI
Independent	maskawisiw	maskawāw	maskawisihāw	maskawisihtāw
Conjunct	ī-maskawisit	ī-maskawāyāk	ī-maskawihāt	ī-maskawihtat
Imperative	maskawisi	[ ]	maskawihi	maskawihtā

The function of an Imperative verb is clear. Imperative verbs only occur in Imperative and Hortative structures.

3)   <u>atoskī</u>
     2sg.Imp.-work
     'Work.'

4)   <u>atoskītān</u>
     12.Imp.-work
     'Let's work.'

The function of the Independent and the Conjunct is however less clear. Both Independent and Conjunct verbs can occur in most types of main clauses, as the following examples illustrate:

5)   <u>kī-nipāw</u>
     past.3sg.Ind.-sleep
     'He slept.'

6)   <u>ī-kī-nipāt</u>
     past.3sg.Conj-sleep
     'He slept.'

The distinction between the two inflections is then not based on clause type. The distinction is also not based on the 'speech act' since the verbs in both yes-no questions and in declaratives can be inflected with both Independent and Conjunct inflections.

7)   nipāw pīpī
     3sg.Ind-sleep.baby

     Ī-nipāt pīpī
     3sg.Conj-sleep baby

     'The baby is asleep.'

8)   nipāw na pīpī
     3sg.Ind-sleep Q baby

     Ī-nīpāt na pīpī
     3sg.Conj-sleep Q baby

     'Is the baby asleep?'

Finally, the use of the Independent and the Conjunct is not directly related to negation. The negative can occur with either type of verb.

9)   mōða nipāw
     neg 3sg.Ind-sleep

     mōða Ī-nipāt
     neg 3sg.Conj-sleep

     'He is not sleeping.'

The choice of inflection in a declarative main clause is therefore not that simple. Both Independent and Conjunct verbs can occur in most main clauses. The function of the Conjunct in a main clause appears to be based on a combination of factors, too complex to cover in any detail here. Only the inter-relationship between Conjunct and Independent verbs in negative clauses will be discussed in any detail.[5]

There are however a few instances where the verb is predictable. They are as follows.

I.   Most verbs in Wh-questions occur with Conjunct verbs.

10) awina ā-nipāt?
     who 3sg.Conj-sleep
     'Who is sleeping?'

11) tāntī ī-nipāt?
     where 3sg.Conj-sleep
     'Where is she/he sleeping?'

II. When however, the verb in the main clause is an evidential type construction, the verb must occur with an Independent inflection, even if the verb occurs in a wh-question. Contrast the following two wh-questions:

12) tānsi tōtam?
how 3sg.Ind-do it
'What is he doing?' (check out the baby)

13) tānsi tōtah?
How 3sg.Conj-do it
'What is he doing (right now)?'

III. The verb in a Jussive is always inflected with an Independent.

14) ta-nipāw
fut-3sg.Ind-sleep
'Let him sleep.'

IV. A few particles dictate the inflection of the verb. These particles must always precede the verb they modify. Two such particles are wīsa and ohci, both meaning 'because.' wīsa must precede either a NP or an Independent verb. ohci can only be followed by a Conjunct verb.

15) wīsa atim
because dog
'Because of the dog.'

wīsa sipwīhtīw
because 3sg.Ind-leave
'Because he left.'

16) ohci ī-sipwīhtīt
because 3sg.Conj-leave
'Because he left.' (Answer to question).

V.   Finally, the only verb that can occur in any type of subordinate clause is a Conjunct verb.

17) oma nipāt, kwāni ī-ayamihkwāmit
When 3sg.Conj-sleep, then 3sg.Conj-talk in sleep
'When he sleeps, he talks.'

18) Īkā oponapīnihk kī-itohtīyahki, kwān po Thompson
     ta-ayāyahk
     neg SIL-loc able-12 Subj-go, then only Thompson fut-12
     Conj-be.
     'If we don't reach South Indian Lake, we will have to
     stay in Thompson.'

The verb in a declarative negated main clause is not directly affected by any of the above factors. As a result, a declarative negated main clause can occur with either an Independent or a Conjunct inflection. The forms and functions of the various negative particles in Woods Cree will be discussed in the following section.

3. Negative Forms

There are five distinct negative morphemes in Woods Cree. Three of these negative morphemes have been labelled as stylistic variants in descriptions of other Cree dialects (cf. Ellis 1983:183). These three negative morphemes are mwāc, mwā and mōða.[6] The three forms are all main clause negative morphemes. They cannot occur in a subordinate clause.

The two other negative particles are Īkā and kāða. I have labelled the negative particle Īkā as the 'subordinate negator,' even though it can occur in a main clause. Īkā is the only negative morpheme that can occur in a subordinate clause. Finally, kāða is the Imperative negator. It negates Imperatives, Hortatives and Jussives.

I have classified the negative morphemes on the basis of syntax since the morphological criteria presented in other descriptions is inadequate. Eg., kāða negates an Independent verb in a Jussive construction and an Imperative verb in an Imperative construction.

Furthermore, all five negative morphemes can occur in clauses without verbs. So although the position of the verb is syntactically important, the inflection on the verb does not determine which negative particle will occur. When however a verb does occur in a negative clause, the negative particle must precede it. However, the verb may be separated from the negative by an NP or a particle.

19) mōða cīskwa nipāw
     neg yet 3sg.Ind-sleep
     'He's not asleep yet.'

20) mistahi itowītāniwan Īkā atim kita-tahcīt
     a lot indf.Ind-care neg dog fut-3sg.Conj-let loose
     'Care was taken not to have the dog loose.'

Cross-linguistic data suggest that languages with two negative morphemes often divide the negative into main and subordinate negators, with semantic nuances in the direction to be outlined below (Horne 1985:127-128). Since semantic differences are less clear than syntactic differences I will attempt to classify the five negative morphemes on the basis of syntax, before I present any semantic evidence. Only when there is more than one negative morpheme per syntactic category will I resort solely to a semantic analysis. Such an analysis is necessary to differentiate the three main clause negators.

4.   Semantics of Main Clause Negators

The three main clause negators mwāc, mwā and mōᵭa appear to differ only at a semantic level.

mwāc is the general negator. It occurs three times as often in texts as either of the other two negatives, mōᵭa or mwā. mwāc is used as the general word for 'no.' In constructions with a verb, mwāc marks the negative as a factive.

21)   kwāni māka mwāc wīsta ohci-miskawīw
       then but neg he too past-3sg.TA.Ind-find him
       'But he too didn't find her.'

mwāc is sometimes used to express the speaker's belief that the statement is a fact.

22)   mwāc ahpo nakī-kiskīyihtah īkosi
       neg or fut-able-1sg.Pret-know it   thus
       ta-kī-wīcihisowān
       fut-able-1sg.Conj.refl-help
       'I would not have learned how to help myself.'

mwāc is used in conjunction with the indefinite pronouns awina 'someone' and kīkwān 'something.'

23)   mwāc awina ī-ohci-itohtīt
       neg s.one 3sg.Conj-go
       'Nobody went there.'

24)   mwāc kīkwān ī-ikiskah
       neg s.thing 3sg.Conj-wear it
       'She had nothing on.'

Finally mwāc occurs in conjunction with kīkwān to indicate the non-existence of an NP. The following example illustrates this.

25) mw<u>ā</u>c k<u>ī</u>kw<u>ā</u>n <u>ō</u>matowa w<u>ā</u>skahikan
     neg s.thing like-this house
     'There were no houses like this.'

The phrase mw<u>ā</u>c k<u>ī</u>kw<u>ā</u>n is used to negate the existence of an animate noun phrase.

26) mw<u>ā</u>c k<u>ī</u>kw<u>ā</u>n w<u>ī</u>mistikosiw kay<u>ā</u>s
     neg s.thing whiteman long ago
     'There were no whitemen long ago.'

In contrast, mw<u>ā</u> is used when the speaker wishes to express an opinion. The distinction between mw<u>ā</u>c and mw<u>ā</u> is best exemplified by the following sentences:

27) mw<u>ā</u>c itok<u>ī</u> nitoht<u>ā</u>n
     neg prob. 1sg.Ind-go
     'I'll think I'll not go.'

28) mw<u>ā</u> p<u>ā</u>ham nitoht<u>ā</u>n
     neg poss. 1sg.Ind-go.
     'I don't think I'll go.'

The first sentence with mw<u>ā</u>c is probable, whereas the second sentence with mw<u>ā</u> is only possible.

mw<u>ā</u> is used to indicate a non-factive. It most often occurs with 1st person verbs used to express an opinion.

29) anohc p<u>ō</u> mw<u>ā</u> t<u>ā</u>pw<u>ī</u> nimiðw<u>ī</u>ðiht<u>ī</u>n<u>ā</u>n
     now only neg really 13.Ind-like it
     'Now we really don't like it.'

mw<u>ā</u> is also used to express a temporary lack of ability. mw<u>ā</u> is often translated as 'can't.'

30) mw<u>ā</u> nik<u>ī</u>-otihtin<u>ī</u>n nic<u>ī</u>m<u>ā</u>nin<u>ā</u>n
     neg able-1sg.Ind-hold it 13 poss.boat
     'I couldn't get hold of our boat.'

Finally, m<u>ō</u>ða is a contrastive negator. It is used when an individual wants to modify or correct a previous utterance.

31) m<u>ō</u>ða nipat<u>ā</u>cimon <u>ī</u>kota
     No. 1sg.Ind-miss-tell there.
     'No. I missed part of my story.'

m<u>ō</u>ða is also used to contradict someone else's statement.

32) Īkā mā ana Donna?   mōᵭa mā ana Donna
    neg Top. 3sg. Donna   neg Top. 3sg. Donna.
    'Doesn't that look like Donna?' 'No, that's not Donna.'

When mōᵭa negates a verb, it functions as a restrictive negator.

33) mōᵭa n-ōh-misikitin
    neg past-1sg.Ind-big
    'I wasn't that big.'

34) mōᵭa kinwīsk āsay kā-kīsisoci
    neg long already 3pl.II.Ind-cook
    'It doesn't take that long before they are done.'

The following excerpt in used to illustrate how this restrictive negation is used in discourse.

35) kinwīsk nōcihtāniwan nōsisim kā-osihtāniwik pahkīkin
    long indf.Ind-work at 1sg.poss.grandchild indf.Conj-do hide
    mōᵭa wīᵭa aciᵭaw piko
    neg he little-time only
    'It takes a long time my grandchild to tan a hide. It doesn't take a short time.'

Finally mōᵭa is used for contrast or emphasis.

36) mōᵭa nīᵭa piko, kwāni kahkiᵭaw nāpīwak
    neg I only, then all man-pl
    'Not only myself, but all the other guys.'

37) mōᵭa āta mistahiwāw kā-patiskaman ōma nicīmāninān
    neg although many-times 1sg.Conj-miss it this 13.poss.boat
    'It is not often I missed our boat.'

In summary, mwāc negates a factive, mwā negates an opinion or a temporary inability and finally, mōᵭa is used for restrictive negation and for contrast.[7]

Since the distinction between the three main clause negators is purely semantic, these morphemes will be discussed together as a single form for the remainder of this paper. Examples however will be taken from contexts, and not regularized.

5.   Verbal Inflection

These three negative particles mwāc, mwā and mōᵭa occur only in main clauses. However, main clause verbs can occur with either

Independent or Conjunct inflections. So when a main clause verb
with a Conjunct inflection is negated, it can be negated with either
a main clause negator or the subordinate clause negator īkā. The
following examples illustrate this.

38)   kwāni mwāc wīkāc ī-ohci-wanāhtakīð imowahk nōhtawīpan
      then neg ever 3sg.Conj-resolve 1sg.poss.father-late
      'And my late father never felt comfortable.'

39)   akwa nipāpā īkā ī-apit
      and 1sg.father neg 3sg.Conj-be at home
      'And my father wasn't at home.'

The relationship between these negative morphemes and verbal
inflection will be outlined following a discussion of the syntactic
constraints on main and subordinator clause negators.

6.   Syntactic Constraints on Main Clause Negators

There are only a few constraints that apply to main clause
negators. For example, all three main clause negative particles
must precede the verb.

40)   mwāc miðomacihow
      neg 3sg.Ind.mdle.rflx-feel good
      'He didn't feel well.'

41)   mwā nōkosiw
      neg 3sg.AI.appear
      'He is not seen.'

42)   mōða asamīw
      neg 3sg.TA.feed
      'He wasn't fed.'

There are however three important syntactic constraints. First,
the main clause negative morphemes can negate only main clauses.
Second, if the main clause is a polar or yes-no question, then the
main clause negator must precede the question clitic, cī or na.
The following examples illustrate this:

43)   mwā na cīskwa takosin?
      neg Q yet 3sg.Ind-arrive
      'Hasn't he come yet?'

44)   mwāc cī nipāw?
      neg Q 3sg.Ind.-sleep
      'He doesn't sleep?'

The fact that mwāc, mwā and mōða can only precede a polar
clitic is important, since only one constituent in a polar question
can precede a polar question particle. That constituent is always
the focus of the polar question. The following polar questions
provide illustrations.

     45)   ōko na nisto nāpīsisak kī-itohtīwak?
         3pl. Q 3 boy-pl. past-3pl.Ind-go
         'Did these three boys go?'

     46)   nisto na ōko nāpīsisak kī-itohtīwak?
         3 Q 3pl. boy-pl. past-3pl.Ind-go
         'Did three of these boys go?'

     47)   nāpīsisak na nisto ōko kī-itohtīwak?
         boy-pl. Q 3 3pl. past-3pl.Ind-go
         'These boys, did three of them go?'

     48)   nāpīsisak na ōko nisto kī-itohtīwak?
         boy-pl Q 3pl. 3 past-3pl.Ind-go
         'These three boys, did they go?'

If a main clause negative particle can only occur in initial
position in a polar question, a main clause negator must be able
to be focussed.

Third, the main clause negative particles can negate any main
clause with two exceptions: the wh-question and the Jussive. In most
wh-questions, the wh-particle is the only element focussed. All
other information in a wh-question is normally presupposed
(Huddleston 1971:9), including a negative. If a main clause negative
morpheme must be focussed, it is not normally presupposed. It is
logical therefore that a main clause negative morpheme would not
occur in a wh-question.

Not all wh-questions presuppose the entire clause (Huddleston
1971:9, Givon 1984:259-260). One type of wh-question that allows
a main clause negative morpheme is a structure resembling an
Evidential. An Evidential is not presupposed, it is asserted (Givon
1984:307-308).

     49)   tānsi mwāc tōtam?
         How neg 3sg.Ind-do it
         'What isn't he doing?'

All focussed clauses are assertions. Most declarative main
clauses and polar questions, and all Evidentials are assertions.

All three main clause negators seem only to occur in asserted declarative clauses.

The Jussive is also an assertion that marks the verb with an Independent. The Jussive however can only be negated with the Imperative negative morpheme kāõa.

50) kāõa kimiwan.
    Neg-Imp 3sg.II.Ind-rain
    'Don't let it rain.'

The Imperative negative morpheme negates all Imperative Speech Acts. The main clause negators then can only occur in non-Imperative assertive clauses. Since subordinate clauses are not normally assertions, it is logical that main clause negators do not occur in subordinate clauses.

7.   Īkā as a Subordinate Clause Negator

Īkā is the subordinate clause negator. No other negative morpheme can occur in a proto-typical subordinate clause. The following examples illustrate the use of Īkā in a subordinate clause.

51) Īyako pō Ī-kiskĪhtamān Īkā ta-mĪcināniwahk atihk
     that-one only 1sg.Conj-know it neg fut-indf.Conj-eat
     caribou
     'That's all I can remember that isn't eaten on a caribou.'

52) wĪhtikōw Īkā kwayask Ī-kĪ-ohci-mĪcisocik iõ iniwak
     wihtikow neg really past-neg.past-3pl.Conj-eat person-pl.
     'A wihtikow is (one of a group of) people who doesn't eat right.'

Īkā can also occur in unintroduced subordinate clauses. The primary clauses of this type are 'so' clauses, 'because' clauses, 'if only' clauses, 'what if' clauses, and 'as if' clauses, as in the following examples:

53) Īsa Īkā kā-kāpisocik
     because/so neg 3pl.AI.Conj-stick
     'So they wouldn't stick together.'

54) Īkā Ī-wĪ-tōtah
     neg want-3sg.Conj-do it
     'Because he doesn't want to.'

55) tānika īkā itohtīyān
If only   neg   lsg.Conj-go
'If only I wasn't going.'

56) sipwīhtīyāni mā
lsg.Subj-leave Topic
'What if I leave?'

57) Īkā mā Ī-sipwīhtīyān
neg Topic   lsg.Conj-leave
'As if I'm leaving.'[8]

Īkā also negates subordinate clause sentence fragments, such
as the following relative clause fragment.

58) Īkā kā-mīcisot
neg   3sg.Conj-eat
'Those that don't eat.'

The verb in all of the above constructions is presupposed. The
only type of subordinate clause that is not presupposed is the
non-restrictive relative clause. A non-restrictive relative clause
is also negated with the subordinate clause negator Īkā. The
following example illustrates this:

59) nimāmā Īkā wīkāc ohci-āhkosit, āhkosīkamikohk
lsg.-mother neg ever past-3sg.Conj-sick, hospital-loc
a-kī-itohtīt
past-3sg.Conj-go
'My mother who was never sick, had to go to the hospital.'

The negative particle Īkā is the only negative particle that
can occur in a subordinate clause. The use of Īkā in a subordinate
clause is purely grammatical.

It was noted above that Īkā can also negate a wh-question and a
main clause declarative.

60) kīkwaðiw Īkā kā-kī-ohci-pītohtīt?
What-obv. neg past-negpast-come
'Why didn't he come?'

61) nīyo kīsikāw Īkā Ī-ohci-nipāyān
Four   day   neg   past-lsg-Conj-sleep
'For four days I couldn't sleep.'

Since both Īkā and mwāc can occur in a main clause with a
Conjunct verb, it is necessary to distinguish the two constructions.

In the following sections, the syntactic and semantic constraints on the use of īkā in main clauses will be examined.

8.   Syntactic Constraints on the Subordinate Clause Negator

It was noted above that the verb in a wh-question and in a subordinate clause is usually presupposed. The evidence suggests that presupposition directly affects the use of subordinate negator in main clauses.

Syntactically, three restrictions apply to īkā in a main clause. First, īkā must precede the verb in any clause it negates.

    62)   Īkā ta-kī-ihkihk
          neg   fut-able-3sg.II.Conj-function
          '(It doesn't look like) it will work.'

Second, īkā cannot occur in a clause with an Independent verb: a verb used exclusively in main clauses.

    63)   *Īkā nipāw
          *neg   3sg.Ind.-sleep
          '*It is not he is asleep.'

Third, īkā usually does not precede the polar question clitics na and cī. īkā can occur in a polar question, but usually only after the question clitic.

    64)   Īkwāni na īkā iskōliwīn?
          then Q   neg 2sg.Conj-go to school
          'So, you're not going to school?'

ika can however occur in initial position in a polar question. The following example illustrates this:

    65)   Īkā na ī-nipāt?
          neg   Q   3sg.Conj-sleep
          'You mean he's not sleeping?'

In the above example, īkā is in focussed position. However, it is not īkā that is asserted, but rather the presupposition 'you mean.' īkā does not negate a main clause assertion.

There is further evidence to support this hypothesis. In Woods Cree, topic questions are formed by adding the clitic mā to the initial word in the topic question.

66) wĭð a mā̄?
     he   Topic
     'What about him?'

Topicalized constituents preceded by ma are usually either
nouns or particles. Among the constituents that mā̄ can be cliticized
to is the negative particle Ikā̄.

67) Ikā̄ mā̄ Ī-nipā̄t
     neg Topic 3sg.Conj-sleep
     'As if he's sleeping.'

Topic markers represent backgrounded presupposed information
(Haiman 1978, Reinhart 1982), not asserted or focussed information.

The only verbs that can precede the topic particle mā̄ are
Conjunct verbs. The following examples illustrate this.

68) kā̄-ā̄hkosipaðit mā̄?
     3sg.Conj-fall sick   Topic
     'Did you hear of her sudden sickness?'

69) apici mā̄?
     3sg.Subj.-be-at-home   Topic
     'What if he's home?'

Independent verbs cannot be followed by mā̄. Neither can the
main clause negative morphemes.

It appears that main clauses are negated with the two distinct
negative particles. mwā̄c negates main clause assertions, Ikā̄ negates
presuppositions. The distinction however has been grammaticalized
in all subordinate clauses.

9.   Semantic Distinctions

So although Ikā̄ occurs in both main and subordinate clauses,
it appears Ikā̄ is an unmarked negator in a subordinate clause, but
a marked negator in a main clause. The unmarked negative particle
in a main clause is mwā̄c. The syntactic distinction between main
clauses negated with mwā̄c and main clauses negated by Ikā̄ is
supported by semantic data.

In most main clauses, Ikā̄ has a specialized meaning, distinct
from mwā̄c. Consider the following textual examples with Ikā̄.

70) <u>pahkaci Īkā kā-nipāyān</u>
Sometimes neg 1st.conj-sleep
'Sometimes I can't sleep [because I'm upset].'

71) <u>nīyow kīsikāw Īkā Ī-ohci-nipāyān</u> [worried]
four   day   neg 1sg.Conj-past-sleep
'For four days I couldn't sleep.'

72) <u>ōta Ī-kī-minihkwiyān kāpī-kīsik Īkā ohci-nipāyān mīna</u>
here 1sg.Conj-drink all-day neg past-1st.Conj-sleep also
<u>kāpī-tipisk pātimā kihtwām Ī-ati-tipiskak</u>
all-night after again 3sg.Conj.II-be night
'I drank once and I didn't sleep all day and all night
until the next night.'

All of the above examples have the same verb <u>nipāw</u> 'sleep.'
The above main clauses are negated with the particle <u>Īkā</u>. They
differ only in the type of Conjunct verb used. The first example
occurs with a <u>kā</u>-Conjunct verb, the second with an <u>Ī</u>-Conjunct verb
and the third example with an unchanged Conjunct form.

The text for all three examples indicates that the speaker is
expressing a difficulty in sleeping. However the speaker always
allows the option of dozing off. In effect, the above examples
illustrate that <u>Īkā</u> does not negate the clause but rather is used
to negate a presupposition associated with the clause. <u>Īkā</u> negates
presuppositions.

Furthermore, when <u>Īkā</u> occurs in conjunction with the topic
particle <u>mā</u>, it also is not used to negate the proposition per se.
<u>Īkā</u> is used to question the hearer as to whether his/her impression
is the same as the speaker's.

73) <u>Īkā mā tīhtapiwin</u>
neg Top. table
'Doesn't that look like a table?'

74) <u>Īkā mā apici</u>
neg Top. 3sg.Subj-be at home
'What if he's not home?'

So although <u>Īkā</u> can negate both main and subordinate clauses,
in a main clause <u>Īkā</u> is marked. <u>Īkā</u> in a main clause somehow seems
to negate a proposition higher than that expressed by the verb in
the main clause. It functions as if the main clause is semantically
subordinate.

75) Īkā Ī-mīcisot
     neg 3sg.Conj-eat
     'He doesn't feel like eating.'

In contrast, mwāc, mwā and mōða are used to negate the truth-value of the clause. Consider the following examples with mwāc.

76) kwāni mwāc pīyakwāw Ī-nipāyāh
     then neg one-time 13.Conj-sleep
     'Not once did we go to sleep.'

77) mwāc kā-nipāyāhk Ī-papāmohtīt nōhtawīpan
     neg 13.Conj-sleep 3sg.Conj-walk-about 1sg.poss.father-late
     'We didn't sleep because my late father was walking about.'

78) mwāc n-ohci-nipān
     neg past 1sg.Ind-sleep
     'I didn't sleep.'

The first two examples occur with mwāc and a form of the Conjunct verb nipāw 'sleep.' In the third example, the verb nipāw 'sleep' is inflected with an Independent verb. The textual reference for each of the above clauses indicates the individual in question did not attempt to go to sleep for a specific reason (i.e., someone was lost, died etc.). When mwāc is used in a main clause, the clause is always negated. The clauses are all negative assertions, independent of the type of verb in the clause.

10. Conjunct vs. Independent Verbs

There is only one question left unanswered: Why does mwāc occur in a main clause with a Conjunct verb, and how is this type of main clause distinct from when mwāc occurs in a clause with an Independent verb? I think the distinction between the two negative structures is the same as the distinction between any two main clauses distinguished solely on the basis of an Independent or Conjunct inflection.

It is clear that the use of a Conjunct is not dependent on whether the clause is asserted or presupposed. Conjunct verbs can precede the polar question markers, as in:

79) Ī-āhkosit na?
     3sg.Conj-sick Q

     Ī-āhkosit cī?
     3sg.Conj-sick Q

     'Is he/she sick?'

Conjunct verbs also precede the topic marker mā, as in:

80) kā-sipwīpaðit mā?
     3sg.Conj-leave suddenly Topic
     'Did you hear about his leaving?'

A Conjunct verb can be both presupposed and foregrounded.

The function of the Conjunct verb in a main clause negated with
mwāc is partly related to aspect, partly modality. There are at
least four factors involved. First, a Conjunct inflection is used
to aspectually mark a main clause when the time reference for this
clause is dependent on another event in the discourse. The following
examples illustrate this:

81) mwāc ī-ayamit iðō ī-wīsakīhtahk oskīsik.
     neg 3sg.Conj-talk as-long-as 3sg.TI.Conj-hurt
     3sg.poss-eye
     'He couldn't talk as long as his eye hurt so.'

82) nisto kīsikāw īkota ā-kā-nipāt.   mwā īnco ahpo nipīs
     3 day there past-3sg.Conj-sleep. neg [ ] or little-water
     ī-kī-minihkwīt wawīs māyiða apisīs ta-mīcisot
     past.3sg.Conj-drink at-all but a little fut-3sg.Conj-eat
     'He slept there for three days. He didn't drink any water
     at all or even eat a bit.'

Second, textual examples indicate that a Conjunct verb negated
with a main clause negator is also used in discourse to restrict
the clause such that it refers only to a specific group of people
or specific time frame. The following examples illustrate this:

83) mwāc awina ta-nawatākosit
     neg   someone fut.3sg.Conj-catch
     'Nobody was around. (referring to group of women who could
     deliver a baby).'

84) mōða awina nitawīðimihkwāw
     neg   someone 3.TA.Conj-want you
     'Nobody wants you (response to man entering delivery
     room).'

85) mwāc osōma kiskīhtamān
     neg like-this lsg.Conj-know it
     'I don't know anything (about that specific topic to talk
     about right now).'

Third, a main clause negative occurs with a Conjunct verb when
the speaker views the event as 'amazing.'

86) mwāc īnto ī-nisiwaninākonðik ita atimwa
     neg [ ] 3sg.II.Conj.looktorn where dog-pl.
     ā-kī-sāpotaskātihpīpitikot
     past-TA.3.Conj-rip her head open
     'You couldn't tell where the rip was, where the dogs ripped
     her head.'

Finally, when the speaker is expressing a possible opinion of
another person, the verb always occurs in the Conjunct.

87) mōða wīða ī-kī-ohci-wāpahtahk
     neg he past.negpast.3sg.TI.Conj-see it
     'He didn't see it (Her grandfather putting curses on
     people).'

In contrast, Independent verbs negated with a main clause
negator are used to report facts and personal opinions. The
following examples illustrate.

88) mwāc awasimī nitawīðimāw sōkaw īkota
     neg more lsg.TA.Ind-want him sugar there
     'So I don't need as much sugar in there.'

89) mōða pīhtākosiðiwa
     neg 3obv.TA.Ind-hear him
     'He couldn't hear them.'

90) mwā kanakī ohci-pisiskīðihtam
     neg well past-3sg.TI.Ind-check it
     'He didn't bother to check.'

Main clauses negated with īkā illustrate that Conjunct verbs
also occur in syntactically main clauses, that function as if they
were semantically subordinate, vis-a-vis presupposition. The problem
is the various uses of the Conjunct verbs overlap. Other factors
also influence the use of the choice of the main clause verb, but
they are outside the scope of this paper. However, it is clear
the functions of the Conjunct verb in a main clause outlined above
supports the analysis presented above: negation is independent
from verb inflection.

11. <u>Conclusion</u>

There are five negative morphemes in Woods Cree. <u>mwāc</u>, <u>mwā</u> and <u>mōǒa</u> negate only main clauses, <u>īkā</u> is the only negator that can negate subordinate clauses, and <u>kāǒa</u> is the only negator that can negate Imperative clauses. All five negative particles have however a number of marked uses. For example, the subordinate clause negator can occur in a main clause. The distinction is, then, not purely syntactic. The distinction between a main clause negator and a subordinate clause negator is also semantically based. The main clause negator negates assertions, the subordinate clause negator, presuppositions.

Morphologically, there is a partial overlap between clause type and verb inflection. Proto-typically, a main clause verb occurs with Independent inflections, a subordinate clause verb with Conjunct inflections and an Imperative clause with Imperative inflections. However, a verb in a main clause can occur with a Conjunct inflection and a verb in an Imperative clause can occur with an Independent inflection.

This analysis of negation clarifies the issue of Conjunct verbs in main clauses. In negative clauses, the Conjunct/Independent distinction is dependent on several semantic factors, including aspect, modality and presupposition.

This analysis also demystifies the source of Montagnais negative main clauses with Conjunct verbs. Givon notes languages tend to reduce contrasts in marked structures, especially the negative (Givon 1977). In Montagnais, a contrast has simply been lost. The use of the Conjunct in main clause negative is not therefore a major change from Cree, but a minor one.

FOOTNOTES

[1]The material for this paper is based on data collected at South Indian Lake, Manitoba. Algonquianists will note three phonological processes evident from the orthography: the merger of *<u>e</u> with *<u>i</u>, the weakening and loss of /k/ word initially in the *<u>kā</u> conjunct marker, and the weakening of word final /hk/. The latter weakening is both grammatically and socially determined.

[2]Animate NPs are not totally iconic. A number of Inanimate objects are grammatically animate, e.g., <u>ǒīwahikan</u> 'dried pounded meat,' <u>sōniyāw</u> 'money.'

[3]There are two types of TI verbs. The example below is inflected with AI inflections. A distinct set of inflections also exist for TI stems.

[4]An Imperative II verb is not grammatically possible. It is simply logically improbable.

[5]This discussion will not distinguish the various types of Conjunct verbs.

[6]These forms also appear with a na-prefix when emphatic.

[7]The scope of the negation does not appear to affect the choice of the negative morpheme. Generally the constituent which is the focus of the negation is closer to the negative morpheme.

[8]'As if' structures are introduced by the negative particle īkā. This example literally translates as 'But I am not leaving;' mā reverses the polarity of the negative.

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MODAL VERBS IN TYNESIDE ENGLISH

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ABSTRACT

Until very recently, the syntax of Tyneside English, like that of most English dialects, has been more or less neglected. This has partly been due to the methodological problems involved in collecting sufficient tokens of forms that will occur rarely in even a long stretch of speech, as is pointed out by Jones-Sargeant (1985).

This paper constitutes a condensed account of a larger study carried out by the first-named author: at present, this is the only major study of Tyneside syntax to have been undertaken.[1] The modal syntax of Tyneside differs from that of Standard English in several important ways. Firstly, may and shall are hardly used at all in Tyneside, and at best are stylistic variants of can and will respectively, there being no context in which either may or shall is compulsory. Can and could have even more 'non-modal' characteristics in Tyneside than in Standard English. Other differences between Tyneside and Standard English include the more frequent use of 'epistemic' must and the rarity of ought, which coincides with infrequent use of should in 'non-root, non epistemic' uses as would be predicted by Leech & Coates (1977a and 1977b). Finally, the system of tags is totally different in Tyneside and Standard English respectively, the former having a larger set of options in which single and double negatives, contracted and uncontracted, are contrasted in order to distinguish between tags which ask for information and those requiring confirmation.

1. Introduction

The syntax of Tyneside English has, until very recently, been an almost totally neglected area of research. In 1968 an extensive

linguistic survey of Tyneside English--the Tyneside Linguistic
Survey (henceforth TLS)--was inagurated by Professor Barbara Strang.
The principal workers involved in designing the methodology,
collecting and analysing the data for the TLS were John Pellowe,
Graham Nixon and Vincent McNeany. Later, the programming work was
carried out by Val Jones-Sargent, whose (1983) account of the TLS
work is the clearest and most complete available. The principal
aim of the TLS was to determine 'the ecology of varieties of spoken
English in urban areas' (Pellowe et al. 1972a:1). By contrast
with previous sociolinguistic studies such as that of Labov (1966),
the TLS set out to achieve the above-mentioned aim by using
multivariate techniques in order to avoid both selectivity and
atomism in the treatment of social and linguistic variables. Thus,
each speaker in the sample would be analysed first in respect of a
large number of linguistic variables simultaneously, and allotted
a unique, multicoordinate place in a multidimensional 'Variety
Space', each of whose dimensions would be a linguistic <u>criterion</u>
with its variants. The methods of cluster analysis would then be
used to determine sets of linguistically similar speakers. Groups
of socially similar individuals would be determined using the same
methods, but with social, or extra-linguistic variables this time.
Finally, the two sets of groupings would be compared in order to
determine the relationship between linguistic and extra-linguistic
factors. The sample was made up partly by random sampling,
supplemented by a hand-picked sample of speakers either known to
speak 'non-localised' varieties of English, or residing in a street
judged to be 'middle-class.' This supplementation was to ensure
that 'non-localised' varieties were adequately represented in the
sample. In all, 200 speakers were included in the TLS corpus (Jones-
Sargent 1983).

To put it more simply, the aim of the TLS was to leave no
stone unturned in the search for sociolinguistically significant
groupings of speakers. Yet even here, syntax was treated as a poor
relation: out of the 459 variables originally included in the TLS
coding frame, only 84 were syntactic.[2] Moreover, the coding of
these latter was much cruder and more generalised than that of the
phonological variables: for instance, localised modal verbs were
counted along with other localised verb forms such as <u>he's went</u>,
giving a score for each speaker representing the total number of
localised verb forms. This is unsatisfactory in two ways: firstly
in that the analyst has to prejudge which forms are localised (i.e.,
characteristically Tyneside) and secondly in that information
concerning individual syntactic features, such as double modals,
cannot be retrieved except from the raw data. Small wonder then
that very little work on syntax has been published from the TLS,
the only published article to our knowledge being that by Jones-
Sargent (1985). Specific information is thin on the ground even
here: however, Jones-Sargent does make some useful points concerning

the methodological problems involved in the collection of syntactic data.   In Jones-Sargent's sample, localised forms, i.e., those forms in which the researcher is most likely to be interested, are rare, but are realised with high frequency by a minority of speakers. The rareness of occurrence of these forms overall can perhaps be explained by the fact that any specific syntactic feature is used less frequently in the course of spontaneous speech than any phonological feature: thus, however large the corpus, some syntactic features will always be missing.   Moreover, as we shall see in the course of this paper, many of the localised verb forms of Tyneside involve negation, interrogation and modality, all of which tend to be used in particular kinds of discourse which simply may not be employed in the course of an informal interview.   All this means that bodies of data collected for the purpose of phonological or other types of investigation may not be suitable for the study of syntax, and that investigations into regional syntax cannot be based on such corpora alone.   Jones-Sargent's discovery of the tendency for certain individuals to use a large number of localised syntactic features is more difficult to explain, especially since these individuals do not seem to form or belong to any coherent social grouping: possibly they were simply the most vociferous or least inhibited individuals?

The only major study of Tyneside syntax to date is that undertaken by McDonald (1981): it is on this study of modal verbs that the present paper is largely based. McDonald's study was based on two spoken corpora of 150,000 words each recorded between 1970 and 1978. Of the Non-Tyneside (henceforth NT) corpus, 70,000 words were obtained from the corpus used in the Survey of English Usage, for which surreptitious recordings of educated speakers were made; 30,000 words were taken from that part of the TLS sample designed to represent non-localised speakers; and 50,000 words were recorded from unscripted discussion programmes on the radio. The Tyneside (henceforth T) corpus consisted likewise of 150,000 words, from 67 speakers: 90,000 words consisted of spontaneous conversation from relatives, friends and neighbours, whilst the remaining 60,000 words involved conversation between speakers on a less intimate footing.   None of the T corpus was obtained by surreptitious recording.   McDonald recognises that there may be differences in formality between different parts of her corpora, but is always careful to point this out where it affects results.

To overcome the problems of rarely occuring features discussed above, McDonald supplemented her corpus by attested utterances and elicitation tests.   Attested utterances are those which are heard in conversation or overheard, and are subsequently noted down and investigated: every sociolinguist knows that such utterances can provide invaluable nuggets of information which are maddeningly absent from even the largest corpus.   Elicitation experiments were

conducted, not only to provide more information about items which were rare in the corpora, but also to gain some information about usage in areas of Britain other than Tyneside. Although there are problems regarding the reliability of answers given in elicitation experiments, sometimes a disparity between these answers and actual usage can be a valuable indication of what Labov (1966) calls 'linguistic insecurity.' The elicitation experiments used by McDonald were taken from Quirk & Svartvik (1966) and Greenbaum & Quirk (1970). Examples of the kind of test used are:

The <u>Acceptability Test</u>, in which informants are asked if a given sentence is:

> Y: wholly natural and normal
> N: wholly unnatural and abnormal
> ?:   somewhere in between

The <u>Semantic Test</u>, in which informants are asked to choose the interpretation associated with a particular modal verb, e.g.,

> S1 He'll not come tomorrow.
> a.   I'm certain he is not going to come tomorrow.
> b.   He is not willing to come tomorrow.

The <u>Stimulus-Response Test</u>, which involves a stimulus or gloss followed by a response sentence with one or more words omitted. The informant is asked to fill in the missing word or words so that the response sentence means the same as the stimulus, e.g.,

> SR1 Do you want me to write on the blackboard?
> ....I write on the blackboard?

For the elicitation experiments, McDonald used 415 informants. 230 of these were Tynesiders; 55 came from other regions in the far North of England (Northumberland, Durham, Cleveland and Cumbria); 45 were from the rest of the North (Lancashire and Yorkshire); 70 were from various places South of the Wash, but mainly the South East; and 15 came from Scotland.

2.   Modal Verbs

Although there is disagreement amongst linguists as to the status of verbs such as <u>need</u>, <u>dare</u>, <u>ought to</u>, there is a set of central modal verbs, or verbs generally agreed on as being modal in Standard British English (henceforth SBE). These are: <u>shall</u>, <u>should</u>, <u>will</u>, <u>would</u>, <u>may</u>, <u>might</u>, <u>can</u>, <u>could</u>, <u>must</u>. In Tyneside English even the catalogue of central modal verbs is different from that of SBE: as we shall see, <u>can</u> and <u>could</u> have certain

'non-modal' characteristics even in SBE, but they have several more in Tyneside, possibly placing them outside the canon of modals, whilst <u>may</u> and <u>shall</u>, which are definitely members of the modal class in SBE, should be excluded from such a description of Tyneside English, on the grounds of their extreme rarity in this variety.

2.1. Can and could

The breakdown of tense-relationship between past and present forms is seen as characteristic of modal verbs (Lightfoot 1979). In both SBE and Tyneside, <u>can</u> and <u>could</u> do not conform to the modal pattern in this respect, for in many ways <u>could</u> behaves as past tense of <u>can</u>. McDonald finds that <u>could</u> in both the T and the NT corpora 'occurs fairly frequently to actually indicate the past time and not only in environments which are reported' (1981:214). Another 'non-modal' characteristic of <u>can</u> and <u>could</u> in both Tyneside and SBE is their inability to occur to the left of other auxiliary verbs such as <u>have--en</u> and <u>be--ing</u>. In both the T and the NT corpora, McDonald found <u>can</u>, particularly, very rare in this position, whilst acceptability tests showed <u>can</u> with <u>have--en</u> and <u>be--ing</u> to be unacceptable generally (1981:205-208). On these two criteria, then, <u>can</u> and <u>could</u> are less 'modal' than other modal verbs even in SBE. In Tyneside English, however, they have more 'non-modal' characteristics. The most obvious of these is their ability, in Tyneside, to occur in 'double modal' constructions. McDonald's evidence suggests that 'double modals' are far more restricted in Tyneside than in Scots or Appalachian, for only <u>can</u> and <u>could</u> occur in second position in Tyneside. The only example of a 'double modal' to appear in McDonald's corpora is the following:

1.   A.   They don't break any of your windows or anything?
     B.   Oh no! They're double glazed. They <u>wouldn't could</u>.

However, attested utterances reveal that <u>can</u> occurs in Tyneside after <u>might</u>, <u>must</u> and <u>will</u>; whilst <u>could</u> occurs after <u>might</u>, <u>must</u> and <u>would</u>: the patterning of <u>will</u> only with <u>can</u> and <u>would</u> only with <u>could</u> shows tense-concord. There are also indications that, particularly with regard to the combination of <u>would</u> and <u>could</u>, negatives of double modals are more likely to occur than positives in Tyneside English; only <u>wouldn't could</u> as in the example above is found. However, in rural Northumberland, the following attested utterance was heard:

2.   A good machine-clipper <u>would could</u> do it in half a day.

Indeed, McDonald's evidence suggests that there might be an increasing restriction on the range of 'double modals' used in the varieties of English spoken as we move southwards from Scotland:

Scots uses more than Northumbrian, which in turn uses more than Tyneside, and acceptability tests show that, south of Durham, 'double modals' are not acceptable at all.

In contrast with SBE, Tyneside does not use _can_ and _could_ to express what Halliday (1970) terms 'modality' or what Palmer (1980) terms 'epistemic modality': in other words, where possibility or probability are involved. Instead, _can_ is used for permission, to the almost total exclusion of _may_, not only in interrogatives, such as:

3.   Can I have a record on?

but also in positive declarative sentences, such as:

4.   I might want one or two, but you can use what you want.

Otherwise, and especially in 'double modals,' _can_ is used with the meaning 'be able to,' as in:

5.   Some day I might can afford a one for me Christmas dinner.

Further contrasts between the use of _can_ in Tyneside and in SBE are evident in negative sentences In SBE, _can't_ is often used for 'negation of the proposition' rather than negation of the modal verb itself: in other words, it acts as a gloss for 'the evidence forces me to conclude that.....not,' as in:

6.   I stayed at home last night, so you can't have seen me at the party.

In such cases, Tyneside uses _mustn't_. In a stimulus-response test in which informants were asked to fill in the appropriate verb in the framework:

7.   The lift .... be working.

glossed as 'the evidence forces me to conclude that the lift isn't working,' 41.86% of informants in the North East (i.e., North of Cleveland) chose _mustn't_, as opposed to 0.0% South of the Wash, in which region 93.75% chose _can't_ (McDonald 1981:255). Thus, yet another 'epistemic' use of _can_ is absent from Tyneside.

The negative of _can_ is often uncontracted in Tyneside, appearing as _cannot_ [kanɪt]. In the rare cases in which uncontracted _cannot_ appears in SBE, it is a highly formal or emphatic usage, whereas in Tyneside it occurs in informal and non-emphatic usage. McDonald's T corpus shows _cannot_ as the form used in 36.47% of negative declaratives with _can_ as opposed to 2.35% in the NT corpus. Since

the contracted negative is another characteristic of modal verbs in English, the tendency for <u>cannot</u> to appear uncontracted in Tyneside is another reason for us to doubt the modal status of <u>can</u> in this variety.

Pullum & Wilson (1977:743) give quantifier and adverb placement as tests for 'auxiliaries' (including modals). Certain adverbs normally appear <u>after</u> auxiliaries but <u>before</u> 'main verbs' in SBE. In Tyneside, both <u>can</u> and <u>could</u> appear with such adverbs <u>before</u> them in such sentences as:

8.   That's what I say to people. If they only could walk a little bit, they should thank God.

9.   She just can reach the gate.

In Tyneside, then, <u>can</u> and <u>could</u> have far more 'non-modal' characteristics than they do in SBE. As in SBE, they have a relationship to each other which is more closely associated with tense than that of any other pair of 'past' and 'non-past' modals, and a tendency not to occur with <u>have--en</u> or <u>be--ing</u>. Yet in addition, Tyneside <u>can</u> and <u>could</u> occur in second place in 'double modal' constructions; occur <u>after</u> certain adverbials; are not used in 'epistemic' senses; and <u>can</u> has an uncontracted negative. The extent to which these latter features of Tyneside <u>can</u> and <u>could</u> may be found in other (Northern or Scots) varieties of English is a matter for further research, although McDonald does point out (1981:365) that the uses of modals in Tyneside are often similar to those found in certain varieties of American English.

The last point of contrast between SBE and Tyneside uses of <u>can</u> and <u>could</u> concerns their appearance with perfective adverbials in Tyneside. Where SBE would use <u>hasn't been able to</u>, Tyneside uses <u>cannot</u>, as in:

10. He cannot get a job since he's left school.

Where SBE would use <u>would have been able to</u>, Tyneside uses <u>could've</u>, as in:

11. I say its a bit of a disappointment, nurse. I though I could've brought it back again.

2.2. May and might

In the discussion of <u>can</u> above, some indication has already been given as to the reason for excluding <u>may</u> from the canon of modal verbs in Tyneside. <u>May</u> is extremely rare in Tyneside, and

occurs very infrequently in McDonald's T corpus. In 'permission' uses, it occurs only once, and then in the 'indirect speech act' <u>may I ask?</u>. As we have noted above, <u>can</u> is used to ask permission in Tyneside, to the exclusion of <u>may</u>. This is certainly not restricted to Tyneside, and may well be a general feature of non-standard dialects of British English. In Tyneside, <u>may</u> is also very rarely used to express 'epistemic possibility': only 14 such uses occur in McDonald's T corpus, as opposed to 75 in the NT corpus. Of these 14, 10 occur with an inanimate subject and copular verb, in the frame <u>it.........be</u>, as in:

12. It may be a Tyneside word.

It would appear that <u>might</u> is used in Tyneside rather than <u>may</u> to express 'epistemic possibility': in the NT corpus, 'epistemic possibility' uses of <u>may</u> and <u>might</u> were almost equally divided (44.38% and 55.62% respectively), whilst, in the T corpus, <u>might</u> accounts for over 90% of such uses. Thus, Tyneside speakers appear to have chosen what was originally the 'past tense form' <u>might</u>, as the modal verb for 'epistemic possibility,' leaving <u>may</u> for occasional use only in positive declarative sentences (no negative occurrences of <u>may</u> are found in the T corpus), and then mainly in the frame <u>it.......be</u>. <u>May</u>, then, is peripheral to the modal system of Tyneside simply because it hardly ever occurs, and has no exclusion function that cannot equally well be performed by either <u>can</u> or <u>might</u>.

2.3. Shall and will

    <u>Shall</u> is in a similar peripheral position in Tyneside English, and for similar reasons: it is a rare verb in English generally, and Ehrman (1966:57) suggests that it is becoming obsolete, functioning only as a 'stylistic variant' of <u>will</u>. McDonald's findings suggest that this is true of Tyneside, but not yet of SBE. In the NT corpus, <u>shall</u> occurs only with first-person subjects, and is interchangeable with <u>will</u> except in first-person interrogatives, where <u>shall</u> is obligatory. In Tyneside, <u>shall</u> is never obligatory, not even in first-person interrogatives, and so can properly be described as a 'stylistic variant' of <u>will</u>. Thus, sentences such as:

13. Will I call Mrs. Whiteman in?

occur in Tyneside, but not in SBE.

    <u>Can</u>, <u>could</u>, <u>may</u> and <u>shall</u>, then, for different reasons, have a peripheral status in the modal system of Tyneside. With respect to <u>can</u> and <u>could</u>, Tyneside may be seen as more conservative than

SBE, for, according to Lightfoot (1979) <u>can</u>, particularly, was very late in acquiring such modal characteristics as the inability to take direct objects, even in SBE. On the other hand, with regard to <u>may</u> and <u>shall</u>, Tyneside is more advanced than SBE: the encroachment of <u>can</u> on the semantic territory of <u>may</u> is a process which has been going on for centuries, and which has evidently progressed further in Tyneside than in SBE, as has the erosion of <u>shall's</u> territory by <u>will</u>. This mixture of conservative and advanced forms would appear to be characteristic of non-standard dialects of English.

2.4. Other modal verbs

     Other verbs which are as centrally modal in Tyneside as in SBE do show different patterns of usage in the two dialects. We have already commented on the use in Tyneside of <u>mustn't</u> rather than <u>can't</u> for sentences glossed as 'the evidence forces me to conclude that ...not.' Generally speaking, 'epistemic' uses of <u>must</u> in Tyneside form a greater percentage of total uses of <u>must</u> than in SBE (73/82 = 89.02% in the T corpus; 100/189 = 52.91% in the NT corpus) (1981:253). Conversely, 'root' uses of <u>must</u> are very rare in Tyneside: only 9 such uses appear in McDonald's T corpus (1981:231-232). Of these 9, 4 are used by the same informant; one is a doubtful utterance; and the remaining 4 are 'indirect speech acts,' such as <u>I must say</u> (c.f., the use of <u>may</u> in 'indirect speech acts'). The contrast between Tyneside and SBE uses of <u>must</u> and <u>have got to</u> are most striking in the negative, where misunderstandings could easily arise between a Tynesider and a speaker of SBE. In Tyneside, a sentence such as:

     14. You haven't got to do that.

would mean 'it is necessary for you not to do that,' whereas in SBE the same sentence would mean 'it is not necessary for you to do that.' In SBE, of course, the 'necessary not' meaning would be expressed by 'root' <u>mustn't</u>, which, as we have seen, is rare in Tyneside. In a semantic test requiring informants to choose between the two possible interpretations of the above sentence, McDonald (1981:248) found that 27/43 informants from the North East of England chose the 'necessary not' interpretation, as opposed to 3/14 informants from south of the Wash (62.79% and 17.65% respectively).

     <u>Ought to</u> is not a central modal verb even in SBE: in Tyneside it is not used at all. In contrasting Tyneside and Non-Tyneside uses of <u>should</u> and <u>ought to</u>, McDonald found evidence to support a theory proposed by Leech & Coates (1977a and 1977b). They found, in contrasting British and American usage, that more frequent use of <u>ought to</u> in British English coincided with use of <u>should</u> in

four areas which were neither 'root' nor 'epistemic,' and in which
ought to could not occur. These are:

   i)   With first person subjects in place of would
   ii) In reported speech as 'past' of shall
   iii) In subordinate clauses introduced by 'It is adj. that'
   iv) As a marker of subordinate adverbial clauses of condition

Conversely, infrequent use of should in these four contexts in
American English coincided with infrequent occurrence of ought to.
Leech & Coates concluded that ought to is used as an unambiguous
alternative, especially of root should, in dialects where should
occurs in these non-root, non-epistemic uses. McDonald's research
supports this theory, in that the T corpus has neither should in the
four contexts outlined above, nor ought to, whilst the NT corpus
has both ought to and non-root, non-epistemic uses of should.

2.5. Tag questions

   Apart from these contrasts in modal usage between Tyneside
and SBE, there are major differences between the two varieties in
the use of tags, which involve other auxiliaries as well as modals.
Firstly, tags which are positive occurring after positive main
clauses are much more frequent in Tyneside than in SBE. The figures
from McDonald's T and NT corpora are as follows (1981:325):

Tags	NT		T		Total
	No.	%	No.	%	
pos-neg	33	73.33	45	46.39	78
neg-pos	9	20.00	16	16.49	25
pos-pos	3	6.67	36	37.11	39
	45	100.00	97	99.99	142

Thus, sentences such as:

   15. They'll be alright, will they?

are much more common in Tyneside. Moreover, where a modal verb in
the main clause in a positive-positive tag construction is followed
by auxiliaries, the tag may contain one of these auxiliaries rather
than the modal, as in:

16. You'll be having a Christmas party, are you?

This phenomenon was not found at all in the NT corpus.

Secondly, in tag constructions of the positive-negative type
in Tyneside where a modal occurs in the tag, a contrast is made
between tags with modal + n't + subject and those with modal +
subject + not. The former is used where there is an expectation
of confirmation or agreement with the main clause, whilst the latter
(uncontracted) form is used when information is sought (this latter
function can also be performed by positive-positive constructions
in Tyneside). In SBE, both these functions are performed by
contracted negative tags, the distinction being made by the use of
different tones - falling tone is used where confirmation is
requested. Pellowe et al. (1972b:33) indicate that Tyneside has a
relatively high percentage of level tones: possibly contrasts
such as that outlined above, which are carried by different tones
in SBE, are 'syntacticised' in Tyneside because there is less
variation in tone in the latter. Further evidence that this is
indeed the case is provided when we look at the contrasting patterns
in negative-negative tag constructions in Tyneside. Such
constructions do not appear in McDonald's NT corpus at all, but in
the T corpus, there are two patterns: a negative main clause
followed by modal + subject + not, used when information about a
negative main clause is sought; and a negative main clause followed
by modal + n't + subject + not, used when confirmation of a negative
is sought. Thus:

17. She can't come, can she not?

asks for information, whereas:

18. She can't come, can't she not?

ask for confirmation of the negative: the only proper answer to
this second question is 'No, of course not!'

In this discussion of tags we have strayed away from the modal
issue per se into an area in which further investigation of Tyneside
usage would bear much fruit.

3.   Conclusion

We have attempted here to outline the major areas of difference
between modal usage in Tyneside and in SBE. Further contrastive
studies of modal usage in other areas of Britain, particularly of
the North and Midlands, would prove invaluable in showing how far
the patterns outlined above are characteristically Tyneside, or
characteristically Northern. The similarities with Scots (see
Miller & Brown 1980) do suggest that we should be wary of dividing
our studies along national boundaries, and that a study of
Northumbrian and Borders usage might prove illuminating.

FOOTNOTES

[1]All the research on which this paper is based was carried
out by the first-named author. The second-named author was
responsible for writing it in its present form.

[2]For a complete account of the variables included by the TLS,
see Pellowe et al. (1972a and b).

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NAMES AND TITLES: MAIDEN NAME RETENTION AND THE USE OF MS.

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ABSTRACT

This sociolinguistic study examines the two dependent variables of stereotypes of women who use Ms., and stereotypes of women who retain their maiden name after marriage, with respect to the five independent variables of sex, age, level of education, degree of religiousness, and feminist orientation.   Three hypotheses are proposed and are tested by means of a questionnaire distributed to a stratified sample of 325 subjects.   The data from the sample are analyzed using the SPSS subroutines Analysis of Variance and Pearson Correlation and the results indicate that subjects' sex, level of education, and degree of religiousness are significant with respect to their stereotypes.   A strong positive correlation is shown between stereotypes of women who retain their maiden name and stereotypes of women who use Ms.

1.   Introduction

Very few systematic studies have been done to date on the related topics of maiden name retention by women who marry, and the use of the title 'Ms.' as an alternative to 'Miss' or 'Mrs.' Articles such as 'Miss' to 'Mrs': going, going, gone!'by Shirley Davy (1978) and 'Sexism in English pronouns and forms of address' by Donald D. Hook (1974) give apologetics for and against (respectively) the use of Ms., but the authors do not base their work on objective empirical research. Davy neatly, through briefly, summarizes the philosophical arguments for Ms., and calls for increased use of that title. Hook touches on the question of birth name retention by women as well as, and in the context of, his discussion of 'Ms.' He concludes that the most viable solution to the problem of how to address people is to 'retain Mr. (married or unmarried) and Mrs. (married) and use Miss (married or unmarried) with maiden name when desirous of camouflaging marital status, as celebrities often do' (Hook 1974:90).   The tone of this remark (note the term 'camouflaging') is indicative of the tone of the paper as a whole.   Hook is clearly unsympathetic to the concerns of people who encourage the use of 'Ms.'

Apart from these two largely subjective papers, a small number
of studies have been conducted with the aim of obtaining objective
data on the topics of maiden name retention and the use of Ms. In
1975, Madeline E. Heilman published the results of two experiments
designed to determine whether or not students' expectations and
evaluations of course offerings vary according to the title given
to the instructor. Among the discoveries she made was the fact
that 'in all cases, courses taught by Ms. instructors were found
to be rated comparably to those taught by Mr. or No Title
instructors. Only those ascribed to Miss or Mrs. were the object
of more negative judgements.' (Heilman 1975:518).

Hook (1974) quotes figures from a summer 1972 _Ladies Home_
Journal poll (published in the October 1972 _Ladies Home Journal_)
carried out to determine women's preference in salutations. Of
8,074 respondents, Hook reports that 5,352 preferred Mrs./Miss and
2,722 preferred Ms. This poll, of course, was limited to readers
of the _Ladies Home Journal_, and did not involve a representative
sampling of the population at large.

Una Stannard (1977 and 1984) traces and discusses the history
of the legal controversy surrounding maiden name retention, primarily
in the U.S.A. Beginning in the 19th century and continuing through
most of the 20th century, English common law, upon which American
laws concerning names are based, was persistently misinterpreted
in the U.S.A., resulting in a denial of the right of women to retain
their maiden name after marriage. The details of the controversy,
as presented by Stannard, suggest strongly that a male judicial
system was working very hard to make it seem illegal for women to
keep their own name. Presumably it was felt that forcing women to
use their husband's name would prevent them from stepping out of
the subservient role society wanted them to fill. The legal
manoeuvres exposed by Stannard show clearly that the idea of a woman
keeping her own name is and has been a very unpopular one in many
circles, especially in the U.S.A.

A 1983 study by Pegeen Anderson (under the direction of Ruth
King at York University, Toronto) investigated attitudes towards
women who use Ms. Her data were gathered by means of oral interviews
with people in two bars. She found that the two characteristics
considered most strongly stereotypical of a woman using Ms. were
job-orientation (as opposed to home-orientation) and assertiveness,
with university education, urban upbringing, feminism and youth
being part of the stereotype held by some sub-groups. Women thought
that the woman using Ms. was a feminist, while men thought she was
young. Anderson was hesitant to generalize her results to society
at large since her sample was quite small and was representative

of a very restricted social group: the employees and patrons of
two local bars.

Sheila M. Embleton and Ruth King (1984) reported on a small
study which focused on attitudes towards maiden name retention.
They found, among other things, that contrary to expectations, sex
and education level of subjects had very little effect on stereotypes
of women who retain their maiden name, and that the primary elements
in the stereotype of such women were assertiveness and orientation
towards a job rather than towards family, with urban upbringing
also being frequently mentioned.   In no case, however, were the
stereotypes found to be very strong.   The sample involved the same
social group as the Anderson (1983) study, and, like Anderson, the
authors were hesitant about generalizing their results beyond the
sample.

Most studies to date have focused either on maiden name
retention or on the use of Ms., but not on both.   As Donald Hook
has indirectly pointed out, however, the two subjects are not
unrelated.   For example, suppose that a woman named Sue Blue marries
a man named Fred Red.   If Sue decides to keep the name 'Blue,'
then what title is she to use?   Will she be Miss Blue, Mrs. Blue,
or Ms. Blue?   If she calls herself 'Miss Blue,' then the assumption
of most people will be that she is unmarried.   She may or may not
want people to assume that.   Calling herself 'Mrs. Blue' implies
that her spouse is named Mr. Blue, which is not the case at all.
Calling herself 'Ms. Blue,' on the other hand, solves the problem
rather nicely.   She is not 'hiding' her marital status or pretending
to be single, nor is she inaccurately implying that she is married
to a Mr. Blue.   She is simply asserting that she is a person, Ms.
Sue Blue, whether she is single or married, just as her husband is
Mr. Fred Red, before as well as after his marriage.   In fact, the
choice of many, if not most women who keep their own name is to
use the title Ms.   The same arguments are used in favour of both
Ms.-use and maiden name retention, namely that a woman is an
independent being and should be identified as such instead of being
identified as legally attached to some man, whoever he may be.   It
is legitimate, then, to investigate together the two topics of
maiden name retention and use of Ms., as will be done in the present
study.

2.   Hypotheses

The specific hypotheses being tested in this study are:

HYPOTHESIS I: Women who use Ms. and women who keep their maiden
name when they marry will be stereotyped as being young, career-

oriented, not religious, independent, assertive, well-educated, unattractive and feminist.

HYPOTHESIS II: More extreme stereotypes of women who retain their maiden name and women who use Ms. will be found among people who are 'Y' than among those who are 'X,' given the characterizations of 'X' and 'Y' below:

'X'	'Y'
female	male
younger	older
more highly educated	less well-educated
not religious	religious
feminist	non-feminist

The greater number of 'Y' characteristics a person has (and therefore the fewer 'X' characteristics), the more extreme their stereotypes are likely to be; the fewer 'Y' characteristics they have (and therefore the more 'X' characteristics) the less extreme the stereotypes are likely to be.

HYPOTHESIS III: There will be a strong positive correlation between stereotypes of women who use Ms. and stereotypes of women who retain their maiden name.

3.   The Variables

Given the hypotheses stated in Section 2 above, the two dependent variables being tested in this study are:

1.   Stereotypes of women who use the title Ms.
2.   Stereotypes of women who retain their maiden name when they marry.

The independent variables are five in number:

1.   Sex of respondent
2.   Age of respondent
3.   Level of education of respondent
4.   Degree of religiousness of respondent
5.   Feminist orientation of respondent

With the exception of Degree of Religiousness, all of these independent variables were used in the study by Embleton and King (1984). Staley (1978) found religion relevant in her study of expletive use, but to my knowledge, no one has investigated degree

of religiousness as a factor relevant in forming attitudes on Ms.-use and maiden name retention. Based on my experience, however, religious people tend to be more traditional in their outlook on most things than do non-religious people, especially on the question of the 'proper' roles of women and men in society.[1] Religious people would therefore be likely to oppose maiden name retention and the use of Ms. In fact, most of the people with whom I have had contact who promote or at least support the use of Ms. and maiden name retention do not consider themselves to be particularly religious. Most religious people I have known, on the other hand, are opposed to, or at least highly uncomfortable with, maiden name retention and the use of Ms.

4.   The Questionnaire

A written questionnaire was used to elicit data on people's views of Ms. and maiden name retention. The questionnaire consisted of two parts, A and B. Part A covertly and indirectly elicited stereotypes, while Part B gleaned personal background data on the subjects and asked direct questions concerning Ms.-use and maiden name retention. Subjects were not told in advance exactly what the purpose of the study was, but were merely told that they were answering a questionnaire on social roles.

In Part A, using methodology borrowed from social psychological attitudinal studies, brief descriptions were given of six hypothetical people, two of which were relevant to the study, and four of which were included only to divert people's attention from the questions of interest to the investigation. The two relevant descriptions were:

'A woman who keeps her own last name when she gets married, instead of taking her husband's name, is likely to be:'

'A woman who uses 'Ms.' instead of 'Miss' or 'Mrs.' is likely to be:'[2]

The subjects were asked to rate each of the people described in the scenarios according to eight adjectives hypothesized to be closely tied to the stereotypes of women who use Ms. and women who retain their maiden name (see Hypothesis I above). The specific adjectives were: YOUNG, CAREER-ORIENTED, RELIGIOUS, DEPENDENT, SUBMISSIVE, WELL-EDUCATED, UNATTRACTIVE, and FEMINIST. It is important to note that three of the adjectives used actually describe the opposite of the hypothesized stereotype (i.e. religious, dependent, submissive). The questionnaire was set up in this way to reduce the potential bias of people falling into a set response

pattern, be that positive or negative. It would also have made
the purpose of the questionnaire considerably more transparent had
the adjectives all directly described the stereotype.

The adjectives were arranged in random order; however, it was
deemed unwise to have FEMINIST as the first adjective, lest it
should seem unduly prominent and make the perspective of the author
too obvious. FEMINIST was therefore placed last. For each
subsequent scenario after the first, the first adjective was placed
last and all others were moved up one place, in order to increase
subjects' level of attention and to try to prevent them from falling
into a set pattern of answering.

Subjects were given written instructions asking them to indicate
to what degree each of the eight adjectives accurately described
each of the six people described in the questionnaire. The
adjectives were rated on a seven-point continuum of the type shown
below:

YOUNG

Extremely ___;___;___;___;___;___;___ Not at all [3]

For purposes of coding and analysis, each of the blanks in the
bipolar scale was assigned a numerical value between 1 and 7, with
the value 1 designating 'not at all X,' the value 7, 'extremely
X,' and a value of 4 representing the intermediate or neutral
position.

In Part B of the questionnaire, subjects were first asked to
rate themselves using the same adjective scales as were used in
Part A. Only two of the adjectives were then actually used in the
analysis, those being FEMINIST and RELIGIOUS.

Subjects were also asked to supply information about themselves
concerning their age, sex, marital status, educational background,
where they grew up, where they currently lived, religion and/or
denomination, cultural or ethnic background, English fluency if
non-native speakers of English, and occupation. Next, subjects
were asked to indicate how often they use 'Ms.' of themselves (if
female) and of others, circling the appropriate response chosen
from the following list:

always   often   sometimes   rarely   never   N/A (not applicable)

Finally, subjects were asked a series of direct questions
concerning their views of Ms., whether or not they had changed or

would change their name upon marriage and why, whether or not they were feminists, and what they thought feminists stood for.

5.   The Sample

The large number of independent variables in this study necessitated a fairly large number of subjects. The means of calculating how many subjects were needed is described below. The projected number of levels of each of the independent variables was as follows: Sex - two levels (male/female); Age - three levels (15-24; 25-44; 45 and over); Level of Education - three levels (secondary school or less; some undergraduate university; some graduate university); Religiousness - two levels (religious/non-religious); Feminist Orientation--two levels (feminist/non-feminist). Multiplying together the number of levels of each variable, there were 2 x 3 x 3 x 2 x 2 or 72 possible combinations. The goal was to have at least five people in each of those 72 cells, since any fewer would increase the risk that the results would be skewed (Wolfram and Fasold 1974:40). The target minimum number of subjects was therefore 5 x 72 or 360 subjects.

After the sample had been gathered, it was necessary to modify the levels of several variables. A third level, labelled 'neutral,' was created for Religiousness and Feminist Orientation, to accommodate subject responses. For Level of Education, a new two-way division was made between those with secondary school or less, and those with some post-secondary education, since the sample included too few people in the 'some graduate university' category.

A total of 375 questionnaires were prepared for distribution. Wherever possible, large groups were recruited to respond to the questionnaire, since this reduced the amount of administration time necessary. Most of the groups used in the study were socially fairly homogeneous.[4] Three hundred and twenty-five copies of the questionnaire were eventually completed, and analyzed statistically.

It proved difficult to obtain a truly representative sample for all of the combinations of independent variables. Men in particular were quite hard to recruit. Some of the men were unwilling to participate, perhaps since they found the questionnaire either threatening or irrelevant.

It also proved difficult to ensure that subjects were complying with the instructions to complete Part A prior to Part B. By looking ahead to Part B, subjects may have figured out the true purpose of the questionnaire and altered their Part A answers to suit this.

Where possible, however, Part A was collected before Part B was distributed.

6.   Feminist Orientation

As has been alluded to earlier in this paper, people's identification of themselves as feminist or non-feminist proved to be a very thorny problem. Subjects contradicted not just one another but also themselves in their responses to the questions on feminism. Since the conclusions of this section have a potentially negative bearing on the project as a whole, the data concerning feminist orientation will be discussed first, before the other results are presented.

Subjects were asked in two places to indicate their feminist orientation. The first was the bipolar 'rate yourself' scales of Part B, where they used the standard seven-point scale to rate themselves for the adjective FEMINIST. The second occurred at the end of Part B, where they were asked directly, 'Are you a feminist? Circle: Yes No.' One would expect that people who answered 'Yes' to the direct question would rate themselves as 7, 6, or 5 on the bipolar scales, and those who answered 'No' would rate themselves as 3, 2, or 1. Those who would not commit themselves on the yes/no question were expected to rate themselves at or near 4 on the bipolar scale for feminist. Unfortunately, those predictions were not, for the most part, borne out.

Of a total sample of 325 people, 31.3% answered 'yes,' that they were feminists; 51.6% answered 'no'; and 16.9% did not commit themselves. The people who responded 'yes' answered for the most part as predicted on the bipolar self-ratings. Of these 102 people, 86.2% responded with 7, 6, or 5; 7.8% answered with 4; 4.9% answered with a 3, 2, or 1; and 0.9% (1 subject) did not answer the 'rate yourself' question for FEMINIST at all.

The 55 subjects who did not commit themselves to a yes or no answer responded as follows to the scaled question: 78.1% answered 7, 6, or 5; 9.0% answered 4; and 12.7% answered 3, 2, or 1. The figure of 9% responding with a 4 is surprisingly low for people who would not commit themselves to a yes or no. In fact, only 34.5% gave an answer within the 3-5 range. A full 56.3% answered 6 or 7.

The results of the supposedly neutral group, surprising as they may be, are not nearly as surprising as those for the group who responded 'no,' that they were not feminists. Of the 168 people in this group, 71.4% rated themselves with a 7, 6, or 5! Only

11.3% gave themselves a 3, 2, or 1 rating, while 17.2% responded with a 4. These results blatantly contradict the expectation that people responding 'no' would rate themselves with a 3, 2, or 1 on the FEMINIST scale.

In order to determine what caused the pattern of answering described above, a detailed examination was conducted of people's responses to the open-ended question asking what they thought feminists believe in or stand for. The responses to this question cannot be as easily classified as those with a limited set of possible responses, but some sorting according to content was possible.

A total of 19 subjects could not or would not respond to the question. Of these, 1 had answered 'yes,' 16 'no,' and 2 were uncommitted. Almost all of those who did make some effort to describe their ideas of feminism used phrases such as 'equal opportunity,' 'equal pay for work of equal value,' 'the rights of women,' etc. Many left it at that, but others went on to add further comments of various kinds. Of 325 subjects, 17 or 5.2% thought that at least some feminists believe that women are superior to men. In answer to the question 'Are you a feminist?,' 3 of these 17 subjects replied 'yes,' 10 'no,' and 4 were neutral. Seventy-eight people (24.0%) commented on the extremist or radical bent of some feminists. Of these 79, 16 had answered 'yes,' 49 'no,' and 13 were neutral. Only a few of those commenting on extremism felt it was justified or necessary, while the rest viewed it as unjustified and/or unnecessary.

Below are a few of the comments, some of them rather bizarre, made by people concerning feminism. They are listed in groups according to the subjects' response to the yes/no question. After each quotation, the subject's self-rating on the FEMINIST scale is indicated in parentheses.[5]

People Who Responded 'Yes'

i)   Achieving for women the opportunities and power that is afforded men automatically. (5)

ii)   I believe feminists stand for equality for women in today's society. I believe in what they are fighting for, though I sometimes disagree with their extremism. However, it must be realized that without the feminist extremism, the suffragette of the turn of the century may not have existed and perhaps we would not have the vote today. (5)

People Who Responded Neutrally

iii)   I agree that in things like equal pay it is positive. However
       I also feel that in some cases women have gone too far. (I
       shall always be delighted when a male shows courtesy - such
       as opening doors for me, etc.). (7)

iv)   I don't like the term 'feminist.' To me it implies extremes.
       But I do believe in equality and respect between the sexes.
       (7)

People Who Responded 'No'

v)   Equality for women in the work force. Equal access to
       education. The right to lead a life with some dignity. (6)

vi)   They want equal rights. But I think right now they're going
       too far with abortion and stuff. A woman now can have almost
       any job but it's crazy when she wants a job on a construction
       site, those jobs were MADE for men, not a woman. Also I hate
       those stupid tampax and pad and douche commercials. (7)

vii)   Burn your bra. All women to be treated as equals to men.
       (6)

viii) They stand for fighting for special privileges rather than
       equality and also think women who stay at home are 'worthless
       and weak' because they the feminists feel so self-righteous
       about the 'movement.' (7)

ix)   (From a 17-year old male) Women should be in the kitchen.
       They shouldn't get paid as much as men. Women shouldn't
       get the same chance or occupation as men. (7)

       Many of the people responding in some way negatively in their
written comments on feminism nevertheless gave themselves a 6 or 7
on the 'rate yourself' scales. The only pattern which emerged at
all was that many of the most hostile comments, particularly from
the 'no' people, were made by those with a 7 rating. This suggests
that at least some of the subjects used the bipolar scales to
indicate how intense their feelings were on the issue of feminism,
rather than to indicate how committed they were to the movement or
ideology. Thus, people who felt extremely hostile or negative may
have checked off 'Extremely,' not realizing that they were thereby
stating that they were extremely committed to feminism.

If there was indeed a large-scale misinterpretation of what the scales were being used to judge in the case of feminism, then it is possible that the scales were misinterpreted throughout the questionnaire by some subjects. If this is so, then the results of the study are probably not entirely reliable. Unfortunately, the extent of the misinterpretation cannot be determined, since feminist orientation of the subjects themselves was the only question (apart from age) for which subjects had to give both a direct (yes/no) and an indirect (bipolar) response. (For age, the subjects' ratings of themselves on the scale would simply reflect their different perspectives of what is young and not young, and that has no bearing on the reliability of this study.) If other questions had had that sort of cross-check, then the extent of the misinterpretation might be made clearer. However, while they should be treated with caution, the overall results do suggest that the bulk of the data is indeed reliable.

In both the 'no' group and the neutral group, some of the males asked whether or not men could be feminists, and others stated that they were not feminists because they were male, but went on to say that they supported feminist ideals such as equal opportunity and equal pay. Perhaps more males would have identified themselves as feminists if they had known that they could legitimately do so.

In a future study, many of the problems associated with the feminist ratings in this study could probably be alleviated by a combination of two or three methods. First, the bipolar scales and/or the instructions for their use could be modified to make it more explicit and clear to subjects how to use them. Second, the question of feminism could be broken down into a series of sub-questions such as: Do you think that women should be paid the same as men for doing equivalent work? Do you think that women should be treated in the same way as men in the eyes of the law? The answers could then be added up, and the greater the number of answers that were in agreement with mainstream feminist views, the higher the feminist rating the individual would obtain. Third, subjects could be presented with a short description of feminism and asked whether or not they agreed with the ideas expressed in the description, and whether or not they would call themselves feminists based on that description alone. By having all subjects judge themselves according to the same criteria, an answer of yes or no would have considerably more meaning than it does in the current study in which each person uses her/his own definition as a point of reference.

It is unfortunate that something as important as feminist orientation has had to be eliminated from the analysis, but given that there is only moderate consistency at best in people's ideas

of what a feminist is, any statistical results using feminist orientation would be uninterpretable. Furthermore, even if one assumed that everyone had a roughly similar understanding of what feminism was, there would still be the problem of subjects contradicting themselves in the yes/no and the bipolar questions.

7.   Use of Ms.

Hypotheses I and II stated that women who used Ms. and those who kept their maiden name would be stereotyped as being young, career-oriented, not religious, independent, assertive, well-educated, unattractive, and feminist, and that people who were male, older, less well educated, religious and non-feminist would have stronger stereotypes than would people who were female, younger, more highly educated, not religious and feminist. (For a complete statement of the hypotheses, see Section 2 above.) In order to test the hypotheses, the SPSS subroutine analysis of Variance (ANOVA) was run on the data, to compute group means and to determine the significance, if any, of the various independent variables upon the data. All of the statistical results presented in this section and the next are based on a four-way Analysis of Variance, since the independent variable of Feminist Orientation was excluded from statistical analysis for the reasons described above.

7.1. Indirect Elicitation

The mean scores for each of the eight adjectives in the Ms.-use scenario are summarized in Table 1 on page 68. An overall mean score of 3.50-4.50 for any adjective was interpreted as meaning that subjects 'sat on the fence' or in other words did not have any strong opinion for that adjective. The only adjective for which the overall mean was in the fence-sitting range for Ms.-use was YOUNG, with an overall mean of 4.34. Apparently, youth is not part of the stereotype of a woman who uses Ms. Nevertheless, the Analysis of Variance revealed that for YOUNG, there was a significant religiousness main effect (df=2/285, F=7.987, p<.001), with the religious and neutral groups rating the woman using Ms. as younger than the non-religious group did. This is not an unexpected result, since it was religious people who were predicted to give ratings more in keeping with the stereotype, in this case, that users of Ms. are young.

TABLE 1: MEANS FOR USE OF MS.

	A G E			S E X		EDUCATION		RELIGIOUSNESS			OVERALL
	15-24	25-45	46+	F	M	-	+	NO	NEUT	YES	
YOUNG (n=)	4.42 (168)	4.24 (107)	4.23 (30)	4.33 (207)	4.36 (98)	4.29 (133)	4.38 (172)	3.93 (106)	4.57 (62)	4.55 (137)	4.34 (305)
CAREER-ORIENTED (n=)	5.37 (168)	5.28 (107)	5.63 (30)	5.43 (207)	5.22 (48)	5.53 (133)	5.23 (172)	5.31 (106)	5.32 (62)	5.42 (137)	5.36 (305)
RELIGIOUS (n=)	2.79 (168)	2.80 (107)	2.83 (30)	2.79 (207)	2.82 (98)	2.66 (133)	2.91 (172)	2.57 (106)	3.05 (62)	2.87 (137)	2.80 (305)
DEPENDENT (n=)	2.70 (168)	2.36 (107)	2.30 (30)	2.30 (207)	3.04 (98)	2.84 (133)	2.30 (172)	2.90 (106)	2.44 (62)	2.30 (137)	2.54 (305)
SUBMISSIVE (n=)	1.98 (168)	1.90 (107)	2.07 (30)	1.83 (207)	2.22 (98)	2.02 (133)	1.91 (172)	2.14 (106)	2.03 (62)	1.78 (137)	1.96 (305)
WELL-EDUCATED (n=)	4.68 (166)	4.88 (106)	4.90 (30)	4.87 (205)	4.55 (97)	4.57 (131)	4.92 (171)	4.58 (105)	4.47 (62)	5.05 (135)	4.77 (302)
UNATTRACTIVE (n=)	3.22 (166)	3.12 (106)	3.07 (30)	2.99 (205)	3.57 (97)	3.15 (131)	3.19 (171)	3.06 (105)	3.23 (62)	3.24 (135)	3.17 (302)
FEMINIST (n=)	5.34 (166)	5.20 106)	5.33 (30)	5.47 205)	5.25 (97)	5.69 (131)	5.18 (171)	5.37 (105)	5.10 (62)	5.56 (135)	5.40 (302)

The overall mean for CAREER-ORIENTED was 5.36, indicating that subjects did feel that the Ms.-user was career-oriented. Here the ANOVA revealed a significant education main effect (df=1/285, F=4.217, p<.05). Comparing group means, it is evident that, consistent with the hypothesis, the group with lower education considered a Ms.-user to be more strongly career-oriented than did the group with higher education.

Not surprisingly, a woman using Ms. was not considered to be religious. The overall mean was 2.80 for RELIGIOUS, but only 3.7% of the sample rated such a woman with a 5 or more. A large number of people, 33.8%, rated her with a neutral 4. This figure is not surprising, since, while filling out the questionnaire, many subjects remarked aloud on the adjective RELIGIOUS, asking what it had to do with anything in the study. There was a religiousness trend for RELIGIOUS (df=2/285, F=2.788, p<.10), with the non-religious people rating the woman less religious than the religious or neutral people did. This result is probably partly due to a tendency for people to project their own values and characteristics onto other people. Thus the results are not entirely in keeping with the prediction that religious people would stereotype the Ms.-user as being non-religious.

DEPENDENT was expected to obtain a rather low rating, which indeed it did. The overall mean for the adjective was 2.54, with nearly 69% of subjects giving it a 1 or 2. The reason why the mean was not lower was that 12% of the subjects rated it 6 or 7. It is possible that some or all of the subjects rating it high misread the word and thought it was INDEPENDENT instead of DEPENDENT. The ANOVAs revealed a sex main effect (df=1/285, F=8.718, p<.01) and an education main effect (df=1/285, F=4.083, p<.05), as well as a trend for sex x education (df=1/285, F=3.189, p<.10). The males considered the Ms.-user more dependent than the females did, and the lower educated considered her more dependent than the higher educated group did. In the two-way interaction, the lower educated males had the highest mean, indicating that they felt the woman was more dependent than the others did. These findings are rather surprising, and are contrary to the original hypothesis which predicted that males, and lower educated people would consider the Ms-user independent.

SUBMISSIVE had the lowest mean score, and also the score which deviated farthest from the neutral point, 4. As predicted, a woman using Ms. was not considered to be submissive. There was a significant sex main effect (df=1/285, F=5.220, p<.05), and a trend for sex x religiousness (df=2/285, F=2.857, p<.10). The males rated the women using Ms. as more submissive than the females did. It is possible that their ratings on this and on DEPENDENT were based

more on wishful thinking than on an objective view of the world, which would explain why the results are somewhat opposite to the predictions made by the hypothesis under study. In the two-way interaction, the non-religious males gave the highest submissiveness rating, while the religious females gave the lowest. My experience suggests that many religious people, especially females, have a high consciousness of submissiveness (it is often drilled into them to submit to the dictates of their religion, and for females, to the will of their husband as well), so religious women may see a Ms.-using woman as being more blatantly assertive than some of the other people would see her. The fact, mentioned earlier, that many of the high-school students did not know the meaning of SUBMISSIVE might also have affected the scores in some undetermined way.

The overall mean for WELL-EDUCATED was 4.77, not quite as high as one might expect, but still within the range predicted. For WELL-EDUCATED, the ANOVA revealed a religiousness main effect ($df=2/282$, $F=4.337$, $p<.05$). The religious group scored higher, indicating that as predicted, they had a stronger stereotype than the people who were not religious.

Contrary to expectations, UNATTRACTIVE was given a rather low overall rating, 3.17, suggesting that unattractiveness is not part of the popular stereotype of a woman who uses Ms. In fact, nearly 59% of the subjects gave this adjective a neutral 4 rating. There was a very significant sex main effect ($df=1/282$, $F=16.083$, $p<.001$), with males considering the woman more unattractive than the females did. Perhaps the males just gave her a more 'neutral' rating while the females spoke up and asserted firmly that the woman in question was not unattractive.

FEMINIST had an overall mean of 5.40, within the predicted range, but there were no significant ANOVA effects. In spite of people's mixed ideas of what feminism was, they did seem to realize that most women who use Ms. associate themselves to some extent with feminism.

7.2. Direct Elicitation

In Part B of the questionnaire, subjects were asked directly how often they used Ms. and what they thought of it as an alternative to Miss or Mrs. Table 2 below summarizes how often people reported using Ms. of themselves and others.

TABLE 2. FREQUENCY OF MS.-USE OF SELF AND OTHERS

	ALWAYS	OFTEN	SOME	RARELY	NEVER	N/A*	TOTAL
Ms.-Use Self	26	19	25	23	130	102	325
Ms.-Use Others	18	58	93	76	67	12	325

*This column includes both missing data and the N/A responses of men for Ms.-use of self.

The mean rating for Ms.-use of self was 3.95, indicating that overall, women rarely used Ms. of themselves. Indeed, only 20% of those sampled always or often used Ms. For Ms.-use of others, the mean was 3.37. Twenty-four percent reported that they always or often used Ms. of other women. Many of the comments that were made suggested that people in the business community use Ms. to avoid the problems which arise when they are unaware of the marital status of the women they have to deal with.

The comments made by people about Ms.-use were fascinating and often quite amusing. A sample of a few of the best and most representative is reproduced below. A surprising number of people thought that Ms. was a term which was properly applied only to divorced or widowed women. They have clearly missed the point of why the term was introduced in the first place, which was to have a title equivalent to Mr. which indicated only gender and not marital status. The people who advocated using Ms. for divorced and widowed women seemed to want to specify marital status more explicitly rather than eliminating it from the title system of English. Their three-category system seemed to break down into: AVAILABLE (Miss), TAKEN (Mrs.), and USED BUT AVAILABLE AGAIN (Ms.). Other people had other ideas of what Ms. should be used for, and some of those ideas are reflected in the comments quoted verbatim below.

i)   I don't usually think about it, Ms. is the most logical thing to use in business so that's what I use.

ii)   The use of 'Ms.' seems to be for those who want to keep their

marital status a secret - no one should be ashamed of their
marital status if it is legal.

iii) I feel 'Miss' denotes a younger female who has never been
married. 'Mrs.' is fine if the woman wants to be known as
married. For women who are too experienced to be called 'Miss'
and are not married, I think 'Ms.' is a perfect title.

iv) It is up to them. I do not really care what they name
themselves as long as they are not my wife.

v) I think it sounds rather ugly and draws attention to the self-
consciousness and defensiveness of most 'feminists.'

vi) I think that women's libbers use it to get attention and to
separate themselves from the traditional female titles. There
is no practical reason for it. It's used by women who aren't
willing to accept the fact that God designated the man to be
the protector, provider and helper.

The subjects' comments showed even more clearly than the
statistical results that there was and is no general consensus
about who uses Ms. and why. Many comments revealed unambiguously
that the subjects' refusal to use Ms. was based on emotion, rather
than on reason (see especially comment iv. above). Other people
seemed to be looking for excuses to make it seem as if they had
reasonable grounds for objection. A whole host of people commented
that they didn't like the sound of the word (e.g., v. above). It
is far more likely that it was the implications of the word which
were unpleasant to them, rather than the sound itself. After all,
the word uses ordinary English sounds, none of which is even in an
exotic or unusual place in the word (compare Ms. to Miss and his).
Those people probably just dislike being reminded that some women
are opposing the traditional patriarchal system. Undoubtedly, they
feel threatened. If nothing else, the results of this study show
that feminists and users of Ms. have thus far done a poor job of
generating public understanding of and sympathy for their cause.

TABLE 3:   MEANS FOR MAIDEN NAME RETENTION BY WOMEN

	A G E			S E X		EDUCATION		RELIGIOUSNESS			OVERALL
	15-24	25-45	46+	F	M	-	+	NO	NEUT.	YES	
YOUNG (n=)	4.21 (166)	4.22 (106)	4.30 (30)	4.26 (205)	4.14 (97)	4.08 (131)	.4.33 (171)	3.79 (105)	4.37 (62)	4.49 (135)	4.22 (302)
CAREER-ORIENTED (n=)	5.24 (166)	4.97 (106)	5.13 (30)	5.25 (205)	4.89 (97)	5.24 (131)	5.05 (171)	5.09 (105)	4.90 (62)	5.28 (135)	5.14 (302)
RELIGIOUS (n=)	3.24 (166)	3.08 (106)	3.33 (30)	3.14 (204)	3.29 (98)	3.25 (131)	3.14 (171)	3.00 (105)	3.23 (62)	3.32 (135)	3.19 (302)
DEPENDENT (n=)	2.76 (166)	2.69 (106)	2.70 (30)	2.42 (204)	3.37 (98)	3.00 (131)	2.52 (171)	3.09 (105)	2.68 (62)	2.47 (135)	2.73 (302)
SUBMISSIVE (n=)	2.25 (166)	2.23 (106)	2.07 (30)	2.03 (204)	2.63 (98)	2.31 (131)	2.16 (171)	2.37 (105)	2.32 (62)	2.07 (135)	2.23 (302)
WELL-EDUCATED (n=)	4.73 (166)	4.63 (106)	4.40 (30)	4.70 (204)	4.59 (98)	4.54 (131)	4.75 (171)	4.40 (105)	4.37 (62)	5.00 (135)	4.66 (302)
UNATTRACTIVE (n=)	3.42 (166)	3.31 (106)	3.17 (30)	3.20 (204)	3.68 (98)	3.36 (131)	3.36 (171)	3.21 (105)	3.50 (62)	3.41 (135)	3.36 (302)
FEMINIST (n=)	5.54 (163)	5.31 (105)	5.20 (30)	5.52 (202)	5.24 (96)	5.57 (129)	5.31 (169)	5.32 (103)	5.31 (59)	5.56 (136)	5.43 (298)

8.   Maiden Name Retention

8.1. Indirect elicitation

The means for maiden name retention are summarized in Table 3 on page 73. Using the criterion outlined above, there was only one adjective in the maiden name retention scenario for which subjects 'sat on the fence,' or did not take any clear stand. The adjective was YOUNG, with an overall mean of 4.22. A significant religiousness main effect (df=2/282, F=7.716, p<.001) did, however, emerge from the ANOVA, with the non-religious group rating the woman younger than the religious and religiously neutral groups. This is at least somewhat consistent with the hypothesis that religious people have stronger stereotypes than non-religious people.

The overall mean for CAREER-ORIENTED was 5.14, which is within the predicted range, indicating that while the stereotype is not as strong as one might have predicted, a woman who keeps her maiden name is perceived as being career-oriented. The ANOVA results showed a significant sex main effect (df=1/282, F=5.071, p<.05) and a significant education x religiousness interaction (df=2/282, F=5.655, p<.01). Contrary to Hypothesis II, the males considered such a woman less career-oriented than the females did. Perhaps men still do not think that women take their careers seriously, whether or not they change their name. Alternatively, giving men the benefit of the doubt, perhaps they simply sat on the fence more than women did, not really having any clear idea about how career-oriented women were. In the two-way interaction, the well-educated non-religious people considered a woman who keeps her maiden name significantly less career-oriented than the other groups did. This is in keeping with the hypothesis that predicts that non-religious and well-educated people will not have strong stereotypes of such women.

For RELIGIOUS, the overall mean was 3.19. This confirms the hypothesis that a woman who keeps her maiden name will not be considered religious by most people. Less than 6% of all subjects rated such a woman with a 5, 6, or 7, and the overall mean would have been much lower but for the nearly 48% who gave her a neutral 4. The ANOVA revealed a significant religiousness main effect for this adjective (df=2/282, F=3.079, p<.95), with the religious subjects giving a higher rating for RELIGIOUS than did the non-religious members of the sample. The same pattern was found earlier in the Ms.-use scenario, and is probably a function of people's tendency to perceive in others characteristics they themselves possess.

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As predicted, a woman who kept her maiden name was not considered dependent. The overall mean for DEPENDENT was 2.73 and there were significant main effects for sex (df=1/282, F=17.145, p<.001) and education (df=1/282, F=4.711, p<.05), and a trend for sex x education (df=1/282, F=3.300, p<.10). The males considered such a woman to be significantly more dependent that the females did, as indeed they did in the case of the woman who used Ms. The reason is undoubtedly the same in both cases. The lower educated group also saw a woman who retained her maiden name as more dependent, and in the two-way interaction, the lower-educated males stood out as considering her more dependent than the other groups did. These results are not consistent with Hypothesis II, which predicted that males and lower educated people would consider such a woman to be quite _independent_.

SUBMISSIVE was given an overall mean rating of 2.23, indicating that a woman keeping her maiden name was not considered to be submissive. In fact, fewer than 4% of the subjects rated such a woman 5 or above, and just under 15% gave her a neutral 4. The rest rated her firmly in the not submissive range. A significant sex main effect (df=1/282, F=13.354, p<.001) emerged from the ANOVA. The males rated a woman who retained her maiden name as being more submissive than the females did, probably for the same reasons that they rated her as being more dependent. While the overall mean is consistent with the predictions of the hypotheses, the sex difference is the opposite of what was expected.

WELL-EDUCATED scored only slightly above the fence-sitting range, with an overall mean of 4.66. The score is still within the predicted range, but the stereotype for WELL-EDUCATED is obviously not strong. There was a significant religiousness main effect (df=2/282, F=9.260, p<.001), with the religious group showing a stronger stereotype than the neutral and non-religious groups did, as Hypothesis II had predicted.

The overall mean for UNATTRACTIVE was 3.36, indicating that, contrary to predictions, a woman who retained her maiden name was not considered unattractive. It is noteworthy that nearly 58% of the subjects rated this adjective with a neutral 4. Unattractiveness does not, therefore, seem to be a part of most people's stereotype of such a woman. In spite of this, the ANOVA revealed a significant sex main effect (df=1/282, F=11.104, p<.001), with males giving a higher unattractiveness rating than females. While the mean for UNATTRACTIVE was lower than predicted, the differences between the male and female means are consistent with the hypothesis.

FEMINIST had an overall mean of 5.43, but given the problems discussed earlier, it is difficult to say what that actually

represents. There were no statistically significant results for this adjective.

8.2. Direct elicitation

The responses to the direct questions on whether people did/ did not or would/would not change their names when they married were as follows:

Of the 74 people who <u>did</u> change their name when they married, all were female.

Of the 67 who <u>would</u> change their name, all but one were female, and the male's was a conditional decision to change.

Of the 40 people who <u>did not</u> change their name completely, 10 were female and 30 were male.

Of the 104 who <u>would not</u> change their name, 36 were female, 67 were male, and one did not identify his/her sex.

Twenty-five unmarried people did not say whether or not they would change their name.

The above figures suggest that while it has been traditional for women to change their name when they marry, there is a change in the direction of more women keeping their maiden name. Of 103 unmarried women who answered one way or the other (i.e., not neutrally), 35% said that they would not change their name if and when they married.

Below are some of the reasons given by women for why they have made the decisions they have made about name-changing, along with two comments by men on their views of women's name changing. By far the most common reason given in favour of women changing their name was 'tradition' or 'convention.'

<u>Women's Comments</u>

i)   Believe a woman should be proud to take the husband's name- also makes things easier.

ii)   Did not know I could keep my own surname.

iii)   I believe once a girl marries the man should be the head of the family. Also the female should take the male's name.

iv)   I hated my husband's name and preferred my own. I also didn't
       want the bother of changing all my identification.

v)   It is a reflection of a patriarchal society which I do not
       accept. Taking your spouses name seems to reflect submission
       to someone else's authority. I want a marriage which is a
       partnership between equals.

vi)   I think of my name as a very integral part of my identity.
       I would want to be known by it to others.

Men's Comments

vii)   No. My wife would change her name, or I probably wouldn't
       marry her. (I dislike women who burn bras!)

viii) I am a male and I shouldn't have to change my last name. I
       think that a woman should be honoured to change her name to
       the man's or else she shouldn't get married to him and they
       could live together.

9.   Correlations Between Ms.-Use and Maiden Name Retention

My third hypothesis predicted that there would be a strong
positive correlation between stereotypes of women who use Ms. and
those of women who retain their maiden name. In order to test this
hypothesis, the SPSS subroutine Pearson Correlation was run on the
data. A cursory look at the means tables suggest that there are
indeed tendencies for mean scores to pattern similarly for the two
scenarios. Table 4 below summarizes the overall means for both
scenarios and gives the Pearson Correlation value (r) for each
adjective.

TABLE 4:   PEARSON CORRELATIONS FOR STEREOTYPES
           OF WOMEN WHO USE MS. AND WOMEN WHO
                RETAIN THEIR MAIDEN NAME

	MEANS: NAME RETENTION	MEANS: MS.-USE	PEARSON CORRELATION (r=)
YOUNG	4.34	4.22	0.40255
CAREER-ORIENTED	5.36	5.14	0.53893
RELIGIOUS	2.80	3.19	0.52918
DEPENDENT	2.54	2.73	0.63499
SUBMISSIVE	1.96	2.23	0.47160
WELL-EDUCATED	4.77	4.66	0.51607
UNATTRACTIVE	3.17	3.36	0.63740
FEMINIST	5.40	5.43	0.64225

Although the correlation coefficients (i.e., the r-values) are not as high as one might have expected, all of the adjectives show positive correlations, as predicted. Furthermore, significance tests performed on the data show that all of the correlations are highly significant (p<.0000000005), given the sample size.[6]

Thus, even though the correlation might not appear to be especially strong given only the r-values, Hypothesis III was confirmed, since all correlations were positive and indisputably significant. The Pearson Correlations have shown that people's stereotypes of women who use Ms. and women who keep their maiden name are significantly related.

10.   Summary and Conclusions

The study reported in this paper had as its goal the testing of three hypotheses. Briefly, the three hypotheses were:

Hypothesis I   - Women who use Ms. and women who keep their maiden name when they marry will be stereotyped as being young, career-oriented, not religious, independent, assertive, well-educated, unattractive and feminist.

Hypothesis II   - People who are male, older, less well-educated, religious and non-feminist will tend to have stronger stereotypes than people who are female, younger, more highly educated, not religious and feminist.

Hypothesis III   - There will be a strong positive correlation between stereotypes of women who use Ms. and stereotypes of women who retain their maiden name.

The results lent a moderate amount of support to Hypothesis I, since, although none of the stereotypes was especially strong, all but two leaned in the direction predicted. The stereotypes were consistent for both Ms.-use and maiden name retention, thus supporting Hypothesis III. Specifically, women who use Ms. and women who retain their maiden name were stereotyped as being fairly career-oriented, not particularly religious, somewhat independent, somewhat assertive, fairly well educated, and somewhat feminist. Contrary to the first hypothesis, neither youthfulness nor unattractiveness was considered to be part of the stereotype.

The results of the study were less clear-cut with respect to Hypothesis II. In clear contradiction to the second hypothesis, age did not prove to be significant as an independent variable for any of the adjectives in either scenario. Feminist orientation had to be omitted from the analysis, as explained in Section 6 above, because there was no consistency at all in how the subjects understood feminism. The situation with respect to the other three independent variables was, unfortunately, much less straightforward.

For the independent variable sex, there were significant differences between the ratings of males and females for the adjectives DEPENDENT, SUBMISSIVE, and UNATTRACTIVE in both scenarios, and for CAREER-ORIENTED in the name retention scenario only. Yet only for the adjective UNATTRACTIVE were the differences between male and female responses consistent with Hypothesis II. For DEPENDENT and SUBMISSIVE, the results contradict the hypothesis. Likewise, the adjective CAREER-ORIENTED produced results that were contrary to Hypothesis II, since males considered a woman who retained her maiden name to be less career-oriented than did females.

The independent variable education produced only two significant main effects. As predicted by Hypothesis II, people with less education stereotyped a woman using Ms. as being more CAREER-ORIENTED than the people with more education did. Contrary to the prediction of the hypothesis, however, the lower-educated group thought the woman who kept her own name was more DEPENDENT than the higher educated people did.

The fact that both sex and level of education behaved contrary to the hypothesis for DEPENDENT suggests that there might be a problem with respect to that adjective, rather than solely a problem with the predictions of Hypothesis II. It is possible, as mentioned above, that some people misread the word DEPENDENT as INDEPENDENT. It is also possible that some people simply used the scales improperly, as they appeared to do for the adjective FEMINIST (see discussion in Section 6. above). Similarly, the fact that some people did not know the meaning of the word SUBMISSIVE might have rendered unreliable the results involving this particular adjective.

There were some very interesting results for the independent variable religiousness. Significant or almost significant differences were found for this variable in both scenarios for the adjectives YOUNG, RELIGIOUS, and WELL-EDUCATED. In every case the religious group had a stronger stereotype than did the non-religious group. These results fully support Hypothesis II. People who rated themselves as being religiously neutral did not, however, pattern consistently with either the religious or the non-religious

groups. The confusion of some people concerning how to use the scales might have contributed to this problem.

In summary then, Hypothesis I, concerning the stereotypes people held was moderately confirmed; Hypothesis II, concerning the independent variables, was neither wholly confirmed not wholly disconfirmed; and Hypothesis III, concerning correlations between stereotypes of women who use Ms. and those of women who keep their own name, was strongly confirmed.

The results of the direct questionnaire revealed that overall, people sometimes use Ms. of other people, but women rarely use it of themselves. In many cases, Ms. is used for convenience only if a woman's marital status is not known by the person addressing her. Concerning name changing, most women reported that they either have changed or would change their name upon marriage, although just over one third said that they would not do so. It appears that while some women are still tied to what they understand as the traditional obligation of a woman to change her name upon marriage, others are beginning to think about the issue and to realize that they need not forfeit their name just because they are getting married.

The results of this survey are not conclusive, primarily because of the problems of misunderstandings and misinterpretations of the bipolar scales and of some of the terms (e.g. feminist, submissive, dependent). This study does, however, point to clear avenues for future research concerning stereotypes of women who use Ms. and women who keep their maiden name. It would be interesting to investigate further the independent variable of religiousness, taking into consideration not only the subjects' degree of religiousness, but also their religious affiliations and their location on the theological continuum, from liberal to conservative. Alterations in the grouping of subjects by age might also produce interesting new results.

Variables such as ethnicity and occupation of the subjects could also be incorporated into a future investigation. As mentioned above, the present study did not seek to include representative samples for these variables since there was already a large number of independent variables being investigated.

Statistical attitudinal surveys, especially in the area of language and sex research, are still a relatively new phenomenon. Much work needs to be done, first in tightening up the format and methodology of such research, and then on interpreting the data which are obtained. It is my hope that this paper proves to be a

foundation upon which other researchers might ground their own related studies.

ACKNOWLEDGEMENTS

FOOTNOTES

[1] I have had extensive contacts with many different religious groups over the course of the last twelve years. I am currently a member of The United Church of Canada, but I have also attended regularly and/or otherwise been involved over a period of time with Brethren, Pentecostal, Baptist and Anglican churches. In addition, I attended an interdenominational Bible College for two years. I have also completed a course on Language and Religion with Professor W.J. Samarin of the University of Toronto. Although the majority of my experience has been with Christian groups, I have also had a fair amount of interaction with Jewish and Moslem people.

[2] An earlier version of the questionnaire was used in a pilot study of 28 students in a second year linguistics class at the University of Toronto. In the pilot version, the descriptions ended simply with .'...is,' rather than with .'...is likely to be.' The change was made in the wording because the pilot subjects expressed extreme unwillingness to make as absolute a statement as the first format implied.

[3] The format of the questionnaire and the scales used were based on a 1978 Language in Newfoundland Questionnaire (S. Clarke and L. Smith, Memorial University of Newfoundland), which is typical of language attitude questionnaires.

[4] The groups used in this study were: the United Church Women of Runnymede United Church, Toronto; three classes from Erindale Secondary School, Mississauga, Ontario; a men's floorhockey group

at Runnymede United Church; an introductory Latin class, York
University; an introductory Linguistics class (evening section),
University of Toronto; members of a Ukrainian Pentecostal Church,
Toronto; employees of Ogilvy and Mather Advertising, Toronto;
employees of Atkinson College and of the Faculty of Fine Arts,
York University; and the staff of a public elementary school in
rural southern Ontario.

[5]Subjects are quoted verbatim, including their own spelling,
punctuation and grammatical constructions. Corrections were only
made when it was absolutely necessary for comprehensibility.
Underlining and capitalization are the subjects' own, except at
the beginning of each quotation, where all were capitalized for
the sake of uniformity.

[6]The calculations for significance were done by Sheila Embleton,
using the formulas for the t-statistic for the correlation
coefficient and the z-statistic for the correlation coefficient
found in Hewlett-Packard. Hp-65 StatPac2. (1975. Cupertino,
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A GOVERNMENT-BINDING ANALYSIS OF VP SENTENTIAL COMPLEMENTS IN EGYPTIAN ARABIC

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ABSTRACT

This paper examines VP sentential complements in Egyptian Arabic within a Government and Binding framework. Various types of finite and non-finite sentential complements are identified according to the distribution of the complementizer ?inn 'that' and the elements that fill the complement subject position. It is proposed that Case and Binding parameters are set differently in Egyptian Arabic than in English. In Egyptian Arabic, certain subject NPs are potentially Case-marked by two categories. In these instances the lexical Case-marker prevails, thereby establishing the governing category for the NP, and determining the NP's range of interpretation by the Binding principles.

1.   Introduction

This paper is concerned with the sentential complements of the Verb Phrase in Egyptian Arabic (EA). The paper is both descriptively and theoretically oriented. Thus, although it gives a description of the various types of VP sentential complements, it presents such a description in a Government-Binding (GB) framework in an attempt to show how the different principles of GB (e.g., Government, Binding, Case, etc.) underlie the distribution of these complements and their structural patterns. For instance, various Case assignment and Binding principles are shown to explain why sentential complements with empty subject positions, pronoun subjects with free reference, reflexives, etc., are allowed with certain verbs, but not with others. The paper also illustrates how the parameters of sub-systems such as Binding or Case Theories may be adjusted so as to take account of cross-linguistic variation, as exemplified by the EA data.

VP sentential complements in EA are classified here into finite and non-finite complements. According to the range of their internal structures, non-finite complements are further subclassified into three basic types. Similarly, finite complements fall into three groups, according to whether or not they allow for the complementizer inn 'that,' and whether such a complementizer is obligatory or optional.

As in English, the difference between finite and non-finite clauses in EA lies in the fact that the former has a [+ Tense] INFL, while the latter has a [- Tense] one. However, unlike English, EA has inflected non-finite verb forms since the presence of a personal agreement marker on the verb is obligatory.[1]

2.   Types of VP Sentential Complements

EA has both finite and non-finite sentential complements in VPs. Finite complements are chosen by head verbs that are of the 'dicto-cognitive' type whose meaning is related to knowledge and are epistemic in nature, such as: ^cirif 'to know,' sadda? 'to believe,' etc. Non-finite complements, on the other hand, are chosen by verbs whose meaning has to do with volition or coercion and are deontic in nature, such as: ^c:az 'to want,' xalla 'to let (or to make),' etc. (This distinction is based on Jelinek's semantic classification of EA predicates; see Jelinek 1981, Chapter 5). Some verbs may take either finite or non-finite complements, with the difference between the two being modal in nature. Consider for instance:

1)   ?ana ṣammimt   ?inn-u geh
      I   I insisted that-he he-came
      'I insisted that he had come.'   (epistemic)

2)   ?ana ṣammimt   ?inn-u yi:gi
      I   I insisted that-he he-come
      'I insisted that he should come.'   (deontic)

Below, I will describe the internal structure of finite and non-finite VP complements, starting with the latter.

2.1 Non-finite VP complements

With respect to their internal structure, the distribution of
the complementizer ?inn 'that' and the elements that may fill their
subject position, non-finite complements may be grouped into three
basic types.

2.1.1 Complements of type I verbs

This group includes verbs like <u>ᶜ:az</u> 'to want,' <u>tawaqqaᶜ</u> 'to
expect,' <u>Habb</u> 'to like,' <u>qarrar</u> 'to decide,' <u>talab</u> 'to ask.'

The structure of the complements of such verbs is illustrated
by the pairs of sentences given below. Thus, compare:

> 3)   ha:ni biyHibb   ?inn sa:mi yiɣanni
>   Hani he-likes that Sami he-sing
>   'Hani likes for Sami to sing.'

> 4)   *ha:ni biyHibb   ?inn yiɣanni
>   Hani   he-likes that he-sing
>   *'Hani likes that he sing.'

In sentence 3, we have an overt NP subject <u>sa:mi</u> that does
not seem to be governed since, given the fact that the embedded
verb is non-finite, there is no tense in INFL to govern the subject
position. Moreover, S̄- deletion cannot apply here because of the
presence of the complementizer ?inn. Hence, I propose that the
complementizer ?inn in EA should be analyzed as the governor of
the embedded subject position in a way comparable to the
complementizer <u>for</u> in English. This should not be surprising at
all, considering that it assigns objective case to the subject
pronoun in the same way prepositions do:[2]

> 5)   ?ana ?axat   ?inn-<u>u</u>   yiɣanni yawmeyyan
>   I   I-took that-him he-sing daily
>   'I got used to him singing daily.'

> 6)   ?ana ?axat   minn-<u>u</u>   ik-kita:b
>   I   I-took from-him the-book
>   'I took the book from him.'

Moreover, since preposition stranding is not allowed in EA,
as can be seen from sentence 7 below:

7)   *^cayza Hadd   atkallim $\left\{ \begin{array}{l} \text{ma}^\text{c}\text{a} \\ \text{with} \\ \text{ma}^\text{c}\text{a:-h} \\ \text{with-him} \end{array} \right\}$

    I-want   someone I-talk

    'I want someone to talk with.'

we are now able, if ?inn is analyzed as a preposition, to explain why sentence 4 is ungrammatical and why ?inn must always be followed by an NP, a fact that many linguists dealing with EA have tried but never managed to account for (Farghaly 1981:44).

Now, if ?inn is the governor of the embedded subject NP, thereby setting the lower $\bar{S}$ as a governing category for that position, then sentences 8 and 9 below are just a simple illustration of the normal behaviour of pronouns and anaphors:

8)   ha:ni biyHibb ?inn-u yiɣanni
     Hani he-likes that-he he-sing
     'Hani likes that he sing.'   (i.e., 'Hani likes him to sing.')

9)   *ha:ni biyHibb ?inn nafsu   yiɣanni
     Hani   he-likes that himself he-sing
     *'Hani likes that himself sing.'

As predicted by the binding principles (Chomsky 1981:188), the pronoun - u is free in its governing category (the embedded $\bar{S}$) and thus can be coreferential with the matrix subject; the reflexive nafsu, on the other hand, cannot occupy this position, since it will not be bound, as required, in its governing category, and the sentence is ruled out as ungrammatical.

Now, consider the sentences below:

10)   ha:ni biyHibb   sa:mi yiɣanni
      Hani he-likes Sami he-sing
      'Hani likes Sami to sing.'

11)   ha:ni biyHibb-u   yiɣanni
      Hani he-likes-him he-sing
      'Hani likes him to sing.'

Sentence 10 raises another problem, since in this sentence there is no tense in INFL to govern the subject, and, unlike sentence 3, there is no governing complementizer either. In this type of

structure we have to resort to the S̄-deletion analysis proposed by Chomsky (1981:66) in order to allow the higher verb to govern the embedded subject and assign Case to it (S, unlike S̄, is not a barrier to government). Notice that the embedded subject pronoun has an objective case (the case assigned by verbs) rather than a nominative one, as we can see from sentence 11.

The S̄-deletion analysis, however, cannot be invoked for sentences such as 12 and 13 below:

12) ha:ni biyHibb yiɣanni
     Hani he-likes he-sing
     'Hani likes to sing.'

13) *ha:ni biyHibb nafsu   yiɣanni
     Hani   he-likes himself he-sing
     'Hani likes himself to sing.'

In sentence 12, we have yet another type of complement structure, since what we have here is an obligatory control structure with an embedded subject PRO. This means that in sentences where the higher and the lower subjects are coreferential, the rule of S̄-deletion cannot apply (notice that the embedded subject pronoun in sentences like 11 must always be disjoint in reference from the matrix subject). In this type of complement, the subject position is always ungoverned and can only be filled by PRO; hence the ungrammaticality of sentence 13.

2.1.2. Complements of type II verbs

This group includes such verbs as Ha:wil 'to try' and waɛad 'to promise.'

These verbs have the range of complement types illustrated below:

14) ?ana waɛadt   (ha:ni) ?adfaɛ il-fulu:s
     I   I-promised (Hani) I-pay the-money
     'I promised (Hani) to pay the money.'

15) *?ana waɛadt   (ha:ni) sa:mi yidfaɛ il-fulu:s
     I   I-promised (Hani) Sami he-pay the-money
     *'I promised (Hani) Sami pay the money.'

16) ?ana wa^{c}adt   (ha:ni) ?inn sa:mi yidfa^c il- fulu:s
    I   I-promised (Hani) that Sami he-pay the   money
    'I promised (Hani) that Sami will pay the money.'

17) *?ana wa^{c}adt   (ha:ni) ?inn ?adfa^c il-fulu:s
    I   I-promised (Hani) that I-pay   the-money
    'I promised (Hani) to pay the money.'

As can be seen from the above patterns, these verbs
subcategorize for either an obligatory control complement (14-15)
or an $\bar{S}$ with the complementizer ?inn (16-17). Thus, sentence 14
has an embedded subject PRO, given that such a position is not
governed:

18) $_S$[$_{NPi}$[?ana]$_V$[$_V$[$_V$[wa^{c}adt]$_{NP}$[ha:ni]$_{\bar{S}}$[$_S$[$_{NPi}$[PRO] $_{INFL}$ [-Tense]
      $_V$[?adfa^c il-fulu:s]]]]]]]

Sentence 15 is ungrammatical with an overt NP subject replacing
PRO in such an ungoverned position, as can be expected by Binding
Theory and the Case Filter.

In sentences 16 and 17, we find exactly the opposite. Since
the embedded subject position is governed by ?inn, it cannot be
filled by PRO (hence the ungrammaticality of 17), but only by an
overt NP as in 16.

Notice that this group of verbs does not allow an ?inn-deletion
rule (comparable to the for-deletion rule of English) to apply at
PF, and thus, sentence 15 can never be grammatical.

2.1.3. Complements of type III verbs

This group of verbs includes causative and quasi-causative
verbs in EA.[3] The main causative verb in EA is xalla 'to make
(causatively).'[4]   Other causative verbs include sa:b 'to let,'
?asab 'to force,' ?ittarr 'to oblige.'[5]

With regard to the type of complements they take, causative
verbs are of two types: the first type includes the two verbs
sa:b 'to let' and xalla 'to make;' the other contains all the rest.
The difference between the two subgroups lies in the fact that
while the latter subcategorizes for an [---$_{NP}$ $_S$] complement
structure, the former subcategorizes for a sentential complement

only. Consider the structure of the second group, represented by the following sentences:

19) ha:ni ?aqna^c sa:mi yišrab   iš-ša:y
    Hani he-persuaded Sami he-drink the-tea
    'Hani persuaded Sami to drink the tea.'

20) *ha:ni ?aqna^c yišrab   iš-ša:y
    Hani   he-persuaded he-drink the-tea
    *'Hani persuaded to drink the tea.'

21) *ha:ni ?aqna^c ?inn sa:mi yišrab   iš-ša:y
    Hani   he-persuaded that Sami he-drink the tea
    *'Hani persuaded that Sami should drink the tea.'

22) ha:ni ?aqna^c sa:mi ?inn-u yišrab   iš-ša:y
    Hani he-persuaded Sami that-he he-drink the-tea
    'Hani persuaded Sami that he should drink the tea.'

From the above examples, we see that this group of verbs requires an NP object and a sentential complement (19 and 22). Thus, sentences 20 and 21 are ruled out because the subcategorization framework or the θ-grid of the verb is not satisfied (with the θ-role of patient being absent).

Notice that the complement <u>yišrab iš-ša:y</u> in 19 is clausal (not a VP), with PRO being the subject controlled by the matrix NP object. This analysis is supported by the binding facts concerning anaphors:

23) ha:ni$_i$?aqna^c sa:mi$_j$ yidrab nafsu*$_{i/j}$

If the complement is not sentential, we would have expected the reflexive to be able to have the same index as the matrix subject (both being in the same governing category). This, however, is not the case, as can be seen from 23 above, where the reflexive can be bound only by PRO within its governing category, the embedded S:

24) $_S[_{NPi}$[ha:ni]$_V[_V[_V$[?aqna^c]$_{NPj}$[sa:mi]$_{\bar{S}}[_S[_{NPj}$[PRO]
    INFL $^{[-Tense]}_V$[yidrab $_{NPj}$[nafsu]]]]]]]]

This group differs from the complements of type II verbs in that it <u>obligatorily</u> assigns a patient θ-role to an NP as part of its θ-grid, while this NP is optional in the other group.

The other subgroup of causative verbs does not allow NP object at all as part of its complement structure:

25) ha:ni $\begin{Bmatrix} *\text{xalla} \\ \text{he-made} \\ ?\text{aqna}^c \\ \text{he-persuaded} \end{Bmatrix}$ sa:mi (?inn-u yišrab ša:y)
    Hani   Sami   (that-he he-drink tea)

    'Hani $\begin{Bmatrix} \text{made Sami} \\ \text{persuaded Sami to} \end{Bmatrix}$ drink the tea.'

26) ha:ni   xalla   sami   yišrab   iš-ša:y
    Hani   he-made   Sami   he drink the-tea
    'Hani made Sami drink the tea.'

Thus, the NP <u>sa:mi</u> in sentence 26 must form one unit with the following VP:

27) $_S[_{NP}[\text{ha:ni}]\ _{\overline{V}}[_{\overline{V}}]_V]\text{xalla}]\ _{\overline{S}}[_S[_{NP}[\text{sa:mi}]\ _{INFL}\ [\text{-Tense}]$
     VP[yišrab ša:y]]]]]]]

The question here is how the subject of the infinitival complement would obtain Case. The only way Case may be assigned is by the matrix verb by way of $\overline{S}$-deletion. The fact that the subject in 28 below is marked objective (the subject pronoun being <u>-h</u> 'him,' instead of <u>huwwa</u> 'he'), and that PRO is disallowed as a possible subject, as shown in 29, supports the idea that the embedded subject position is governed by the verb:

28) ha:ni   xalla:-<u>h</u>   yišrab   iš-ša:y
    Hani   he-made-him   he-drink the-tea
    'Hani made him drink the tea.'

29) *ha:ni xalla PRO yišrab iš-ša:y

We cannot use an <u>?inn</u>-deletion rule here because these complements are generated without complementizer:

30) *ha:ni xalla   ?inn sa:mi   yišrab   iš-ša:y
    Hani   he-made   that Sami   he-drink the-tea
    'Hani made Sami drink the tea.'

Neither can we have the traditional Raising-to-Object Position analysis, since, as known in the GB literature, this would violate

the Projection Principle, by allowing the NP <u>sa:mi</u> to have a dual θ-role as both agent to the lower verb and patient of the higher one.

Notice that unlike complements of type I verbs which may have an S̄-deletion structure or an obligatory control one, these complements can have the former structure only; hence a sentence like 31 below is perfectly grammatical (compare with the ungrammatical 13):

> 31) hani   xalla   nafsu   yišrab·   iš-ša:y
>   Hani   he-made   himself he-drink the-tea
>   'Hani made himself drink the tea.'

This concludes our discussion of the non-finite complements of VPs in EA; the next section deals with the finite complements.

2.2. Finite VP complements

Finite complements will be classified here into three groups, according to whether or not they allow the complementizer <u>?inn</u>, and whether the latter's occurrence in such structures is optional or obligatory.

2.2.1. Complements with optional <u>?inn</u>

Among the verbs that have such a choice are verbs like <u>?iftakar</u> 'to think,' <u>?i^ctabar</u> 'to regard,' and <u>?i^ctaqad</u> 'to think.' These verbs may have sentential complements with or without <u>?inn</u>, as in 32-33:

> 32) ha:ni ?iftakar   sa:mi xarag
>   Hani   he-thought Sami   he-went-out
>   'Hani thought that Sami had gone out.'

> 33) ha:ni ?iftakar- ⎧ u   ⎫ xarag
>   Hani   he-thought ⎪ him   ⎪ he-went-out
>   ⎨ *huwwa   ⎬
>   ⎪ he   ⎪
>   ⎪ nafsu   ⎪
>   ⎩ himself ⎭
>   'Hani thought that he/*him/*himself had gone out.'

34) ha:ni   ?iftakar   ?inn sa:mi   xarag
     Hani   he-thought   that Sami   he-went-out
     'Hani thought that Sami had gone out.'

In sentence 32, an overt NP appears as the embedded subject,
which is predicted by the theory, since it can be governed by INFL
(the latter being [+Tense]) in the sentential complement. Sentence
33, however, raises some problems for such an analysis. First of
all, the sentence is grammatical only with the embedded subject
pronoun -u being disjoint in reference from the matrix subject:

35) ha:ni$_i$?iftakar-u$_j$/*$_i$ xarag

This is not expected if the pronoun is in a separate governing
category from the matrix subject (which would be the case if it is
governed by INFL). To account for these binding patterns in EA,
which differ from their English counterpart, I propose that EA
sets the parameters for Case and Binding in the following manner:

a.   Case assigners are V, P, Complementizer and INFL, but
     lexical categories prevail.

So, if the Comp position is empty, then a higher verb, being
lexical, can reach down into the lower clause and assign Case
(accusative), even though INFL is [+tense]. In a matrix clause,
since there is no Complementizer, INFL is the Case assigner.

b.   Case domain is always concordant with Binding domain.

In other words, if an NP$_a$ receives Case from an X, then the
first S or NP with a subject accessible to the NP$_a$ that contains X
is the governing category of that NP$_a$ for the Binding principles
to apply.

Thus, in sentences like 32-33, according to a. above, the
embedded subject is assigned Case by the higher verb since the
neutralization of INFL has rendered the application of S̄-deletion
feasible.[6] This explains why the pronoun filling this position has
to have the objective, not the nominative form. This means that
the governing category for the embedded subject is the matrix S,
according to b, since it contains both the subject NP and its Case
assigner the matrix verb.

Now all the facts about the binding patterns of the pronouns
and anaphors in sentences like 32-33 fall into place. The embedded

subject pronoun cannot be coreferential with the matrix subject since, now, they are in the same governing category where pronouns must be free. On the other hand, a reflexive can occupy such a position because, now, it is bound in its governing category as required by the Binding principles.

In sentence 34, we have two possible Case assigners: the Complementizer ?inn and INFL. Being lexical, ?inn assigns Case to the embedded subject, thereby establishing the $\bar{S}$ containing them both as the governing category.[7] And, as expected, the subject pronoun will be free to either refer to the matrix subject or to be disjoint in reference from it, since in both cases the pronoun will still be free in its governing category:

36)   ha:ni$_i$?iftakar   ?inn-u$_{i/j}$ xarag

At the same time, reflexives are not allowed in embedded subject position:

37)   *ha:ni   ?iftakar   ?inn nafsu   xarag
      Hani   he-thought   that himself   he-went-out
      *'Hani thought that himself had gone out.'

2.2.2.   Complements with obligatory ?inn

These are complements to verbs like sadda? 'to believe,' ?akkid 'to assert,' ?a:l 'to say,' and nisi 'to forget.'

Here again we find two possible governors: ?inn and the [+Tense] INFL. Consider the following sentences:

38)   ha:ni   sadda?   *(?inn) ^{c}ali   nigiH
      Hani   he-believed (that)   Ali   he-succeeded
      'Hani believed that Ali succeeded.'

39)   ha:ni   nisi   *(?inn)   il-maHall   ?afal
      Hani   he-forgot   (that)   the-store   it-closed
      'Hani forgot that the store had closed.'

From sentences 38-39 above, we can see that this type of verb subcategorizes for ?inn-clauses[8]; therefore the embedded subject position is always governed and hence neither PRO nor a reflexive can occupy such a position:

40) *ha:ni ?akkid   ?inn $\left\{\begin{matrix} \text{PRO} \\ \text{nafsu} \end{matrix}\right\}$ kisib

    Hani   he-asserted   that   himself won
    *Hani asserted that $\left\{\begin{matrix} \text{PRO} \\ \text{himself} \end{matrix}\right\}$ won.'

2.2.3. Complements that do not allow ?inn

Complements of some perception verbs[9] like ša:f 'to see' and semi[c] 'to hear' subcategorize for sentential complements with empty complementizer positions; i.e., they do not allow ?inn in their complements[10]. Consider the following data:

41) layla   ša:fit   il-walad Hawwid   min   hina
    Layla   she-saw   the-boy   he-turned from   here
    'Layla saw the boy turn this way.'

42) ha:ni ša:f-u   ka:n   biyiktib gawa:b ?imba:riH
    Hani   he-saw-him he-was he-writes letter yesterday
    'Hani saw him writing a letter yesterday.'

43) ?inta semi[c]t   nafsak   za[cc]a?t min   šewayya
    You   you-heard yourself shout   since a-while
    'Did you hear yourself shouting a while ago?'

Structures like these are treated as headed small clauses in English because the complements lacks the INFL node (Stowell 1981:259-260). This, however, is not the case in EA, since as we can see from the sentences above, these complements are finite with [+Tense] INFL. Thus, again, like the complements with optional ?inn, the verb, being lexical, rather than INFL, assigns Case to the embedded subject in the complement S. Hence, the embedded subject pronoun in 42 has the objective rather than the nominative case, and has to be disjoint in reference from the matrix subject because it must be free in its governing category (the matrix S). Sentence 43, however, is grammatical with an embedded reflexive subject.

3. Conclusion

Thus, as we have seen, the type of VP sentential complements and their internal structure is dictated by both the thematic

structure of the head verb and the various sub-theories of the grammar, like Government, Binding, Case Theory, and Theta Theory.

By setting the parameters for Case and Binding in EA in a manner different from the way they are set in languages like English, we can accommodate the EA data. In English, the $\bar{S}$-deletion rule is needed to account for the fact that the subjects of some tenseless clauses are in fact governed; the data given here suggest that this rule is also operable in EA with respect to some tenseless complements, as in sentences 11 and 29. The difference between the two languages lies in the data concerning tensed complements. While in English there is no need to invoke the use of the $\bar{S}$-deletion rule with tensed clauses because the embedded INFL governs and assigns Case to the subject, the binding patterns in EA in sentences like 33 suggest that the subjects of such tensed complements are indeed governed by the matrix verb, despite the fact that their Ss contain a [+tense] INFL. However, the idea of having two governing categories for one NP at the same time, which would be the case if we allow $\bar{S}$-deletion to apply while the embedded INFL is a possible governor, would undermine the whole concept of Government. Therefore, I propose to set the parameters of Case assignment and Binding (and hence also Government) in the manner described in a and b in section 2.2.1., thereby allowing these rules to accommodate languages as differnt as English and EA. Thus, by adopting a and b above as the EA parameters for Case and Binding and by analyzing the complementizer ?inn as a governor in EA, we have been able to account for the various types of internal structures of VP sentential complements within the framework set by GB.

FOOTNOTES

[1]George and Kornfilt (1981:125) state that in a language where personal agreement markers on the verb are obligatory and regularly precede the tense marker (as is the case in EA), neutralization of tense, rather than of personal agreement, is the marker for non-finiteness.

[2]Notice that the nominative form of the pronoun is used in EA as a strong form of the pronoun for emphasis, no matter what Case is assigned to the pronoun (see also Wahba 1984:65). Thus, in the sentence below, although the preposition min 'from' should assign a non-nominative case, we may have the nominative pronoun heyya 'she' for emphasis:

?ištare:t   ik-kita:b min heyya is-sitt   di
I(I) bought   the-book   from she   the-woman this
'I bought the book from this woman.'

So, normallly ?inn is followed by a non-nominative pronoun, except
where emphasis is required.

[3]EA has also convert causative verbs, but these have phrasal
rather than clausal complements (see Saad 1982, Chapter 4).

[4]I call xalla 'to make' the basic causative verb because it is
the most semantically unmarked causative if compared with verbs
like yasab 'to force,' which means to cause somebody to do something
by force, or sa:b 'to let,' which has an indirect causation meaning.

[5]These verbs differ from quasi-causatives like sagga[c] 'to
encourage,' nasaH 'to advise,' ?aqna[c] 'to persuade,' ?ayra 'to
tempt' in that while the first group indicates that the action
denoted by the embedded verb has actually taken place, the second
group does not necessarily indicate this. Thus, compare sentences
.1 and 2 below:

1)   ha:ni   xalla   layla   tina:m
      Hani   he-made Layla   she-sleep
      'Hani made Layla sleep.'

2)   ha:ni   nasaH   layla   tina:m
      Hani   he-advised   Layla   she-sleep
      'Hani advised Layla to sleep.'

In 1, we are sure that Layla really has slept. In 2, she may or
may not have done so, but at any rate the matrix subject has caused
a state where a possible action may take place.

[6]It seems that in EA, when the Comp position is not filled, S̄-
deletion becomes the rule rather than the exception, since it is
needed for both finite and non-finite complements. This casts
strong doubts on the idea that S̄ is a barrier to government in EA;
it does not seem to be a barrier except where obligatory control
is involved as in sentences like 12. This line of thought needs
to be pursued in more detail after further investigation.

[7]While a reflexive or a pronoun disjoint in reference from the
matrix subject is allowed in sentences like 33 and 35 respectively,
hence establishing the matrix S as their governing category, a

reflexive is not allowed in sentences like 37, which suggests that the lower $\bar{S}$ that contains the governor <u>?inn</u> is now the governing category for these NPs in EA. Compare the following English sentences with their EA equivalents:

I want myself to win the race
?ana ^cayza nafsi   ?aksab issaba?
I   want myself win   the-race

*I want me to win the race
*?ana ^cayza:-ni ?aksab issaba?
I   want-me   in   the-race

I want for myself to win the race
*?ana cayza nafsi   ?aksab issaba?
I   want myself win   the-race

*I want for me to win the race
*?ana cayza ?inn-i   ?aksab issaba?
 I   want that-me win   the-race

While in the English sentences the matrix S remains the governing category for the lower subject, even when the latter is governed by <u>for</u>, the EA data concerning the binding patterns of pronouns and anaphors suggest that the lower $\bar{S}$ becomes the governing category for the embedded subject when it is governed by <u>?inn</u>. Notice that <u>?inn</u> is the only available governor, the lower INFL being [-Tense], and thus the lower $\bar{S}$ itself does not contain a governor for its subject. The same can be said of sentences 8 and 9 in section 2.2.1.

[8]There is no reason, other than violation of strict sub-categorization, to render these sentences ungrammatical.

[9]Other perception verbs have other subcategorization frameworks. Thus, <u>lamas</u> 'to touch' and <u>da:?</u> 'to taste' do not subcategorize for sentential complements, but rather for NP ones.

[10]These verbs in their basic perception meaning do not allow <u>?inn</u>. When they occur with <u>?inn</u> they have different meanings and belong to another type of verb. Thus, <u>ša:f ?inn</u> does not mean 'to see,' but 'to realize,' and <u>simic ?inn</u> does not mean 'to hear,' but 'to learn.' That is, when they occur with <u>?inn</u>, they form different lexemes.

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TOWARD A TYPOLOGY OF DIACHRONIC
PHONOLOGICAL CHANGE IN BANTU LANGUAGES

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ABSTRACT

There has been much recent work on explaining different types
of phonetic and phonological processes. At the same time our overall
knowledge of the world's languages is greatly expanding. Despite
this, published statements about diachronic processes still tend
to be largely based on long established Indo-European facts. This
paper attempts to make a contribution to that imbalance by
considering phonetic/phonological processes in a complete set of
(non-Indo-European, Bantu) languages in a delimited geographical
area (eastern Africa). It looks specifically at the diachronic
processes needed to derive the contemporary languges from Proto-
Bantu. Each process is identified, outlined, its relative frequency
assessed, and, where possible, parallels are drawn to similar
phenomena elsewhere. We do not attempt to indicate the interaction
of the processes nor their implication for contemporary languages.
It is hoped that this represents a small addition to the pool of
knowledge on which future analyses are based.

1.   Introduction

1.1. Purpose

    In recent years much effort has been invested in characterising
and explaining a range of phonological processes. Rather less effort
has gone into systematically examining a wide selection of languages
in order to determine which processes are really widespread, and
therefore worthy of characterisation and explanation. My aim here
is to look at the diachronic processes linking Proto-Bantu
(henceforth, PB) to the many Bantu languages of eastern Africa
with a view to determining how frequent each is. Each process is
outlined, illustrated, and its frequency estimated. This frequency
is expressed as a percentage of the total of the survey languages
set out in the following section. Where relevant I point to
parallels with familiar processes in other languages. In some
cases, however, no obvious parallel is possible as the processes
dealt with are idiosyncratic.

1.2. Data base

Bantu languages are conventionally divided into those of the so-called 'west' (actually the north-west of the Bantu area, located mainly in western Nigeria, Cameroon, Gabon, Congo, and Zaire) and those of the 'east'. The latter are variously referred to but comprise all the remaining Bantu languages, spoken in central, southern, and eastern Africa. I am concerned here with a subset of the latter, namely all the Bantu languages of East Africa proper (Uganda, Kenya, Tanzania, and parts of adjoining countries). In some cases it is not clear whether 'language' or 'dialect' is the appropriate term; that is not important as virtually all the Bantu speech communities of East Africa are covered.[1] In all, 111 languages/dialects are included.

The data were collected during the 1970s at the University of Dar es Salaam by the French scholar G. Philippson and the present author. For each language/dialect a native speaker filled out a 1000-word list using the Roman alphabet. In an interview later, lasting several hours, each speaker was asked questions about, inter alia, the phonetics of what had been written. Although such a procedure has obvious strengths and weaknesses[2] we were confident that phonemic distinctions were made in most cases.

1.3. Historical background

It should be emphasised that what follows is a statement of the processes linking PB to contemporary languages. Although there is some disagreement about details of PB phonology, there is a broad consensus such that most of the claims made below would not be seriously invalidated by slightly different assumptions about PB. Since we are looking at the starting point (PB) and the endpoints (contemporary languages) it is possible that some of the processes underwent intermediate stages no longer visible. However, since so many languages are included and since the processes themselves are often at different stages in the various languages, it is likely that most of the intermediate points are in fact attested in at least some contemporary language(s). The question then of course is how to interpret them (for which see sections 2 and 3 below).

Most scholars would assign the following to PB:

Vowels

7 qualitative vowels, with a length distinction (written V:VV) at least for identical vowels. The 7 vowels are represented as: a, ɛ, e, i, ɔ, o, u, (and in sections 2 and 3, 5-vowel languages are represented as: i, e, a, o, u).

Tones

A two-tone (high-low) system.[3]

Consonants

Allowing for minor differences in detail, it would be safe to assume for PB the following consonant inventory:

```
p    t    s    k
B    l    z    G
m    n    ɲ    ŋ
```

Within this system there is uncertainty about the phonetic value of B and G (stop versus fricative?), s and z (fricative versus affricate versus stop? palatal versus alveolar?). It is clear however that all the non-nasal consonants could occur prenasalised, in which case mB, nl, and - ŋG were realised as mb, nd, and ŋg, respectively; and that when a nasal appeared as a prefixal class marker, the nasal was assimilated to the point of articulation of the following oral segment.

Syllable Structure

All syllables were open and of the shape (N)(C)V, that is, a syllable consisted of vowel, or vowel preceded by nasal and/or oral consonant. This means that contexts for consonant change could be either word-initial, or intervocalic, or prenasalised. Since in most eastern Bantu languages consonants typically behave identically in word-initial and intervocalic position, the significant contexts for stating consonant changes tend to be prenasalised or non-prenasalised.

1.4. Inherited/older, more recent, and diffusional, processes

The presence in contemporary languages of the end results of the diachronic processes below might in principle be explained in any of three ways. First of all, we might assume the conventional family tree representation with constant splitting and a number of intermediate proto-languages, in which case the processes can be held to have occurred in the protos and are thus inherited in today's

languages.   Secondly, the limited geographical distribution of at least some of the processes would suggest that they are relatively recent.   Thirdly, their geographical distribution would suggest that they are not only recent but have diffused across language/dialect boundaries, which implies that articulatory and phonological habits can be borrowed from one language/dialect to another.

There is considerable evidence that all three have occurred. In each case we have attempted to indicate the possibilities. Since we assume the legitimacy of the 'inherited' model, the ranking by order of statistical frequency (as shown below) does not imply that a particular process happened separately in all the languages affected.   I have attempted to provide some measure of how many times any change may have occurred separately by taking the 10 genetic subgroupings of the 111 languages/dialects and seeing to what extent they were affected by each process.[4] If all or most of the members of a subgrouping show regular reflexes of any process, we can assume the process occurred just once, in the proto-language ancestral to the subgrouping.   If none or virtually none of the members show any reflex of the process, we assume that the proto-language was never affected. However, an intermediate situation is often the case: that is, some members of a subgrouping show evidence of a process while others do not. Most of these cases need further investigation.

The three member notation occurring after the percentage or statistical frequency of each process reflects the subgroup distribution of the process.   The first member of the notation shows the number of subgroupings (out of 10) in which the process has occurred in all or virtually all the members, suggesting an original single occurrence in their proto-language; the second member shows the number of subgroups in which the process is present in some members but not in others; and the third member indicates the number of subgroups in which the process is not, or only minimally, present. Thus, for example, 6-1-3 means 'present in all or most of six subgroups, present in some members of one subgroup but not in others, and not, or minimally, present in three subgroups.'

In sections 2 and 3 we distinguish between 'major' (i.e., more frequent) and 'minor' (i.e., less frequent) processes. After each process there is a statement of its statistical frequency. Although the line between 'major' and 'minor' is arbitrary, it is nevertheless true that the former are widespread in the languages surveyed, whereas the latter are localised.

2.   Major Processes

2.1. Bantu spirantisation: spirantisation of consonants before high
     vowel (has affected 81% of the 111 languages examined: 7-1-2)

This can best be represented by the format:

		*/_iC	*/_uC
*p	>	F	F
*B	>	V	V
*t , k⁵	>	S	F
*1 , G	>	Z	V

in which /F, V, S, Z/ are cover symbols. /F/ represents
overwhelmingly [f], but occasionally [pf].   /V/ represents
overwhelmingly [v], but occasionally [ß].   /S/ represents
overwhelmingly [s], but occasionally [ʃ], [č], or [ts]. And /Z/
represents overwhelmingly [z], but occasionally [ʒ], [ǰ], or [dz].
A list of examples follows, with the lefthand column representing
PB forms and glosses, and the righthand column, typical results:

-pìka	'arrive'	-fika
-pù	'stomach'	-fu
mabí	'excrement'	mavi
-býna	'harvest'	-vuna
-tíma	'dig'	-sima
-túla	'forge'	-fula
ŋkíngɔ̀	'neck'	singo
makútà	'oil'	mafuta
molì	'root'	muzi
-lùma	'roar'	-vuma
ŋgì	'fly'	nzi
mogúí	'arrow'	muvwi
also nsímbà	'lion'	simba
nsúí	'fish'	swi

For tu/lu, 25% show S/Z rather than F/V, and for pi/Bi, 14%
show S/Z instead of F/V. Both these percentages increase slightly
if the context is /_yV or /_wV, that is, where /i, u/ act as glides.
Although the more common form of palatalisation, that of velars,
is dealt with in the next section, it should be noted that (pi/Bi
>)Fi/Vi > Si/Zi can also be regarded as a form of palatalisation
(assibilation or sibilantisation). The end results of this form of
palatalisation are very similar to the end results of the
palatalisation of velars. A similar process also occurred in the
history of French.

In a majority of cases Bantu spirantisation is older and thus
inherited. In some cases the results of Bantu spirantisation have

been affected by other secondary, more recent, processes, and in a
very few cases it may have been diffusional. (See Hinnebusch 1981,
Moehlig 1981) Spirantisation as a process is widespread in natural
languages, but is most frequent in intervocalic context.
Spirantisation in the context described here appears to be not
common. However, the results of this Bantu spirantisation are
akin to the results of the First and Second (Germanic) Consonant
Shifts in that a series of spirants appears beside older stops.

2.2. Palatalisation of velars (75% of languages: 1-5-4)

The most common context for this is following /y/ (that is,
non-syllabic /i/); then /y, i/; then /y/ and all front vowels; and
finally, in a small number of cases, a high front vowel preceding
the velar. Most commonly affected are either /k/ or /k, G/: it
appears to be rarely the case that /G/ alone palatalises. For /k/
the commonest outcome of palatalisation is /c/ (it is not clear in
all cases whether this represents affricate or stop, palatal or
palato-alveolar). This is followed at some distance by /ʃ/, and
in a few cases, /s/. For /G/, the overwhelming outcome is /j/
(again, unclear as to point and manner of articulation). Examples:

PB	Standard Swahili (5 vowels)	Mwiini (5 vowels)	Comorian (5 vowels)
kyakọlyá 'food'	chakula	chakuja	shahula
kentŏ 'thing'	kitu	chiintu	shintʳu
kɛndá 'nine'	kenda (archaic)	keenda	shendʳa

Palatalisation of velars appears to have been very common
throughout the history of the survey languages, and geographical
distribution suggests that in some cases it has also been the result
of areal diffusion. In most cases it follows chronologically 2.1,
preceding. Palatalisation of velars is common world-wide, and
much mentioned in most texts on phonology. For a survey, see Bhat
(1978).

2.3. Processes affecting the Class 5 prefix (*li- or le-)

Bantu noun classes are marked morphologically by prefixes of
the shapes /CV-/ or /N-/. Typically the segments involved behave
as they do in other contexts, with one exception, the Class 5 prefix,
which originally is likely to have been */li-/ or */le-/. Typically
before vowel-initial noun stems, some form of this prefix is
retained, e.g.,

  *li-ínɔ̀ 'eye'   to   li(i)nɔ   (then see 2.3.2., following)

2.3.1. Reduction of the Class 5 prefix before consonant-initial
        noun stems (70% of languages: 6-0-4)

Before consonant-initial noun stems, however, the prefix and
frequently reduces, first to /i-/ and then to zero, e.g.,

> *li-Bέélὲ 'breast'   to i-B ɛɛ lɛ   to Ø-B ɛɛlɛ

In many languages neither this loss of /l/ nor the subsequent
vowel deletion corresponds to general processes affecting these
segments in other contexts, and neither has been adequately
explained.   There may have been an early allomorphic situation
where variants with and without /l/ were present.   Later, after
loss of /l/, factors other than phonetic appear to have played
some role in vowel deletion; prominent among these were paradigmatic
levelling ('analogy') and syllable structure rules.   While the
role of non-phonological factors in phonological change is well
known in general, the details of this particular process appear to
be Bantu-specific.

2.3.2. Spirantisation of the Class 5 prefix before vowel-initial
        stems (24% of languages: 2-0-8)

> E.g., li-ínɔ̀   'eye'   to zi(i)no/ji(i)no/dzi(i)no etc.

In all languages affected except one, this occurs in languages
which have also undergone general Bantu spirantisation, so must be
assumed to be related in some way to it.   However, not all
spirantising languages have undergone this particular process, and
in those which have, the end result sometimes differs from the
result of the general spirantisation.

Although both of the above processes are inherited, both appear
to have been subject to much inter- and intra-language adjustment
more recently.

2.4. Vowel neutralisation (reduction of seven to five vowels) (65%
      of languages: 3-4-3)

> I.e.,   *i/e to /i/, and *u/o to /u/.

Crothers (1978) would regard this as 'to be expected', and
Maddieson (1984) regards balanced vowel systems (i.e., i, e, ε , a,
ɔ, o, u and i, e, a, o, u) as statistically common, 5-vowel systems
more so than 7-vowel systems.

With two (somewhat dubious) exceptions, all the survey languages
have either retained the original seven vowels or reduced the seven
to five by neutralising */i/ and */e/, and */u/ and */o/. The two
exceptions have six vowels, with more front than back vowels (see
Crothers' Universal 14, and Maddieson 1984:136 ff.). Vowel
neutralisation necessarily follows Bantu spirantisation, as the
latter requires the presence of the two high vowels: and vowel
neutralisation is a very frequent corollary of Bantu spirantisation.
It is both inherited and recent; and it is not clear if it might
also be diffusional. Examples:

PB		Gikuyu (7 vowels)	Swahili (5 vowels)
-pígà	'(cooking) stone'	ihiga	figa
-péta	'(sur)pass'	-heta	-pita
-tɛ́ma	'cut'	-tɛma	-tema
-támb-	'spread'	-tamba	-tambaa
-tɔ́k-	'boil'	-tɔgɔta	-tokota
-tóma	'send'	-toma	-tuma
-túma	'weave'	-tuma	-fuma

It is remarkable that Bantu vowel systems have remained very
stable over a time span some 2,000 years, when compared with
developments during the same period in many European. For a general
typological discussion, see Maddieson (1984), chapters 8 and 9.

2.5. Instability of nasal followed by homorganic voiceless stop
     (63% of languages)

Nasals followed by voiceless stops (NS̥) are to be expected to
be unstable because of the difference in voicing (See Greenberg
1978:260). There seem to be two (possibly three) different basic
processes involved:

i)   Stop voicing (i.e., *NS̥ to NS, in 27% of languages: 2-4-4)
     e.g.,

PB		Kamba
mpígɔ̀	'kidney'	mbiɔ
montò	'person'	mondo
ŋkiŋgɔ̀	'neck'	ŋgiŋgɔ

ii) <u>Nasal devoicing, stop aspiration, followed by either loss of
     stop or loss of nasal (and deaspiration)</u> (36% of languages:
     2-3-5)

That is:

$$*N\underset{\circ}{S} \text{ to } \underset{\circ}{\overset{\circ}{N}}\underset{\circ}{S} \text{ to } \underset{\circ}{\overset{\circ}{N}}\underset{\circ}{S}^h \begin{cases} \nearrow \underset{\circ}{S}^h \text{ to } \underset{\circ}{S} \\ \searrow N^h \text{ to } N \end{cases}$$
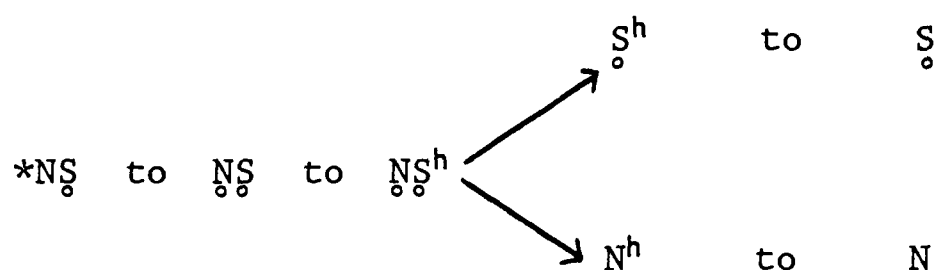
We illustrate this by a single word, with the more common
results:

PB <u>montò</u> 'person'; Pokomo <u>munt^hu</u>; some Swahili speakers <u>mt^hu</u>;
other Swahili speakers <u>mtu</u>; some Luguru speakers <u>mun^hu</u>; other Luguru
speakers <u>munu</u>.

Both i) and ii) above have occurred sporadically over a long
time period down to the present, and there is evidence that both
can diffuse across adjoining languages and dialects.

2.6. Instability of nasal preceding spirant (61% of languages: 1-
      7-2)

This necessarily follows Bantu spirantisation (2.1. above), as
it is Bantu spirantisation that produces spirants. Loss of all
nasals occurs in 35% of the survey languages; loss of some nasals
affects 26%. This depends on point of articulation, voicing (it
is more common before voiceless spirants), etc. Examples (although
all the examples show word-initial nasals, loss of nasal also occurs
in all other appropriate contexts):

PB		Malela	Giryama	Daßida
ntùŋgɔ̀	'genet'	emfuŋgɔ	fuŋgo	-
mpígɔ̀	'kidney'	?	figo	fighó
mbùlà	'rain'	emvula	Swahili mvua	vua
nsúí	'fish'	enswi	(archaic Swahili swi)	-
ŋkìŋgɔ̀	'neck'	?	siŋgo	siŋgo
ŋgìgɛ̀	'locust'	enzijɛ	nzije	zighe

Such nasal instability is most obviously recent and diffusional,
but in a few cases may be inherited. Deletion of nasals before
spirants here is very similar to developments in Old English (compare

English <u>soft</u>, <u>mouth</u>, <u>five</u>, <u>us</u>, <u>tooth</u>, with their cognates in other Gmc and IE languages).

2.7. Lenition of non-prenasalised */p/ (59% of languages: 3-2-5)

(See Gamkrelidze 1978, who considers /p/ to be a marked consonant, and Maddieson 1984:31 ff).

Lenition of */p/ appears to be best explained by a schema such as

$$*p \text{ to } \phi \nearrow\searrow \begin{matrix} h \text{ to zero} \\ \\ \ss \text{ to } v \end{matrix}$$
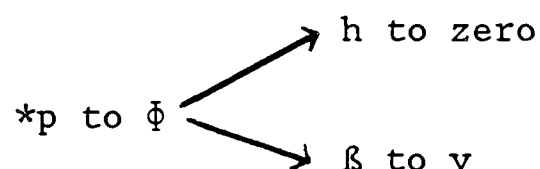
in which [φ] is the weak link/unstable element, as it is rarely attested. In some languages there is no evidence of an intermediate stage between [p] and [h]. Examples are:

> PB <u>-péta</u> '(sur)pass' ; Swahili <u>-pita</u>; Pokomo <u>-φiha</u> : Gikuyu <u>-heta</u>: Saghala <u>-ita</u>; Comorian (Ngazija) <u>-ßira</u>; Comorian (Nzwani) <u>-vira</u>.

The commonest result of p-lenition in eastern Africa is [h]. P-lenition follows Bantu spirantisation. In some cases it is clearly inherited, in other cases it cuts across related languages and dialects and thus appears to be diffusional.

In the last two decades there has been much typological work on the relative 'strength' of consonants along the parameters of voicing, and place and manner of articulation: see discussion in Gamkrelidze (1978) and Maddieson (1984:31 ff). This also applies to the topics of sections 2.10., 2.13., and several of the minor processes in section 3.

2.8. 'Dahl's law' (53% of languages: 3-4-3)

This is a voicing dissimilation process whose original form was probably that in a sequence of two voiceless stops, the first was replaced by its voiced counterpart. Today the amount of possible variation in the process is considerable. In some languages the process has petrified, leaving only traces in stems; in others it affects prefixes (and even suffixes) actively. In some languages several obstruents are affected; in others only stops (predominantly

/k/) are affected. It is active in 32% of the survey languages and there are traces suggesting past presence in 21% of the languages. The following examples are taken from Taita, where the process is no longer active, and Gikuyu, where the process is active:

<u>PB</u>   <u>Taita</u>

-písa   'hide'   -visa   (cf. Swahili -ficha)
-pìka   'arrive'   -vika   (cf. Swahili -fika)
-kúpé   'short'   -vui   (cf. Swahili -fupi)
-ikóta   'be satiated'   -guta   (cf. northern Swahili -kucha)
mokósì   'chief'   mgosi

<u>Gikuyu</u>

-tɔk( )a   'boil'   -tɔɣɔta   (c.f. Swahili -tokota)

Underlying form /ka+kaa+ke+ko+eta/[ɣaɣaaɣeɣweeta] 'and so he (Class 12) will call you'

Dahl's Law is most easily interpreted as both inherited and diffusional (See Davy and Nurse 1982). Many of the forms of Dahl's Law are similar to what happens in Grassmann's Law in Greek and Sanskrit. When Dahl's Law was first described it was in fact (not quite accurately) expressed in terms almost identical to the formulation of Grassmann's Law.

2.9. 'Ganda/Meinhof's law' (53% of languages: 2-4-4)

This is a consonant assimilation process in which sequences such as *NCVN(C) are realised as NVN(C), e.g., (these forms occur in a number of languages):

/ŋgɔmbɛ/ 'cow'[ŋɔmbɛ]: /ŋgɔma/ 'drum'[ŋɔma]: /ndeme/ 'tongues' [nːeme] or [neme]

The contexts for this process vary considerably. In some languages it plays a considerable role in morphophonemic alternations today, in others it is only present in relic form. Our data did not allow us to distinguish clearly between languages with morphophonemic processes and those with traces. It is certainly inherited, but may also be diffusional (See Johnson 1979).

2.10. Lenition of non-prenasalised *B

It is difficult to discuss this form of lenition for three reasons. First, the value of the proto-segment */B/, when not

prenasalised, is unclear. Second, we are not sure in all cases of
the exact phonetic value of the reflexes of /B/. Third, there is
somewhat ambiguous and controversial evidence about the direction
or directions that this form of lenition has taken. Given this
situation, it is simplest to list the reflexes of */B/ in order of
statistical frequency, and to suggest a possible scenario.
Approximate frequencies of the reflexes of */B/ are: [ß] 54%, [w]
19%, [v] 13%, [b] and [ɓ] 7%, zero 7%. An obvious scenario of
lenition is: [ß] to [w] to zero. It is not clear where [v] (change
of place), or [b] or [ɓ] (change of manner) fit in this scenario.
There is no reason other than systemic to assume either [b] or [ɓ]
for PB. In the few languages where they do occur, they are not
infrequently in free variation with [ß], or are word-initial variants
of /ß/ (or /w/).

In 34% of the survey languages, assimilation of the labial
occurs to a following rounded vowel: thus before [u, o], [ß, v]
are realised as [w], or [w] as zero. Lenition of /B/ seems to
have been occurring over a long time period.

2.11. Neutralisation of inherited contrast in vowel length (43% of languages: 3-1-6)

PB had not only short vowels, but also allowed sequences of
(at least) identical vowels, often realised as long vowels: evidence
for sequences of non-identical vowels is ambiguous. Sequences with
/i, u/ as the first element were most likely interpreted as glide
plus vowel. 43% of the sample have neutralised the length contrast
in favour of short vowels.

Changes in vowel length are frequent in natural languages,
but are often, at least initially, context-sensitive. There is no
evidence within eastern Bantu languages that this neutralisation
of vowel length was ever context-sensitive, so we could assume it
was a case of vowel coalescence. See Maddieson (1984), chapter 8,
for discussion and an overview of the literature.

2.12. Loss of nominal preprefixal vowel (43%: 2-3-5)

E.g., *u-mu-zimu 'spirit' to mu-zimu

Whereas in all Bantu languages a nominal class prefix is
present, a not inconsiderable number also have a preprefix, most
often of the shape /V-/, where the V is usually a copy of the prefix
V. It has been proposed (Greenberg 1978:47-82) that at one point
all Bantu languages may have had this preprefix, which represented
a range of syntactic/semantic functions. In the survey languages

there are some which retain it completely, some in which it may be present or not, depending on semantic/syntactic function, and others (43%) which have lost it totally, its role having been taken over by other operators (e.g. demonstratives). Thus the loss of this preprefix is not a strictly phonological matter.

Loss of the preprefix appears to have been relatively recent in most of the survey languages and to have been related to intra- and inter-language factors.

2.13. Lenition of non-prenasalised */G/ (43% of languages: 2-4-4)

In almost all the languages which have undergone this lenition, it follows the path [g] to [ɣ] to zero. In a couple of languages there is some evidence to suggest the possibility of an [h] stage before zero. In approximately 5% of the languages, /G/ has apparently strengthened to /k/: this however appears to be not a phonetic process, but rather to relate to a restructuring of the consonant inventory (see section 3.8 below).

The geographical distribution of [ɣ] suggests that once lenition has started, it may diffuse across language/dialect boundaries. Gamkrelidze (1978) considers /g/ to be a marked segment.

2.14. Devoicing of spirants (39% of languages: 3-2-5)

This necessarily follows Bantu spirantisation. In 12% of the survey languages, all voiceless spirants (whether originally voiceless, or resulting from this devoicing of voiced spirants) reduce to /h/, then to zero. There are a few languages showing some words with voiceless fricative, other words with /h/, and a few languages with /h/ in some words but zero in others. This supports the claim of a general direction: voiceless spirant > h > zero. Examples are:

PB	Swahili	Kisi	Mpoto	Rufiji
mBúlà 'rain'	mvua	fula	hula	ula
makúta 'oil'	mafuta	mafuta	mahuta	mauta
-lìBa 'stop up'	-ziba	-siva	-hiba	-iba
-cɔ̀ni 'shame'	soni	soni	ihyoni	oni

The evidence suggests that devoicing of spirants, reduction to /h/ and to zero are all in some cases inherited, in other cases recent and diffusional. There is also evidence to suggest that reduction to /h/ and zero proceeds word by word.

Reduction of /s/ to /h/ is attested quite widely outside Bantu, e.g., in older Greek and in Japanese. Loss of /h/ is even more common. On the other hand, devoicing as a general process tends to be context-sensitive. Although this may have originally been the case with those of the survey languages that devoice spirants, the context is now no longer apparent.

2.15. Lenition of non-prenasalised */B, G/ (30% of languages: 2-3-5)

See 2.10. and 2.13. above, for details.

2.16. Lenition of non-prenasalised */p, B/ (28% of languages: 3-2-5)

.See 2.7. and 2.10. above, for details.

3.   Minor Processes

As already suggested, in most cases these are localised and relatively recent phenomena, and their geographical distribution suggests that, once started, they may have spread by diffusion.

3.1. Loss of non-prenasalised */l/ (15% of languages)

In most cases this is partial, that is, it occurs before some vowels (most commonly non-front vowels) and not before others. In some cases it is total, taking place before all vowels. There is evidence from a few languages to suggest that [y] is an intermediate stage between [l] and zero. Examples are:

PB	Upper Pokomo	Lower Pokomo	Southern Swahili	Northern Swahili	Shambaa and/ or Bondei
-làpa 'swear'	-laɸa	-yaɸa	-apa	-apa	-aha
-lɔ́mba 'ask'	-lomba	-yomba	-omba	-omba	-ombeza
loßàlu 'rib'	lußavu	yuwavu	ubavu	uwavu	ubavu
-lɛ́ɛ́ta 'bring'	-lerha[6]	-yeha	-leta	-eta	-eta
-lèpa 'pay'	-liɸa	-iɸa[7]	-lipa	-lipa	-iha

3.2. Lenition of non-prenasalised /t/ (12% of languages)

This is a localised phenomenon and does not always appear to follow the same path. One obvious direction is: */t/ to [d] to [r] to [h] to zero. There are several problems here. The most salient are: (i) the occurrence in some languages of voiceless alveolar spirants as reflexes of */t/; (ii) a range of phonetic variants of [r] - trills, flaps, etc.; (iii) the possibility that [r] might precede [d] in the suggested scenario. The geographical distribution suggests that, once started, this form of lenition can spread by diffusion. There is one case of h/zero with pronounced nasalisation of the adjacent vowels (possibly a spontaneous nasalisation), and one case of */t/ to (affricate) /c/ - which however is the result of a restructuring of the consonant system (Nurse 1985). Examples (as the nature of surrounding vowels plays no visible role here, just one word, with two different vowels, is exemplified):

PB	Swahili	Daßida	Comorian	Upper Pokomo	Duruma	Digo
-táto 'three'	-tatu	-dadú	-raru	-rharhu	-hahu	-hahu or -ãũ

3.3. Lenition of non-prenasalised */k/ (12% of languages)

The only two outcomes of this are [x] and [h]; see also 3.8. following.

Note that the implication of 2.7., 3.2., and 3.3. is that in this geographical area /p/ is the weakest of the three voiceless stops, and that /t, k/ have approximately the same strength. In any language in which /t/ is weakened so also is /p/: there are no exceptions to this. In most languages in which /k/ is weakened so also are /p, t/: there are three exceptions to this.

3.4. Split of non-prenasalised */l/ into allophones [l] and [r], ultimately into /l/ and /r/ (11% of languages)

This appears to be a spontaneous development occurring in geographically separate languages. In nearly all cases the appearance of [r] is associated with a following or preceding front vowel.

3.5. Lenition of */B, l, G/ (voiced oral consonants) (11% of languages)

For details, see 2.10., 2.13., 2.15., 2.16., and 3.4., preceding. In these languages /l/ is more resistant to lenition or loss than /B, G/, and voiced consonants are more likely to lenite as a series than their voiceless congeners (see 3.8. below).

3.6. Tones replaced by (penultimate) stress (10%, but data for 6% ambiguous)

As already suggested, fully active tones and penultimate stress seem to represent the two extremes of a spectrum. Between the two lies a range of other possibilities, such as languages with both 'tone' and 'stress', many languages with restricted tonal systems and others with pitch accent[8]: facts and details of development are unclear in many cases. It is also not clear why systems with penultimate stress should have apparently evolved separately in geographically discrete areas. (See Clements and Goldsmith 1983 for discussion and analyses of specific languages.)

3.7. Lenition of non-prenasalised */p, t/ (8% of languages)

See 2.7. and 3.2. preceding.

3.8. Very minor phenomena

These are processes which occur in 5% or less of the survey languages, but in more than a single language. They are simply listed, without exemplification or percentage of frequency in most cases.

i)   Shift of non-prenasalised */G/ to /k/.

     This occurs only in languages which have undergone the
     shift of /k/ to /x, h/: see 2.13. and 3.3., preceding. In

2.13., it is suggested that this seems to represent part of
a restructuring of the consonant inventory.

ii)   Dentalisation.

    This is replacement of non-dentals (alveolars, palatals)
by dentals. In some cases a whole series is affected, in
some cases a single segment.   There are also cases of a
dental series being borrowed.   (See Nurse 1985).

iii) Lenition of the voiceless stops */p, t, k/.

See 2.7., 3.2., and 3.3., preceding.

iv)   Creation of syllabic nasals through */muC../ to /MC../.

    It is not clear exactly how many languages/dialects are
affected, but it results from loss of (rounded/labial) /u/
after (labial) /m/.

v)   Strengthening of [+continuant] segments to [-continuant].

    This creates stops (predominantly geminates or implosives)
out of spirants, semivowels, and liquids, and is always
associated with the presence of a preceding high front vowel,
which is itself lost in the process.[9]

vi)   Rhotacisation of [nd], that is, [nd^r] from [nd].

This occurs only in some dialects of three languages and in
all three cases it occurs after other processes have created
another sequence of nasal and voiced apical stop: in two
cases *[nt] > [nd] (see 2.5.i) and in the other case [nz] >
[nd̪] (see 3.8.ii).   It thus appears to be a strategy to
prevent the reflexes of older */nd/ falling together with
the new sequence.   For pull- and push-chains, see King 1969.

vii) Monophthongisation of /wa, we/.

    This creates [o] or [o:] out of sequences of /we/ or /wa/.

viii) Other minor vowel phenomena.

    These most frequently take the form of lowering word-
initial high vowels (u, o) to mid vowels (o, e), or of raising
final mid vowels to high (or vice versa).

ix) <u>Labiovelarisation</u>.

 This is a process whereby sequences of /kwV/ and /gwV/ become [k͡pV] and [g͡bV]. Sequences of /mwV/ are less clearly affected, giving [m͡ŋV].[10]

x) <u>Loss of nasal in prenasalised sequences of nonsyllabic nasal and voiced stop</u>.

 In the two (discrete) languages where this occurs clearly, it appears to be in response to a substratum influence.

xi) <u>Phenomena affecting sequence of syllabic nasal and consonant</u>.

 After the creation of syllabic nasals through */muC../ to /MC../ (see just above), a number of languages then undergo a variety of forms of assimilation of nasal to stop or vice versa.

xii) <u>Phenomena affecting sequences of nonsyllabic nasal and voiceless stop</u>.

 Apart from the general assimilation of nasals to following oral segments mentioned in 1.3., above, there are two very minor processes both of which occur in just a couple of languages. One results in /ŋ/ from */mp/, the other results in /h/ or zero from */ŋk/. Dialect evidence for the latter suggests: /ŋk/ to [ŋ̥k] to [ŋ̥kʰ] to [kʰ] to [h] to zero.

4. <u>Processsess Not Addressed</u>

 In section 1.3., a number of problems associated with */s, z/ were mentioned. Firstly, their phonetic nature in PB is disputed, and, secondly, they show a range of reflexes which cannot be solved adequately without first resolving the question of the phonetic quality of */s, z/ and without very lengthy discussion. They have therefore not been dealt with in this paper except in so far as they are affected by processes affecting other consonants (e.g., 2.1., 2.5., 2.6., 2.14.).

5.   Conclusions

    It should be recalled that my intention, as set out in the
Introduction, was not to discuss the phonological implications
(however interesting they might be) for specific languages of the
processes outlined above, but rather to set out their relative
frequency and outline their nature. Nevertheless, the occurrence
and interaction of the processes have dramatic results for the
languages involved. Thus, for instance, languages which underwent
Bantu spirantisation saw a considerable increase in their consonant
inventories (Pokomo, a spirantising language, has today a consonant
inventory of well over 30 units, whereas Gikuyu, a non-spirantising
language, has only a dozen or so). And there is an apparently
direct connection between several of these processes. Languages
which underwent Bantu spirantisation and increased their consonant
inventories have also mostly been subject to neutralisation of
vowel quality and quantity, thus largely reducing their vowel
inventories and contrasts; on the other hand, virtually all the
languages which did not undergo these processes - thus retaining a
relatively small consonant inventory - also kept a full set of
seven vowel contrasts, both long and short. The processes which
have had the most far reaching effects are: Bantu spirantisation,
changes in vowel quantity and quality, phenomena affecting nasal
plus obstruent, Dahl's Law, spirant devoicing, and various kinds of
lenition, especially in languages where lenition has affected classes
of consonants.

    My explicit aim was to determine the relative frequency of
the processes discussed. Having done this, it would then be possible
to come to two conclusions. One would be to point out parallels
between these processes and better known phenomena in, say, Indo-
European. So Dahl's Law (DL), a voicing dissimilation process, is
not dissimilar to Grassmann's Law (GL), an aspiration dissimilation
process (see Collinge 1985:47-58, 279-281). Bantu spirantisation
produces results comparable to the results of the First Sound Shift
for Germanic languages (assuming the traditional formulation of
PIE consonants); and the various kinds of lenition and strengthening
(3.8) are paralleled by similar processes in the early history of
Celtic. A second conclusion would be that our thinking about
diachronic processes tends to be straight-jacketed by long exposure
to IE facts. Even the most recent texts on historical linguistics
(e.g., Hock 1986), while purporting to be talking about general
diachronic processes, are really talking about IE mainly. This
can be dramatically expressed by comparing GL, well known, with
DL, little known. GL initially affected just two languages; it is
not clear how many languages were initially affected by DL, as the
East African evidence shows it present in all or some members of 7
of 10 subgroups of languages. Traces of GL are found only in those
languages deriving from Sanskrit and Greek, whereas over 50 languages

in East Africa alone have traces of DL. In Greek at least the
modern reflexes of GL occur in very few productive morphophonemic
alternations. In those Bantu languages where DL is active it affects
many dozens, if not hundreds, of lexical items, and often plays a
role in regular morphophonemic alternations. To claim that
Grassmann's Law is interesting because it forms part of a parcel
of interlocking processes is no justification since the same holds
true of Dahl's Law. This judgement is a little hard on the writers
of these texts, as they, like the rest of us, tend to know a few
areas well personally, and to rely for the rest on the work of
others. And published texts dealing with phonology tend to be
concerned with theoretical issues, presenting only a limited range
of data to illustrate these issues. It is almost impossible to
find a text which pretends to be comprehensive in its coverage of
processes in the world's languages: even books such as Greenberg
(1978), which includes the term 'Universals' in its title, are
quite restricted in what they present. I would hope that this
article would go some distance to a greater awareness of less
familiar processes.

FOOTNOTES

[1]In Guthrie 1971, which provides the conventional numbering
system, they are: D60; all the languages of Zones E, F, G; M10;
M20; M30; N10; P10; P20; P30.

[2]As far as the present survey is concerned, the major areas of
uncertainty were:
  i. Number of vowels - with one or two exceptions, all the languages
covered had seven or five qualitative vowels. In most cases, we had
no trouble deciding on five vs. seven vowels via a number of test
items. In a few cases we were uncertain and/or other descriptions
available showed a different number of vowels.
  ii. Vowel length - all the languages either kept the inherited
contrast in length or neutralised it to V. In most cases, via a
set of test items, this was clear. In a few cases it was not clear.
A very small number of languages which lost the inherited length
contrast created a new length distinction.
  iii. Suprasegmentals - we made a gross distinction between languages
with 'tones' and those with '(usually penultimate) stress.' This

distinction needs refining, to include those languages with both tone and stress, pitch-accent, and a variety of tonal systems.

iv. <u>General phonetic accuracy</u> - we strove to register phonemic distinctions, with the possible result that some phonetic detail was overlooked. For present purposes, we may have overlooked certain apical (alveolar vs. dental) distinctions, and certain palatal (true palatal vs. palato-alveolar) distinctions.

v. <u>/l/ and /r/</u> - most of the languages surveyed have /l/ or /r/; a few have both /l/ and /r/, and a very few have more than one phonemic /r/. We did not record phonetic detail for most cases of /l/ and /r/.

vi. <u>Voiced bilabial or labio-dental fricative/continuant</u> - there is considerable inter- and intra-language variation with these segments. We were mainly interested in phonemic distinctions and may have overlooked some phonetic detail here.

[3]Details of the overall system within which these two tones operated have not been conclusively worked out.

[4]The 10 subgroupings are: Central Kenya; Chaga-Taita; West Tanzania; North East Coast (= Pare, Sabaki, Seuta, Ruvu); Southern Highlands (= Njombe); Corridor; Nyakyusa; Kilombero; N10-P10-P20; Lacustrine (D60-E10-E20-E30-E40). (See Nurse 1982:205-207).

[5]There is little data on which to base statements about how Bantu spirantisation affected */s, z/, but they seem to behave as do */t, k, l, G/.

[6]Upper Pokomo <u>rh</u> represents a voiced, alveolar, rolled spirant.

[7]Apparently, Lower Pokomo [y] deletes before /i/.

[8]G. Phillipson is currently working on a typology of East African tonal systems.

[9]H. Paddock has suggested to me that this may represent assimilation of degree of constriction between consonant and adjacent vowels: that is, less constricted consonants (those which are [+continuant]) become more constricted (i.e., [-continuant]) following the most constricted vowels (i.e., [i] and occasionally [u]). The languages affected are Comorian, southern Swahili, and Ganda.

[10]H. Paddock has suggested that this can be regarded as assimilation of manner: plosive plus glide to plosive plus plosive.

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MORPHOSEMANTIC CATEGORIES IN CHINESE: AN INTERIM REPORT

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ABSTRACT

This paper applies the notion of the homoneme - a sub-morphemic semantic unit - to the morphosemantic analysis of Cantonese. A number of major morphosemantic categories and subcategories in Chinese are identified through analysis of monomorphemic lexical items. The morphosemantic approach adopted is related to the 'sheng-xun' branch of traditional Chinese linguistics.

1.   Another Look at the Homoneme

There has been a gap of more than a decade since the first of the present authors proposed a sub-morphemic semantic element: the HOMONEME. This work (Lord 1970a) was based purely on a small-scale analysis of the English lexicon. Both the results obtained and the conclusions reached were open to the obvious criticism of arbitrariness, even though little of that sort of criticism has been forthcoming.

It was perfectly evident that further analyses on other languages were needed, as well as empirical support. Because of the nature of this proposed sub-morphemic element, especially in its more interesting and productive form - the 'terminal homoneme' or terminal rhyming segment of the lexical item, otherwise known loosely as 'clang association' - none of the European languages known to the author could be used, owing to the presence of inflexion. The exception was French, which was considered too close to English to provide a solid test. Limited trial analyses of Russian and Hungarian, making use of the reverse dictionaries which had by the 1960s become available (e.g., Greve and Kroesche 1958, Papp 1969), showed some promise; these were not followed up, however, because of lack of a theoretical framework for subtraction of inflexion in either language.

The clearest test, it became evident, would be offered by the Chinese language, a language virtually without inflexion and not remotely connected with English. Also, even in its lexical

compounds, Chinese offers a relatively small selection of syllable terminations. This offered the prospect of a fairly rigorous test of the morphosemantic theory of the homoneme, which posits a range of sub-categories grouped into major semantic categories.

Further advantages of selecting Chinese were considered to be these:

(a) The Chinese writing system itself incorporates a morphosemantic element not unlike the terminal homoneme - the phonetic or 'right radical' - into the majority of written characters. Although rhyming assonance has suffered from the erosion of language change over time, it nevertheless seemed that it would be possible, though at a much later stage, to test homoneme theory against the Chinese writing system.

(b) An independent advantage was the non-congruence with the Chinese writing system (which is based on Northern Chinese) of a major southern dialect like Cantonese. A separate analysis could be made using Cantonese only, whether in its unrelated or in its etymologically archaic spoken forms; or in those forms that may be lexically confused with, but are phonologically distinct from, the forms of written Chinese.

(c) It also became evident that an empircal test could be devised which would elicit from a variety of Cantonese users what they considered to be the written versions of colloquial expressions in Cantonese which have no standardised written form. The results could then be compared against the hypothesis.

The initial impetus for the present study came from W. Terrence Gordon's 1978 article 'Morphosemantics: A neglected chapter in linguistics.' A second impetus came from collaboration between Lord and Chang; for without the latter's well-developed interest in Chinese lexicology, and extensive knowledge of the language, this study would not have been possible. It is expected, however, that it will take a few more years to complete the analysis: no empirical testing has so far been carried out, and the analysis of the written language lies in the future. Even the analysis of Cantonese has so far been based only on monosyllabic items and colloquial compounds. The availability of word-processors with practicable Chinese data-bases will no doubt speed things along.

2.   The Homoneme as Such

The homoneme was proposed as a structural element of the lexicon. Unlike the phoneme and morpheme, the homoneme was not seen to form part of any hierarchy of levels, but was viewed strictly

as both a formative and stabilising factor in the lexicon, that is, a separable though not independent domain of language structure.

The homoneme has first, however, to be distinguished from the phonestheme (see Householder 1946), since this concept implies phonesthesia, and the wider panoply of sound symbolism. The theory behind the homoneme does not preclude sound symbolism, but is in no way informed by it. Nevertheless Householder's definition of the phonestheme as (1946:83): 'a phoneme or cluster of phonemes shared by a group of words which also have in common some elements of meaning or function' is not in conflict with the present authors' even more structuralist definition of the homoneme as: 'a sub-component of a word such that it is a function both of lexical forms and lexical meanings (lexico-semantic categories)' (Lord 1970a:27).

To put it more simply, a homoneme is a sub-morphemic element or section segment of a 'word.' This element segment may be initial or final. The homoneme thus brings into semantic relation to each other those words which contain the same initial or final segments. The homoneme is in this way a paradigmatic sorter of word meanings, and at the same time a sub-lexemic carrier of identifiable sense. The total number of homonemes will be considerably smaller than the total vocabulary. A 'word' or lexeme will thus be seen to be a conjunction of two, sometimes more, homonemes (initial and final). Its polysemy is in this manner stabilised, since each polysemantic difference of sense is structured paradigmatically and guaranteed at least temporarily by as many different homonemes. Conversely, synonymy and antonymy are maintained in a comparable manner. There is thus an analogy (an analogy only) between the homoneme and word-form/lexeme on the one hand, and the phoneme and morpheme on othe other. The relatively small number of homonemes in a language compared with the total vocabulary makes for great economy and easier vocabulary learning and use, just as a relatively small number of phonemes combine in many different ways to form an indefinitely large number of morphemes.

It was argued back in 1970, by the first of the present authors, that a homoneme is not strictly congruent with a phonemic segment of a morpheme, although for practical purposes it can most often be said to be ostensibly identical to such. Homonemes can be shown to group themselves in ways that transcend phonemic/morphemic taxonomy. In English, the syntagmatic boundaries of homonemes appear to be more fluid and less specifiable than those of the classical phoneme or morpheme (the 'elastic boundaries' of Bolinger 1950). Moreover, in English it could be shown that a homoneme may at times comprise homonemes of shorter segment, or conversely may form part of homonemes of longer segment. Further, it appears

that in some cases morphemes can be treated as simultaneously
constituting homonemes.

For example, the terminal - er in jumper could be morphemic,
signifying 'one who jumps' or it could simply be a terminal homoneme
without morphological status, as in 'a loose-fitting garment worn
over a dress.' The latter cases were identified as quasi-morphemic
homonemes, their special interest being that they can function
also as normal terminal homonemes, as in trouser, pullover, etc.

It has long been an established fact that words of similar
sound develop, over time, similar meanings by paronymic attraction.
Pierre Guiraud was able to develop a framework of morphosemantic
fields, embracing the synchronic and diachronic dimensions of
language. The complex interaction of sound and sense showed up
most startingly of all in his study of around 2000 words in French
related on formal or semantic grounds to 'cat' (Guiraud 1966). As
is well known, Guiraud was eventually able to reduce this material
to about 300 words which would constitute the minimum semantic
field of the word chat.

The concept of the homoneme and lexico-semantic categories
simply takes further the findings of Guiraud, but in one particular
direction. The starting point was to take all English lexical
items sharing a common ending, to identify any semantic associations
between such items, and then to assign descriptions to any semantic
features thus identified. This process was repeated for further
endings. By this method it was found that, interestingly, the
semantic areas tended to be repeated, in some cases several times
by different endings. The investigation was far from being
exhaustive, as only a selection of seventeen endings was covered.

3.   Morphosemantic Categories in English

The semantic features arrived at in the first analysis, based
on one particular ending, were labelled sub-categories. The larger
categories into which these sub-categories appeared to fall were
called major categories. There is no space here to reproduce in
full the scheme of major categories arrived at for English based
on these 17 'terminal' homonemes (AUT, EIK, AN, ART, ASH, BL, ED,
EI, EIN, AID, IL, NK, OK, OW, CH, WER, UT) and an outline has to
suffice (see Lord 1970a:33-37 for further details):

STATE   :   (1)   State, condition
                                 (2)   Change of state
                                 (3)   State attained

ORIENTATION   :   (1)   Static orientation
                            (2)   Dynamic orientation
                            (3)   Reciprocal orientation

SPACE   :   (1)   Spatial configuration
                            (2)   Spatial orientation
                            (3)   Space traversed or encompassed

TIME   :   (1)   Period
                            (2)   Anticipated

TERRAIN

WATER

COLOUR

MOVEMENT

SOUND

APPEARANCE

TAXONOMIC   :   (1)   Species
                            (2)   Configurations, wholes
                            (3)   Parts

MEASURE

QUALITY, NATURE   :   (1)   In person
                            (2)   In thing

HUMAN ACTIVITIES   :   (1)   Craft, skill
                            (2)   Religious
                            (3)   Pleasure, entertainments
                            (4)   Eating, culinary
                            (5)   Agriculture
                            (6)   Speech, utterance

Quite obviously, these 'major categories' had to remain to a
large extent provisional, their residual arbitrariness having given
ground for concern all along, especially in earlier investigations.
On the other hand, as will be seen, these 'categories' have been
found to recur, to a surprising degree, in Chinese (Cantonese).
It is hoped that any residual Procrusteanism will in time be
eliminated by the development of more rigorous and refined
procedures.

In the meantime, a tidied-up and improved ordering seemed
called for, and the right time for achieving this was immediately
prior to the morphosemantic analysis for Cantonese. The following
is the revised scheme proposed:

(1) STATE   : (A) State, condition
                           (B) Change of state
                           (C) State attained
                           (D) Alternative state

(2) ACTION   : (A) Orientation towards others
                        : (B) Orientation towards objects/
                                situations

(3) MOVEMENT   : (A) Locomotion
                        : (B) Transitive motion
                        : (C) Intransitive motion

(4) SPACE   : (A) Spatial orientation
                           (B) Dimension
                           (C) Shape
                           (D) Spatial configuration
                           (E) Spatial containment
                           (F) Terrain
                           (G) Water

(5) TIME   : (A) As succession
                           (B) As duration

(6) SPECIES   : (A) Classification
                           (B) Human species
                           (C) Animal species
                           (D) Plant species
                           (E) Miscellaneous

(7) WHOLE/PARTS   : (A) Whole
                           (B) Divided
                           (C) Body parts

(8) QUANTITY   : (A) Number
                           (B) Degree
                           (C) Measure

(9) QUALITY   : (A) In persons
                           (B) Inherent quality
                           (C) Sensible quality

(10) HUMAN ACTIVITIES : (A)   Speech
                          (B)   Institution
                          (C)   Livelihood
                          (D)   Special skills/activities

   In STATE, a new categorization 'Alternative State' has been
introduced, since this appeared to be called for by the data. The
category ACTION has replaced, and is a further development of,
ORIENTATION TOWARDS OTHERS in the earlier scheme. SPACE now
comprises also TERRAIN and WATER, which were separate categories
in the earlier scheme. WHOLE/PARTS still has some of the ad hoc
appearance that it had earlier under the even less satisfactory
label TAXONOMIC; and it made good sense to isolate out SPECIES,
which in the present study has yielded a wealth of sub-categories.
The heading HUMAN ACTIVITIES is strikingly similar to that which
emerged in the smaller scale analysis of the English lexicon.

4.   The Advantages of the Homoneme in Morphosemantic Analysis

   The homoneme has at various times been claimed to have three
major advantages:

   (1) It provides a framework for explaining the morphosemantic
mechanics of loanword assimilation into a language (Lord 1970b,
for English).

   (2) The analytical procedure adopted offers an alternative,
though not necessarily superior, method to that of Guiraud for
explaining how new meanings emerge for particular items of the
lexicon.

   (3) The framework proposed offers a convincing explanation
of how the user of a language is able to operate within a reasonably
stable polysemy, synonymy, and antonymy, maintained in a state, as
it were, of morphosemantic equilibrium. What appears to happen is
this: (a) terminal homonemes bring together, through assonance,
groups of lexical items in such a way that they begin to develop
synonymic (or, alternatively though less commonly, antonymic)
relationships: e.g., chatter-patter, tunnel-funnel, sputter-
stutter, bang-clang, mother-smother, etc.; (b) terminal homonemes
find their common factor in a particular lexical item which, through
synonymy, serves to link it polysemantically with other lexical
items: e.g., BAT: bat-cat-rat (animal species); bat-mat (a tangled
mass); bat-slat (narrow strip of wood), etc. In this way a lexical
item can literally be seen as the intersection of synonymy/antonymy
and polysemy, an interaction brought about (within the framework
of Guiraud's champs morphosémantiques) by the action of terminal
homonemes.

5. A Preliminary Morphosemantic Analysis of Chinese (Cantonese)

The Chinese language, including Cantonese, one of its major dialects, contains a relatively restricted number of morphemes. Virtually all of these morphemes consist of a single syllable of the form CV(C), with superimposed tonality which varies considerably from dialect to dialect. The number of 'tones' in Cantonese is effectively seven (traditionally nine); Modern Standard Chinese (Mandarin) has four.

Virtually all monosyllables in Cantonese, as in Chinese generally, can be and are used as lexical items, though bimorphemic or polymorphemic words are and have been for centuries the most common, both in speech and in writing (whether in traditional 'literary' style or modern 'colloquial' style). All newly coined words in Modern Standard Chinese are polymorphemic, and the general trend from monomorphemic to polymorphemic is well established (Kratochvil 1968).

To date, our analysis has taken account in the main of monomorphemic lexical items, though at the same time we have borne in mind that the occurrence of such monomorphemes may in some cases be confined to polymorphemic lexical items. The study of polymorphemic lexical items and lexical compounds, except for a limited corpus of colloquial lexical compounds, remains still to be done. Also we have not at this stage thought it necessary to take account of 'homonemic' relations between lexical items in so far as their tonality is concerned, except to regard tonality as a marker of functional difference, especially where this is supported by difference in the writing system.

The stock of morpheme endings for Cantonese is relatively few, and can be listed as follows:

-it(-ɛt) -ɐt -at -ɔt -ut -œt -ÿt

-ik(-ɛk) -ɐk -ak -ɔk -uk -œk   -i -a -ɔ -u -œ -ÿ

-ip(-ɛp) -ɐp -ap   -ei -ɐi -ai -ɔi -ui -œÿ

-in(-ɛn) -ɐn -an -ɔn -un -œn -ÿn   -iu(ɛu) -ɐu -au -ou

-im(-ɛm) -ɐm -am

The endings so far analysed for this preliminary study are the following:

-ɐt -at -ɐn -an -ɔn -œn -iŋ(ɛŋ) -ɐŋ -aŋ -ɔŋ -œŋ

Following the conventions of the dictionaries consulted in this study, only six tones are used, and are indicated numerically. The numbers indicate the following tones:

(1) high level;   (2) high rising;   (3) high falling;

(4) low level;   (5) low rising;   (6) low falling

As with the analysis of English, terminal sound segments in Chinese have been found to be not always congruent with phonemes (or phoneme segments), and in the Cantonese lexicon are evidently treated as the 'same sound.' There is no particular problem about this as it can be shown diachronically that /e/ and /a/ were originally one sound. More interesting is that /ɔ/, at least in the investigated triad - eŋ/-aŋ/-ɔŋ , also belongs to this same 'homonemic' sound segment. Sometimes there are defective groupings: for instance, there is an -eŋ/-ɔŋ only grouping for sub-category 'Continuity.' The data analysed suggest that there might even be a rule of 'phonetic proportion' which might be explored through techniques derived from generative phonology. Most intriguing of all is the regular occurrence of 'homonemic' sound segments comprising a phonetic contrast, in particular -iŋ/-ɔŋ which of course has its counterpart in English ding-dong.

In the analysis so far carried out for Cantonese, the taxonomy adopted was somewhat different from that earlier used for English. The terminal homoneme groupings have been collected for Cantonese regardless of whether the homonemes form a single sub-category (most commonly in the form of a homoneme pair but also in threes and fours) or a group of sub-categories. Thus our terminal homoneme categories will include sometimes 'A' as well as 'B' types of the earlier study on English (see Lord 1970a), 'A' being a group of sub-categories and 'B' a single sub-category.

In the Cantonese study, antonymic relationships have proved to be even more prevalent than in the English sample, on occasion even to the point of symmetry.

The analysis so far has indicated that Cantonese Chinese terminal homonemes fall fairly readily into the regrouped major morphosemantic (in earlier publications called 'lexico-semantic') categories adopted in the earlier studies of English. The characteristic differences are those that in the main could have been predicted for Chinese and Chinese culture.

The most obvious case in point is that two separate categories under SPECIES (Miscellaneous) have had to be created for 'jade' and 'bamboo.' The structure of 'jade' vocabulary especially is

highly ramified in terms of homoneme sub-categories (no less than 6 different homonemes out of the number so far analysed subtend sub-categories). Under SPACE (Spatial configurations) we have sub-categories for carved objects and crack lines (such as those visible in shards or other man-made objects). There is also a surprisingly high number of homoneme sub-categories, brought together under the same major category, for 'rope/cord.' There is however a paucity of sub-categories (only one so far) referring specifically to the 'sea', or maritime occupations, though there are many for 'water' and 'navigation.' The latter may have something to do with China's traditional reliance on irrigation, and inland rivers and waterways, and less on sea-faring.

Again, no doubt as a result of China's traditional emphasis on kinship and ancestry there is a large number of sub-categories for 'kinship.' Though this may have nothing to do specifically with Chinese ethnology, there also turns out to be a significant number of sub-categories under 'spirit/ghost.' The 'Animal species' category, as in English, includes as part of its animal divisions sub-categories which include mythical as well as actual creatures. Rather surprisingly, there are several sub-categories (five in all) for chemical elements, mostly foreign loan-words. The 'human virtues' figure very prominently under QUALITY (in persons) - -en alone subtends 18 different monosyllable lexical items for virtues as such. Among HUMAN ACTIVITIES the most substantial categories are 'government' (including the imperial court) (4 sub-categories, compared with zero for English); 'military' (3 sub-categories, compared with zero for English); 'culinary' (7 sub-categories, with one category for wine -œŋ; also numerous in English); 'clothes' and 'textiles' taken together (11 sub-categories; as against zero in the English sample); 'pottery/utensils' (4 subcategories; again zero in English). The English sample yielded a special category for 'pleasure, entertainment'; not so Chinese, at least so far.

For some reason Chinese appears to have a number of homoneme sub-categories (at least six) for 'blockage/check,' as well as several for 'constrain' (= 'tie up'). Only one of the former and none in the latter shows up in the English sample. The occurrence of sub-categories for 'violence' however is comparable across the two language samples. Expressions of emotional or psychological state appear to be rather few in the English sample, but in the Chinese sample they abound. Also, in Chinese, there is a large number of homoneme sub-categories for 'order/disorder.'

6.   Morphosemantic Categories and Sub-categories in Cantonese

The following syllable terminations were exhaustively analysed:

-ɐt   -at

-ɐn   -an   -ɔn   -œn

-iŋ (ɛŋ)   -ɐŋ   -aŋ   -ɔŋ   -œŋ

It was hypothesized from the outset that -ɐt/-at, -ɐn/-an, and ɐŋ/aŋ would be able to be treated as single terminations, in that /ɐ/ and /a/ are derived from a common form historically. This hypothesis proved to be justified by the analysis. But it was found that -ɐŋ, -aŋ and -ɔŋ fall together also, and can be treated as a single homoneme. -œn, -œŋ and -iŋ on the other hand were found to be completely and identifiably separate homonemes, except for the chiming alternation overlap of -iŋ and -ɔŋ already mentioned, though in limited and usually single instances.

A separate card was made not only for each vocabulary item, both archaic and current, literary and colloquial, but also for each separate sense, in so far as these could be identified from the various dictionaries and intuitive resources available. In each case, examples and occurrences in compounds were also recorded. The cards were arranged according to termination, and gradually grouped into sub-categories, and thence into major categories.

From these 11 terminations, or 7 terminal homonemes, the following provisional picture of major categories and immediate sub-categories emerged:

STATE

A.   STATE, CONDITION

A.1. Situation

    Situation
    foundation
    order/disorder
    weather

A.2. Experience

    Experience
    endurance
    hardship
    complaint
    struggle

A.3. Vitality

    Life/death
    birth
    energy

A.4. Containment

    Storage
    concentration

awake/asleep
health/illness
negation/positivity

A.5. <u>Psychological/Emotional</u>   A.6. <u>Continuity</u>
     <u>State</u>

Emotion, expression of   Permanence/transience
tantrum, shaking   habit
surprise   sequence
excitement   repetition
annoyance

A.5. <u>Psychological/Emotional</u>
     <u>State</u> (cont'd)

apprehension
happiness/sadness
enjoyment/leisure
dazed
loneliness

B.   CHANGE OF STATE

B.1. <u>Change</u>   B.2. <u>Anticipation</u>

Change (of state)   Supposition
change (of direction)   expectation
turning/connecting point   fortune, luck
                                            chance
                                            advantage, opportunity
                                            suspicion

B.3. <u>Change of size, volume,</u>   B.4. <u>Causality, initiation</u>
     <u>shape, etc.</u>

Stretching   (No sub-categories, only
accumulation/decrease   major category).
expansion/contraction
constriction
spreading open
growth, reproduction
becoming

B.5. <u>Negative Change</u>

Loss
disorientation
catastrophe

C. STATE ATTAINED

C.1. Stasis

Stasis, stabilisation
peace, calm/disturbance
residue
full/empty

C.2. Result

Result
success/failure
target, goal
bring to a conclusion

C.3. Limit

Closure/no limit
predestined, fixed

C.4. Satisfaction

Satisfaction
proof
information

C.5. Negative State Attained

Consumed
broken
hopeless, in vain

D. ALTERNATIVE STATE

D.1. Alternative

D.3. Preference

D.2. Equivalance

Equivalence
reciprocity, copy
match/mismatch

ACTION

A. ORIENTATION TOWARDS OTHERS

A.1. Allocutionary Orientation

Address, allocution
beg, ask
invite, solicit
reaction, response
acknowledge, admit
criticism/praise
insult
praise, eulogise
disapproval, expression of

A.2. Reciprocal Orientation

Agreement/discord
competition/sharing
opposition/similarity
affinity/lack of affinity
marriage
collaboration
accommodating/hostile
give/receive
hospital/inhospitable
visit

A.3. <u>Supportive Orientation</u>   A.4. <u>Judgement</u>

    Guide, constrain/unchecked   Be at fault
    lead/follow   reward, award
    defend/attack   punishment
    rescue, assist   respect/disrespect
    guard, watch over   criticism (see also A.1.
    support/hinder   - a variant)
                                         praise (see also A.1.
                                          - a variant)
                                         admire

A.5. <u>Violence</u>   A.6. <u>Deceit</u>

    Use of force   Pretence
    robbery   deception, manipulation/
    harm, die unnaturally   sincerity
    damage/mend   concealment/openness
                                         corruption/integrity

<u>B. ORIENTATION TOWARDS OBJECTS/SITUATIONS</u>

B.1. <u>Restraint</u>   B.2. <u>Selection</u>

    Block, check/unchecked   Selection
    constrain, tie up/loosen   avoidance
                                         analysis

B.3. <u>Control</u>

    Rectification
    investigation
    revelation exposure
    testimony

MOVEMENT

A.   <u>LOCOMOTION (Human)</u>   B.   <u>TRANSITIVE MOTION</u>

    Locomotion (in general)   Manual movements
    walk   pull
    motion forwards/backwards   press
    journey   throw, eject
    carriage   expel/intake
    speed   catch hold of
    slow, delayed motion   step on
    leisurely pace/haste   dig
                                         detach, loosen
                                         crush, grind
                                         lift

C. <u>INTRANSITIVE MOTION</u>

    Bodily motion
    sudden movement
    lie down
    rise, ascend/fall
    plunge
    float
    shake
    rocking motion
    flopping motion
    impact
    lubrication

<div align="center"><u>SPACE</u></div>

A. <u>SPATIAL ORIENTATION</u>

    Location
    direction, orientation
    centre/periphery
    lateral
    horizontal
    vertical
    near/far
    level, layer

B. <u>DIMENSION</u>

    Short, low
    narrow
    long (see also 'short' above)
    thick

C. <u>SHAPE</u>

    Straight/crooked
    circular
    square
    curved
    spherical

D. <u>SPATIAL CONFIGURATION</u>

    Shaped objects
    strip, streak
    spinal structure
    corridor, alleyway
    coiled
    row, terrace
    kernel, knot
    handle, (n.)
    protuberance
    rope, cord
    carved object
    crack line, craze

E. **CONTAINMENT**

Container
shelter
enclosure (general)
hole, pit
aperture, opening
barrier, fence
boundary
curtain, screen
link, chain
crowded, tightly packed

F. **TERRAIN**

Open space/clearing
mountain
elevated, raised
mound
dam, dyke
shore, bank
path

G. **WATER**

Water, stretch of
sea, ocean
water flow

TIME

A. **TIME AS SUCCESSION**

Before
late
past/present
time of day
calendar

B. **TIME AS DURATION**

Duration
moment

SPECIES

A. **CLASSIFICATION**

Nominal classifiers
name
insignia
collective term

B. **HUMAN**

People
bad people
male/female
kinship
spirit, ghost

C. ANIMAL   D. PLANT

    Animal (incl. mythical)   Plant (general)
    airborne creature   weed
    insects and other small   edible plant
        creatures   flower
    aquatic creatures
    horse (-related)

E. MISCELLANEOUS

    Disease
    heavenly body
    chemical element
    jade
    bamboo

WHOLES/PARTS

A. WHOLE   B. DIVISION

    Whole/not whole   Division
    complete/incomplete   fragmented mass
                                       compartment
                                       example, sample
                                       share

C. BODY PARTS

    Body parts (in general)
    arm
    neck, shoulder
    eyes
    hair
    teeth

QUANTITY

A. NUMBER   B. DEGREE

    Numeral   Degree
    frequency/rarity   excess

C.   <u>LIVELIHOOD</u>   D.   <u>SPECIAL SKILLS, ACTIVITIES</u>

       Agriculture   Books, writing
       navigation   medicine
       culinary   painting
       cleansing, hygiene   musical instruments
       weaving: clothes   special skills (misc.)
                  textiles   understanding, cognition
       building
       pottery, utensils
       business, commerce

6.1   Characteristic terminal homonemes

       As with the analysis of the English sample, each morposemantic
sub-category was found to have its own characteristic morphosemantic
domains. The ones set out below are perhaps the most characteristic,
with no, or hardly any, tie-over to other homonemes and their sub-
categories:

<u>- t/-at</u>:

       <u>Preternatural</u> (a sub-category grouped under HUMAN ACTIVITIES/B.
                       INSTITUTIONS/Religion.)

         fat³   法   has 'tantric magic or ritual
                                       objects used by Taoist monks'
                                       as one of its meanings.

         bat⁶/bet⁶   魃   refers to 'evil spirits
                                       responsible for drought.'

         sat³   敍   means bad 'chi,' or bad energy.

         pui⁴ sat³   菩薩   is the transliteration of
                                       'boddhisatva'

         fet⁶   佛   is the Buddha (orig. a
                                       transliteration of 'Buddha'),
                                       archaic pronunciation is <u>bet</u>.

         het⁶   覡   is a literary word, meaning
                                       'wizard'

Hole (under SPACE/E.   CONTAINMENT/Hole)

fɛt[1]	窟	'cave, hole'
fɛt[1]	�窟	'anus'
dʒɛt[6]	朣窒	'vagina'
wɛt[6]	挏	'dig, excavate'
gwɛt[6]	挘	'dig, scrape'
gɛt[1]	刮	'poke a hole into'

Obesity (under QUALITY/A3.   NEUTRAL QUALITY/Obesity)

dɛt[1]	腯	'fatness'
ŋɛt[6]	朒	'fatness'
wɛt[1]	腽	'fatness'
(fei[4])dɛt[1] dɛt[1]	肥腯腯	is a reduplicated qualifier of fei = 'plump fatness'

Tightly Packed (under SPACE/E. CONTAINMENT/tightly packed)

(sɛt[6])	dʒɛt[1]dʒɛt[1]	實朳朳	s t means solid, and the whole group 'solidly packed.'
			Here we have a reduplicated intensifier.
(mɛt[6])	dʒɛt[1]dʒɛt[1]	密實實	'tightly (crowded) together'
(git[6])	d ɛ t[1] dɛt[1]	杰吣吣	'things in a gluey state'
wɛt[1]	dʒɛt[1]	屈實	'crowded, cramped'

-en/-an:

   Virtue (under QUALITY AI.   POSITIVE QUALITY/Virtue/lack of
virtue)

   In this case, we have a very large number of (synonym)
occurrences, all but one grouped exclusively under -n, and three
antonyms, all under -an in this instance (the latter are not included
here):

	ṭen¹	斌, 彬	'grace and cultivation (of a gentleman)'
	ben²	品	'(moral) character'
(arch.)	dʒen	禎	'receive blessing and grace because of one's genuineness'
	ṇen⁴	忝	'perserverance'
	yen⁴	仁	'benevolence'
	dʒen¹	真	'clear, true, genuine'
	yen⁵	忍	'endurance, to control an emotion'
	gen²	謹	'cautious, respectfully cautious'
	gwen¹ (dʒi²)	君(子)	confucian term for 'virtuous man'
	yen¹	慇	'diligently thorough and thoughtful'
	kwen¹	悃	'honesty, genuiness'
	hen¹	懇	'sincerity, reliability'
	ken⁴	勤	'diligence'
(arch.)	ken⁴	懂	'diligence, sincerity and application'
	wen²	穩	'stability'
(arch.)	wen¹	贇	'virtuous, good'

wɐn⁵	尹	'reliable, honest' (-<u>antonym</u> sa⁴sa⁴gwɐn² 沙沙滾)
yɐn	恩、	'gratitude'
wɐn² dʒɐn⁶	穩陣	'reliable, cautious'
gwɐn¹ dʒɐn¹	君真	'genuine, sincere (like a gentleman)'

<u>Change</u> (under CHANGE OF STATE/B.I. CHANGE/)

It is interesting to note that all the items so far collected for CHANGE - including change of state, change of direction, and turning point - are all under -<u>an</u>.

One of the meanings of the compound <u>bin³</u> <u>wan⁶</u> is 'change'
(變 幻)

Change of state:

fan¹	繙	'translate'
dʒan¹	濺	'sudden cold attack on hot objects'

Change of direction:

fan¹	翻	'turn about; change'
fan²	反	'turn around completely'
fan²	返	'to return'
wan⁴	還	'to return, restore to former condition'
pan³	盼	'look around'

Even <u>dan⁶</u> 'but' is an indication of 'change of direction' in a sentence.

<u>Crack line</u>   (under SPACE/D.   SPATIAL CONFIGURATION/crack
                      line, craze). All are -<u>ɐn</u>.

    mɐn[6]   墨   'a crack line on a vessel'

    gwɐn[1]   鞁   'skin cracks due to coldness or
                                 dryness'

    yɐn[3]   衅, 釁   'crack (in emotion or argument)'

    yɐn[3]   璺   'a crack (in tortoiseshell or
                                 pottery)'

<u>-ɔn</u>:

This homoneme has very few exemplars, and is a relatively infrequent
termination in Cantonese.

However there is one sub-category 'shore/bank' under which both
morphosemantic occurrences collected to date appear:

    gɔn[1]   干   'bank of a lake or river'
    ŋɔn[6]   岸   'shore'

<u>-œn</u>:

    <u>Target, goal</u> (under STATE/C.   STATE ATTAINED/Result/target,
goal)

    dʒœn[1]   臻   'to arrive at a goal'

    dʒœn[2]   埻   'bull's-eye of a target'

    dʒœn[3]   竣   'to have completed a project'

-iŋ(εŋ):

<u>Beauty</u> (under QUALITY/D. SENSIBLE QUALITY/Visual/Beautiful/ugly)

	dʒiŋ⁶ or lεŋ³	靚	'beautiful, good-looking, make up'
	kiŋ⁴	瓊	'beauty, fineness'
(coll.)	siŋ²	醒	'smart-looking, showy'
	siŋ³	勝	'beautiful and exceptional'
	kiŋ⁴ or hyn¹	嬛	'fresh and pretty'
	tiŋ⁴	婷	'graceful, beautiful'
	piŋ¹ tiŋ⁴	婷婷	'description of graceful poise in girls'
	ziŋ¹	英	'beauty, elegance'
(coll.)	biu tsεŋ¹	標青	'outstanding, beautiful'
(coll.)	dʒεŋ³	正	'good-looking, good'
(coll.)	bak⁶ dʒεŋ⁶	白淨	'delicate' (skin)

<u>Enclosure</u> (under SPACE/E. CONTAINMENT/enclosure (general))

siŋ⁴	城	'a city'
siŋ⁴	宬	'imperial library'
kiŋ²	頃	'small hall'
tεŋ¹	廳	'a large room used for gathering'
tiŋ⁴	庭	'open yard, courtyard'
gwiŋ²	扃	'a latch or lock which closes door from outside'
tin¹dʒiŋ²(εŋ²)	天井	'enclosed courtyard'

tiŋ⁴	亭	'pavilion'
ga¹tiŋ⁴	家庭	'the communal yard shared by a family'
dʒiŋ²(εŋ²)	井	'a well'
dʒiŋ⁶	穽	'a well-shaped trap for catching animals; a trap in general'
liŋ⁴	囹	'jail'
(coll.) faˈtεŋ¹	花廳	'jail'
yiŋ⁴	籯	'trunk, case'

Marriage (under ACTION/A. ORIENTATION TOWARDS OTHERS/A2. Reciprocal Orientation/Marriage)

piŋ⁴	聘	'marital engagement; marriage of a girl'
piŋ¹	姘	'cohabitation outside marriage'
gwei¹ niŋ⁴	歸寧	'woman going home for a visit after marriage'
yiŋ⁶	媵	'female attendants accompanying the bride to groom's family; a concubine'
sɐu tsiŋ	守请	'to remain a widow/widower'

-ɐŋ/-aŋ/-ɔŋ:

Constriction (under STATE/B. CHANGE OF STATE/B.3 Change of size, shape, etc./constriction)

sɐŋ³	蹭	'chaff, rub'
sɐŋ³	擤	'to squeeze and blow the nose'

(coll.)	heŋ⁴	⌴ *	'tight' (of belt), 'full' (car-tire, sharp turn) (___ indicates that the syllable has no written form)
(coll.)	dʒɛŋ⁶	繒	'to bind together, bundle up'
(coll.)	mɐŋ¹	搰	'to tug, pull on something'
(coll.)	gɐŋ²	揯	'something stuck'
	kɐŋ²	骾	'to choke'
	maŋ¹ or baŋ¹	繃	'to bind and constrict'
	tsaŋ¹	撐	'full, stuffed full'
(coll.)	bao³ paŋ⁴	爆棚	'full-house'
(coll.)	dʒaŋ⁶	⌴	'to stuff full'

Repetition (same categorisation as for 'Permanence' above)

All item occurrences are under -ɐŋ or -ɔŋ

	tsɐŋ⁴	層	'repeatedly, again and again'
	gɐŋ³	更	'again, more'
	wɔŋ³ wɔŋ³	往往	'often'

-œŋ:

Curtain/Screen (under SPACE/E. CONTAINMENT/curtain, screen)

The items in this group are partial homophones.

	dʒœŋ²	帳	'a curtain, a drape, a cloth partition'
	dʒœŋ³	山章	'sharply rising mountain which looks like a screen'

dʒœŋ³   巾幛   'a curtain on which messages of condolence/congratulation are written'

6.2 Antonymous sub-categories

In English it was already apparent that terminal homonemes serve to relate together not only synonymous lexical items but also antonymous ones. This pattern is clearly very well-established in Chinese.

Some are simple antonym pairs, for example:

sœŋ⁴ yœŋ⁴   徜徉 ⎤   'to stroll freely and casually'
sœŋ⁴   徜   ⎦

hɔŋ¹ yœŋ⁴   劻勷   'hurried, rushed'

or

yœŋ¹   央   'centre'

gœŋ¹   疆   'boundary'

or

miŋ⁴   明   'in the open, not secretive'

bɛŋ³   凵   a colloquial word meaning 'hidden', 'to store away' (no written form)

or

mɛn⁵   敏   'alert, agile'

wɛn¹ wɛn¹
dɛn⁶ dɛn⁶   渾渾沌沌   'not alert, in a daze'

In some instances the sub-categories include up to or more than half the total number of items as antonyms, though this is rare. A good example would be:

-œŋ:

    satisfy/dissatisfy

hœŋ^2	饗	'satisfy'
sœŋ^4	償	'satisfy'
yœŋ^3	怏	'dissatisfied'
tsœŋ^3	悵	'disappointment, sense of loss or sadness'
(coll.) tsœŋ^1 dʒœŋ^3	吹漲	'to give up in frustration'

Most often the antonym is a minority occurence within a sub-category. There are many examples. Typical is:

-œn:

    motion forwards:

dʒœn^3	進	'advance, move ahead'
sœn^6	順	'to go in the same direction'
lœn^4	輪	'to follow in order'
dʒœn^1	逡	'retreat'
dʒœn^1 tsœn^4	逡巡	'oscillating, not advancing'

6.3 Homonemes across categories

Many homoneme sub-categories are distributed across several different homonemes.

It is too early to try to establish what particular pattern of semantic or functional difference is indicated, and no doubt a larger number of terminations needs to be analysed, including word compounds.

Animals, including airborne creatures, occur in significant groupings under all seven homonemes so far studied. Insects however

do not occur in -œn, -œŋ or -ɐn/-an, whereas <u>aquatic creatures</u> occur in only -œŋ and -ɔŋ.

    <u>Plants</u>, again, fall into all seven homonemes. But the 'weeds' as well as their opposite, the edible plants, are predominantly under -ɐn. For 'flowers' we have to look at -an/ and -iŋ.

    <u>Jade</u> occurs under every homoneme except -ɐt/-at.

    Some of the distributions found are symmetrical enough to warrant further investigation. For example, for the sub-category <u>big/small</u> we find:

<u>Big</u>		<u>Small</u>	
-ɐŋ	(3 occurrences)	-ɐn	(3 occurrences)
-ɔŋ	(6 occurrences)	-iŋ	(6 occurrences)

7.   <u>Morphosemantics in Traditional Chinese Linguistics</u>

    Morphosemantics seems to find a natural habitat in the historical study of the Chinese language. One important branch of Chinese traditional linguistics, 'sheng-xun,' in fact adopts a comparable approach to morphosemantics. This section is a brief account of 'sheng-xun' and its theoretical implications in the light of the present research.

    'Sheng-xun' literally means 'etymological investigation through the study of sound.' It seeks explanation for the original sense of words by means of semantically related homophones (or approximate homophones). Examples of its application can be found as early as Confucius' <u>Analects</u>, and it was used widely as a rhetorical tool by the early philosophers. In the 2nd century A.D., Liu Xi compiled a dictionary of etymology, <u>Shi Ming</u>, using the 'sheng-xun' technique.

    By far the most influential book in Chinese linguistics is the <u>Shuo Wen Jie Zi</u> (or <u>Shuo Wen</u> for short). As a dictionary it gave order to the Chinese lexicon by classifying words (logographs) under semantic categories (Xu Shen arrived at 540 categories). The category of a word (logograph) is actually indicated by a component (the classification-radical) that forms part of the logograph.

The theoretical achievement of Xu Shen is crystallized in his theory of the 'Six Scripts.' His concern was the written word and he made no attempt to trace language back to the spoken tongue. One of the strengths of his approach is the resolution of the semantic problem posed by the vast number of homophones in the language by concentrating on the logograph. Homophony is a real problem as the Shuo Wen already recorded 10,513 monosyllabic words while some linguists reconstructed the second century tongue differentiating only about 500 semantically significant syllable-types (this does not take into account the three, or four, tones for each type). But one question remains: how are homophones semantically ordered so as to be identifiable when they appear in speech, excepting of course the benefit of spoken context and word compounds? It was not until the 18th century that linguists had some success in resolving the seeming parting of the ways between sound and pictograph. The resolution was made by means of 'sheng-xun' scholarship.

In his Preface the author of Shi Ming wrote: 'Names relate to reality by categories of meaning. People use Names every day without knowing how Names came about, I have therefore taken various subjects, including even household utensils, to try to elucidate this.' Unfortunately he could not provide a general theory but showed his method by example only. A famous one is the entry for the word 'sky'; he noted that 'sky' is pronounced like the word 'lofty' in one region and like the word 'openness' in another, and drew a semantic relationship between these words by noting that they both indicate aspects of 'sky.' The assumption in that words which sould similar are also related in meaning.

The interesting thing about Shi Ming (the same can be said for early dictionaries of synonyms such as Er Ya and Guang Ya which Shi Ming drew upon) with an eye to the present research is the way chapters are organised. Each of its 27 chapters covers a 'category of meaning', such as 'kinship,' 'animals,' etc. and the choice of subject reflects an underlying affinity with morphosemantic categories posited by homoneme theory. However, the Shi Ming states its categories without commenting on how they were chosen, as though these were a priori cognitive categories. The Shi Ming approach can be interpreted as the homoneme approach in reverse. The homoneme approach examines words of the same phonetic element exhaustively in order to discover the morphosemantic categories that govern them; Shi Ming first states the categories and then looks for words that go with them. It would be a revealing exercise to take all

the words under a chapter of the <u>Shi Ming</u> and examine the sounds associated with that category.

A major advance in 'sheng-xun' was made in the 11th century by Wang Zi-shao with his 'Right Radical' theory. He noticed in dictionaries of the <u>Shuo Wen</u> tradition that although words are classified by the classification-radical (often placed physically on the left), the sense of the word is often provided by the radical on the right (the phonetic radical or the 'Right Radical'). A well-known example is the logograph for 'jian' - meaning 'little.' Used as a phonetic radical with the left radical 'water' added to it the new word means 'shallow water'; and with the left radical 'gold' it means 'money' (literally 'a little gold').

Improved versions of the 'Right Radical' theory have remained current until today, and the term is often used instead of 'sheng-xun.' The main weakness of the theory, as was pointed out earlier, is that it did not see the right radical as a purely phonetic marker, and in many ideo-phonetic words the meaning of the logograph used as the right radical has nothing to do with the sense of the word.

The great period of Chinese linguistics came with the boom of classical studies which started in the 17th century. The Qing Dynasty was a period in which phonology, philology and etymology all saw significant breakthroughs. The success in reconstructing archaic sounds through rhyming literature, ancient 'sheng-xun' notes and assonant-rhyming compound words changed many scholars' prejudice in favour of the primacy of the pictograph. Phonological research revealed laws of phonological change, adding to the tools of 'sheng-xun.' Even the great annotation of the <u>Shuo Wen</u> by Duan Yu-cai (1735-1815) made extensive use of 'sheng-xun.' Later, Zhu Jun-sheng (1788-1858) actually rearranged the <u>Shuo Wen</u> by rhyme, paying heed to earlier philologists' suggestions that the dictionary can be semantically ordered by rhyme. Another classic of Qing scholarship, an annotation of the 4th century dictionary of synonyms, <u>Guang Ya</u>, by Wang Nian-sun (1744-1832), made semantic investigations of logographs by studying their pronunciations. This latter is a masterpiece in applied 'sheng-xun' philology. Unfortunately it did not aspire to a general theory and many interpretations in the text are therefore necessarily poetical and fanciful.

In the first decades of the 19th century Huang Cheng-zhi published an essay called <u>Meaning of Words Comes from the Phonetic Radical on the Right</u>. This is an important piece of theoretical writing on 'Right Radical' theory and it rectified many old pitfalls.

Well into the first half of this century the 'Right Radical' theory continued to find enthusiasts in a many great scholars, among them Zhang Bing-Ling (1868-1936), Liu Shi-pei (1884-1919), Huang Kan (1886-1935), Yang Shu-da (1885-1936) and Shen Jian-si (1894-1947). One should also mention Bernard Karlgren who in 1933 wrote 'Word Families in Chinese,' using similar ideas.

Zhang Bing-ling made one important observation with regard to Huang Cheng-ji's theory. He accepted Huang's theory for words whose basis are the three 'Scripts' with phonetic connection (including ideo-phonetic words), but he contested the view that words with essentially pictographic roots should have a different origin. Zhang is basically a <u>Shuo Wen</u> scholar whose instincts refused to let him abandon either 'sheng-xun' or the logographs. His 'Primal Logographs' is an illuminating attempt at synthesising the two traditions.

One main shortcoming of the 'Right Radical' theory is that it cannot state categorically that 'all' the words with a certain phonetic segment ought to be related to one specific meaning category, as is implied by the theory. Shen Jian-shi pointed out that words of the same rhyme may fall under more than one category of meaning. This latter observation could have led to a theoretical synthesis akin in spirit to the present homoneme research, but Shen did not pursue this point further.

The one major handicap of the traditional linguists is that they were not linguists in the contemporary sense of the word. Few of them were interested in general linguistics outside of the scope of the Chinese classics. Most research stopped at the Tang dynasty at the latest, and no synchronic studies were carried out to test discoveries against the living tongue. On the other hand, these scholars' strength lay in grounding their work on meticulous textual proof; for a logographic written language - which means that certain aspects of the language are 'fossilised,' and therefore 'exochronic' to a large extent - etymological studies are essential to semantic research.

Homoneme theory was initially developed without awareness of the Chinese 'sheng-xun' tradition, and this has happened to be a happy confluence. Homoneme theory provides certain possibilities for synthesis and fulfilment of the implications of 'sheng-xun' ideas.

8.   Future Research

Several major pieces of work need to be done before we arrive at an all-round conspectus of Chinese morphosemantics. Given the necessary time and opportunity, our sequence would be as follows:

(A) To carry out an analysis of several more terminal morpheme endings in Cantonese. In order to maintain symmetry and minimal contrast with endings already analysed, we would choose the following: -ɔt, -œt, -ɐk, -ak, -ɔk, -œk, -ɐi, -ai, -ɔi, and -ɐu/-au. At the same time we will need to look more closely at the role played by tonality, if any.

(B) To conduct an extensive survey of genuine word compounds in Cantonese. Our analysis so far has included only a relatively small number of mainly colloquial compounds. This class of word promises to be of some considerable interest.

(C) To conduct an experiment to test the hypothesis that, when committing to writing morphemes which are unfamiliar or colloquial (and therefore not officially written), Cantonese speakers will be influenced by morphosemantic factors. (Morphemes of a colloquial nature which have acquired standard written form will be excluded).

(D) To analyse initial homonemes in Cantonese.

(E) To analyse Chinese writing morphosemantically. This may prove more difficult than expected. The writing system incorporates phonetic radicals (rhyme endings or assonant initials) to a very large extent, but the sound values have become 'frozen' at various historical periods. If a 'panchronic' model can be constructed satisfactorily, then it should be possible to test the degree of morphosemanticity inherent in Chinese writing.

(F) To consider possible applications, as yet only provisionally conceived.

(G) To explore the possible interface between (Western) morphosemantics and Chinese traditional linguistics.

(H) To attempt to postulate morphosemantic universals.

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REVIEWS

Bibliographie annotée de linguistique acadienne, Edward Gesner, (Publication B-155), Québec, Centre international de recherche sur le bilinguisme, 1986, 89 pages, $5.50 CDN, ISBN 2-89219-166-I.

L'étonnant essor que connaît, depuis plus de deux décennies, l'étude des parlers acadiens de l'est du Canada a rendu de plus en plus nécessaire une bibliographie complète de ce domaine important de la linguistique franco-canadienne. L'excellente bibliographie annotée qu'a fait publier Edward Gesner en 1986 au Centre international de recherche sur le bilinguisme de l'Université Laval vient à point nommé combler cette lacune.

Cet outil de recherche précieux, qui vise à l'exhaustivité, renferme les titres de 430 travaux (livres, thèses, monographies, articles de revue, communications, etc.) dont 312, en très grande majorité annotés, portent sur les parlers acadiens des Provinces Atlantiques du Canada. Les 118 autres, présentés sans annotations, traitent de l'acadien louisianais. Gesner les fait figurer aussi dans son ouvrage comme complément d'information destiné aux chercheurs qui s'intéressent aux deux grands ensembles de parlers acadiens du continent, en attendant la parution, prévue pour 1987, de la deuxième édition mise à jour de la bibliographie annotée du français louisianais de Larbi Oukada.

Gesner adopte une présentation à la fois thématique et chronologique des titres retenus. C'est ainsi qu'il regroupe dans une première catégorie tous les travaux portant exclusivement ou essentiellement sur la phonétique et la phonologie acadiennes, le premier signalé remontant jusqu'en 1893. Le deuxième ensemble d'études recensées traite de la morphologie et de la syntaxe acadiennes, le troisième examinant les apports des domaines de la lexicologie, de la lexicographie, de la sémantique et de la sémiotique à l'analyse de ces parlers. Viennent ensuite des titres consacrés à la dialectologie, à la sociolinguistique et à la géolinguistique acadiennes. Une cinquième catégorie regroupe des travaux où il est question d'acadien et de psycholinguistique, de bilinguisme, d'anglicisation ou de pédagogie. Dans une dernière section se trouvent réunis des travaux divers (études générales, folklore, ethnologie, bibliographie, etc.). L'ordre chronologique adopté à l'intérieur de chaque section permet de suivre le développement d'un domaine de recherche donné.

Si utile que soit l'exhaustivité visée, ce sont sans doute les annotations qui accompagnent les titres portant sur l'acadien de l'est du Canada qui constituent l'élément le plus instructif de ce répertoire. Assises sur une lecture manifestement très attentive des travaux retenus, ces annotations frappent presque toujours par leur clarté, leur cohérence et leur concision. Gesner possède sans nul doute le don de la synthèse. Du reste, si ses annotations ont le plus souvent un caractère plutôt descriptif que critique, Gesner met cependant bien en évidence les travaux les plus marquants de la linguistique acadienne, en en soulignant l'originalité et la valeur, sans pour autant négliger les limites et les insuffisances qu'ils peuvent aussi présenter. Par conséquent, quiconque désire s'initier aux analyses linguistiques de l'acadien de l'est du Canada peut bien se fier aux descriptions et aux jugements de Gesner afin d'identifier les travaux-clés en la matière.

Soulignons la rigueur et la concision que présente l'organisation de cette bibliographie, caractéristiques auxquelles s'ajoute une grande maniabilité. Les catégories regroupant deux ou plusieurs domaines de recherche sont structurées de manière très cohérente. De plus, l'économie de présentation qui provient du rattachement d'un travail à orientation multiple à la catégorie qui semble le mieux le caractériser ne s'accomplit pas au détriment de la clarté. En effet, un système de renvois à la fin de chaque section permet de situer aisément de tels travaux dans les différents domaines auxquels ils appartiennent.

Les classements thématique et chronologique des titres retenus se trouvent complétés par un index des auteurs et co-auteurs, ainsi que par un autre où figurent tous les travaux regroupés selon la région dont ils traitent, à savoir, la Nouvelle-Ecosse (97 titres), le Nouveau-Brunswick (98 titres), Terre-Neuve et le Labrador (36 titres), le Québec (9 titres), les Iles de la Madeleine (11 titres) et la Louisiane (128 titres), certains des 430 travaux portant sur plus d'une région.

Les nombreuses qualités de cette bibliographie font regretter quelques insuffisances et certaines erreurs d'inattention que l'on y remarque. Il arrive que Gesner fasse l'économie d'une annotation, ayant jugé le titre de l'étude suffisamment explicite pour en résumer clairement le contenu. Cependant, plus d'une fois, en pareil cas, le lecteur reste sur sa faim, souhaitant davantage d'informations. Il manque à certaines références l'indication du nombre de pages que présente le travail en question. Cette bibliographie est aussi desservie par un nombre non-négligeable de fautes d'imprimerie. L'on souhaiterait enfin qu'un tel ouvrage de référence fût doté d'une reliure plus solide.

Mises à part ces quelques critiques, on peut se féliciter de la parution de cet excellent outil de travail dont l'acquisition s'impose à quiconque entreprend des recherches sur les parlers acadiens.

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A Feminist Dictionary, by Cheris Kramarae and Paula A. Treichler,
Boston, London, and Henley: Pandora, 1985, x, 587 pages, $19.95 CDN,
$12.95 US, £6.95, ISBN 0-86358-015-7.

What is a 'feminist' dictionary? How and why is it different
from any other dictionary? Why is a feminist dictionary necessary
at all? These are among the many questions which are likely to
arise upon first glimpsing the title of this book. In producing a
ground-breaking work such as this, Kramarae and Treichler have
fortunately recognized the need to answer many of these questions
by including an introduction ('Words on a Feminist Dictionary,' 1-
22) by way of explanation. It is impossible to do justice to their
introduction here (it could be read with profit even by those who
have no intention of reading or even browsing through the dictionary
itself); it should be sufficient for me here simply to point out
that 'traditional' dictionaries have always been written by men,
with all the ensuing biases, sexism, and 'invisibility' of women.
This dictionary then, can be seen as an attempt to change that,
particularly by using quotes from female authors and by demonstrating
the multitude of 'ways in which women are seizing the language'
(1). But this dictionary is more than just feminist in outlook;
many other 'oppressed' groups are well-represented here (e.g.,
blacks, immigrants, the aged, the handicapped, those living under
apartheid, members of the American Indian Movement). The dictionary
has a fairly conventional format (i.e., boldface headers and A
through Z sequential listing, but no pronunciation guide and only
occasionally etymologies), although it relies far more heavily on
quotations (some entries are in effect little more than a string
of quotations) and has much better than average cross-referencing
and bibliography (515-87; as with the introduction, the bibliography
is extremely valuable even for those who do not intend to use the
dictionary itself).

Since in a relatively short review it is not feasible to comment
in any significant way on any meaningful number of entries, I shall
confine myself to a few miscellaneous remarks only. Among the
longest entries are feminism (158-60), language (223-6), marriage
(252-6), name (290-3), periodicals (330-2), pornography (344-8),
racism (374-7), rape (380-3), and woman (489-94), presumably
reflecting the centrality of these concerns to women today. Note
in particular how a 'male' dictionary would have a very different
list of 'longest' entries! However, a few entries seem to be
disproportionately long (e.g., rock and roll, 393-5). Some obviously
sexist terms of derision/approval by men are understandably omitted
(e.g., fox, vixen, dog), others are included along with other

meanings for the word (e.g., <u>cookies</u>, <u>bunny</u>), and yet others are given with the 'sexist' interpretation completely omitted (e.g., <u>broad</u>: 'a woman who is liberal, tolerant, unconfined, and not limited or narrow in scope' [81]) - a perfect example of women 'seizing the language.' Some words are somewhat inexplicably missing: for example, <u>palimony</u>, <u>girlcott</u>, <u>wasp</u>, and <u>osteoporosis</u>, whereas <u>alimony</u>, <u>boycott</u>, <u>anglo</u>, and <u>dowager's hump</u> are included. Some entries seem to have been chosen for no obvious reason (e.g., <u>brush arbor</u>, <u>in my dirt</u>); perhaps these, as with <u>computer literacy</u>, simply need to be more explicitly related to the concerns of the oppressed. Occasionally entries seem to have been included simply because there was a good quotation available (e.g., <u>frustration</u>: 'The feeling of a sitting dog being told to sit' [from Gloria Steinem; 171] and <u>resistance tactics of secretaries</u>: 'Willingness to go on dumb errands/ laziness/ taking extra time in the ladies' room/ misfiling important letters/ "forgetting" to correct typos' [from Judith Ann; 391]). Some inclusions reveal extremely good selection and search procedures, demonstrating the breadth of this dictionary (e.g., <u>Greenham Common</u>, <u>The Dinner Party</u>, <u>The Female Eunuch</u>, <u>Kramer vs. Kramer</u>). Citations used show a similar breadth of coverage, including all parts of the feminist political spectrum. Coverage is of course limited to English, but the entries and quotations are comprehensive enough to include not just 'standard' forms of British and American English, but also various creole and dialect forms. And within the 'standard' forms it is not just the English of England and of the United States which are represented: Scottish, Irish, Australian, and particularly Canadian English are well-represented both in headers and in citations. Citations are not just modern, with several dating from the 1600's; in line with the aims of the dictionary, most but not all quotations are from women authors.

A very few entries are in my estimation less than satisfactory. <u>Bilingualism</u> ('A language situation where language is not merely a medium for content, but is itself a referent, a source of meaning and group identity' [69]) may be true, but is far from adequate from the (socio)linguistic point of view. Inadequacy of definition also marks <u>bourgeois</u> ('a label constantly thrown at white, radical feminists by white upper-middle-class marxist men' [78]), <u>D & C</u> (divide and conquer, with no reference to the medical procedure [115]), <u>farmer</u> ('in most of Africa, usually female' [152] in no way tells what a farmer is or does, especially outside of Africa), <u>fog</u> (with no reference to the weather condition [165]), <u>folklore</u> ('is a straightforward set of devices for making real life more exciting. Unlike myth, folklore is easy to infiltrate with different kinds of consciousness' [165]), <u>hear</u> (with a meaning only of 'understand' [188]), <u>hearing</u> ('The beginning. In the beginning

was not the word. In the beginning is the hearing. Spinsters spin into the listening deep' [188]), manic ('of or like a man ...' [250]), meat (quotes only a poem by Sharon Nelson [265]), Norman Conquest (historical, social, linguistic facts and repercussions inadequately covered [303]), prehistory (an attempt to redefine a widely accepted term into 'the prior importance of the interconnected significant events of women's living and dying'; at least the conventional meaning should also be given [355]). There is a major error in the entry for chauvinism ('... a term initially applied to U.S. aggression in South-East Asia ...' [90]); the term is from almost a century earlier (OED citations for chauvinism, chauvinist, and chauvinistic all begin in 1870).

Some entries are intentionally humorous. Examples include: dinner ('an activity which precedes washing the dishes' [124]), gumption ('anyone who has gumption knows what it is, and any one [sic] who hasn't can never know what it is. So there is no need of defining it' [183]), handbags ('containers which get bigger and bigger when mothers take care of young children, and smaller when the children become teenagers' [186]), and cuntionary ('an alternative to dic-tionary' [113]).

If you have only a limited amount of time, read the introduction and three definitions: feminist, dictionary, and feminist dictionary. These will at least explain 'what all the fuss is about.' You may even be surprised at how early a quotation is given here for the term feminist (1913, Rebecca West); the OED even has citations back to 1894, but in all probability from male authors. But you will miss the humour, feeling, breadth, and interest which enable this dictionary to actually be read, cover-to-cover, merely than just consulted like any ordinary dictionary. It is interesting to note that pioneering dictionaries seldom strive for universality (early 'man-made' dictionaries tended to be of hard words, foreign words, or frequently 'misused' words only), and this dictionary is no exception (intentionally [16]). The authors actively solicit readers to contribute to the dictionary and to suggest revisions and feedback in general (21). A second edition will also enable the correction of typographical errors, almost all of which are self-correcting, but which can occasionally be annoying, especially when personal names are involved (e.g., 'Anshin' for Anshen [303]; 'Haimann' for Haiman [22]; Albert Gilman incorrectly given as 'Alfred Gilman' [523] and 'Roger Gilman' [460]; 'Virgina Woolf' for Virginia Woolf [60]) and some other minor errors (e.g., in German, the article preceding Professorin should be die, not 'der' [142]).

The book jacket advertises: 'This is a dictionary with a difference. It places women at the center of language and uses definition and quotation to take us on a fascinating journey through the development and use of the English language from diverse feminist perspectives.' The book more than delivers its promise.

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This new text was written primarily for a British audience, for both general readers and for those with a background in linguistics. It concentrates on research in language and sex (Coates avoids the term gender because of its ambiguity for linguists) carried out in Britain and on English. However, the scope is wide, ranging from excellent summaries and criticism of the work of grammarians such as Jespersen (and the establishment of men's purported usage as the norm), of traditional dialectology (with its male biases in methodology) and of the early anthropological literature (with its concentration on sex-exclusive 'languages' in 'exotic' cultures) to modern sociolinguistic research on sex differences, in both quantitative and social interactional frameworks. A final section of the text explores both the causes and consequences of such differences (e.g., in linguistic innovation, conversational stategies, etc.), treating, in turn, their acquisition, the role they play in linguistic change and the social consequences of miscommunication (between the sexes) and disadvantage (for females, particularly in education).

It is a difficult task to summarize and synthesize such a large body of research, written from a variety of theoretical perspectives, but Coates for the most part writes with exceptional clarity. In this respect I particularly liked chapters on sex differences in communicative competence and on quantitative studies. Coates' explanations of technical terms such as social network, crossover pattern, and participant observation are quite good. There are a few lapses, however; the definitions of the linguistic variable and of change in apparent time are vague while the concept of speech community is never really explained. On the whole, though, the book is well-written.

For the North American reader, the book is especially useful in that it provides excellent summaries of a number of recent British studies, published and unpublished, which are not at all well known on this side of the Atlantic. From the point of view of the undergraduate student, however, many of the examples used in the text will be unfamiliar (e.g., reference to changes in the hiring patterns of the BBC with respect to accent). Although, in general, major North American works are cited (e.g., by Labov, Kramarae, Maltz

and Borker, and Zimmerman and West), there are serious omissions. For instance, Macoby and Jacklin's (1974) survey of the literature on sex differences in child language acquisition, in which they conclude that girls do seem to be better language learners, is treated as authoritative.   Coates does not mention Louise Cherry's (1975) survey of the same literature in which she pinpoints many problems in research design in the early work in the field and concludes that, because of these problems and also because of the paucity of more recent research, the question of sex differences in L_1 acquisition remains open.

The most serious problem with this book, in which three chapters are devoted to women's and men's roles in linguistic variation and change, is that Patricia Nichols' work (1983, etc.) is not cited. In a somewhat more sophisticated fashion, Coates maintains Trudgill's notion that women and men play different roles in linguistic change because they adapt to different speech norms (cf. Trudgill's overt and covert prestige).   Where women have been found to innovate in the direction of the vernacular (e.g., the young Clonard women in the Milroy's Belfast study), the explanation is that, with changing sex roles, women are developing closeknit, 'male-type' social networks and are adopting male speech norms.   That closeknit social networks are more strongly associated with one sex or the other is highly debatable.   Nichols (1983:66) provides a far better explanation of women's (and men's) role in linguistic change:

> The linguistic choices made by both men and women
> are always constrained by the options made
> available to them, and these options are
> available always and only in the context of a
> group which shares rules for the use and
> interpretation of language. To speak of 'women's
> language' outside that context is linguistically
> naive.

Thus women's role in linguistic change can be explained in terms of their social role in different speech communities, or, as is the case in Nichols' own work in Georgetown County, South Carolina, in terms of the different social roles that different groups of women occupy within the same speech community.   I understand that Nichols' work is not well-known in Britain; she is, however, cited widely in the recent North American literature to which Coates should have had access.

One final criticism is the anti-Chomskyan polemic scattered throughout the book.   After more than two decades (i.e., since Labov's landmark research), sociolinguists do not need to justify their existence, particularly in this context.   Coates' clearly

anti-formalist stance also leads her to make claims such as that 'linguistic change can only take place in the context of linguistic variation, and linguistic variation is *merely* a reflection of social variation' (p. 150, my italics). This is at the very least overstatement.

Despite these problems, the book is well-organized and quite readable. I would recommend the chapters on linguistic variation and change (Chapters 4, 5 and 8) for students who already have some background in linguistics (i.e., at least a technical introductory course). These chapters should, of course, be supplemented by other readings. The remaining six chapters are appropriate for the beginning student as well as the more advanced, with the proviso that many of the British examples will need explaining.

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Publications of the Atlantic Provinces Linguistic Association/
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