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MEANING AND THE LISTENER'S MIND:

**An Application of
Linguistic and Cognitive Concepts
to Radio News Storytelling**

by

David Tait, B.J.

**A thesis submitted to
the Faculty of Graduate Studies and Research
in partial fulfilment of
the requirements for the degree of**

Master of Journalism

School of Journalism and Communication

Carleton University

Ottawa, Ontario

12 September 1995

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"MEANING AND THE LISTENER'S MIND"

submitted by David Tait, B.J.

**in partial fulfilment of the requirements for
the degree of Master of Journalism**

Thesis Supervisor

Director, School of Journalism and Communication

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28 September 1995

Abstract

This thesis begins with an examination of the conventional wisdom among radio news broadcasters that is contained within writing guidelines they base on the admonition "*Write the way you talk.*" These rules insist correct "conversational" style uses short, simple, active-voice sentences and exceptions should be made only if they "sound right." Radio news texts and style guides agree on general points but are inconsistent on specifics such as punctuation or preferred story structures. Virtually all ignore theory and research in linguistics, cognitive psychology and other sciences.

The thesis maintains that radio news journalists should have a deeper understanding of how listeners process auditory stimuli such as the sound and spoken words of radio news broadcasts. It argues this would make them more aware that story contents must be sequenced carefully. This applies to the stages of overall narrative flow, the order of ideas or episodes within the narrative, the order of sentences expressing each idea or episode, the order of clauses within each sentence, and word order within each clause. It is the claim of this thesis that radio news writers and editors could easily make conscious practical use of linguistic concepts such as cohesion, the thematic structure of clauses, and the differences between a narrative's surface structure and its ideal form.

Acknowledgements

I wish to express my deep thanks to several patient and encouraging teachers who helped me lay the groundwork for this thesis and bring it to completion

First, to Professor Lynne Van Luven for introducing me to concepts in literary criticism which led me to realize how much more there was to this issue than I had originally supposed, and for serving as my thesis advisor throughout much of this research.

Second, to Professor Peter Johansen for his consistent encouragement and support, and for taking over the supervision of this thesis as it neared completion.

Third, to Professors Parker Duchemin and Paul Attallah for their guidance and their enthusiasm for my research into orality.

And finally (but most of all), to the students of Journalism 220B, 220C and 320C at Carleton University in 1994-95, my first radio classes as a university teacher. Working with them taught me a great deal about radio, about teaching, and about myself. It also brought home to me the holes in our assumptions about language use in broadcasting, and how we owe it to our students to understand more completely what we are trying to teach them. This thesis is an effort to begin doing that, and by doing so, to begin repaying the patience, interest and effort invested by my students.

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PREFACE

The thesis to follow is the result of a meandering course of study. I returned to Carleton University in the fall of 1993 to seek answers to questions arising out of my journalistic career among Aboriginal peoples in the Canadian North. I had worked as a journalist in the Yukon and Northwest Territories on and off for seven years between 1979 and 1991, and then served three years as CBC North's regional Training Coordinator. Throughout this time, I watched with confusion and frustration the CBC's efforts to develop Aboriginal journalists, especially ones who could work in their own languages.

There were, of course, numerous Aboriginal broadcasters who achieved what the CBC considered the status of true journalists. Yet these individuals would frequently complain in private that they felt forced to fulfil roles alien and even harmful to their cultures, to twist their languages into awkward or nonsensical forms, and to obey rules governing narrative style which interfered with their ability to communicate effectively.

My time in the North and later as a journalist and trainer in Asia made me well aware that the role and practices of journalism within Euro-Canadian society spring from that culture's specific history, languages and socio-political organization. Too many working journalists seem unaware of this simple fact. They speak of

"journalism" as though it were physics or chemistry, governed by an equally standard set of laws. Many Euro-Canadian broadcasters assume the "rules" they follow in preparing journalistic material are universally applicable -- and necessarily so. Even many who work alongside Aboriginal people (or worse, train or manage them) insist Native broadcasters must mimic Euro-Canadian practices to be considered truly professional. Some claim that to do otherwise would be patronizing. This well-intentioned pseudo-egalitarianism confuses quality with form; examples of Aboriginal journalism which most please Euro-Canadian journalists may in fact be least comprehensible and least useful to the Aboriginal audience.

The work I had originally intended to pursue through my Master of Journalism thesis was an examination of how Aboriginal peoples in Canada have traditionally dealt with information -- how they have organized knowing, expressed what they know in words, and derived meaning from what is said to them. I expected these would turn out to be quite different from the ways of knowing, expressing and understanding on which Euro-Canadian journalism is based. I therefore began by trying to learn more about the latter model, especially how the arrival and gradual ascendancy of literacy altered understanding and communication in European cultures.

Through this, I discovered both a wealth of material directly relevant to the practice of journalism, and my own poverty of knowledge of the basic concepts upon which this material draws, a poverty I believe I share with the vast majority of my media colleagues. I set about trying to equip myself with readings in basic discourse analysis and other branches of linguistics. These led, in turn, into branches of

psychology, narratology, ethnology and even simultaneous interpretation technique. The deeper I waded into these disciplines, the more I realized the appalling lack of understanding journalists have of the sciences which underpin their practices. In fact, this ignorance may even threaten their right to call themselves professionals. Someone who drives a car but has no conception of how its engine works is not an engineer; she or he is simply an operator.

I came to believe this shallowness of understanding may be the root of the problem I had started off wanting to tackle. Journalists may make absolute virtues of specific techniques because they are unaware of what is actually at play when those techniques are practised. Take a Euro-Canadian broadcaster who believes beyond doubt that a radio news story should be no longer than ninety seconds, and imposes this standard on an Inuk reporter working in Inuktitut in the same newsroom. What the non-Aboriginal reporter actually knows is that the relaying of a specific piece of information should not exceed the audience's willingness to listen or its ability to keep track of detail. This may well be ninety seconds for a Euro-Canadian listener living in a fast-paced urban society, accustomed to receiving information via the printed word, listening to a journalist who tends to use language patterns which arise out of literacy. Another duration entirely may be appropriate for an Aboriginal listener in a rural, non-clock-oriented setting to whom the spoken word has always been the central method of conveying and receiving information, whose language is designed to work most effectively in this mode, and who is accustomed to sitting and listening for several hours to a single speaker in settings where interruptions are considered inexcusably rude.

I have therefore come to believe the proper place to begin attacking the questions which have dogged me for so long is at a point far more basic than cultural differences. What I and other broadcast journalists must first learn is this: How does the human mind derive and store meaning from oral messages? What mechanics of language seem to support comprehension and memory most effectively? And can these provide clues to specific techniques which can be consciously employed to achieve desired ends -- techniques which may vary broadly in form from language to language and culture to culture but would be based on the same principles?

Answers to these questions may help broadcast journalists achieve a deeper, more professional understanding of their methods and develop a shared vocabulary for discussing these methods with precision. This, in turn, could enable these journalists to refine those methods, train newcomers to the profession more effectively, and help colleagues working in other languages and cultural contexts accomplish the same results through means truly appropriate to their needs. This thesis is an attempt to take a small step in this direction. Although this study will deal with a far more general area of concern, it does not constitute a detour from my original search for ways to help Aboriginal broadcasters find an authentic journalistic voice. It is, I believe, the only wise way in which that search can begin.

Chapter I will frame the discussion in terms of G. Stuart Adam's call for journalists and journalism educators to make greater use of the expertise of specialists from other disciplines in the university (Adam 47). Sources from linguistics will show that writers in that science are well aware of the use their research can be to those who

use language as a work tool. Chapter II will then examine and critique the understanding radio news journalists have of how oral language works, as indicated by their writings in broadcast style guides and textbooks. Inconsistencies and contradictions among these works will be pointed out, and some of their more adamant assertions will be discussed in light of what has been established through formal linguistics research. What emerges is a conventional wisdom on radio news language use which is designed more to meet the needs of the journalist and editor than those of the listener.

Chapter III will set these assumptions aside and begin the process of building a new understanding of the imperatives which should shape radio news language. It will maintain that the place to start is within the mind of the listener as she or he encounters the sounds generated by the oral performance that is radio news. This chapter will adopt a model of human information processing, relate it to the auditory processing of sound, and examine the role played in this fragile interaction by attention and memory. Chapter IV will then move on to the processing of oral language as a stream of auditory stimuli of a particular kind. This is where the careful sequencing of a communication's elements emerges as crucial in effective oral performance, from sounds to words to word clusters to clauses to ideas to narrative. The chapter will deal briefly with the role of grammar in reducing uncertainty, with the clause as the fundamental unit of meaning, and with cohesion's importance in maintaining the clarity of the unfolding oral performance. Narrative's role in supporting cognition will also be examined, but primarily only in terms of how the sequencing of its elements

contributes to this end. Other implications of the use of narrative in journalism (broadcast or otherwise) are extremely important, but will not be brought into the current discussion.

Chapter V will attempt to apply the concepts from linguistics and cognitive psychology to the practical work of preparing radio news reports. This will be done by dismantling three actual radio news stories and reassembling them more in keeping with the sequencing considerations which have emerged in this thesis as being most critical to effective communication. There will then be a broader discussion of how a working reporter might apply, on-the-job, a deeper understanding of the mechanics of oral communication and especially of the *listener's* end of that communication.

The Appendix sets out a series of statements concerning radio news presentation which seem to have foundation in light of this thesis and are worthy of further consideration and testing through actual experimentation. These refer to specific knowledge and skills needed by radio news journalists to carry out their job functions most effectively, and how both knowledge and skills can be improved by cooperation with disciplines outside the normal sphere of the newsroom and the journalism school.

Ottawa, August 1995

Chapter I

INTRODUCTION

In his Notes Toward a Definition of Journalism, G. Stuart Adam regrets journalists and social scientists have "written skimpy accounts of the journalistic palette and thereby diminished both the craft and what is necessary through curriculum to the formation of journalists" (48). He divides this palette into "five principles of design which mark every piece of journalism...(1) news or news judgement, (2) reporting or evidentiary method, (3) linguistic technique, (4) narrative technique and (5) method of interpretation or meaning" (Adam 45). Of these, the third and fourth are directly relevant to this thesis because they involve communicating the journalistic message to the audience. Also relevant is the careful use of these techniques to convey accurately the journalist's intended meaning, the broader issue of meaning being Adam's fifth principle. Adam finds that "(f)or the most part, journalists are not highly conscious of the explanatory techniques they use" (37), and he says it is little wonder this and other shortcomings exist, given the way journalism is approached by its various stakeholders:

I believe that much of journalism teaching — whether it is concerned with professional practices or with social and political effects — is too functional and too divorced from the higher reaches of authorship and thought. Professional practitioners are inclined to define journalism in terms of limited newsroom conceptions and thus jettison any consideration of journalism's poetics or its

ambitious forms; sociologists, communicologists and political scientists are inclined to read journalism functionally rather than intrinsically and thus contribute to the levelling impulse that originates with the practitioners...(T)he language and concepts of traditional journalism instruction are either too lean or too bureaucratic to inspire passion or to encourage the creative spirit. A great opportunity is lost. (7)

Adam's response is to call for a shift in frame from journalism-as-tradecraft or journalism-as-social-phenomenon to journalism-as-art, and apply to it the kinds of analytical techniques common in art criticism. Art involves processes of the imagination and so art criticism requires an understanding of these. It is the need to study journalism in this context that Adam seems to feel most acutely. He writes: "The language of art encourages students to enter the imagination of the artist and meditate on how the artist does what he or she does" (46). The language of art does indeed provide an avenue into the mind of the creator, and could do likewise when the creator is a journalist.

Yet all art forms, no matter how creative or deeply rooted in imagination, also rely on hard facts of science: painting is a product of chemistry as well as of imagination; dance is the intersection of creativity with kinetics and human anatomy; and music's artistry depends on the physics of sound. Understanding and practising expertly an art form requires a grasp of the sciences on which it is based -- how the acidity of a particular paper stock can alter colour over time, whether the knee can withstand the torque inflicted by a certain pivoting leap, whether the padded walls of a room will kill the full rich sound of the flute.

Ironically, a redefinition of journalism as art could finally open the way to applying science to help practitioners of journalism understand and perfect their techniques. Journalism's current poverty in this regard can be grasped by eavesdropping on a practitioner of another art form, music, discussing the merits of the song "For No One" by the Beatles¹:

PETER GZOWSKI: George, what is the secret of the loveliness of that song? What is it? I need a musical explanation for its, I don't know, haunting quality?

GEORGE MEANWELL: Well, I was thinking about it as I was learning it last night. Part of it is that the tone is so pretty in that it goes up in thirds, rises and then falls down, and then on the way down not only the melody falls but the harmony falls to a chord that's sort of removed from the key of the piece, so you get this wonderful rise and then fall in everything on the way down. And again, it's an example, it's an unusual thing in a piece (starting) in G-Major to have the bridge be in D-Minor, which is a related key – sorry, in A-Minor, I'm still thinking about the original key. You go up one tone and then play in that key for a while and it gives it a very soft...Because rather than going from G to D, which is sort of the obvious place to go for a bridge or a chorus, he's actually going up one chord and this is McCartney's gift. (CBC Morningside 26 May 1994)

This is a musician – not a musicologist – speaking spontaneously about why a song he has just played works so well. The precise, scientific notation system used in his art provides him with a framework for understanding exactly what has occurred in that particular piece of music. He can therefore apply that to analyzing why it has

¹ A British popular music quartet which achieved some international acclaim in the 1960s and 70s.

produced the desired effect. This particular musician may be ill-advised to use this vocabulary when trying to explain his point to a general lay audience, but this does not detract from the importance of this shared language to actual practitioners. The ability to identify and label the technique used by Paul McCartney in this song enables the musician to use the same technique in his own compositions should he so wish. He can also explain to another musician who may not have even heard this particular song, "If you want to produce a haunting effect in a song, one technique is to begin in G-Major but instead of going to D-Minor for the bridge, go to A-Minor instead." The science of the art of music has a vocabulary so specific and standardized that any other musician with a reasonable knowledge of modern Western music notation would be able to understand this explanation and reproduce the technique.

No such common vocabulary exists among broadcast journalists sitting at neighbouring desks, let alone among all those scattered across the profession as a whole. Jargon exists by the pailful, but there is no precise and universally understood terminology for the subtleties of how language, information and actuality sound are used within individual stories. Adam feels rightly that imagining journalism as an art would open many more avenues for wide-ranging collaboration between journalism educators and their colleagues in other departments of the university. Referring specifically to the linguistic and narrative techniques on the "journalistic palette," Adam points out that "literary and composition theorists examine words, sentences, metaphors, rhythms, diction, dialogue, narrative, characterization, and dramatization; philosophers analyze systems of meaning" (47). Collaboration with journalism and

other disciplines has perhaps been long-awaited by exactly these sorts of specialists.

Writing in 1964 in *The Linguistic Sciences and Language Teaching*, M. A. K.

Halliday, Angus McIntosh and Peter Strevens bemoaned how the practical applications of their science were being overlooked by those who could have used them most:

(I)t is sad that what is said about language by those working on it from the standpoint of outside disciplines is often so unscientific as to be of practically no value at all...All too often, where scientific statements about language have been needed, workers in other fields have gone on working with their own do-it-yourself pseudo-linguistics, being content, as they never would be in their own subjects, with inexact observations and *ad hoc* categories. This is like attempting to do any other job with half the tools missing, or replaced by home-made improvisations: the results are such as might be expected. (Halliday *et al.* 6)

Prime responsibility for this may once have rested with scientists themselves, for concentrating on theory without thought to application. From the late 1960s onward, however, there has been a dramatic shift in thinking within several sciences relevant to journalistic technique.

For some twenty years psychology (along with other disciplines) has been subjected to an unprecedented degree of arm-twisting regarding 'relevance' and 'usefulness'. Students' expectations of the subject reflect this concern, so that an 'ivory tower' stance is more difficult than ever to sustain and justify...The current crisis for psychology is to respond to the blunter and more urgent problems arising from changes in the world at large...Aside from being socially irresponsible it would — because of the fundamental psychological issues that are raised — be foolish to ignore these changes in the world outside the sphere of 'pure' research. (Barber 4-5)

While cognitive psychologists and linguists have turned more toward seeking practical applications for their work, journalists have largely gone their own way in developing and explaining broadcast language practices. They may be exposed to some scientific concepts through communication studies courses for journalism students, but there is no real evidence this knowledge is being applied at the level of technique. A decade and a half after Halliday *et al.* fretted about the underuse of their science, Edward Bliss Jr. and John M. Patterson published a revised edition of their widely used text *Writing News for Broadcast*, of 105 entries in its bibliography (213-16), none is on linguistics even though the entire book is on the use of language. Where advice on language is needed, they turn to popular sources such as Edwin Newman (*Strictly Speaking* and *A Civil Tongue*) or the classic *The Elements of Style* by William Strunk Jr. and E. B. White.

Few other guides on writing for broadcast contain bibliographies at all; Strunk and White's booklet and points from George Orwell's essay "Politics and the English Language" are repeatedly cited, but not one of the several style books and booklets reviewed for this thesis showed any sign of attention to language at a level deeper than grammar and style. As will be shown, much of what they do say about language even at this level is debatable, contradictory or downright incorrect. There is also broad inconsistency in terms used to describe language and how it is used. This would not have surprised Halliday *et al.*, impatient as they were with do-it-yourselfers:

Technical terms after all are not created for their own sake. They come into being for exactly the same reason as any other items of

language: because there are things — events, objects, properties, concepts and so on — to be named. What distinguishes technical terminology is that the named things are specialized categories, and it is because the *categories* are found to be needed, for observation and action, that specialized terms arise. Such categories are not derived from 'common sense'. This does not mean that they are divorced from 'reality', but that they are set up to handle complicated regions of reality, which we want both to understand and to be able to apply our understanding of, but where direct and unsystematized observation is not enough. Language is one such region, and linguistic science can no more be 'just commonsense' than nuclear physics can. Neither can be expounded in everyday, non-technical categories...If the category is invalid or wrongly defined no elegant technical term will save it from futility. (7-8)

"Elegant" technical terms are among the chief deterrents to the layperson's use of scientific material, but Halliday *et al* are saying choice of word is not the issue; the vital requirement is an accurate understanding of what is being named, rather than assumptions and hearsay. An impressive term -- or catchy phrase -- serves no real purpose if the ideas it aspires to represent are vague or ill-considered. The type of published material cited as references most commonly in works on writing for broadcast are works on writing for broadcast, on journalistic writing in general, or on the careers and reflections of broadcasters and journalists themselves. This suggests a closed circle of conventional wisdom with little sign of having been critically and continually examined against the ongoing research and expanding knowledge existing in fields outside journalism. Journalists would be ruthless with their scorn were they to uncover a similar institutional lapse on the part of practitioners of medicine, law, engineering, architecture, soldiering, diplomacy, ecology or any other practical field playing an active and influential role in modern life.

Chapter II

RADIO JOURNALISM'S ASSUMPTIONS

ON LANGUAGE USE

Before moving one step further, it is essential to clarify once again that the goal of this discussion is not to pick holes in the work of practising radio journalists, many of whom produce clear, concise and often very moving stories against extremely tight deadlines and other pressures. Nor is the goal the creation of some sort of "cookbook" for producing perfect radio news stories every time, some set of recipes founded on science which excludes any use of imagination, personal style or art. No strict Do/Don't list could ever replace the subtle sense of language and instinct for emotional connection which guide the best radio journalists, nor should the value of these qualities ever be discounted. In the previous chapter, it was argued that all art is underpinned by sciences; it is, however, crucial not to forget the reverse -- that science without creativity and individual genius is just, well, science. What is being taken to task in what follows, therefore, is our technical understanding of what radio journalists are doing, even when they do their job well or even brilliantly. The focus is not on their ability to do the job; it's on the adequacy of the tools we use to analyze, explain and teach it.

A sense of the current level of understanding can be gleaned from what has been written about radio news language use by those who practise and/or teach it. The

purpose of this review is *not* to seek out every single article or booklet written on language use in radio news in the hope at least one, somewhere, uses an acceptably scientific set of concepts. Nor is it to try and establish scientifically and statistically, through a content analysis of all available literature, the range and frequency of individual statements about the issue. Rather, this review is to establish prevailing attitudes, vocabulary and "rules" put forward by a representative sampling of publications, especially those circulated by prominent radio news organizations to their staff. While not exhaustive, this will nonetheless provide an adequate picture of the current conventional wisdom regarding radio news.

The material to be reviewed falls into two general categories: first, the news or journalism "style guides" of individual radio broadcast organizations and second, textbooks for teaching students of journalism how to write for radio news. The examples of the former category display a kind of institutional consensus on appropriate practices, at least within the broadcast entity by which each is produced. These fall into two sub-categories. Some style guides concentrate mainly on specific points of usage, such as the correct titles for various types of officials or how regimes in certain countries are to be described. This first sort of style guide is often set up in an alphabetical, almost dictionary format and contains only passing comment on the mechanics of writing for radio. The clear assumption is anyone employed in the organization should have basic radio writing ability at time of entry. The style guides of the British Broadcasting Corporation (BBC) and of Broadcast News (BN, the broadcast arm of Canadian Press) follow this approach.

Other style guides worry less about details of word selection and more about overall style of writing. In doing so, style guides such as those for the Canadian Broadcasting Corporation (CBC) and especially National Public Radio (NPR) in the United States become more akin to instructional textbooks than quick-reference guides to the organization's rules on usage. The 100-page CBC booklet is divided into two sections ("Style: Writing for the Ear" and "Performance: Telling Your Story"), broken respectively into thirty-one and seventeen brief essays on sub-headings. The far more substantial NPR style guide is book-length, containing fifteen chapters in four sections ("Defining the News"; "Telling the Story"; "Features"; and "Recording, Tape Editing, and Production"). Each chapter is by one or two knowledgeable professionals who augment advice with personal insights and anecdotes from their own experience. Specific NPR style points, production procedures and legal matters are dealt with in a 40-page section late in this 325-page book. The CBC has also adapted and expanded its version of this material into training manuals for use in courses such as its in-house Basic Radio Skills course.

The second general type of publication -- textbooks for use in academic institutions or for self-study -- may be the work of one or more independent writers. Although free of institutional policy, these authors have a vested interest in depicting radio news writing practices which match industry norms, given their books are to be marketed to colleges or universities with courses intended to equip students for jobs within that industry. But while style guides can be written with the approach of only the sponsoring broadcast organization in mind, textbooks must take into account the

breadth of "personality" within a radio industry which includes public, commercial and alternative broadcasting. Many compound this situation by dealing with language use in both radio and television, under the umbrella of "broadcast news writing," and with only limited discussion of the differences between the two media. These books also address students who are learning these skills from scratch, which is not (at least in theory) the case with the style guides issued by broadcast organizations.

The principal works on the use of language in radio news which were reviewed for the following analysis are:

Style Guides and Associated Training Materials:

- **BBC News & Current Affairs Style Book and Editorial Guide**, undated, edition in current use as of Fall 1994; British.
- **Broadcast News Style Guide: Writing for Broadcast**, 1988; Canadian.
- **CBC Radio News Style Guide**, undated, edition in current use as of Fall 1994; Canadian.
- **Writing Guidelines for Staff of the Alberta Region of the CBC**, 1983; Canadian.
- **Basic Radio Skills**, CBC training course participant's manual and trainer's guide, editions in use in Fall 1994; Canadian.
- **Sound Reporting: The National Public Radio Guide to Radio Journalism and Production**, 1992; American.

Textbooks:

- **Writing News for Broadcast** by Edward Bliss Jr. and John M. Patterson, 1978; American.

- **Sweepers in the Corridors of Power: Canadian Broadcast Journalism** by Phil Ross Boynton and Doreen Boynton, 1986; Canadian.
- **The Radio Documentary Handbook: Creating, Producing, and Selling for Broadcast** by Jurgen Hesse, 1987; Canadian.
- **Now the News in Detail: A Guide to Broadcast Journalism in Australia** by Murray Masterton and Roger Patching, 1990; Australian.
- **Broadcast News Writing Stylebook** by Robert A. Papper, 1995; American.
- **Beginning Broadcast Newswriting: A Self-Instructional Learning Experience** by K. Tim Wulfemeyer, 1984; American.

Comparing References

As was suggested above, these works are far from consistent. Their contradictions can be illustrated most effectively by seeing how they compare on specifics such as punctuation. For instance, Boynton and Boynton worry that standard punctuation may confuse the newsreader and say "(a) simple solution to this problem is to eliminate most of the punctuation" (18-9). They report that in broadcast writing, "all semi-stops of language such as commas, colons, and semicolons are replaced by a series of dots" (Boynton 19) whereas Masterton and Patching say in their text that this sort of three-dot ellipse is to be used only "to mark extended pauses (not in place of commas), or where a sentence is genuinely unfinished" (94). Papper agrees about using ellipses for pauses, saying dashes will also do, but says "don't use either where a period should really go" (9). BN wants commas used as themselves but suggests both colons and semicolons be avoided; its style guide says commas can usually replace

semicolons while ellipses can be used in place of colons or to "clearly separate thoughts or ideas" -- with a space left at either end of the dots when the ellipse is to indicate the latter type of pause and no spaces for the former (Broadcast News 271). Bliss and Patterson favour standard punctuation but say in broadcasting, "(t)hree periods (...) are used in much the same way as the comma"; "(f)orget the semicolon," they add (33). BBC, CBC and NPR do not comment on replacing standard punctuation with ellipses; some of the NPR book's writers use them occasionally in place of commas in sample scripts (e.g. Kasell and Rosenbaum 72-73) while others do not (e.g. Simon 106-07).

This may seem to be hardly a major issue, but it shows the level of certitude with which writers on broadcast language generally speak on the issue of Dos and Don'ts, even on points so open to debate or individual preference. It also shows, especially in the Boynton case, an unsophisticated understanding of simple grammar, let alone linguistics. They write:

It must have become obvious when written languages were first being perfected that it would be handy to use a series of symbols to guide the eye of the reader. This probably made a great deal of sense to some medieval monk cloistered in his monastery. But he could not envisage a world in which people would read out loud to a vast number of people. The normal English punctuation which we learned in public school gets in the way of the person reading on air...(Punctuation marks) can easily be mistaken for each other when reading on air...A simple solution to this problem is to eliminate most of the punctuation. (Boynton 18-19)

Punctuation techniques are not the product of monks with too much time on

their hands. They are visual reflections of the nonverbal prosodic dimensions of language, both oral and written (Saville-Troike 5). Commas, colons and semicolons -- and the ellipse itself -- are distinct punctuation points, each with its own meaning and pause weight relative to the others and each capable of giving a reader a different cue. This can be found out by consulting any dictionary (e.g. Funk & Wagnalls 267, 271, 1221). On the level of science, linguists are paying increasing attention to the subtle roles silence plays in language, from tiny pauses which structure and complement speech (sometimes but not always corresponding to punctuation) to more prolonged silences which are statements in themselves.

(S)ilences which carry meaning, but not propositional content,...include the pauses and hesitations that occur within and between turns of talking -- the prosodic dimension of silence. Such non-propositional silences may be volitional or nonvolitional, and may convey a wide variety of meanings. The meanings carried by pauses and hesitations are generally affective in nature, and connotative rather than denotive. Their meanings are nonetheless symbolic and conventional, as is seen in the various patterns of use and norms of interpretation in different speech communities. (Saville-Troike 6)

BN's style guide states that colons and semicolons "don't make good signals for news readers" (Broadcast News 271) but use of an all-purpose ellipse in their place removes the clearest clue as to which of the "wide variety of meanings" mentioned above is intended by the scripted pause. This increased vagueness must necessarily subtract from the broadcaster's ability to put meaning into a performance of the text. Rather than drawing on the punctuation as an aid to presenting the text with meaning,

the broadcaster must first infer from the content of the text what is being signalled by the pause represented generically by the ellipse -- a switch into or out of a non-restrictive clause? the beginning of a list of several items? a break between items on that list? a definition of the preceding clause? a non-punctuation pause for affect? The answer determines not only the length of the pause but also what the broadcaster's voice must do going into and coming out of that pause. Proper punctuation is therefore a guide to the voice, not just the eye as maintained by the Boyntons, and is useful in delivering the correct oral message to the listener. Eliminating differences in punctuation makes as much sense as simplifying musical notation by eliminating sharps and flats to avoid confusing the musician.

Writing guides preoccupied with the recording of words on the page miss the fact that the critical skill for the broadcaster -- as with the musician -- is performance, not notation. Modern readers may not readily understand the significance of a semicolon, but listeners who are reasonably fluent in a language do appreciate subtle differences in oral signal, as Saviile-Troike points out, and need them to clarify meaning. The real issue, however, is the wisdom of writing scripts for oral delivery in complex sentence patterns which require colons, semicolons or numerous commas. Simplifying the method of punctuation to placate the eye does nothing to simplify the message and, in fact, probably does the opposite. When the oral equivalents of these specific punctuation points *are* present, there seems little gain in placing them in disguise on the page -- and little wisdom in turning such a dubious practice into dogma.

Jumping to the other extreme, style guides and textbooks also vary broadly on how they feel radio news stories are best presented. Once again, Boynton and Boynton are most dogmatic:

(T)he ideas must be expressed in a logical progression. This is often called the inverted-triangle style. Imagine an upside down pyramid standing on its point. The most important fact of the story is placed at the top of the pyramid. The second most important fact is a little lower down, and so on. (Boynton 18)

The graphic following this shows a story starting with the statement that a protest took place, followed by the number of people involved, followed by a Quote of Spokesman, Background, and Facts. This may be a factual report in its own right, in that this *is* a characteristic of a great deal of broadcast writing; but the authors speak of it with approval, saying "(i)deas presented in a descending order of importance are easier for the listener to comprehend...The inverted-triangle style of setting up a news story helps you to assimilate information regardless of what else you may be doing" (Boynton 18).

The CBC Radio News Style Guide goes the other way:

We must question in particular the practice in news of using the so-called 'inverted triangle': summarizing a story in the first sentence, putting all the main elements in the lead, giving the facts in descending order of importance. Is that the way people tell stories in real life? Do we tell the punch line first, and then the joke? Do we let stories just dribble away? (17)

Bliss and Patterson weigh in with a sample news script of their own, of which they say:

This is writing news for broadcast. The sentences are readable. They are short. They are to the point. There is no fancy, involved writing. No "inverted pyramid" with the answers to who, what, when, why, where and how crammed into the first couple of sentences. (5)

Bliss and Patterson favour the approach suggested by the Queen in *Alice in Wonderland*: "Begin at the beginning, go through to the end and then stop." They say the lead should be the logical follow-up to the exclamation, *Hey! You know what happened?* with "the story phrased as if it were being told to a friend over the dinner table" albeit within the constraints of "accuracy, brevity, and clarity -- the ABCs" (Bliss and Patterson 138). This approach to story is favoured by the vast majority of other writers (although not always borne out consistently in their examples). Kasell and Rosenbaum contradict Boynton's assumptions about what is easiest for listeners. "A radio report is written to be *heard*, not seen. Thus, it must be *linear* in structure -- stories need a beginning, a middle, and an end" (Kasell and Rosenbaum 65).

Contradictions and inconsistencies within and among style guides and textbooks such as the example explored above are numerous. They seem to be clear evidence of the kind of unscientific approach to language which so galls Halliday and other linguists. Contradictions among the references reviewed, however, do not offset the high degree of consensus (though not unanimity) on basic principles which emerges from a thorough reading of this and other material. This consensus on language use in

radio news can be expressed in five simple statements. While broad, they provide a framework under which specific style points and positions on language use can be grouped for discussion. These five basic assumptions about radio news language use are:

- 1. Write the way you talk – in "conversational" style.**
- 2. Tell stories – don't just present information as a collection of facts.**
- 3. Write in the active rather than passive voice.**
- 4. Write in short, simple sentences made up of lean prose that is not cluttered with any unnecessary words.**
- 5. Write wherever possible in the present tense.**

This is a much distilled list. Wulfemeyer turns out a list of 23 points (62); the main writing chapter in the NPR book lists 11 (Kasell and Rosenbaum 76-79); the CBC style guide's writing section has 31 sub-headings (7-59); BN's guide has 25 points (5-8); and Masterton and Patching produce two lists, one with seven points and the other with 20 -- although three on the latter list are identical, all saying: "Write the way you speak" (77-101). All their points to do with language (as opposed to the physical layout of the script), however, can be grouped under one of the five points in the list above. These are the most familiar rules for radio writing and, taken at face value, they seem to be common sense -- but keep in mind what Halliday *et al.* had to say about that.

"Write the way you talk..."

This is the single most oft-repeated advice given to writers of radio news material and can also be said to include, in one way or another, each of the other four. The intent of this advice is to produce radio material which sounds fluid rather than awkward or stilted. The advice is not, however, "talk naturally" or even "talk the way you talk"; the focus is on the fact that radio news material intended to be spoken aloud is first prepared in writing. "Broadcasting is talking but we write broadcast scripts," the CBC style guide says (16). This is seen as a problem because broadcasters assume there is a strict dichotomy between language intended to be read with the eye and that which is intended to be heard by the ear. The CBC style guide points to print journalism's influence as an obstacle to writing well for radio news:

(T)he habits of writing die hard. And the habits of writing news die harder. Something happens to most of us when we sit down to write. We forget we're storytellers. We jumble things up. We hide behind unnecessary facts and hide behind vague, abstract, lifeless language. We don't say what we really want to say. We lose much of our enthusiasm, much of our spontaneity, much of our humanity. We forget our consideration for our listener...If we care about the listener, we must tune up our ears and listen more closely to how real people tell stories to one another. Then we must write our stories that way. We can start by forgetting most of what we've learned about 'writing' writing: 'talking' writing is different. (CBC News Style 16)¹

¹ A print-oriented style guide, *The Canadian Practical Stylist*, counters by saying the exact reverse of the assumption that speech is self-evidently linear: "(S)peech, like thought, is amazingly circular. We can hardly think in a straight line if we try...(O)ur speech, full of *you know*'s and *I mean*'s, follows the erratic ways of the mind, circling around and around as we stitch the simplest of logical sequences." (Baker et al 5-6)

Writers on broadcast language insist this need for 'talking' writing is vital because broadcasters face more demands than their counterparts in the print media:

The most important difference between print and broadcast news writing is that if a newspaper reader doesn't understand something in print he or she can read it again, and again if necessary, until the meaning is clear. Not so radio and television...If the story is not written well enough to be understood first time, the listener can't slip back a paragraph and hear it again. (Masterton and Patching 78)

(Writing for broadcasting) is harder than for newspapers. Newspapers have captive audiences...If a story is badly written in a newspaper, we can read it again. In Radio & TV a badly written story is lost forever. (CBC Guidelines 1)

The writer for radio, unlike the writer for magazines or newspapers, must write so as to be understood the first time. The words are spoken and, once spoken, are irretrievable. (Bliss quoted in Kasell and Rosenbaum 65)

Think of how many times you've found yourself rereading material only moments after your first journey through it. Perhaps your mind wandered. More likely, the material simply wasn't well-written, well-organized, or logically presented. The written word can perhaps tolerate those lapses; the spoken word cannot. (Papper ix-x)

If there is something in a newspaper or magazine that seems obscure, the reader can, and probably will, turn back and re-read the sentence. Not so with the radio listener... (BBC 1: n. pag.)

The suggestion that the need for clarity marks a distinction between print and broadcasting would be news to Rene J. Cappon, author of *The Associated Press Guide to News Writing*. Cappon tells newspaper writers that readers facing muddled sentences "will find better things to do" (9). Or, as he says more succinctly after an example of a poor lead: "Goodbye, reader" (32). Bliss and Patterson already had

doubts about the print/broadcast comparison in the 1970s:

For years it has been the habit of teachers of journalism to illustrate broadcasting style by comparing it with the style of writing found in newspapers...The writing found in newspapers today increasingly resembles the writing in news broadcasts, so that comparison – still interesting – is less relevant. (Bliss and Patterson 5)

Evidence of this convergence is found in advice Joey Slinger of the *Toronto Sun* gave to newspaper writers in 1985. His fourth point is to read copy aloud: "When you read aloud, your ear will tell you, 'That phrase sounds awkward,' 'I've lost track of what this sentence is about,' 'People don't talk like this'..." (Slinger 101). Cappon quotes historian Barbara Tuchman saying much the same: "(A)n essential element of good writing is a good ear...Too many writers do not listen to the sound of their own prose" (Cappon 71-72). Carman Cumming and Catherine McKercher stress in their reporting text *The Canadian Reporter: News Writing and Reporting* that a complete understanding of a topic is necessary if a reporter's writing is to have a consistent tone or "voice" -- regardless of medium (13-14). All this suggests capturing the essence of natural speech is as much a sign of good writing in print as it is in broadcasting. Cappon's warning not to assume a reader's willingness to reread and decode is also likely well-taken, meaning newspaper writers face the same requirement to be immediately understood as do broadcasters.

If this is so, the important difference may not be between 'writing' writing and 'talking' writing as suggested by the CBC style guide and others, but rather between

good and bad writing. Boynton and Boynton come closer to this by focusing not on broadcasting's differences from print journalism but rather from "essay style."

Just about everybody will remember the time they had to write an essay for the high school teacher. They found themselves short of knowledge of the subject matter. The solution: attempt to baffle the teacher with a lot of flowery phrases, long descriptions, and an abundance of adjectives and adverbs. This may have worked in the classroom, but it won't work on the airwaves. (Boynton 17)

It should not, of course, have worked in the classroom either. The CBC style guide's call to forget "most of what we've learned about 'writing' writing" is misplaced. The problem lies, after all, not in what was learned about writing but rather in what was *not* learned. Certainly, "vague, abstract, lifeless language" is *not* endemic to writing for the eye, nor is a loss of "enthusiasm...spontaneity...(and) humanity." Were this so, it is unlikely broadcast writing guides and textbooks would quote so extensively the likes of Strunk, White, Orwell, George Bernard Shaw, Somerset Maugham, Daniel Defoe, Joseph Conrad, Ernest Hemingway, H. L. Mencken, Henry David Thoreau and many other writers of and about the printed word.

This observation is consistent with the view being increasingly taken by linguists. Deborah Tannen insists "it is not orality vs. literacy per se that is the key distinction, but relative focus on involvement vs. content...(M)any features that have been associated exclusively with literacy are rhetorical strategies found in spoken discourse" (Myth 37). For instance, Masterton and Patching state flatly that it is improper for a writer for broadcast to begin a sentence with "an '-ing' word," which

they say is common in essay and newspaper writing:

This is a sure sign of a sentence inversion, which means an unimportant phrase or clause is being put first. People don't speak that way because it confuses the listener. There is nothing wrong with words ending in '-ing' in their right place, but in speech they don't occur at the start of a sentence...If you listen you will find people speak in simple, uninverted sentences. The subject comes first, then the verb and finally the object... (Masterson and Patching 84)

The subject-verb-object point may be good stylistic advice and is consistent with the fourth assumption about broadcast writing listed above. The overall observation is, however, poor reporting. First of all, it fails to distinguish among different sorts of '-ing' words. A gerund, for instance, is an '-ing' word which may also be the subject of a sentence, as in this example: *Running with scissors is a dumb idea*. Or as in this cleverly ironic sentence from Strunk and White: "Interposing a phrase or a clause, as in the left-hand examples above, interrupts the flow of the main clause" (29). Masterton and Patching are apparently referring only to when the '-ing' word is in its pure verb form (as is "referring" in this sentence) but this is not clearly stated. Neither do they explain why a phrase or clause beginning with "an '-ing' word" should automatically be assumed to be an "unimportant" one. They also broaden their statement to say only uninverted sentences appear in spoken language and they suggest bringing clauses forward, ahead of the subject, is confusing. That would have been news to Edward R. Murrow, who described an attack on London by German bombers early in the Second World War this way:

I'm standing on a rooftop looking out over London. At the moment everything is quiet. For reasons of national as well as personal security, I'm unable to tell you the exact location from which I'm speaking. Off to my left, far away in the distance, I can see just that faint red angry snap of antiaircraft bursts against the steel-blue sky. But the guns are so far away that it's impossible to hear them from this location. About five minutes ago the guns in the immediate vicinity were working... (Shafritz et al 95)

Regardless of whether Murrow was or was not working directly from a script, this has the sound of a spontaneous oral account. It also contains four out of six sentences which begin with clauses brought in front of the subject: "At the moment"; "For reasons of national as well as personal security"; "Off to my left, far away in the distance"; "About five minutes ago" -- none of these begin with '-ing' words, but all contradict Masterton and Patching's claim that people speak only "in basic subject-verb-object sentences without inversions" (84). For the most part, each of these brought-forward clauses helps rather than confuses the listener.

For instance, the phrase "off to my left, far away in the distance" turns the gaze of the listener's imagination with Murrow's out over the rooftops before he tells what he sees out there. Placing the clause deeper in the sentence (as in, "...antiaircraft bursts against the steel blue sky far away in the distance off to my left...") would have first created a picture in the listener's mind of action before the listener knows its location relative to Murrow. It could have been far away or right there on top of him. The emotional impact of his words would have been quite different in the latter case (as in, "...antiaircraft bursts straight above me as bombs rain down all around..."). The appropriate mood is clear only once the information locating the action is provided,

and so leaving this to the end would have been far more confusing than bringing the clause forward. Interestingly, this kind of careful sequencing of detail is not as important in television where setting can be established with the visual images which accompany the words -- and this, in turn, points to the weakness of lumping radio and television language together in a catch-all "broadcasting" category.

An example of a more spontaneous but also successful "inversion" in oral language is the last sentence from the transcript of the musician on *Morningside* near the top of the previous chapter: "...rather than going from G to D, which is sort of the obvious place to go for a bridge or a chorus, he's actually going up one chord and this is McCartney's gift." And here's another, from the Watergate tapes: "At some point, according to Magruder, after this was then signed off and put underway(.) Mitchell called Liddy into his office and read him the riot act on the poor quality of (unintelligible)" (White House Transcripts 229). So people *do* speak that way, both when they are performing from a script as Murrow probably was and when they are clearly speaking naturally, as were George Meanwell on *Morningside* and H. R. Haldeman in the Oval Office of President Richard Nixon in 1973. They do so to achieve specific results which a blanket ban on all but subject-verb-object sentences would make impossible.

While Masterton and Patching err by phrasing their dictum in such absolute terms, their intended point is valid: simple sentence structures do generally work best in broadcasting. It is interesting to note, however, that Masterton, Patching and others seem caught in cyclical assumptions: broadcasters write best when they write the way

people talk; broadcasters seem to write best when they use simple sentence structures; people therefore must talk in simple sentence structures. What they should really be telling broadcasters is to write the way people speak when people are speaking the way broadcasters should write. This goes back to Tannen's point that context and intent play a far more important role in shaping language use in any given situation than does the supposed dichotomy of oral and written language. Whether the communication is being spoken or written is part of the context, but not the only defining factor. Establishing the kind of voice in which radio news broadcasters should communicate therefore requires a detailed understanding of the linguistic context within which their contact with the audience takes place.

Instead, broadcasters are told about the virtues of "talk" as a general classification of language. The terms used most commonly to describe the desired style for radio news are "conversational" or "the way you speak" or "the way you talk." Elaborations on these use equally general terms, calling for "simple, uncluttered sentences that follow the patterns, the flows, the rhythms and the cadences of everyday speech" (CBC News Style 16); or "the language of everyday speech at the speed of everyday speech" (Masterton and Patching 79). Broadcasters are said to "speak as people do in everyday life, except they eliminate trivia, profanity, most of the slang, vogue words and all the faulty grammar" (Masterson and Patching 99). This last quote hints at the problem: spontaneous "everyday" spoken language is by no means uniform and can seem chaotic (despite what Masterton and Patching were claiming above about simple sentence structure). This is true even of "normally articulate

people" (CBC News Style 18), as demonstrated by musician George Meanwell on the CBC radio program *Morningside*, transcribed above. Linguists point this out when they provide transcribed examples of speech:

If the sentences seem odd, this is because they are genuine, taken from actual conversation recorded on tape. It often happens that when linguists make up their examples, these are readily accepted, whereas when they cite examples from actual speech they are told: 'But no one would ever say that!' (Halliday *et al.* 26)¹

The BBC stylebook places less faith than others in the value of imitating speech as it occurs naturally: "We should follow, as far as possible, conversational speech, but temper it with order and precision to make it into good, polite spoken English" (1: n. pag.). Masterton and Patching are vaguer, saying, "Write the way you speak" but adding "remember to speak well" (96). Bliss and Patterson suggest "conversational, informal, but not cozy" (51). Boynton and Boynton are the only ones to back right away from the term "conversational":

There are those who describe radio writing as being conversational.

¹ Elsewhere, Halliday explains that comparing the orderliness or complexity of written and oral language is like comparing apples and Buicks if both are presented in written form. "(S)ome linguists -- or rather, perhaps, philosophers of language -- have tended to take over the folk belief, typical of a written culture, according to which spoken language is disorganized and featureless, while only writing shows a wealth of structure and a purity of pattern. This is then 'demonstrated' by transcriptions in which speech is reduced to writing and made to look like a dog's dinner. Now speech was not meant to be written down, so it often looks silly, just as writing often sounds silly when it is read aloud; but the disorder and fragmentation are a feature of the way it is transcribed...because it shows none of the intonation or rhythm or variation in tempo and loudness..." (Halliday *Functional* xxiv-xxv) In fact, Halliday maintains, sentence structure in spoken language "is highly complex, reaching degrees of complexity that are rarely attained in writing" (xxiv).

That is not quite correct. Conversations are often rambling, with digressions away from the central theme of the topic. That kind of communication is difficult to follow on radio. (Boynton 28)

Conversational means simply, "Of or characteristic of conversation"; the relevant definition of *conversation* is, "An informal talk with another or others; colloquy" (Funk & Wagnalls 296). Interestingly, *colloquy* is defined as, "A conversation or conference, *especially one that is formally arranged*" (italics added) (Funk & Wagnalls 266). *Conversational*, therefore, refers to the characteristics of any type of oral interchange, usually informal but also formally arranged, carried on by any two or more people under any imaginable circumstance. Its value as a writing style tip is therefore far more limited than is implied by its prominence. Context is required to decide what sort of specific conversational style should be adopted by the broadcaster; where on the continuum between intimacy and formal colloquy should radio news be located?

Without acknowledging this point, writers on broadcast language do frequently ask broadcasters to picture certain types of conversations which they feel exemplify the type of language which should or should not be used in radio news. These are usually as aids to finding the best way to tell the story rather than establishing the best voice or language context, but they offer clues to what these writers mean by the term "conversational":

Think of the way you would tell a favourite joke at a party. You do not wander all over the map, but lead your listeners in a clear

and logical progression of facts until you deliver the punch line. Radio writing, writing for the ear, is much like that. You are telling the listener a story. (Boynton 28)

(Y)ou should attempt to tell your story to an individual. Most good communicators imagine they are talking to one person. That person can be real or make-believe. (Boynton 31)

Listen to a newscast, really listen. Ask yourself what you'd think if somebody walked up to you and started talking like that. Ask yourself what you'd do. You'd probably want to get away -- fast -- even from a close friend. (CBC News Style 16)

Broadcast journalists telling people the news of the hour, or of the day, should write as if speaking to them, personally, because although the newscast may be heard by thousands of people it is usually one person to a radio and not many more to each television set. (Masterton and Patching 79)

(T)ell it into the typewriter in your own words, as if *telling* the story to a person who has paused at your side. (Masterson and Patching 81)

NBC correspondent John Hart...says, "I think it's the same thing as when you come home from the office. You say to your wife, 'Honey, guess what happened today.' (Bliss and Patterson 51)

(T)he story is phrased as if it were being told to a friend over the dinner table. What makes broadcast writing more difficult than dinner conversation is the need for accuracy, brevity, and clarity...But the language is roughly the same. (Bliss and Patterson 138)

Think of the entire audience as just one of your friends and write the story as you'd tell it to him or her personally. (Wulfemeyer 1)

Think of how you would tell the story to a friend, then write it that way. (Broadcast News 5)

Carl Kasell says he imagines he's talking to 'Aunt Martha.' When the president gives a speech, he imagines calling Aunt Martha and saying, 'Did you hear the president tonight?' Aunt Martha says, 'No, what did he say?' Then he sums up the main points of the speech for her. The summary is the copy in Carl's newscast, and

the delivery is his conversation with Aunt Martha. (Kearns 81)

Daniel Defoe said, 'If any man were to ask me what I would suppose to be a perfect style of language, I would answer that in which a man speaking to 500 people all of common and various capacities should be understood by them all.' Instead of writing to be understood by 500 people 'all of common and various capacities,' the broadcast journalist may be writing for 5 million. He (sic) must sort out the facts -- the essential from the nonessential. Then he must make the essential understandable. He must translate. (Bliss and Patterson 52)

Each of these describes a context, general or specific, in which a conversation of sorts is taking place. Broadcasters are urged to word and perform their reports as though they were taking place within these contexts. The difficulty is that while the end product imagined by each of the writers above is roughly the same, the contexts they put forward are quite different: holding forth to a group at a party, approaching someone on the street, chatting with a colleague at the office, reporting to a spouse about the events of the day, chatting with a friend over dinner, phoning Aunt Martha, and addressing a mixed crowd of 500 or five million. Using Tannen's terms, the rhetorical strategies employed in each of these situations will depend on the motive for the particular communication and the relationships between or among participants.

Motive may determine if the dominant form of language used is *Transactional*, meaning concerned with an exchange of goods or services, or *Interpersonal*, concerned more with social interaction (Nunan 18). Motive aside, the nature of the relationship between parties to the conversation determines whether the vocabulary used is a *Primary* or *Secondary Code* (also known as *Elaborated* and *Restricted Codes*). These

terms differentiate between language which would be understood by virtually all members of a general linguistic group and language which is used within specific social sub-groups and not readily understood by outsiders (Dimbleby and Burton 23). The broadcaster and Aunt Martha may share a restricted code on common family or cultural experience (e.g. regional or ethnic idioms, references to characteristics of mutual acquaintances in place of adjectives, identifying dates in relation to events within their shared religion). This code would be inappropriate when addressing a general audience which includes people outside these circles. Relationship also influences the relative importance placed on interpersonal involvement between parties as opposed to content transmission (Tannen Myth 37, 43). Is John Hart, above, telling his wife about what happened today because he wants her to understand and remember accurately what occurred? Or is he trying to make her laugh or feel involved in his professional world? Or is he just talking to hold her attention so he can gaze into her eyes?

The differences can perhaps be better understood by viewing from the other side of the communication. Is a wife listening to her husband talk about events at the office involved in a communication analogous to a radio listener hearing a stranger describe a political development? Or are the processes occurring as she receives a communication from her partner quite different? This leads back to science. The *relevance theory* of communication developed in the mid-1980s views conversation as operating on two channels at once: *ostension*, which is the production of signals by the speaker; and *inference*, the contextualizing of those signals by the hearer (Rost 3).

(I)f you and I are sitting together in a room and I know that you like snow and I know that it is just beginning to snow outside and I open the curtains so that you can see the snow falling for yourself, I have performed an ostensive act of communication by opening the curtains.

In terms of the relevance theory, for you to understand this act of ostension, you have to understand not only the first layer of information (that it is snowing now) but the second layer as well (that I wanted you to see it now)...

If, for example, instead of opening the curtains for you to see the snow, I come in from another room and say, 'Hey, it's snowing', the inferencing you must do to understand my ostensive act (here, my saying, 'Hey, it's snowing') is the same, although the decoding process is different. You still must find the relevant link between the first layer of my information (my claim that it's snowing) and the second layer — that I pointed this out to you now. (Rost 4)

Using this model, the act of ostension occurring in a radio news broadcast will also operate on two channels. The literal verbal message of a given news story may in fact be similar to the stories produced in the contexts offered above by commentators on broadcast writing, but each would involve much different inferential processes on the part of the listeners. An ostensive act by a speaker to a listener with whom the speaker has an established relationship (Hart's wife, Aunt Martha, work colleagues, friends, etc.) will produce in the listener an inferential response which pays attention not only to the content but also to what both the content and the manner of the communication say about the speaker and the relationship the two share -- involvement, to use Tannen's term.

Where high levels of involvement are at play, even within a discourse which is primarily content-oriented, the rhetorical strategies of the speaker will be different from discourses in which the personal link is not so close. A broadcaster told to

imitate speech used in settings involving a close personal link between speaker and listener (Aunt Martha, Hart's wife, etc.) could be led into copying a style Tannen calls "high-involvement...placing emphasis, or... 'signalling load,' on interpersonal involvement, or the interpersonal dynamic of the interaction" (Tannen Myth 43). Since involvement and content are opposite ends of Tannen's continuum, high-involvement rhetorical strategies used inappropriately could have serious implications for communicating content effectively. The act of ostension represented by the telling of the story may be as intended by the broadcaster, but the inference it will inspire in the listener may not be.

In terms of Canadian radio, a regular CBC listener may decode identical messages quite differently when hearing the first within a newscast highlighting events of the day and the second from Peter Gzowski within the context of his highly personal program *Morningside*. In the first case, the story is "news" as it is brought forward continually on the broadcasting conveyor belt; in the second, it is *something Peter feels is important and wants me to know*. Similar inferential differences may arise between newscast material presented by newsreaders and that involving voice reports by journalists, or between voice reports by familiar journalists and those by unknown ones. Listeners may agree to be spoken to within a personal, high-involvement context by some familiar voices on the radio, but perhaps not by others -- even within the same newscast. Sweeping generalizations about appropriate tone or imaginary context need to be replaced in the minds of broadcasters with an understanding of the process of listener inference in communication and of the

involvement-content continuum. This might help each broadcaster locate his or her own style at an appropriate spot on that continuum, drawing the desired inference from as many listeners as possible.

Another relevant continuum is that of what Michael Rost calls "collaborative discourse," measuring the proximity of the speaker with a given listener (Rost 5-6). Most of the analogies suggested above for radio news writers are based on close first person-second person discourse. Rost would term the listener in this case a "Participant," meaning "a person who is being spoken to directly and has speaking rights equal to others involved in the discourse" (5). However, a radio listener is actually further removed. Rost's next level is an "Addressee -- a person in a discourse who is being spoken to directly and who has limited rights to respond," such as a student in a classroom (5). After that comes "Auditor -- a person in a discourse who is a member of an audience that is being addressed directly and who has very limited rights to respond and is not expected to respond"; and then "Overhearer -- a person who is not being addressed, but is within earshot of the speaker, and who has no rights or expectations to respond" (Rost 5).

The temptation may be to wink at reality and treat the radio news listener as though she or he were a Participant or at very least an Addressee, so as to encourage a more personal tone. However, Rost points out the various points on the continuum "not only carry differing expectations for collaboration in the discourse; they also to some extent define the strength of inferences that can be drawn" (5). This suggests the speaker may be able to adjust the placement of the listener on this continuum to

control the relative weight of the literal message (the act of ostension represented by the radio report) versus the inferences drawn from it by the listener. A listener addressed as a Participant in a conversation may feel more confident inferring a great deal about the speaker's intent, whereas someone addressed as being further out, somewhere off between the Addressee and Overhearer, may concentrate more on content. This may also have implications for the perceived objectivity of a broadcast.

Take the style of W. Lee "Pappy" O'Daniel of Texas. O'Daniel was a flour salesman who rose through radio demagoguery to become governor of Texas in 1938 and then U.S. Senator for that state in 1941 -- defeating Lyndon Johnson in the future president's first bid for that seat. He began his broadcasts in 1927 and quickly gathered a huge following which became the foundation for his later political successes. While not using Rost's actual terms, Johnson biographer Robert Caro makes clear that O'Daniel's genius was in shifting the location of the listener on the continuum of "collaborative discourse":

It was not the content of these rambling, informal little homilies that made them so popular, nor the soft violins playing familiar sentimental tunes in the background. It was the voice in which they were delivered. The voice was warm and friendly and relaxed -- captivatingly natural. And yet it was also fatherly, soft and firm. It was a voice you could trust. For years, radio experts didn't understand this...In an era in which most radio messages were hard sell, the flour salesman from Fort Worth had, as one chronicler was later to put it, "either stumbled into, or deliberately figured out, that a microphone is an ear and not an auditorium -- and you don't make public speeches to microphones, you don't shout into them any more than you would shout into your sweetheart's ear when you want to tell her you loved her. O'Daniel learned early that he had Texas by the ear and from that day on he cooed and caroled and gurgled into it." (Caro 697)

O'Daniel shifted the listener so far into a high-involvement Participant relationship that the content of his message ceased to matter. This meant his credibility was determined more by the listener's emotional reaction to him as a person as inferred from the voice and manner. The inference of a huge segment of the Texas population was that he was a caring, all-knowing father figure who could be trusted absolutely, and so they accepted his commercial, religious and political messages uncritically. Others rejected him as an entertainer or huckster, his credibility among them was zero and they were therefore completely baffled when he won the governorship by a landslide (Caro 696-8).

A current parallel might be the hosts of Talk Radio shows, principally in the United States. Descriptions of their work echo (albeit in more contemporary vocabulary) the chronicler of O'Daniel quoted by Caro, above. Take this one from Martha Sherrill, profiling Don Imus of WFAN in New York:

He makes millions just talking. He does a Heineken ad -- charges \$2,000 a minute -- and you can hear how much he wants one. His voice is slurry, deep, a little swampy in his throat. It's been seven years since he had a drink, and you can hear his saliva. He does a Jeep ad beautifully, too, with his hesitations and exhalations, with R&B music in the background. Imus makes it with the microphone, swings his head around, gets his lips and tongue right up there, close to the metal head. He breathes out heat and sex and anger and it all comes back to him. (Sherrill 99)

Broadcasters seeking to grab and maintain a firm grip on as large an audience share as possible may benefit from casting listeners in the Participant role, encouraging them to infer qualities about the broadcaster and infer a personal bond with her or

him. This may be useful for show hosts and other entertainers. The implications of encouraging this among radio news journalists, however, is unsettling, especially at a time when straight reporting mingles increasingly with interpretation and analysis. If conveying content clearly and in a fashion seen as fair by all sides is the goal of radio news journalists, they may be wise to maintain a healthy personal distance between themselves and the listener, reducing the latter's temptation to draw inferences about their characters, opinions and intentions. Broadcast journalists who find themselves with loyal followings but also bitter detractors may have strayed into a high-involvement relationship with their listeners, encouraging them to react on an emotional level to the reporter as an individual rather than to the content of the reporter's work. No one warned these broadcasters of this danger when they were being encouraged to treat the audience as a collective Aunt Martha or spouse or sweetheart or co-worker or friend.

Writers of broadcasting textbooks and style guides obviously had no intention of wading so deeply into the swamp of language and communication science. They were offering what seemed to be quite obvious, easy-to-follow common sense advice: Write the way you talk. But there is clearly far more to the matter than that. Analogies are always fraught with peril but are most tempting in the absence of vocabulary specific enough to define the subject at hand. Radio news broadcasters would not have to imagine phoning Aunt Martha as the context for communicating with their audience if they had a way of better understanding this communication's actual nature and context -- and a proper vocabulary for discussing both.

Of all the analogies for broadcast news style offered above, Defoe's from more than two hundred year ago is perhaps the best starting point from which to attempt to develop radio journalism language techniques based in science and research rather than assumption and habit:

If any man were to ask me what I suppose to be a perfect style of language, I would answer that in which a man speaking to 500 people all of common and various capabilities should be understood by them all. (Bliss and Patterson 52).

The obvious next question is: So what *is* that style, Daniel? With Defoe no longer able to respond, we could do worse than to seek the answer through the work of Tannen, Halliday, Rost and many other language specialists who may never have wielded nor even heard of a "journalist's palette" as conceived by Adam but still have much to tell us about the nature and range of its colours -- not only about *how* best to use several of them, but also *why*. The next two chapters will take this study down paths which may seem far from those usually trodden by journalists, and it is understandable that readers may wonder what connection they have with radio news broadcasting. What they will show, however, will be the highly fragile nature of oral communication and its dependence on the ability of the listener to perceive the incoming stream of sound, process it, and turn it into meaning at the rate at which the performer produces it. This will take us, over the next two chapters, from the perception of individual speech sounds through to the "ideal" flow of oral narrative. Each of these in turn will demonstrate the critical role of sequencing in oral

performance designed to make auditory processing as easy as possible. The relevance of all these concepts explored in Chapters III and IV will become clear when we return to radio news in Chapter V.

Chapter III

A MODEL OF

HUMAN INFORMATION PROCESSING

The first chapter of Papper's **Broadcast News Writing Stylebook** is entitled "Readability" and it opens with the declaration: "Any broadcaster should be able to read any piece of broadcast copy" (1). The book's only section specifically on radio (including "Drawing Radio Pictures") uses the word "listener" only in the context of using sound from an event so "the listener (is) transported to it"; "audience" is mentioned only when the point is made that "(m)ost radio listening takes place in the car" (Papper 113). Kasell and Rosenbaum insist in their article in NPR's **Sound Reporting** text: "Your script is *not* the finished product; the finished product is your delivery on the air" (72). The **CBC Radio News Style Guide** is divided into sections on writing and on performance, but ventures further from the lips of the broadcaster by prodding reporters to voice their scripts with an intent similar to that of actors:

(E)ven the least-trained actor seems to try harder than we do to find and communicate the *meaning* in the words. Or *understands* better than we do the importance of meaning. Or knows better *how* to communicate that meaning. (CBC News Style 63)

But preoccupation with the act of transmission, viewing the performance as the

"product" to be perfected, is a mistake if the real goal of radio news broadcasting is communicating meaning to the audience. The preceding chapter suggests writers on broadcasting language still subscribe to the belief that an idea clearly expressed will be clearly received, as though oral communication is the passing of a metaphoric bucket of information from one person to another. Examination of obstacles to the act of communication rarely gets deeper than observing that

there are lots of ways to confuse the audience: a word or phrase that's out of place or that doesn't mean exactly what it should, a phrase that's awkward, even wordiness itself. If the audience has to stop and think about what you mean, you lose them. Do it often enough, and you lose them permanently. (Papper 29)

This does imply there are cognitive processes going on within the listener which can be impeded if additional activity is required simultaneously to decipher an unclear message or recall related details from memory -- although "stop" and "think" are contradictory when you consider that both thought and oral communication are events occurring in real time (Ong 32). John Locke had already gone further than Papper and others in 1689 when he pointed out "(t)o make Words serviceable to the end of Communication, it is necessary that they excite, in the Hearer, exactly the same Idea they stand for in the mind of the Speaker" (Rost 2). The key difference here is the process of *exciting a new idea* in the Hearer that is as similar as possible to the intended one, rather than the model of passing an idea from the speaker to the listener.

Those who study language interpretation have long realized there is no solid

bond between words used and meaning received. Danica Seleskovitch of the Sorbonne noted in 1978 that

auditory perception has a special quality which enables it to separate meaning from wording, and thus retain meaning and forget wording. This gives the interpreter an advantage, for in interpretation his (sic) attention is focused on meaning and is not distracted by words. Whether one likes it or not, the wording only makes a fleeting impression and, because of this, meaning and wording are automatically separated...If (meaning) is not retained, the interpreter who has not understood is as incapable of saying anything meaningful as the person who sees something move and, not knowing whether he has seen a snake or a mouse, will refrain from stating definitely whether he has seen one or the other. (Seleskovitch 16, 27)

More contemporary views, influenced by literary theorists such as Todorov, Iser and Crossman and by the cognitive sciences, would acknowledge that wording and meaning are not only separated but are separate to begin with -- "*meanings* reside not in messages but in people...(t)herefore the messages sent by a speaker are never exactly the same as those received by the listener" (Witkin 26). Wording does not carry meaning but provokes its creation in the mind of the listener. If the wording is so jumbled that no meaning can be created from it, the contact will still "excite" meaning in the listener, perhaps about the speaker (most likely uncomplimentary meaning, too).

True, belief in the "fundamental information-processing paradigm" developed in the 1940s remains strong among journalists and others; that is, "communication is seen as a potentially perfect encoding-decoding process, in which speaker and hearer

approach an isomorphic match of meanings" (Rost 3).¹ But cognitive sciences have become increasingly convinced "that people construct rather than receive knowledge, and that understanding in verbal communication is a constructive process" (Rost 3). The difference is subtle but important. This constructive process in radio news refers *not* to the drafting and transmitting of a clear message but rather the prompting of the listener to construct in her or his own mind a clear picture of what is being reported. Ideally, this newly constructed image would be consistent with the one the reporter had intended to convey, and would be in a form which can be readily remembered and connected with the listener's broader reality.

Contrary to the ideas of Kasell and Rosenbaum, it is this constructed meaning or image in the mind of the listener and not the message transmitted over the air which is the real finished product of the broadcast journalist. The challenge to the journalist is to see the job through and strive to make this final product as close to what was intended as possible. This, in turn, requires an understanding of how this final product emerges. Rost says the old standard information processing metaphor is "at best overly simplistic and at worst possibly misleading" because it equates listening with simply receiving and comprehending (3). Rost and others feel far more attention needs to be placed on listening as an active and, more importantly, interactive process. The place to begin forming a more sophisticated model of the transfer of information

¹ "A corollary of the belief that language ability can be explained on the basis of non-processual knowledge is the long-standing assumption that the products of language production and the percepts of language perception are, if not absolutely identical, at least completely isomorphic. The speaker articulates something and the listener hears that thing; the thing articulated is the thing perceived." (Straight 78)

via radio news, therefore, seems to be at this point of completion, where the listener forms and stores meaning based on the communication. We can then work backwards to see if there are, in fact, ways to improve how we "make Words serviceable to the end of Communication" so that the listener's idea of meaning is as intended and is retained.

Concerted study of the process of listening as a discrete act began in earnest within communication science and cognitive psychology as recently as the early 1980s, largely in response to demands by corporate interests for refined methods of training and advertising (Woldvin and Coakley xi). Early indications that effective listening involved skills which could be taught led to a rush to do so -- but as with journalistic conventional wisdom about language, "(m)uch of current listening pedagogy is based more on intuitive 'prescriptions' for listening effectiveness than on well-substantiated listening paradigms" (Woldvin and Coakley xii-xiii). Earlier work on language comprehension was largely on the level of words or unrelated sentences until the late 1970s when study turned to understanding narrative and the implications of story structure on recall (e.g. Mandler and Johnson, Thorndyke). Linguists began increasingly to realize the weakness of examining language as an object rather than within the context of complex communication events.

Many of the most intractable theoretical and descriptive problems of linguistics derive from the belief that linguists can (or even must) study language structure independently of language processes. The dialectical-processual approach focuses on processes, consistently separates the processes of comprehension from the processes of production, and shows how they work together in language understanding and saying. This

approach not only leads in the direction of solutions to old problems but also opens up large and promising new areas of linguistic investigation. (Straight 72)

Psychologists, meanwhile, had begun studying the workings of "attention" in the 1950s, in part due to the increased sophistication of air travel and the need to develop systems for air traffic controllers (Barber 3, 99-100). They were simultaneously adapting information theory developed by communication engineers to conform with their models of stimuli and response. These efforts initially conformed to the preoccupation with behaviour that had dominated psychology throughout the first half of the century. Throughout this period, investigation into the actual workings of the brain were disparaged by the mainstream as "mentalist" (Barber 24). This began changing in the 1950s and especially in the 1960s as the emergence of computer technology provided an analogy and terminology for examining the inner mechanisms of the brain (Barber 16-20). This analogy has its limitations but remains useful.

(I)f it is taken strictly to refer to the question of 'hardware', the analogy is not a very good one even though similarities do exist between computer and brain. It is a rather better analogy when considered in terms of software, the idea being that both the computer and the brain may be conceived as carrying out a task as a series of programmed steps...A fund of ideas became available in the form of the structural components of computers such as buffers, memory stores, content-addressable registers, secondary storage systems. So did a range of ideas relating to the way information is handled by computers, such as serial vs parallel processing, top-down vs bottom-up processing and so forth...The fundamental assumption is and continues to be that the brain may be considered as a processor of information. A corollary of this is that it is profitable to make an analysis of the constituent processing stages and mechanisms that underly human performance. (Barber 20)

And the profitability of this analysis can be extended to broadcast journalism if ways can be found to apply an understanding of these processing stages and mechanisms to the presentation of journalistic information to listeners and viewers.¹ The analogy with computers is especially apt now that we are beyond seeing computer systems as models of perfect processing patterns and see them more realistically as tools with limits which can be exceeded and weaknesses which can lead to failure.

On-line systems are brittle. They work when everything's normal, but are exquisitely sensitive to software, hardware and communications problems. A stream of data can't wait for a computer: If it's not decoded immediately, bits fall onto the floor. Thus, we hear of on-line programs that pass all the tests, yet fail just when computers slow down from a heavy workload. (Stoll 73)

The following is by no means an attempt to summarize the sum total of the most up-to-date research into the brittle little processing system carried inside each member of humankind. Much of the latest leading edge tinkering with scientific theories will in fact be left aside in favour of more basic foundation concepts. This is, after all, not a scientific treatise; it's a wide-ranging, exploratory conversation between science and the newsroom. And through it all will run (at least on the newsroom's part) a firm belief in R. D. Laing's caution in *The Voice of Experience* about the

¹ Without pushing the analogy too far, it is fair to say that computer users most familiar with the workings and requirements of a particular software will be best able to use that program efficiently and effectively to process material in ways which produce the desired result. This understanding is especially useful if one's role is developing presentation styles and practices for basic "users" who can't be expected to have sophisticated knowledge of the program's design. In journalistic terms, the "master users" therefore should be journalism educators, editors and reporters dealing with material which is particularly difficult to convey clearly to a popular audience.

limits on what science can adequately understand and explain:

There is a resonance between the singer, the song, sung and heard, and the listener. A melody reverberates and regenerates feeling, mood, atmosphere, nuances of pathos, that no scientific discourse can convey, let alone scientific method begin to study, across widely different people, cultures, times and places. (Laing 11)

There is also much about the resonance among the storyteller, the story and the listener that cannot be described or studied in science. But there is a surprising amount that can.

Human Information Processing

It is important to note that "information" in this context doesn't refer strictly to the usual notions of knowledge or facts or meaning. It is what emerges or occurs in the mind through a decision assigning one identity out of a variety of alternatives to a pattern perceived within incoming stimuli -- the "reduction of uncertainty" as the mind labels input and picks appropriate reactions (Witkin 25-6, 29). Understanding how this may occur can be significantly helped by the development of a model -- but only if the limitations inherent in any theoretical model are kept high in mind.

The model, in short, never becomes the thing we are attempting to model. A meteorologist's model of hurricanes never truly captures all the aspects of the hurricane. This is true of most useful models, be they models of an atom, models of the universe, or models of the mind. In fact, from an

information theoretic viewpoint...it may be that no model exists simpler than the thing itself...Acknowledging this distinction between model and the modeled phenomenon, it is apparent that most useful models will eventually be shown to be incomplete or wrong in some sense. (Luger 139)

What follows is based on a model selected to be "useful" in this discussion. Its limitations may be many, but do not have as significant an impact in this context as they may in others within the fields of psychology or linguistics. What is needed is a model that is helpful, not necessarily definitive.¹

The general model developed under the influence of the computer analogy initially presented information processing as a flow through a series of discrete modular stages between the input or stimuli being encountered and the output or response generated as a result. In a typical model, the stages were: Encoding, in which an internal representation is formed of the stimuli; Classification, in which this internal representation is compared with memorized representations of possible stimuli; Response Selection, in which the identified stimuli are associated with possible appropriate responses; and Response Execution, in which this response is organized

¹ The model for human information processing presented below is drawn almost entirely from the early chapters of Paul Barber's book **Applied Cognitive Psychology: An Information-Processing Framework** (1988). Barber's model seems particularly appropriate here for two reasons. First, he advances it not as his own invention but rather as a synthesis of currently predominant opinions among cognitive psychologists; he notes copiously the works of others in the field to support the model and to indicate elements still subject to disagreement. Generation of this synthesis by someone expert in the field seems more dependable than any attempt of our own. (The citations of Belle Ruth Witkin were selected for the same reason: they refer to a chapter in which she too pulls together the work of a vast array of scholars, in this case to produce a model for the processing of speech.) Second, Barber's aim is to produce a model to meet a need similar to our own: that is, to provide a basic understanding of information processing which can then be applied to practical situations. "The outline model developed in this chapter will not be tested to destruction since its role is to provide a means by which the reader may find it convenient to orientate relative to the topics discussed." (34)

and implemented (Barber 20-2).

The early presumption was that these steps were each separate, independently operated, and necessarily sequential. Each was believed to take "an amount of time (generally thought to depend on the complexity of the operations to be performed), and each is initiated on the completion of the immediately preceding stage" (Barber 22). This led to considerable discomfort among scientists who rejected the concept of memory as "boxes in the head" and information as a commodity being shuffled mechanically in and out of them (Solso 155-7). Further consideration modified this simple flow chart with suggestions that execution of these individual stages could overlap rather than be discrete from each other. Also, it was argued the one-way flow through the four steps was too simplistic; later stages were seen as potentially influencing the execution of initial ones as the stimuli continued to arrive and be encoded and classified (Barber 22-3).

These stages may seem familiar and even obvious as the steps involved in receiving a message, evaluating it and responding. What must be grasped here, however, is that this does *not* refer to the processing of the message as a whole but rather to the reception of every tiny particle of it -- in the case of spoken language, every syllable and fluctuation of intonation, every pause or acceleration, every square millimetre of face if the speaker is visible, every accompanying movement or graphic, and every other stimuli (visual, auditory, olfactory, kinaesthetic or other types) present

in association or competition with the intended communication.¹ The oral communication does not enter this system as a unit and move through its stages one at a time; rather, each minute instance of stimulus occurring in and around the communication enters this system in real time, as it occurs, and is processed through it -- or missed -- as the next fragment enters on its heels. A new idea or image is constructed within the listener as a result of the continuous execution of responses which assign meaning and emotion to whatever portion of the available stimuli the mind is able to encode and process.

Two other vital elements must be added to the model, not as other steps but rather as the active factors which power and support human information processing. They are *attention* and *memory*, and effective processing depends on their ability to deal efficiently with stimuli as they pour over the senses in the form of a continuously breaking wave. This is where this model merges the basic theory of information processing with its early challenger, the "level of processing" model. This latter model rejected the differentiation between short and long term memory "boxes" in the information processing model; it suggested instead that the strength of a given memory depended on the level or depth to which the mind is able to process it as it arrives.

Whether a stimulus is processed at a shallow or deep stage depends on the

¹ This does *not* mean to suggest that language content itself is "stimuli" which triggers responses; this runs exactly counter to the idea of the constructive nature of information processing: "Even the most overt 'stimuli' and 'responses' that sometimes appear in the causal chains in which language performance occurs are not describable in terms external to the sensory and motor processes of perceivers and behavers, and most links are not overt but rather consist of events internal to language users." (Straight 78)

nature of the stimulus and the time available for processing. An item processed at a deep level is less likely to be forgotten than one processed at a shallow level. At the earliest level, incoming stimuli are subjected to sensory and featural analyses. At a deeper level the item may be recognized by means of pattern recognition and extraction of meaning, while at a still deeper level it may engage the subject's long-term associations. (Solso 155)

In the current model, the four stages of processing constitute the "sensory and featural analyses" in the level of processing model and are how the mind decides whether it can or should devote the attention necessary to process the continuing stimuli stream more deeply than at just the shallow sensory level. The degree of attention and depth of processing, in turn, determine the amount and quality of information gleaned from the incoming stimuli and readily available to be applied to subsequent stimuli as the processing continues. Even if there isn't a strict dichotomy between short and long-term memory, meaning from stimuli processed in a shallow way will not endure as long as if processed more thoroughly. Strictly for the limited purposes here, therefore, the two models seem to combine reasonably well into one.

Attention and Memory

Popular usage speaks of "attention" being "focused, divided, shifted, or even involuntarily captured" (Barber 25). But to cognitive psychologists, "attention has come to be considered as a matter of the allocation of processing resources, with information sources and processing operations attracting more or less resources as the

task demands require" (Barber 27). Attention is not generally seen as a step in the processing chain but rather is assumed to be a variable which can be applied as required at any stage. It also seems to play a role in filtering relevant inputs from apparently unnecessary background stimuli, although "the 'filter' mechanism is not tuned purely to arbitrate about the acceptability of events on physical criteria, but...is also sensitive to quite complex attributes of the input, including their meaning to the receiver" (Barber 26). This means attention is not a rifle scope consciously aimed by the listener toward a specific source; it continues to receive and evaluate the broad range of surrounding stimuli and will seize on whatever seems relevant.

A simple example is how, even in the midst of an engrossing conversation, we will be jarred by the mention of our own name by someone on the other side of a noisy room. Some research indicates there are hidden *preattentive processes* which are at work detecting stimuli specifically relevant to us as individuals (Witkin 38). Names are an obvious example. According to the above model, our "attention" does not jump *from* conversation *to* the new source; it *admits* the new stimuli as being relevant and assigns the mind's processing resources to deal as best it can with the inputs now coming in on two channels. Researchers do not agree on what happens next. Some believe "attention" decides which channel should be considered primary, deserving the most resources, and gives encoding priority to it. Others say both channels are processed through the encoding and classification stages equally and designation of the priority set of stimuli "is delayed until a response has to be selected, or information must be stored in memory" (Barber 26-7).

Whichever is the case, there is substantial evidence of two separate types of attention -- *selective* and *intensive* (Witkin 35-7). The first determines the signal being given priority at a given time, and the degree to which it can be consciously controlled by a listener improves with age and practice. Conditions also influence its effectiveness in predictable ways:

Selective attention tasks are easier if the inputs to be attended to form a distinct unit, or contrast with the simultaneous background message. It is easier if the two messages are in quite different voices, or separate inputs to the two ears, or meaningful speech contrasted with noise, or (in the case of similar voices) if the voice to be attended to is at least 5 decibels (db) louder or softer than the voice to be ignored (that is, a signal-to-distraction ratio of +5 or -5 db). (Witkin 35)

Selective attention can be reinforced through techniques such as *shadowing*, where the listener repeats aloud what is heard as simultaneously as possible (Witkin 36; Barber 25-6; Solso 121-2). This, in turn, improves memory of the message; however, experiments have shown a relevant word played on a secondary channel can cause a slight delay in shadowing and an increase in shadowing errors as selective attention flickers momentarily to include the secondary channel (Witkin 36). (The usefulness of shadowing in attention and memory should be recalled in later pages while considering the roles of rehearsal in short-term memory and the motor theory of speech perception, itself a kind of shadowing.) Auditory and visual signals are processed through different modes, and an auditory task will therefore be disrupted by an auditory distraction more than a visual task will be. Interestingly, in light of

television, a visual stimulus clearly dominates over a concurrent auditory stimulus in terms of both awareness and response. A visual distraction will therefore interfere with an auditory task more than an auditory distraction would interfere with a visual one (Witkin 38).

Intensive attention reflects the strength of the attention applied to specific stimuli, based on the premise that the amount of effort that can be exerted as attention at any one time is limited. This means concurrently arriving stimuli tend to interfere with each other, even when selective attention has designated one as being primary.

(T)wo different but related phenomena are subsumed under the construct *attention*. One is our ability to focus on certain aspects of the world in order to increase the detail with which it is perceived. The other is our apparent inability to process simultaneously and deeply all aspects of the stimuli impinging on our sense organs. Attention is a tradeoff between *depth of processing* and *breadth of processing*. (Witkin 37)

Selective and intensive attention are applied to each incoming stimulus. The degree to which a stimulus is selected and the intensity of the attention devoted to it play a major role in determining the effectiveness with which it is processed and remembered (Witkin 40). As well, the processing of incoming stimuli may require devoting attention to memories already stored which are needed to classify and select responses to the stimuli (Witkin 39). Since attention is a limited resource, the degree to which attention must be allocated to memory as opposed to perception and encoding could influence the effectiveness of those actions in the same way as would other distractions which diffuse the intensity of attention paid to the primary selected stimuli.

There are two forms of memory relevant to human information processing: *peripheral*, meaning memory stores or "buffers" which hold an unprocessed memory of a stimulus very briefly while the mind tries to deal with its arrival; and *central*, meaning relatively long-lived memories of previously processed stimuli (Barber 27-8). Central memory is applied in the second and third stages of this information processing model -- Classification and Response Selection -- and is also the potential destination of the stimulus being processed. Central memory in this model is considered to be divided into "a short-term active form" or *working memory*, and a more permanent long-term form (Barber 29). The "level of processing" model might speak of the working memory as information being actively processed which will endure if processed deeply enough and will be lost if not, but which, if only fleetingly, is available to support processing of subsequent stimuli. The end result seems similar enough to allow continued use of the term "working memory" here.

Psychologists established early in their research on cognition that working memory requires deliberate effort and is extremely limited and transient. Its scope "is usually found to be about seven or so items for most kinds of materials like digits, names, and so on" and its duration depends largely on the *rehearsal* of the item of information by the recipient (Barber 29).

If information is not maintained by rehearsal then it is rapidly lost, as if subject to spontaneous decay over time. Indeed...subjects tended to forget something as simple as a single string of three letters (e.g., TFK) in less than twenty seconds, if they were prevented from saying it to themselves (by having to count backwards in threes from a given number) in the interval between presentation and testing.

As the term suggests, working memory is considered to be involved in the work of transforming, reducing, and elaborating information for the purposes of more economical storage, the combination of information from other sources, and the solving of problems...In short, working memory is a kind of desktop, a workspace for holding information needed temporarily for the purpose of some other processing activity..., and its holding capacity is limited in amount and time...(I)nformation reaching permanent memory is considered in most accounts to arrive via the working memory, so the latter also serves as an information-transfer system. (Barber 29-30)

The system for processing information, therefore, involves *structural features* such as various types of memory stores (peripheral and central, working and permanent) and *control processes* such as attention, rehearsal and retrieval (Witkin 31). These control processes filter stimuli entering peripheral memory where patterns are recognized, analyze these patterns on the "desktop" of short-term working memory in light of stored memories to establish meaning, store a result of this as a more fixed and enduring memory, and seek out this record if needed in future information processing. These, therefore, are the main relevant "software" functions mentioned above when the analogy between computers and human information was introduced.

Other human information processing models abound. One may have three interlocking steps (Signal Processing, Literal Processing, and Reflective Processing), another five (Sensing, Recognizing Patterns, Understanding, Remembering, and Reasoning), but nearly all seem to be describing the same sequence in ways which do not contradict the basic model presented in Barber (Witkin 28). One exception rejects the idea of sequential stages entirely and sees incoming stimuli as being analyzed by "a pool of memory schemas" formed from previous knowledge and experience, with the

resulting new information becoming a part of this pool (Witkin 30). This, however, is similar enough to what Barber sees happening when both working and long-term memory are applied in the Classification and Response Selection stages, especially since he relaxes the idea of sequence by acknowledging later stages may influence earlier ones. Barber's model and terminology, therefore, will be the ones we adopt as we move on to discuss the processing of language.

Summary:

Before doing so, let us recap very briefly the most important concepts introduced in this chapter. First, there is the image of auditory stimuli as a stream flowing into the ear at a rate normally beyond the listener's control. This flow of stimuli is processed by the listener using attention resources which are finite and which are assigned based on conscious and unconscious decisions about the relevance and importance of competing stimuli. Processing is done in the sequence in which stimuli arrive, and must keep pace with the rate of arrival. If processing cannot keep pace with this rate, trade-offs are made regarding the depth of processing or even whether to bother consciously completing the processing of sections of the stimuli stream which seem less relevant or perhaps too complex.

Working or short-term memory is a desk-top of very limited size, and impressions of stimuli not processed into long-term central memory in their proper turn are quickly lost and cannot usually be recalled, even if they *do* turn out to have

relevance in light of stimuli which arrive later. Rehearsal and repetition can extend the survival of fragments of stimuli within working memory, but extended survival depends on fitting these elements into a pattern which creates an overall meaning which can be more easily grasped, understood and retained as a whole. Existing memories are an important aid to processing incoming stimuli, but accessing these is a processing function which uses attention resources, diverting them from other processing activities. Once again, the mind makes trade-offs as it assigns limited attention resources. Encountering a stimuli stream which can be processed only through heavy reliance on memory may mean inputs on secondary channels may end up being dropped entirely from consciousness, or the processing depth or breadth applied to the incoming stimuli may have to be reduced so the mind can access the memories it needs to construct meaning from the situation.

The underlying theme throughout is the enormous fragility of the processes through which the mind draws meaning from the vast array of stimuli occurring around it simultaneously and in streams of sequence. The information or meaning drawn from an encounter can vary greatly as a result of, among many other influences, switches in the channel(s) being given priority at various moments, failure to process adequately segments of the incoming stream which arrive too rapidly or in too dense a form, or lapses in attention to incoming stimuli as information from memory takes precedence. Given this, utmost care must be used in presenting information if one person wishes the mind of another to draw and retain a specifically intended meaning from the stimuli stream created by the performance. An understanding of all this is

clearly crucial to the work of radio news journalists -- but before applying it directly to their techniques and products, we will examine in Chapter IV how these processing considerations influence use of the radio journalist's central tool: spoken language.

Chapter IV

RECEIVING AND UNDERSTANDING

ORAL LANGUAGE

There are serious difficulties with conceiving of an oral message as a single entity or discrete input entering Barber's information processing model at one end and coming out the other. As stressed above, an oral message is *not* a ball player rounding the bases of Encoding, Classification and Response Selection and then sliding home to Response Execution. A better analogy for the oral message would be a line of people slogging in a steady stream through four puddles which merge one with the next at their edges. New people are entering the first puddle even as others are leaving the last and entering central memory. What's unclear with oral language processing is whether this line is marching in single file -- or several abreast.

It is important to think of the reception and understanding of speech as a form of *auditory processing* rather than just *language processing* equivalent to reading. The fact that the stimuli involved in speech arrive at the listener as sound brings far more factors into play than just semantic structures.

There are two sets of phenomena in auditory processing: (a) the acoustic, linguistic, and statistical characteristics of the *message* (speech signal, input); and (b) the psycholinguistic and perceptual processes occurring in the *listener*...(I)n tracking a spoken message a listener uses three levels of analysis: *acoustic* (frequency, speech quality, rate), *linguistic* (phonetic

constituents, phonemic sequences, grammatical structures), and *semantic* (meaning). (Witkin 31, 34)

As has been stressed and will be said repeatedly in pages to come, the key characteristic of oral language which must be remembered here is that it does not exist -- it occurs. Oral language is an event, not an object. The speaking event involves the arrangement of detail in linguistic patterns which are performed orally to produce complex acoustic signals that also form a pattern. This latter pattern of sounds arrives at the listener as stimuli (input) and is received into initial peripheral memory and encoded into an internal representation of the sounds the listener was able to perceive. But once sound reaches the ear, study must shift from the hard science of physics to the less sure field of linguistic and cognitive theory.

At the most superficial level of analysis, an utterance can be seen either as a sequence of sensory patterns or as a sequence of muscle commands. The recordings upon which linguistic analysis is based present neither of these. Even the most faithful and complete electronic registration of the acoustic effects of a spoken utterance tells you only what pattern of sound waves struck the listener's ear drum; it does not tell you what pattern of neural activity might be provoked by the transmission of this physical energy into the inner ear. (Straight 79)

There is disagreement as to what happens at this stage. Does the mind begin classification of these sounds by matching them to all possible sounds and through this establish they are speech and assign specific values to each sound (*serial processing*)? Or are they processed as sound and as language simultaneously (*parallel processing*),

since the mind may process sound stimuli in a completely different manner than it does linguistic content suggested by it?

For instance, the *motor theory of speech perception* suggests a listener who identifies sound as speech derives meaning from it *not* by comparing it to remembered sounds but by unconsciously sensing the muscular actions necessary for a speaker to produce those sounds, and it is the action rather than the sound which is linked to the linguistic meaning (Tsur 8-14). This could explain the results of experiments showing that sounds in speech which vary widely in acoustic qualities can still be perceived by listeners as having the same linguistic meaning, and identical sounds can be assigned different meanings -- which has been called, unhelpfully, the "acoustic-phonetic non-invariance problem" (Witkin 48).

(T)hey seem to indicate that we have a speech mode and a nonspeech mode of listening, which follow different paths in the neural system. We seem to be tuned, normally, to the nonspeech mode; but as soon as the incoming stream of sounds gives the slightest indication that it may be carrying linguistic information, we automatically switch to the speech mode: we attend away *from* the acoustic signal *to* the combination of muscular acts that seem to have produced it...and *from* these elementary movements *away to* their joint purpose, the phoneme sequence. (Tsur 11)

When this version of the speech mode of listening is placed within Barber's model of information processing, the internal representation of speech encoded in the first stage of information processing would be the muscular activity inferred from the sound, which would in turn indicate the linguistic sound fragment (the *phoneme*) intended when that action is performed. Phonemes in sequence build into words as

they are classified in the second stage of processing and acquire meaning as the mind's response to them. These are assembled further in working memory as words become clauses, sentences, and so on (although the mind does seem to know some shortcuts, as will be discussed later).

Reuven Tsur's application of speech perception science to the expressive qualities of sound in poetry raises the question whether the *nonspeech* mode also continues to process the sound even after it is identified as speech.

In other words, the question is whether the acoustic signal is shut out from the nonspeech processor once it enters the speech processor, or is the *output* of the nonspeech processor shut out from consciousness once the output of the speech processor is attended to? My speculations are more consistent with the latter possibility. There is, indeed, some experimental evidence that supports me. (Tsur 13)

If it is the case that the brain processes spoken language as both speech and nonspeech sound, the "information" produced by the nonspeech processor would be similar to that derived from music or other non-linguistic sounds. The responses selected in the processing of these sounds would lead the unconscious mind to react at the same time the information generated by the speech processor is being constructed into meaning which inspires a more conscious set of responses. This leads Tsur to believe there is a hybrid "poetic mode" of processing which combines the speech and nonspeech responses to generate meaning from the spoken word which goes beyond the literal meaning the listener assigns to the words and sentences.

When the acoustic signal is processed in the nonspeech mode (by the right hemisphere of the brain), we hear it as if we hear music sounds or natural sounds. We attend away from overtone structure to tone colour. When the same signal is processed in the speech mode (by the left cerebral hemisphere), this tone colour is suppressed. In the poetic mode, the main processing is identical with the processing in the speech mode. However, some tone colour from the processing in the nonspeech mode faintly enters the consciousness.

I cannot consider here the question whether the poetic mode is a submode of the speech mode, or a mode in its own right. Perhaps the question is similar to whether the zebra has white stripes on a black ground or black stripes on a white ground. (Tsur 18)

The poetic mode and the motor theory of speech perception are only two among a vast array of possible explanations for how the mind reads sounds as language. Their use here is largely to show the multi-layered complexity of the act of speech perception; they may or may not be completely accurate, but whatever is actually the real process is unlikely to be any simpler. Mapped and explained tentatively in this way, human information processing of oral language is clearly a demanding activity, albeit one usually carried out instinctively and seemingly instantaneously. The concept of attention as the allocator of information processing resources implies these resources are finite and the mind makes choices about what to try to process and what to miss. An incoming message, therefore, presents a task to be performed with these finite resources according to a specific process. Early on, Barber discusses the need to apply cognitive psychology and cites as an example the way instructions are often written and machinery is sometimes designed:

A piece of equipment may be designed for self-assembly so that one has

simultaneous need of a surgeon's fingers, the strength of a lion, and the timing of a professional juggler. Account is not always taken of the limitations and capabilities of the human operator or user, so it is important to delineate them, and a useful adjunct to this is a model of human performance in the relevant context. Such a model could be formulated in the light of these abilities and might serve as a device for summarizing them in a convenient framework. (Barber 15)

We are part way there. In our case, the task at hand is the "self-assembly" or construction of meaning from a series of audible events perceived by a listener. We have borrowed a model for the steps of information processing and recognized there is a specific auditory processing technique for identifying sounds as individual units of language for which identity and meaning can be sought. The next step is to examine how, once recognized as language and encoded, these streams of language units or phonemes are classified, formed into words and turned into meanings which can be built into an understanding of complete messages.

Understanding Oral Language

Sound disappears at the speed of sound. In human information processing, the sounds (stimuli) arriving in the ear of the listener vanish the instant they are detected. The beginning of a phoneme or syllable is gone before the end of it is completed. According to our model, an impression of the experience is encoded into an internal representation held fleetingly in peripheral memory (perhaps as a memory of the original sound itself or of a physical action inferred from the sound actually heard, as

in the motor theory of speech perception). New sounds are being experienced and encoded even as the internal representation of the first is being classified, and more arrive on the heels of these as the first sound's identified value is being considered for response and the second sound is being classified.

Given that the average normal speaking rate is 125 to 175 words per minute and that each word may be composed of several phonemes, processing must occur at a frantic pace (Witkin 45). The mind, however, becomes increasingly familiar with recurring patterns and learns to take shortcuts and make leaps similar to those of an experienced crossword puzzle addict. It can sort phonemes into words quite rapidly because it

unconsciously rejects any sequence of acoustic events in a spoken message that is unlikely to occur in the language.

Fortunately, it is not necessary to hear and understand every phoneme and lexical unit in ongoing speech to derive meaning from it. As G. A. Miller notes, 'The secret of the resilience of the spoken word is that it contains far more information than the listener actually needs.' All languages are characterized by redundancy -- that is, some sequences of verbal units are favoured more than others -- and this redundancy effectively reduces the amount of information that must be encoded per unit. (Witkin 27)

The ability to record spoken language on audio tape and then transcribe its contents has blurred the difference between it and written language, especially when dealing with languages such as English, where literacy has dominated formal communication for centuries. Comparisons of the written-down versions of spoken language with language committed directly to writing generally dwell on structural

differences, missing the fundamental point that oral language *has no structure*.

Structure implies architecture. Halliday insists "spoken language is more like dance; it is not static and dense but mobile and intricate" (Functional xxiv) -- it is process, not product.¹

The process/product distinction is a relevant one for linguistics because it corresponds to that between our experience of speech and our experience of writing: writing exists, whereas speech happens. A written text is presented to us as product; we attend to it as product, and become aware of its 'process' aspect as a writer but not as reader or analyst, unless we consciously focus on the activities which led to its production. Spoken language on the other hand is presented to us as process; moreover like many processes it is characterized by a continuous flow, without clear segments or boundaries, so that it appears as *text* (mass noun) rather than as a *text/texts* (count noun). (Halliday Functional xxiii)

It is critical to recall the lack of clear segments or boundaries in spoken language because the visual study of language has conditioned us to take for granted it is made up of letters, syllables, words, groups, phrases, clauses, sentences, paragraphs and complete texts. In speech, there is only the flow of sound, with grammar orchestrating the potential semantic meanings of the phoneme stream.

It is not possible to point to each symbol as an isolate and ask what it means: the meaning is encoded in the wording as an integrated whole.

¹ Disenchantment among certain linguistics scholars with Functionalism as an approach to the study of language does not weaken the relevance of Halliday's analysis here. The dispute within the science is linked more to the use of functions to explain structure as opposed to showing how certain structures achieve specific functions. The roots of language are of interest to linguists and therefore this point is important to them; the *application* of language is the topic here, and therefore the debate is a side issue. (see Luelsdorff xi-xii)

The choice of a particular item may mean one thing, its place in the syntagma another, its combination with something else another, and its internal organization yet another. What the grammar does is to sort out all these possible variables and assign them to their specific semantic functions. (Halliday Functional xx)

In very simple terms, grammar functions this way: Take the phoneme sequence *icklesnorfborgdinglenittybork*. This would emerge in speech as a continuous series of sounds which, if transcribed, could be separated into individual words according to the conventions of the relevant language. To keep the example simple, assume six simple words: *ickle snorf borg dingle nitty bork*. The same arrangement of letters often has numerous meanings, so let's imagine each of these has four possible meanings. Without grammar, the meaning of the sentence would have to be deduced from sorting through all the possible variables created by combining each possible meaning of each word with all the others ($4^6=4,096$ variations). This would be well outside the capacity of a mind which must process this sequence through working memory very quickly to make room for the one coming in on its heels.

Grammar allows us to recognize each of the four meanings as falling into one of four types of word functions: noun, verb, adverb and adjective (leaving aside for now articles, pronouns, conjunctions and so forth). Grammar introduces probability as a way of reducing dramatically the possible meanings of the sentence. Since sentences (in English and this hypothetical language) generally begin with a subject, *ickle snorf* emerges as probably a noun group until there's evidence to the contrary, with *ickle* being most likely an adjective since it comes before the noun *snorf*. If *snorf* has two

possible noun meanings, the one selected by the listener will be the one more likely to be modified by *ickle*. Having identified a probable subject, *borg* will most likely be a verb, possibly followed and modified by the adverb *dingle* before we reach what is probably the noun group comprising the object of the sentence, *nitty blork*.

This weighing of probabilities is made much easier by the addition of the definite article *ip*, as well as the past tense suffix *-oop* and the adverbial suffix *-moo*, such that the sentence is now: *Ip ickle snorf borgoop dinglemoo ip nitty blork*. The use of the article removes all doubt that what follows will be a noun or noun group while the suffixes cue us immediately that those words are in their verb and adverb forms. With each word classified as a particular feature of grammar, the range of potential meanings shrinks drastically and intuitive leaps are possible (Witkin 31).¹

Narrowing down the specific meaning of a word is made easier for listeners by what has been called the *superfix*, the way the word is said which allows listeners to differentiate among the "green house" (painted green), the "greenhouse" (made of glass), and the "Green house" (where the Green family lives) (Hall 154-5). This is

¹ The above discussion of information processing parallels the compromise which has emerged between the "bottom-up" and "top-down" theories of language processing in reading. Bottom-up processing supposes "the smallest units of language are recognized first, and then chained together to form the next highest...Comprehension is thus the final step in a lengthy process of decoding ever larger units of language" (Nunan 78-9). The top-down model suggests the reader applies "his or her background knowledge of the subject at hand, knowledge of the overall structure of the text, knowledge and expectations of how language works, and motivation, interests and attitudes toward the text and the context it contains. Rather than decoding every symbol, or even every word, he or she forms hypotheses about what might follow in the text and then reviews or 'samples' these to determine whether the original hypotheses were correct" (81-2). The more recent compromise is the "interactive-compensatory" model in which both methods work in tandem. For instance, poor readers with weak decoding skills may make greater use of background knowledge to reach conclusions, relying more on top-down processing to determine meaning than on bottom-up working out of each letter, word and clause. This is akin to the intuitive leaps describe in the model derived from Barber and Witkin, above.

part of *prosody*, "the music of the voice, the rises and falls of pitch and amplitude, the tone and timbre, the interaction of sounds and silences" (Tedlock 3-4). Far from being mere ornamentation to wording, prosody "is crucial to the interpretation of what is intended in a message" (Gumperz 5).

Classification and meaning construction are further aided by the simple fact that certain meanings for individual words are more common than others, especially within a specific context or setting and from a given speaker. As well, we rarely start from scratch in forming thoughts from words.

There is a notion that when we are speaking or writing, engaged in producing text, we are making new sentences out of old words; but this is quite misleading. It is true, of course, that words get used over again more often than sentences do; much of the time, a speaker does create new sentences – sentences that are new to him (sic), at any rate. Rather fewer of his (sic) clauses are new; phrases and groups fewer still, and words fewest of all. (Halliday Functional xxi)

These sorts of pre-existing elements are an important aid to extemporaneous oral performance of the sort practiced by storytellers in oral cultures. There, the listeners' instant recognition of meaning is more important to the speaker's success than originality (Ong 38-9; Tannen Continuum 6). And in oral languages such as Navajo, ideas which would be expressed in English through a familiar cluster of words are often expressed by a single word composed of a root modified by prefixes and suffixes. For example,

Kintahgoo bil..
(He went to town by...)

... 'o' ooldloozh,
(...horseback at a trot.)

... 'o' ooldghod,
(...horseback at a run.)

... 'i' nooltua',
(...horseback at a gallop.)

The advantage here is that each of these sets of sounds has one precise and immediately recognized meaning which gives a specific picture of the mode and speed of travel. Since each occurs as a set cluster of sounds, its components cannot be jumbled into an unpredictable sequence or be interrupted by additional words or clauses before the full image has been conveyed, as in the English sentence: *He went to town by horseback yesterday at about a half past seven with John, riding at a gallop*. Navajo, like other primarily oral languages, places a high premium on immediate precision when describing movement (Kluckhohn and Leighton 273-84).

It therefore seems reasonable to conclude oral English may work most effectively when all the words necessary to convey the precise meaning are kept together in a sentence and arranged in the most frequently used pattern. Familiarity would speed classification and compact precision would speed response selection, removing even momentary uncertainty about meaning. Strunk and White do counsel writers to "keep related words together" but their concern is where separation introduces lasting ambiguity to the written statement ("You can call your mother in London and tell her all about George's taking you out to dinner for just sixty cents" -- is sixty cents the cost of the call or the dinner?) (Strunk and White 28) This advice

might have helped the radio writer in Ottawa who reported how a local couple with a cougar as a pet "are locked in a fight to keep the cat with City Hall" (CBC CBO News 29 May 1995). Strunk and White do not, however, address the need to make sure each element of meaning unfolds completely and precisely in its appropriate turn, as is necessary in oral communication.

An effective speaker must think of sequencing units of precise meaning or detail in the message, rather than simply using words with correct definitions in a grammatically correct way. This is why, in oral language especially, "the fundamental unit of organization is the clause" which expresses a single unified idea (Halliday Functional xxi). The disciplined use of meaning blocks, expressed orally with appropriate intonation, speed, rhythm and other elements of prosody, not only eases the processing of speech information by the listener but also improves the endurance of the message in memory.

Prosodic patterns of speech formulae, learned as wholes and associated with social contexts, help children store and retrieve information. The importance of formulae in memory and retrieval is highlighted as well by work on oral epic performance...Rhythmic patterns, together with rigid verbal collocations, make possible retrieval of large bodies of information in the production of oral epic poetry. Thus, prosody is a way of storing information, and retrieval is a matter of associating separately stored items. (Gumperz 7)

This places strong importance on the active elements of oral language and Halliday extends this by insisting that

...what the written language achieves lexically is achieved by the spoken language through the grammar. I have often pointed out that speech is no less complex than writing, but that the two gain their complexity in different ways. The complexity of writing lies in its density, packing together the lexical content, but in rather simple grammatical frames...It is in spontaneous, operational speech that the grammatical system of a language is most fully exploited, such that its semantic frontiers expand and its potential for meaning is enhanced. (Halliday Functional xxiv)

Words may be considered as objects but grammar is the process which propels those objects into action to create meaning and its oral performance causes a stream of phonemes to occur, with their sounds finely tuned by prosody. This action must be sustained long enough for it to be properly perceived and processed by the listener. Two techniques are employed: low *lexical density* and high degrees of *redundancy*. Lexical density is calculated by comparing the number of content words to the total number of words in a passage. Spoken language naturally spreads the *occurrence* of information content across a longer period of time (usually meaning the use of a larger number of words) than in written language. This gives the listener's mind more time to process it and therefore a better chance of doing so with accuracy and depth (Nunan 11, Witkin 27).

The Clause

Halliday's contention that the clause is the "fundamental unit of organization" in grammar runs contrary to the preoccupation with words and sentences in what he terms "folk linguistics" (Halliday Functional xxi). The CBC Radio News Style

Guide, in trying to free writers from a preoccupation with paragraphs, misses this point and places heavy emphasis on its claim that:

We think in sentences, and we speak in sentences.

The sentence, not the paragraph, is the unit of spoken English.

Listen to normally articulate people. They tend to speak in uncluttered sentences. They tend to use one sentence for each important thought.

They use few substitute clauses. They speak directly in the active voice.

They use concrete words, and they prefer short words to long words. (CBC News Style 18)

The whole CBC radio style guide is written on two levels: the content is presented for its own value; and the text is written in the kind of language being recommended, thus serving as its own example. But the example provided by the passage above doesn't ring true. *Is* this passage written in the kind of language that would emerge when a "normally articulate" person's views on this subject were transcribed? *Do* articulate speakers really "tend to speak in simple, uncluttered sentences" such as these? Halliday is cited above as saying even sympathetic transcripts of oral language often end up looking like "a dog's dinner" and that its "sentence structure is highly complex, reaching degrees of complexity that are rarely attained in writing" (Halliday Functional xxiv). Perhaps a more accurate representation of this passage is as follows:

Listen to some normally articulate people, say for instance, people like teachers or ministers or radio reporters [?] They tend to speak in (sentences) that are mostly fairly (simple and uncluttered), and they also tend to use one sentence for each of their important thoughts, and they

usually use comparatively few substitute clauses, I mean, few of those clauses that repeat the meaning of something they've just said, since those sorts of clauses are often redundant and take up time unnecessarily¹ (?)
And they speak directly in the active voice, saying who-did-what-to-whom instead using the passive voice, saying so-and-so had such-and-such done to them by so-and-so, and they're a lot more likely to use concrete words, and they prefer short words to long words, so you won't hear many long words from them when they speak.

This version is certainly not offered as a recipe for effective radio writing, but it is probably a more realistic depiction of how a "normally articulate" person speaks.² There are several things happening here. The underlined portions are additions to the original wording and round brackets show words which have been rearranged. Along with increasing clarity, the additional wording increases redundancy and lowers the overall lexical density of the passage, both characteristics of oral language. The first addition suggests examples of types of speakers who might be "normally articulate" and the examples might end with a rising tone of voice ([?]), almost as in a question,

¹ If this *is* in fact what is meant by "substitute clauses" as used by the CBC writer. The writer may also be referring to subordinate clauses or perhaps to what is called "elegant variation" elsewhere in the guide, meaning the use of different words or phrases at different times to mean the same thing – but this would suggest a misunderstanding of the nature of a clause.

² An actual example taken from the CBC parallels this exactly. Veteran CBC newsreader Bob Oxley was interviewed on *Morningside in the Summer* by host Paul Kennedy on 28 July 95. Kennedy played an example of Oxley breaking into giggles on-air, and asked about how newsreaders resist that temptation. Oxley replied: "Well, the short answer is that you, oh, you, you have to cope. I mean, you, there could be a story being read that is, really isn't funny at all, and somebody else wouldn't think it's funny at all, and there is some other story coming up that is a news of some other fresh disaster, and you simply can't. Now from time to time, there are, things happen, and I think the audience knows that something's happened that's a little bit funny, so maybe you can fall on their mercy, and God knows I've done it often enough, and hope for the best, but if you have to, finally, you just really kind of go into shock, I mean you just, you just go into some kind of other mental state, and you start to shake and you have trouble getting your breath, and you can feel the adrenalin just going through your system like crazy, and it's not, it's not a pleasant time." Note the linkage of clauses with *and*, *so* and *but*. The only real "full stop" break is between the overall idea that a newsreader *can't* let it happen and the next idea, which is about what it's like when a newsreader can't help it and *does* break up.

as the speaker checks to see that the listener understands the kind of person under discussion. Moving "sentences" ahead of its adjectives ("simple, uncluttered") means the details come after their context is clear and don't have to be held momentarily in limbo, awaiting a noun to modify.

The use of the word "and" between clauses is a natural habit of speech to show that what comes next is a continuation of the overall idea being expressed, even though it may not be strictly necessary.¹ The term "substitute clause" is obscure and would probably prompt a speaker to add an explanation and perhaps follow up with a clarification and a rising tone again to see if the listener has grasped the meaning. The use of "and" at the start of the next clause signals a resumption of the previous pattern of working through the list of characteristics of spoken language, and once again, clarifications are added after the term "active voice", first in the form of a definition, followed by an opposite term and its definition to illustrate the difference.

This hypothetical example is more consistent with what linguists tell us about oral language than is the CBC radio style guide's version. This may well be because of a conflict of interest on the CBC writer's part and a confusion of terms. Both become evident lower on the same page:

¹ "(A) number of linguists have found that in spoken narrative (and I think the genre *narrative* is important), most ideas are strung together with no conjunctions or with the minimal conjunction 'and'...In contrast, in written narrative, conjunctions are chosen which show the relationship between ideas ('so,' 'because'), and subordinate constructions are used which do some of the work of foregrounding and backgrounding which would be done paralinguistically in speech." (Tannen Myth 42) Note Tannen speaks of "ideas" being "strung together" rather than each idea residing within its own short declarative sentence, even where conjunctions aren't used to explicitly join the clauses. She leaves aside the question of separating ideas into sentences and deals instead with sequencing technique.

It helps editing. If we write simple sentences, we rarely have to re-write; we can take out whole sentences.

But the most important reason for writing sentences is to help us tell our story. We -- or our announcer -- can read a thought, *think* the thought, then speak the thought. Not read it, *speak* it.

A few more words about writing sentences. Short sentences are easier to understand than long ones. Short sentences are easier to perform than long ones.

The performer can speak a number of short sentences as if they were all part of one long sentence.

But the performer, faced with a long, complex sentence -- especially one containing a long subordinate clause like this -- has no choice but to deliver it as a long sentence.

A sentence isn't too long just because it contains many words or several important ideas *if* those words and ideas are closely connected and in logical order.

But short sentences can be powerful. The shortest sentence in the New Testament is also the most moving:

"Jesus wept."¹ (CBC News Style 18-9)

¹ This is indeed a moving sentence, even out of context -- or perhaps *especially* out of context. Placed within a narrative passage, this two-word sentence loses much of its impact and a lot of its clarity. The line in question is John 11:35, from the story of Jesus raising Lazarus from the dead, but it is cast differently in various translations of the New Testament. It appears as "Jesus wept" in The New English Bible, published in 1961:

When Jesus saw her weeping and the Jews her companions weeping, he sighed heavily and was deeply moved. 'Where have you laid him?' he asked. They replied, 'Come and see, sir.' Jesus wept. The Jews said, 'How dearly he must have loved him!' But some of them said, 'Could not this man, who opened the blind man's eyes, have done something to keep Lazarus from dying?' Jesus again sighed deeply; then he went over to the tomb. (173)

It also appeared as simply "Jesus wept" in the 1611 English Bible (known generally as the "King James Bible"), even though both the very first English translation by William Tyndale in 1534 and the separately translated Geneva Bible of 1560 both used "And Jesus wept." All three do, however, follow the weeping with "Then said the Iewes..." The 1952 New Revised Standard Version, a direct descendent of the King James, takes a different approach:

He said, 'Where have you laid him?' They said to him, 'Lord, come and see.' Jesus began to weep. So the Jews said, 'See how he loved him!' (The Holy Bible 109)

Here, the event being described is Jesus *beginning* to weep, an action starting to unfold, whereas "Jesus wept" describes a complete event with no clear start or finish or duration. Starting the next clause with the conjunction "so" links it more clearly in a cause-and-effect manner with Jesus' tears, and it could be included as part of the same sentence. The same passage in The Anchor Bible carries this even further and is perhaps the best wording in terms of storytelling:

The conflict of interest is the need to write language in the form which is easiest to edit and lift off the page, leading to the leap of logic that written language that is easiest to read orally is the closest to natural oral speech. The confusion of terms is the concentration on the term *sentence* when what is clearly meant is *clause*. A single clause can form a sentence, or a series of clauses can be joined into a longer sentence in the same way the CBC guide describes an announcer linking a series of short "sentences" when performing a script. The CBC radio style guide, therefore, seems to be calling for "simple, uncluttered" clauses, not necessarily sentences, and the careful combining of these clauses where useful into complex or compound sentences in which clauses and their ideas are "in logical order" (*sequencing*, as discussed at length above) and "closely connected" (aided in language through *cohesion*). This would be more consistent with Halliday's view that speaking of sentences in oral language isn't really helpful at all.

Now when Jesus saw her weeping, and the Jews who were accompanying her also weeping, he shuddered, moved with the deepest emotions. 'Where have you laid him?' he asked. 'Lord, come and see,' they told him. Jesus began to cry, and this caused the Jews to remark, 'See how much he loved him!' But some of them said, "He opened the eyes of that blind man. Couldn't he also have done something to stop this man from dying?" With this again arousing his emotions, Jesus came to the tomb. (421)

Here again we have the beginning of the tears, this time linked directly in the same sentence with the response of the bystanders to those tears. We also have the words of the grumblers presented as two clauses, each a separate sentence, rather than a single clause interrupted by a subordinate clause as in the New English Bible version, above. And in this Anchor version, Jesus is clearly reacting emotionally to these challenging words, not just sighing deeply once again. There is far better narrative flow, cohesion and clarity in the third version. Interestingly, the heavily annotated Anchor bible's translators were attempting to produce an English text as close as possible to the original ancient Greek — the language Eric Havelock says retained much of its dynamic expressiveness and "orality" long after it began appearing on the page (Havelock 96-7). Yes, "Jesus wept" is a moving sentence as an abstraction and may have stylistic impact, but it may be argued that the two-word sentence falters as a way of capturing accurately the visual image and essence of the even more moving narrative scene of which it is meant to be a part.

Eventually we shall discard the term 'sentence' from the grammar altogether; it can then be used unambiguously to refer to a unit of the *writing system* – that which extends from a capital letter following a full stop up to the next full stop. In place of 'sentence' in the grammar we shall use *clause complex*, because that will allow us to refer both to written and to spoken language in a way that makes the two comparable. (Halliday Spoken 66)

One disturbing implication of the above passage from the CBC guide is the willingness to hand to the announcer the discretion to group clauses together into compound sentences or keep them separate as sentences of only one independent clause. There is no discussion of the different functions performed by one type of construction versus the other. There's little help in Wulfmeyer's textbook, too, where it's back to playing it by ear and confusing the concept of sentence with clause:

Alternate the simple declarative sentences with sentences starting with "and," "but," or "because." You can even throw in phrases that don't have verbs. As long as it *sounds* okay and as long as it's conversational, use it. (Wulfmeyer 5)

Some useful insights into how to arrange and connect clauses in a broadcast script can be gleaned from reading between the lines in *A Journalist's Guide to Grammar and Style* by William L. Rivers and Alison Work Rodriguez, a textbook in which the terms *Radio*, *Television*, *Electronic Media* and *Broadcasting* do not even appear in the index. It aims its advice toward journalists writing for readers, not listeners, and warns against using sentence fragments and run-on sentences. It prefers presenting each independent clause as a sentence if possible, but offers alternatives:

When two adjacent independent clauses are closely related in meaning, you can join them with a semicolon. Sometimes words or phrases (groups of words that do not contain both a verb and a subject) come after the semicolon to point out how two clauses are related...: (e.g.) consequently... therefore...nevertheless...Other words that often follow semicolons and show the relationship between the independent clauses the semicolon divides are "also," "furthermore," "however," "likewise," "moreover," "otherwise," and "thus." If you choose to use "also" or "however," try putting it within the second clause, where it usually sounds better than at the clause's beginning...Use a semicolon to divide independent clauses only when the two clauses are closely related in meaning. Even then, use semicolons only occasionally...Using semicolons more than occasionally to mark the end of one clause and the beginning of the next distracts readers. (Rivers and Rodriguez 42)

That final concern doesn't apply to listeners, to whom a semicolon is invisible and is sensed only as a pause of appropriate length in the prosody of the speaker's delivery. If one goal of the radio news writer is to sequence clauses so that each relates closely to the one before, then what is to be used cautiously by the print writer (for fear of confusing the reader's eye) may be what radio script writers should use quite freely (to encourage tighter cohesion). Another clue lies in Rivers and Rodriguez's discussion of the use of commas between independent clauses:

The third method of correcting run-together sentences is joining two independent clauses with a comma followed by a connecting word: "and," "but," "or," "nor," "yet," "so" or "for." Remember that a comma on its own is not enough to mark the end of one independent clause and the beginning of another: the comma sends the brain the signal that it should *not* shift its attention from the most recent verb to the left to the next verb coming up on the right. The brain needs a word like "and" or "so" to signal how it should combine the idea it has just constructed with the next idea to the right...As with the semicolon method, you must be careful not to overuse commas and connecting words for correcting run-together sentences. When you have used a comma and connecting word to make

two or three independent clauses into a single sentence, you should usually use a sentence containing just one independent clause next to give the reader's brain a break from complex sentence structure. (Rivers and Rodriguez 42-3)

An inference this triggers is that the need in print for "connecting words" after commas to show a shift from one clause to the next may, in oral language, translate into a need for their use after any but the most final of pauses between clauses. A listener cannot differentiate easily between a pause for an invisible "comma" and that for a "period" -- unless the period really *is* a "full stop" after a string of related clauses. This may explain the reflex use in natural speech of links such as "and" between clauses -- and may suggest it is not only explainable and excusable, but may in fact be useful or sometimes even necessary for clarity in oral narrative to delineate clauses as well as connect them. This may be especially important on radio where "paralinguistic and nonverbal channels" may not adequately clarify the shift from clause to clause since some of those clues are visual (Tannen Myth 41-2). In the active rather than structural sense of language, the listener is cued that the speaker is *leaving* the clause governed by the most recently occurring verb (rather than "verb to the left") and is *moving into* a new clause. This will be discussed further under *cohesion*, below.

Halliday's detailed dissection of the clause includes terms which coincidentally ring a bell with journalists -- "the clause as an item of 'news' (and) the location of 'newsworthy' information" within the clause (Halliday Functional xxxi). His long list of suggested applications for his work also include: "to design more economical and

efficient means for transmission of spoken and written text" (xxx) -- precisely the potential being explored in this thesis. While what follows may seem abstract and theoretical, therefore, there is reason to assume that at the end of the theory will emerge a practical application. Terms which seem odd or obscure may, once grasped, actually represent language tools as easy to employ as the familiar distinction between active and passive voice. Here, then, is an attempt to do exactly that.

Halliday presents three approaches to examining the clause, but the one most relevant to this discussion is the idea of the clause as a message with *Thematic* structure (Functional 38). "The thematic patterning of a sentence represents the way the elements of the ideational component are organised as a message, in that it is concerned with the sequencing of the elements of clause structure" (Morley 70); this, in turn, is consistent with the emphasis on sequencing which emerged from the discussion of information processing, above. In thematic structure, special status is attached to one portion of the clause -- the *Theme* -- and this combines with the remainder -- the *Rheme* -- to form the message. Ways of *realizing* or indicating the Theme vary among languages, but in English, this is done by placing it first in the clause since "the Theme is the starting-point for the message; it is what the clause is going to be about. So part of the meaning of any clause lies in which element is chosen as its Theme." (Halliday Functional 39) Halliday offers this example of how meaning changes subtly with choice of Theme¹:

¹ These examples are drawn from Halliday (Functional 39-43), who evidently has a weakness for whimsy and Lewis Carroll.

Theme	Rheme	Message being offered
A halfpenny	is the smallest English coin.	"I'll tell you about the halfpenny..."
The smallest English coin	is a halfpenny.	"I'll tell you about the smallest English coin..."

The Theme can have one element (as in "The Queen of Hearts...") or be comprised of a group or phrase complex (as in "The Walrus and the Carpenter..." or "One hundred and fifty years ago, on 15 September 1830..."). This second example indicates the Theme does not necessarily have to be a *nominal group*; Themes are often *adverbial groups* or *prepositional phrases*¹, as in:

Theme	Rheme
Once Very carefully On Friday night	I was a real turtle. she put him back on his feet again. I go backwards to bed.

These sorts of Themes are classed as *topical*, meaning they set the topic for the clause. They may be preceded by either an *interpersonal* or a *textual* Theme; the first type reveals something of the speaker's attitude to the communication (e.g. *Frankly*, *I'm sorry to say*) and the second type links the clause to the discourse (for example, with conjunctions which create cohesion, e.g. *However*, *But*, *Then*). The key

¹ Morley (70-1) breaks this out differently and with perhaps more technical precision regarding various kinds of clauses. His labels, however, would be far more obscure to the lay reader. It seems forgivable to favour Halliday's simpler list, even though it is more relevant to declarative statements rather than questions or commands.

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Theme/Rheme bond, however, involves the topical Theme and that is what is meant here by Theme unless otherwise indicated (Nunan 45-8).

Information in a proposition or clause can often be divided into *given* and *new*. Given information is that which the speaker has already mentioned in the discourse or which the listener can be expected to know already. New information is exactly that: a detail appearing for the first time, becoming a "given" once grasped. Given information tends to come first in a proposition in English, followed by the news. This becomes an effective way of selecting the appropriate Theme for a clause and determining when the strict Subject-Verb-Object sequence isn't appropriate (Nunan 44-5). The given provides a context for understanding the news which follows, whereas providing the news first would mean strange details would have to be held in working memory until their link to known information emerges and allows the listener to process the news in light of that given information...while the speaker is already off onto the next topic.

A specific kind of clause useful to consider here is the *thematic equative*, in which the Theme is defined or identified by the Rheme, which begins with (or is placed on the other side of) some form of the verb *to be*. That specific verb serves as a sort of "equals sign" not implied by other verbs (Halliday *Functional* 41-3). For instance, compare "*Preston Manning recommends...*" with "*Preston Manning's recommendation is...*"; in the former, the Rheme is a suggestion Manning is making and there may be other suggestions as well, while in the latter, the Rheme is his one

recommendation in the given context.¹ Thematic equatives are useful ways of moving adjectives beyond the noun they modify, eliminating the build-up of adjectives in "freight trains" before the listener has a clue what they modify. They may also be the safest format when both the Theme and the Rheme are "news," since the Theme's news is immediately followed by the signal it is about to be defined or explained.

However, a perhaps tenuous leap into Classics turns up a caution for oral story performance: Eric Havelock's discussion of Greek orality in *The Muse Learns to Write* makes much of the *dynamic syntax* he discovers in examples of classical Greek oral performance material. He discards familiar translations of early Greek dramatists and goes right back to the original texts, finding that the concept of narrative informs not only the work as a whole but also the construction of virtually every sentence and phrase. He finds all language in the plays embodies action, "an expressive dynamism" in which all language is fashioned to provide the memory with pictures of physical

¹ This sentence is itself a good illustration of clause use:

Textual Theme	Topical Theme	Rheme	Message being offered
For instance,	Compare	"A" with "B";	"I'll tell you about a comparatively male..."
in the former,	the Rheme	in a suggestion...	"I'll tell you about the former's Rheme."
(while) in the latter,	the Rheme	in his case...	"I'll tell you about the latter's Rheme..."

These are three closely related clauses which need to be presented as a group. Use of prepositional phrases as Themes for each clause locates each within its context immediately. This sort of sentence would not be suitable for radio, of course, because the listener cannot hold the two examples in mind and review them alongside the following explanation in the way a reader can -- but it is an example of *parallel structure* applauded by radio "rule" writers. This example suggests, however, that parallelism is achieved through careful selection of Theme in each clause.

objects and/or action taking place.¹

The verb *to be* is used loosely in most modern translations but in the original Greek is used rarely and deliberately, "signifying presence, power, situational status, and the like" -- but *not* to set up description (Havelock 94). Take the following line from a modern translation, presented as a thematic equative: "*The town is heavy with a mingled burden of sounds and smells.*" The original Greek was: "*The city altogether bulges with incense-burnings*" -- a visible, dynamic image even though it refers to an all-pervasive smell (Havelock 95). This provides new insight on an old debate. E. V. Rieu grappled in his 1945 translation of the *Odyssey* with the issue of how to remain true to the original text while rendering it in recognizable English. In his introduction, he offers the example of the cumbersome phrase "*What a word has escaped you by the fence of your teeth!*" and debates whether to translate it literally: "Must we flout English usage to preserve it, if we feel convinced, as I do, that Homer took it over, as an idiom discounted by familiar use, from a long line of bardic ancestors...?" (Rieu 18)

Rieu's solution was to substitute the simple English equivalent of "*What nonsense!*" (equivalent to the thematic equative *That is nonsense*) -- yet Havelock's work shows that what is lost through this is not just the idiom's literal translation but also its action. In Homer's day, careless talk was not yet seen as the abstract concept "nonsense"; it was the active equivalent of allowing one's livestock to slip free of the

¹ This is not to be confused with journalistic preference for the active voice, the S-V-O sequence. This may encourage an emphasis on action as opposed to status, but not necessarily -- and certainly does not require states of being to be described as actions taking place. It simply means the placing of the subject at the start of the sentence, regardless of the verb.

enclosure where they should be kept -- an image immediately accessible in a visual way to the imagination of a listener receiving and processing the oral performance in real time.

Abstractions have become far more a currency of everyday communication since the emergence of literacy, and borrowing patterns from one language for application in another -- especially across two dozen centuries -- is shaky practice at best. But the imagination's visual bias in receiving and processing information hints that this preference for dynamism remains strong, whether applied to actual visual stimuli or to oral language which conjures up visual images. Use of thematic equative clauses and of *to be* as a main verb, therefore, should perhaps be avoided in oral performance in favour of more dynamic expressiveness, unless the spelling out of a specific "equative" is the goal of the clause (as in *this* clause, the one following the word "unless"). This parallels radio journalism's preference for action rather than states of being (*Monica Seles plays professional tennis* rather than ...*is a professional tennis player*) -- but once again, examining the underpinnings of language and oral performance makes clearer the reasons *why* these rules makes sense and the ways in which they can best be implemented.

Cohesion

Building clauses into a text with clear overall meaning requires ways of connecting the propositions being advanced by successive clauses. This is done

through *cohesion*, a semantic concept which includes the variety of linguistic mechanisms that establish "relations of meaning within the text, and that define it as a text" (Halliday and Hasan 4).

Cohesion occurs where the *interpretation* of some element in the discourse is dependent on that of another. The one *presupposes* the other, in the sense that it cannot be effectively decoded except by recourse to it. When this happens, a relation of cohesion is set up, and the two elements, the presupposing and the presupposed, are thereby at least partially integrated into a text. (Halliday and Hasan 4)

Cohesion can be broken into two general types: grammatical (e.g. use of a pronoun, or *an apple* on first reference and *the apple* on second reference) and lexical (e.g. repeated use of the word *apple* or equivalents such as *that type of fruit*).

Cohesion relations in a text are generally products of an interplay of several strategies; as well, in oral language, intonation can help show relationships of meaning (Halliday and Hasan 6). Cohesion can play a role within clauses or sentences, but the elements of these units of language are already held together well by grammar itself. In this discussion especially, cohesion's role in an overall text (such as a narrative or other sort of speech event) is of more interest. While most forms of cohesion are grammatical, it is important to realize it is not a part of grammar in the sense of being written into the "rules" of word order within clauses or sentences. A sentence isn't grammatically "wrong" if cohesion is weak between its elements and the rest of the text; it just isn't as effective.

What the lexicogrammar of the text presents is more like a picture that is complete but out of focus, with the outlines blurred and the details imperceptible. And if we take one further step and postulate that the picture to start with was not a photographic likeness but a symbolic representation, then we shall get some idea of the nature of the decoding process – for that is what it is – that the listener goes through.

What makes it possible for him (sic) to go through the process is the fact that what he hears is systematically related to its environment – it has 'textual meaning'...; and an essential component in this relationship is its continuity with what has preceded... There has to be cohesion if meanings are to be exchanged at all.

This is so easy to illustrate that it is often forgotten. (Halliday and Hasan 300)

Cohesiveness, therefore, should be viewed as a vital quality whose presence can vary in degree – and in oral speech performance to be processed in real time by a listener, the greater the degree the better. It is accomplished through repetitions, substitutions, omissions, conjunctions and other strategies. Halliday and Hasan say cohesion is achieved through "signalling that the interpretation of the passage in question depends on something else. If that 'something else' is verbally explicit, then there is cohesion." (Halliday and Hasan 13) But in oral communication, the term "verbally explicit" must be qualified: the "something else" must not just be explicit in the wording of the text as a block of language, but must be immediately and easily accessible to the listener processing the incoming speech in real time. This is where the critical importance of the preceding step-by-step discussion of information processing really starts to emerge: writers for radio will be able to judge the cohesiveness (that is, the clarity of meaning) of scripts they prepare only if they are conscious of the *event* nature of oral performance, the absolute disappearance of

sounds not instantly absorbed as meaning by the listener, the competing demands on attention as a processing resource, the limits of short-term working memory, the importance of rehearsal in retention of detail, the degree to which accessing central memory can distract from the processing task, and the need to adjust the speed and lexical density of oral performance to accommodate these limitations on processing capacity.¹

These considerations mean certain sorts of cohesion relationships will be more useful than others within radio news texts or other types of oral performances. The following is a very brief introductory discussion of types of cohesion and implications for their use in oral texts:

- **Referential cohesion:** This is where understanding of a text element requires knowledge of another element, its *referent*. A common example is a pronoun, which stands in place of a name or other noun and presupposes the listener's ability to identify the referent. Another is use of a definite article in front of a noun, which signals the item being talked about is a specific one identified elsewhere in the text. There are two types of reference: *anaphoric*, the most frequent, in which the listener is pointed "backwards" to a referent which has gone before ("given" as opposed to "new" information, but probably located outside the clause); and *cataphoric*, in which the listener is pointed toward something coming up (Nunan 21-3). Whether relating

¹ One of the most common and most ludicrous conversations heard in radio newsrooms occurs when one reporter asks another to listen to a draft script. Here's a hypothetical but plausible example:
 A: "...but Smith says that's not true." B: "Wait, who's Smith?" A: "The NDP candidate. I identified her up here when I listed who's running, see?" B: "Oh yeah, sorry. Okay, go on..."

backwards or forwards, the references can be of three types: *personal*, indicating a category of person or object (e.g. I/me/mine, She/her/hers); *demonstrative*, referring to something based on its proximity (e.g. here/there, this/that); and *comparative*, indicating through adjectives and adverbs the relationship between the reference and its referent (e.g. better, similarly, taller, etc.) (Nunan 23-4; Halliday and Hasan 37-87).

Halliday and Hasan speak of a referent being "within reach" (5); this is the critical calculation to be made when using any of these three sorts of references in an anaphoric or cataphoric way in oral performance. Cataphoric references in oral performance should be used with great care, since they require the listener to hold the reference in a form of limbo in working memory while awaiting the details which give it meaning. Listeners have no idea if the reference has any importance to them until that time, and might not bother to devote the attention resources necessary to retain it while processing what lies between it and the upcoming referent. Once allowed to drop, it is lost unless repeated again in the performance. For instance, here's a simple cataphoric comparative reference: *Bob uses five fewer teaspoons of sugar in his pie recipe than does Jane, who uses eight.* The key word "five" has resonance with a listener only within the context of "pie recipe" and has meaning only after it is held in working memory (despite this lack of initial resonance) so it can be subtracted from eight based on the "fewer" reference. A better alternative might be: *Bob's pie recipe uses three teaspoons of sugar instead of the eight teaspoons used by Jane's recipe.* In this case, the reference is still cataphoric, but a cue is given up-front to anyone interested in pie, the two actual numbers are given instead of requiring a calculation by

the listener, and the numbers are presented close together so they can be compared (even though this violates radio's rules on "parallel structure" and "active voice")

Given the nature of working and short-term central memory, the cohesiveness of anaphoric references of whatever sort weaken as time passes since the mention of the referent and as other information is processed in its wake, especially if this information includes elements which could be confused with the intended referent when a reference is eventually made back to it (e.g. *Bob gave Jack a recipe for cherry pie, which was his favourite...* -- Bob's favourite or Jack's?). Even without a competing possibility, an oral anaphoric reference is likely to be understood and thereby assist cohesion only if its referent was mentioned just seconds earlier, or if it had been the subject of continual references coming seconds apart without any significant interruption or competitor. The writer of an oral performance script must ask: Have I provided the referent *first*? Do I mark it in some way (verbally or with intonation) as an important detail for the listener to keep readily in mind? Is it the only possible element to which the reference I am now making might link? Is it time to repeat the full name (for example) to reinforce memory? Has so much time and information passed since the referent that the name alone may not be enough, meaning a description (e.g. a title) should be repeated, too?

There are also references which are *exophoric*, meaning they refer to the situation and not to other contents of the text at all (Halliday and Hasan 33-5). This presupposes the listener can actually see or otherwise perceive the referent, or can draw on existing knowledge. The speaker is, in effect, "pointing with words"

(Halliday and Hasan 57). For example, something that might be said on radio in Canada in late March: "It's that time of year, so fill it out and get it in by April 30th, or else..." The speaker may assume all listeners will identify "that time" as the run-up to the deadline for paying income tax, and will identify the "it" as their tax return form and the "or else" as fines, interest or other penalties. This is a form of secondary or restricted code which excludes anyone who isn't "in the know," and even those who are able to puzzle out the meaning must assign processing resources to do so, perhaps weakening their ability to absorb what comes next if the exophoric reference isn't quite as obvious as the one cited here. And because it refers only to elements outside the text, an exophoric reference does nothing to aid cohesion within the text itself.

• **Substitution:** Although distinct from references on numerous linguistic grounds, substitution's implications within this discussion are quite similar. Cohesion through substitution is the replacement of one grammatical expression with another which presupposes the first. These can be nominal (acting as nouns), verbal (as verbs) or clausal. They can also be in the form of an ellipse, where elements are simply dropped and left as a given that's understood (Halliday and Hasan 88-141; Nunan 24-6). Here are some examples which might follow the clause *Canada is buying American helicopters*. Nominal substitution: *Britain is buying the same. They aren't buying European ones*. Verbal substitution: *...as long as the British do, too*. Clausal substitution: *The Globe and Mail says so. Italy hopes not*. Ellipse: *France isn't (...)*. As with references, the key to creating cohesion is making clear exactly what is being

replaced and this, in oral performance, requires that one come right on the heels of the other. This is especially true when the element which the listener must keep handy to understand the substitution isn't just a single detail (e.g. a noun) but an entire clause stating a proposition. A proposition held currently in mind (just assembled on the "desktop" of working memory) can be applied easily in the new context; one that went by more than seconds before might have to be recalled from deeper memory by the listener, who has only the span of the one or two words of the substitution in which to do this before the speaker plunges on ahead with the story.

• **Conjunction:** The previous two types of cohesion are ways of replacing givens with words which take the place of either their semantic meaning or grammatical function. While they do make parts of a text dependent on each other, they introduce a potential for confusion that makes them a mixed blessing, tools to be used with care. Conjunction, however, is a glue inserted between separate propositions which binds them together in a relationship; conjunction is an addition, rather than replacement. "With conjunction...we move into a different type of semantic relation, one which is no longer any kind of search instruction, but a specification of the way in which what is to follow is systematically connected with what has gone before" (Halliday and Hasan 227). As such, conjunction smooths rather than complicates the information processing chore, since it reduces uncertainty rather than adding the mental chore of connecting an arriving word with an existing memory.

Conjunctive elements abound and break down into four main types: *additive*,

in which propositions are presented on an equal footing (e.g. *and, or, nor, furthermore, besides, for instance, likewise*); *adversative*, in which the first proposition is challenged by the second (e.g. *but, yet, however, in fact, on the contrary, at any rate*); *causal*, in which one proposition is the reason for the other (e.g. *so, then, because, in that case, in this respect*); and *temporal*, in which propositions are related to each other in time or, metaphorically, space (e.g. *then, next, earlier, presently, finally, first/second/third, here, at this point, from now on*). Another catch-all sort is the *continuative*, which doesn't so much link propositions as characterize the upcoming one in light of its predecessor (e.g. *of course, anyway, well, surely*). (Halliday and Hasan 226-68)

In spoken language, intonation alone can signal a conjunctive relationship (Halliday and Hasan 271-73); for example, *The Prime Minister is concentrating on Bouchard; Parizeau has lost his credibility*. The implied conjunction here is *because* or *now that* or *since* or similar causal or temporal links, or even the simple additive *and* – but therein lies a reason to be explicit with conjunctions in spoken journalism rather than relying on the listener's inference from intonation. If the link is causal, the implication is that the Prime Minister has decided Parizeau is no longer credible and is acting accordingly; if temporal, the implication is that the Prime Minister's current strategy follows Parizeau's earlier loss of credibility, sequencing them in time but making no causal link; and if additive, the implication is simply that the two propositions both seem true right now. Journalistic precision is lost and therefore so is control over the meanings being constructed in the minds of listeners.

• **Lexical Cohesion:** Unlike the previous three cohesion strategies, this one is based on semantics rather than grammar, on meaning rather than structure. It refers to use of words which are semantically related; that is, which have related meanings. This relationship can fall into two categories: *reiteration*, the use of a word or words in place of a previously mentioned lexical element; or *collocation*, the use of words which are generally found together in discussion of a subject. The relationships among original terms and ones used to reiterate them can be placed upon a continuum running from *repetition* of the same word(s), through use of *synonyms*, through use of *superordinates* (i.e. words denoting classifications into which the original falls), to the use of *general words* which are vague to the point of not really constituting a classification (e.g. *creature*, *thing*, *whatsit*) (Halliday and Hasan 274-82). The anaphoric relationship between the word(s) used in the reiteration and their referent is usually signalled by the use of a reference item such as *the* or *that* with common nouns which signals the listener to connect it to something suitable that was previously mentioned.

The strength of the cohesion achieved this way is at least partly a function of the number of steps on the continuum the reiterated version is away from the original specific idea (Nunan 30-1). For instance, where the original term was *an ascent*, the reiteration options might be: *the ascent*, *climb*, *adventure*, *task*, *thing*, or *it*. Each is vaguer than the one before, and each is increasingly dependent on the listener's ability to recover the original term from memory (Halliday and Hasan 279). The link between referential and lexical cohesion (i.e. use of reference elements such as *the* or

that or *this*) shows how the two can be used in concert, especially in oral performance. As noted above, the success of referential cohesion strategies such as pronouns is largely dependent on the distance between the reference and the referent. Writers and speakers instinctively reiterate when reference links become strained because of elapsed time from the referent or the intercession of potentially confusing information.

In the radio context, though, it is important to keep in mind that the fragility of reference cohesion is greater in oral performance than on a printed page which permits back-scanning. This means someone preparing a printed page to be performed as an oral event must be sure to resort to lexical reinforcing of references at narrower intervals than would seem natural in writing meant to be read by the eye. Also, the most effective term to be used in reiteration in oral narrative performance is likely to be the one closest to the original on the continuum described above. In fact, the original word is likely best since it relieves the listener of having to devote processing resources to making the match while continuing to receive inputs.

The CBC's radio news style guide sensibly discourages "elegant variation" as unnecessary ("the Pope is the Pope is the Pope") but speaks of repetition "of key words to stress their importance" or "to keep our characters 'in character'" (CBC News Style 42-3). While these points are true, they neglect the single most crucial reason for same-word reiteration: to decrease uncertainty and avoid even fleeting snags on the listener's attention resources as the story arrives as a stream of stimuli. Variation is not only not necessary; it likely impedes processing by requiring the mind to match the new lexical term with a previous one based on semantics rather than an exact verbal

match. In cases where the words automatically trigger a single identical meaning, this may not be a problem since listeners tend to strip meaning from wording and retain the meaning (Seleskovich 16). But where this is not the case, especially with superordinate or general words, the cohesion device may add rather than decrease momentary uncertainty. Reiteration of the same word or a true and familiar synonym seems most likely to grease processing by the listener.

Collocation is more difficult to relate to approaches to oral performance, and linguists themselves call it "problematic" since words do not occur together in dependable sets but rather group and regroup according to possibilities which seem endless (Halliday and Hasan 284-8; Nunan 30). A story about a Japanese airliner carrying a Peruvian soccer team and Russian circus performers crashing near Madrid in a freak snow squall would collocate a unique array of words which might never meet again! Even here, though, each element of the circumstance would contribute a set of words which would collocate naturally with each other. For instance, references to the crash itself would use aviation terms such as *pilot* rather than *driver*; references to the soccer team's players would speak of their last *match* rather than *contest*; and the national police would be the *Civil Guard* rather than *Mounties*.

Awareness of collocation might be most useful to preparers of oral performances more as a warning to *avoid* including words together which do *not* naturally collocate. If collocation of words one expects to find together aids cohesion, it might be sensible to assume the collocation of words which one doesn't expect to find together will weaken cohesion or at least jar the attention, diverting some degree

of it from other processing tasks. This awareness enables the writer to spot odd collocations and, if they are unavoidable, adjust other factors accordingly. These could involve using lower lexical density, a shorter or simpler clause, momentarily slower speaking speed, a pause or other technique to offset the impact on the listener's processing attention. Reporters generally think surprising content or novel twists of phrase catch a listener's attention; they probably do, but the processing model suggests the very acts of noting oddity, experiencing surprise and deciding to devote greater attention all must use up attention resources as they occur. They may help deepen the intensity of attention but may require accommodation. A pause to "let something sink in" is actually a pause to let the listener catch up, and therefore is less discretionary and more critical for effective communication.

Narrative

An adequate analysis of oral narrative would easily double the length of this document; stopping short of such an analysis, however, is as frustrating as parting the Red Sea, crossing the desert, climbing the mountain -- but not glimpsing the Promised Land. The following is little more than that glimpse, but is necessary to complete the pattern which has been developing ever since the first mention of basic auditory processing began. The discussion thus far suggests the processing needs of listeners are best met through the use of specific language strategies in oral performances such as radio news. Narrative itself is one of these strategies, not just the opportunity for

putting them to work. Its critical role as an aid to conveying information is too often taken for granted by journalists and others who document events.¹

Historians would in fact be ill-advised to relegate skill in managing narrative complexity to the status of a merely literary grace irrelevant to the hard cognitive stuff of historical research. Even though narrative form may be, for most people, associated with fairy tales, myths, and the entertainments of the novel, it remains true that narrative is a primary cognitive instrument — an instrument rivaled, in fact, only by theory and metaphor as irreducible ways of making the flux of experience comprehensible. (Mink 131)

The hypothesis emerging from the discussion thus far is that effective processing of oral language by listeners relies heavily on careful sequencing in the

¹ Narrative patterns are a two-edged sword in the presentation of information and must be wielded cautiously. On the one hand, use of a familiar framework enables a listener to absorb and remember the information more readily; on the other, a listener may be tempted to make the leap from the story's surface events to concluding it fits into one or other of Propp's motifeme sequences. This would encourage further conclusions which may not be supported by the facts — and may actually encourage the assumption of specific sorts of fact (e.g. the character of a victim in a crime story) which may remain in memory as though they had actually been part of the story as performed. In radio news, therefore, a reporter's awareness of the concept of traditional motifemes may help her/him counter the listener's tendency to use them to support unfounded intuitive leaps. This and the storyteller's role in selection and arrangement of the story contents means narrative is in no way a transparent replay of what occurs in the world. "The reality of these events does not consist in the fact that they occurred but that, first of all, they were remembered and, second, that they are capable of finding a place in a chronologically ordered sequence." (Hayden 19) The implications of this imposition of *plot* on events is an area of fascinating study in itself — but will be set aside here in favour of more mechanical aspects of narrative unfolding. When narrative sequencing is discussed, it refers to the ordering of the elements of the story (*narremes*), even though a responsible news reporter may in some cases opt to leave them more as a *chronicle* than a full plot-driven narrative (see Hayden 16-23 for discussion of chronicle vs. narrative in historiography). Narrative has its flaws and dangers, but in journalism as in history,

the significance of the past is determinate only by virtue of our own disciplined imagination. Insofar as the significance of past occurrences is understandable only as they are locatable in the ensemble of interrelationships that can be grasped only in the construction of narrative form, it is we who make the past determinate in that respect. If the past is not an untold story but can be made intelligible only as the subject of stories we tell, it is still our responsibility to get on with it. (Mink 148)

unfolding of the oral performance event, on the arrangement of elements in this sequence into topically clear and manageable clauses, and on careful use of grammatical, lexical, paralinguistic and nonverbal clues to signal the relationship of each subsequent clause to the ones which went before it. If this is so, the place one would expect to see this demonstrated most consistently and skilfully is in oral performances among peoples whose only or overwhelmingly dominant language resource has been the spoken word. This is accepted by cognitive psychologists researching the relationship between story patterns and recall:

In attempting to uncover the details of story schemata, folktales, fables, and myths can be used to great advantage. Such stories, which stem from an oral tradition, have very similar and unusually clear structural characteristics compared to many other types of prose. The reason seems obvious. If a story is not written down but is preserved only through retelling, it must respect the limitations on memory. We assume that an orally transmitted story will survive only if it conforms to an ideal schema in the first place or has gradually attained such a structure through repeated retellings. Thus, the structure of a folkstory must be one which has been influenced by what people can remember...(T)hese stories would seem to provide an appropriate data base for identifying the basic underlying forms from which alternative surface forms can be derived. (Mandler and Johnson 113-4)

Vladimir Propp's formalist analysis of Russian oral tradition, and his subsequent 1927 book *The Morphology of the Folktale*, demonstrated how oral stories within that culture follow very predictable structures (summarized in Propp 19-24 and Scholes 60-8). Aspects of Propp's theories were applied successfully to North American Native oral tradition by Alan Dundes in a book published in 1964, which

deals mainly with motifs and their component "motifemes," the basic plot elements of which the overall motif is composed. Very briefly, Dundes sees two predominant motifeme sequences: Interdiction, Violation, Consequence and Attempted Escape; and Lack, Deceit, Deception and Lack Liquidated. More complex tales can be composed by intermingling these two sequences but the individual motifemes unfold in order (Dundes 61-84). This predictable unfolding of motif occurs within an equally consistent story flow sequence which has been mapped by linguists working with a wide variety of North American Aboriginal peoples, including the Chipewyan (Scollon), Western James Bay Cree (Ellis) and the Navajo (McCreedy).

The close similarity in themes and motifs among Aboriginal stories and others of oral traditions around the world extends to the actual sequencing of the narrative elements used to unfold these stories. Its flow is immediately familiar to any parent (or child) as the way bedtime stories to be read aloud are currently still composed. This does not mean there is anything simplistic or childlike about this style; it means simply that throughout millennia and across the cultural experiences of peoples around the world, it has emerged as the most effective pattern for oral narrative performance.

In simple form, this standard narrative flow seems to pass through the following stages:

Orientation

(Introduction of setting and characters, usually involving an everyday activity; may include comments on prevailing conditions, e.g. famine/plenty; a journey is often begun.)

Complication

(Something unexpected happens which places the character or characters in an uncertain position or in jeopardy; reaches a point of high tension, referred to as Peak 1.)

Resolution

(Can be prolonged as the character or characters deal with the Complication; can involve sub-plots structured in the same way as the overall story; process will continue to a story climax, Peak 2.)

Closure

(Outcome of Resolution is made clear and the story is rounded out; can be a completion of the journey, a return home, a reunion with family members – or an unhappy or even punitive fate.)¹

A familiar and predictable story schema "acts as a general framework within which detailed comprehension processes take place" and performs the following functions:

First, it directs attention to certain aspects of the incoming material. For example, statements in the setting of a folktale (in contrast to the modern mystery story) are always relevant to later events; they warn the listener that certain facts should be kept in mind. Second, the framework helps the listener keep track of what has gone before (and) increases the predictability of what will immediately follow. Third, the framework tells the listener when some part of the story is complete and can therefore be stored, or is incomplete and therefore must be held until more material has been encoded. (Mandler and Johnson 112)

These correspond exactly with several previously discussed possibilities for

¹ Generalized, with special reference to McCreedy 442-445, 452-462 and 479.

facilitating the various stages of our model of human information processing and allowing processing to occur at sufficient depth to create lasting memory: an assurance of relevance; an orderly and predictable sequence; and grouping of detail into neat and clearly delineated clusters which can be received, reconstructed, understood and stored as memory more easily by the listener. Conversely, comprehension and recall have been proven experimentally to be impaired when the sequence of elements in folktales is distorted by elimination or relocation away from their place in the "ideal" sequence (Mandler and Johnson 134-5). These experiments support a series of predictions on how aspects of story sequence will affect understanding and recall. First among them is the prediction that

a story whose surface structure contains all the basic (elements) of an ideal structure will be more accurately and extensively recalled than a story which lacks one or more...The more the sequence of sentences in the surface structure follows the sequence of an ideal structure, the better recall will be. The magnitude of this effect will be a function of three factors: 1) the extent to which a given sequence of propositions differs from the expected sequence, both in terms of number of deviations and the distance of given propositions from their expected locations; 2) whether or not sequential displacements are appropriately marked in the surface structure so that the correct underlying structure can be recovered; and 3) the extent to which a displacement interrupts the internal structure of (another proposition or element in the story sequence). (Mandler and Johnson 132-3)

Other relevant predictions include: that "causally connected episodes" (e.g. linked by "because" or "so") will be better recalled than "temporally connected episodes" (e.g. linked by "then" or "next"); that a listener's memory of a story will

attempt to reorder in a more "ideal" sequence any elements of the story which are displaced in the original telling; and that "(d)istortions in recall will occur at points where ambiguity or violation of an ideal structure occurs in the surface structure...at, or around, the point of violation" (Mandler and Johnson 133-4).

The complete model for narrative "grammar" on which all these predictions are based is far more complex than the simple story flow described above, but is summarized in similar stages: Setting, Beginning, Development, and Ending (Mandler and Johnson 119).¹ Within each stage are webs of story functions involving propositions (*nodes*) involving *State* or *Event*, links between story elements labelled *And* or *Then* or *Cause*, *Episode* units moving through a *Beginning Cause Development Cause Ending* sequence, and complex ways of indicating reactions, goals, attempts to achieve goals, outcomes and so forth (Mandler and Johnson 114-32). The "violations" mentioned above are of each minute detail of sequencing as called for in the narrative grammar, not just in displacements of elements from one of the four summary stages to another. The apparent fact that such minor displacements can have measurable impact on comprehension and recall suggests displacement on a grosser scale between stages would degrade narrative effectiveness quite substantially.

As made clear in the second chapter of this thesis, most of the handbooks for radio news writing reviewed earlier do encourage the reporter to be a "storyteller" and to tell stories with "a beginning, a middle and an end" -- but clearly there is more an

¹ The grammar used by Mandler and Johnson is based, in turn, on work by D. E. Rumelhart, published in *Representation and Understanding: Studies in Cognitive Science*. New York: Academic Press, 1975.

oral story performer needs to know about story grammar than just that. There are indeed similarities between this section's description of narrative and the advice to "start a story by giving the listener a *context*...(then) describe the action without interruption, clearly, from start to finish...(and then) reflect on the implications..." (CBC News Style 40) But this advice, though accurate, points only vaguely in the right direction. This chapter's expansion on this principle, on the other hand, is detailed but still straightforward. The conceptual framework it supplies is the end result of how the information processing requirements of listeners shape language delivery, from the pronouncing of each phoneme to the delivering of a sweeping oral epic poem. In the chapter which follows, this framework will be put to work to see if lessons learned by countless generations of bards -- and more recently, by ethnographers and linguists -- are still worth teaching to the radio news journalist.

Summary:

Throughout this chapter, sequence rather than "structure" has emerged as the single most important variable determining how effectively a listener will be able to process incoming oral language. This begins with the sequencing of phonemes, delivered with appropriate prosodic orchestration, into clusters of meaning which would appear as words or phrases if transcribed into letters on a page. The listener is greatly assisted by redundancy among the words chosen, the manner in which they are said, and the context surrounding the speech; each supports the others in cuing the

listener to the desired meaning. Grammar's "rules" and the use of familiar, predictable patterns enables the listener to make intuitive leaps about meaning, rather than drawing it painstakingly from each sound in turn. This means processing becomes, at least in part, a process of confirming that the intuited meaning was correct. This is a less arduous task, but cues which prompt an intuitive leap in the *wrong* direction may cause temporary or permanent disruption to the listener's ability to draw coherent meaning from the language sounds as they occur. In oral performance, therefore, originality, novelty and surprise may be best displayed by content and manner of delivery rather than by wording and grammar.

The fundamental unit of oral expression is the clause which states a single proposition, and clauses are sequenced into clause complexes to express larger meaning. Each clause opens with a Theme, stating its topic, and goes on to a Rheme, which usually contains the "news" about this topic. The relationships among successive clauses can be made clearer through the use of various cohesion strategies, but these must be used in oral language in a way which takes into account that medium's fragility. For example, great care must be taken to ensure references or ellipse substitutions do not come so long after the previous mention of their referent that the referent will have passed off the "desk-top" of working memory. Reiteration can entrench a detail more deeply in memory, enabling it to endure longer. And the collocation of vocabulary which seems to belong together helps maintain the listener's grip on the subject of the text.

Clauses can be said to build into "text," even in oral language, but it is better to

think of them unfolding as an event. Conjunction is the cohesion strategy which shows most clearly how the event is unfolding from clause to clause. Its careful use can clarify issues of cause and effect (which are more readily remembered than mere temporal relationships). Thinking in terms of individual clauses linked by conjunctions (actual or implied) also helps discourage the embedding of one clause within another as a subordinate clause. In oral language, one clause is best begun and finished before another proposition is offered to the listener. Clause complexes, linked appropriately by conjunction and other cohesion strategies, do not automatically generate a narrative unless they contain all the specific elements necessary for a narrative's "ideal" form which moves through stages similar to Setting, Character, Complication, Attempt at Resolution, Resolution, and Closure. The surface structure of the narrative as actually presented may not necessarily match this ideal, but listeners will generally retain the narrative in memory in a form which rearranges its elements back into ideal sequence. The performer of an oral narrative should know that "violations" of the ideal sequence can produce ambiguities or distortions in recall due to the mental gymnastics required of the listener. These points of violation should therefore be either avoided or cushioned through the use of strategies such as reiteration, lower lexical density to ease processing pressure, or overt marking with an explanation of the violation. Deliberate use of linguistic strategies is "technique" and now, in Chapter V, we will examine how these strategies can be employed as techniques in the presentation of radio news.

Chapter V

LESSONS FOR RADIO BROADCASTERS

Political scientist Doris Graber points to an ignorance of just this sort of science as a major weakness in the news media and especially broadcasting. She sees exactly the same sort of reliance on past practice and conventional wisdom as was uncovered in Chapter II's review of radio news style guides and texts:

Like professional educators, journalists do not generally attempt systematic answers to questions about appropriate message framing...Despite an extensive literature that has been used effectively by advertisers and campaign consultants, journalists understand too little about human information processing, including what makes stories attractive and easy to absorb. News story framing has been done largely intuitively and haphazardly, guided by considerations that often have nothing to do with effective information transmission. (Graber 77)

As with framing, so with other language use conventions. The previous chapter has attempted a basic examination of human information processing and its relationship to language, especially oral language, but the points made above will be dismissed by working broadcast journalists as esoteric theory unless they can be shown to have practical applications. There do seem to be several hypotheses which can be formed based on this examination of information processing. Some suggest the need for new practices; others clarify the reasons for existing practices which may currently be followed (or at least encouraged) but whose rationale is not well enough understood

by practitioners. But before making the leap to these, it is vital to demonstrate whether the concepts and vocabulary brought together in the preceding chapters can in fact be employed to analyze individual examples of radio journalism.

Example A: A Helicopter Crash

A journalist's lack of conscious awareness of information processing -- especially of the preeminent importance of careful sequencing in the oral performance of information -- can lead even trained and capable radio news writers, pressed by deadlines, to produce tangled scripts. The following is a simple and not particularly unrepresentative example of a radio news story prepared in a hurry by just such an experienced reporter in a regional CBC newsroom.¹ Conventional radio news writing rulemakers would also find numerous problems with this story, but their rules will be set aside for now so the story can be analyzed instead in light of this thesis' discussion of sequencing in information processing.

The script is presented with the same punctuation used in the original:

ANNOUNCER INTRODUCTION:

More details have been released about a helicopter crash in the Yukon last night.
The 27-year-old pilot was killed in the crash.
The man was from British Columbia.
Police are not releasing his name until the next of kin are notified.
However a Northwestel spokesperson says the crash happened after the pilot had
dropped off three company employees in a remote area.
"X" reports.

¹ Description based on direct communication with the reporter involved, August 1991.

VOICE REPORT:

The crash took place near the old Tungsten mining site close to the Yukon-Northwest Territories border.

It happened in a mountainous area.

The Watson Lake RCMP say they received a mobile phone call from a person at a Northwestel tower site. The call came in at about 6 o'clock last night.

The helicopter that crashed belonged to Frontier Helicopters of Abbotsford B.C.

Another Frontier helicopter was dispatched from Watson Lake.

And at about 8 o'clock the wreckage was found.

The pilot, who was the only person on board, was dead.

Mike Carter is a spokesperson with Northwestel.

He says the pilot was doing work for the phone company.

He had just dropped off three company employees.

Carter says the pilot was on his way back to Watson Lake when the crash happened.

He issued a distress signal which the employees on the ground picked up. One of them phoned the RCMP.

Investigators from the Canadian Transportation Safety Board are trying to find out why the crash took place.

The Yukon coroner's office and the RCMP are also investigating.

"X", CBC News, Whitehorse. (CBC CFWH News 1 August 1991)

A superficial reading is enough to establish the story does not unfold chronologically. Rather than presenting the story as narrative, the reporter has grouped its information in four sections: an introductory summary; information received from the RCMP; information received from the Northwestel phone company spokesperson; and information on investigations continuing into the future. The separation of the middle two sections forces the listener to merge details given early on with ones provided later (if those earlier ones are still held in short-term memory) to gain a clear image of how the action unfolded. Let's examine how the order of sentences would change if the story were reorganized, from top to bottom, in a strictly chronological narrative in the pattern of traditional oral performance discussed at the end of the previous chapter, leaving aside for the moment the question of the newsworthiness of the lead. A first step is to number the sentences in the original version; some

sentences which contain several pieces of information can be separated in "(a)" and "(b)" segments based on the order in which the information appears. The numbering is as follows:

1. (a) More details have been released about (b) a helicopter crash in the Yukon last night.
2. (a) The 27-year-old (b) pilot was killed in the crash.
3. The man was from British Columbia.
4. Police are not releasing his name until the next of kin are notified.
5. (a) However a Northwestel spokesperson says the crash happened after the pilot had dropped off three company employees (b) in a remote area.
6. (a) The crash took place near the old Tungsten mining site (b) close to the Yukon-Northwest Territories border.
7. It happened in a mountainous area.
8. The Watson Lake RCMP say they received a mobile phone call from a person at a Northwestel tower site.
9. The call came in at about 6 o'clock last night.
10. The helicopter that crashed belonged to Frontier Helicopters of Abbotsford B.C.
11. Another Frontier helicopter was dispatched from Watson Lake.
12. And at about 8 o'clock the wreckage was found.
13. (a) The pilot [(b) who was the only person on board] was dead.
14. Mike Carter is a spokesperson with Northwestel.
15. He says the pilot was doing work for the phone company.
16. He had just dropped off three company employees.
17. Carter says the pilot was on his way back to Watson Lake when the crash happened.
18. He issued a distress signal which the employees on the ground picked up.
19. One of them phoned the RCMP.
20. Investigators from the Canadian Transportation Safety Board are trying to find out why the crash took place.
21. The Yukon coroner's office and the RCMP are also investigating.

A straight retelling of this story rearranged in traditional chronological narrative sequence, without a journalistic lead, could be as follows:¹

Preamble/Introduction:

This story is about a helicopter crash in the Yukon yesterday that killed one man.

¹ The layout by which the story is separated into numbered clauses (or "propositions") is borrowed from Mandler and Johnson, although the stages of the story in this example do not reflect their far more complicated breakdown of story grammar (Mandler and Johnson 114-32). The overall stages it uses would divide the propositions in this rewritten story as follows: Setting, 1-4; Beginning, 5-7; Development, 8-13; and Ending, 14-18. This should not be confused with the "story mapping" approach for print journalism which is based on separation of elements by topic, not by narrative sequence (Cumming and McKercher 128-131).

Orientation (Setting):

1. There are phone company tower sites in the mountainous areas in the eastern Yukon.
2. The only way workers can get to many of these remote sites is by helicopter.

Orientation (Characters):

3. The helicopter working for Northwestel yesterday belonged to Frontier Helicopters of Abbotsford, B.C.

4. Its pilot was a 27-year-old man from British Columbia.

Orientation (Normal Action):

5. The pilot flew three Northwestel employees to a telephone relay tower near the border between the Yukon and the Northwest Territories.

6. The pilot dropped his three passengers at the tower site
7. and flew off alone toward his base in Watson Lake.

Complication (Peak 1):

8. Then the Northwestel employees heard a radio distress call from the pilot.

Process of Resolution:

9. One of them phoned the RCMP in Watson Lake on a mobile phone.
10. This call was at six o'clock.
11. Another helicopter was sent out from the Frontier base at Watson Lake to search for the missing one.
12. Two hours later, it found the crashed helicopter near the old Tungsten mine site.

Resolution (Peak 2):

13. The pilot of the crashed helicopter was dead.

Closure:

14. The pilot's name is not being released because
15. police are still trying to contact his family.
16. Investigators from the Canadian Transportation Safety Board are trying to find out why the helicopter crashed.
17. The Yukon coroner's office and the RCMP are also investigating.
18. The police and Northwestel are releasing more details to the news media.

The information from the original news story falls into quite a different order now that chronological unfolding is the determinate. This new order, using the line numbers assigned to the original story, seems to be:

Preamble/Introduction: 1b, 2b

Orientation (Setting): 7, 6b, 5b

Orientation (Characters): 15, 10, 2a, 3

Orientation (Normal Action): 5a, 16, 13b, 17

Complication (Peak 1): 18

Process of Resolution: 19, 8, 9, 11, 12, 6a

Resolution (Peak 2): 13a

Closure: 4, 20, 21, 1a¹

Several interesting observations jump off the page here. The most obvious is that the final element in the chronological story is the very first in the radio news story: 1a, the release of "more details" about the crash. This is predictable because the common lead for a radio news story is the most recent development -- that is, the latest or last event in the traditional narrative story's chronological sequence. The element 1a is therefore the only piece of "news" which needs to be moved into the traditional-style Preamble to turn it into a journalistic lead. Next, it is interesting to note that when different parts of one sentence from the radio news story appear at

¹ Sentence 14 from the original story does not appear because it was simply the identification of Mike Carter as the Northwestel spokesperson; attribution is a journalistic convention (and necessity, of course) but not as required in traditional narrative. Sources in traditional aboriginal oral narrative are often given in the preamble or as part of "framing" mechanism before and also sometimes after the story itself.

separate places in the chronological narrative, it is always the second part (the "b" segment) which appears first. The natural narrative instinct is to deliver this information to the listener *before* the corresponding "a" segments are offered, whereas in the radio news story, the listener gets the "a" detail without having the "b". All five of the "b" segments appear in the Orientation phase of the story, whereas four of the five "a" segments are later.

The 1a and 1b segments make up a general statement of the story topic, but the sequence in the others is interesting since they supply key details: 2a A specific age *before* 2b we learn it is for a pilot who has died; 5a The crash after dropping off passengers *before* 5b we receive a picture of the setting; 6a a specific site name *before* 6b the action is placed in a more general geographic region; and the interruption of 13a the statement the pilot was found dead by 13b the subordinate clause saying he was alone. In each case, the "b" element provides orientation or scene-setting for the "a" element, but is placed after it by the news reporter. This is rectified automatically when the story is converted to traditional oral narrative sequence.

The original news story's drastic "violation" of traditional (or what Mandler and Johnson call "ideal") story sequence could have an extremely serious impact on comprehension and recall. The final section of the previous chapter outlined how this sort of displacement of story elements can degrade a listener's ability to deal with a story effectively. The point was also made that a listener receiving a story in which elements are displaced will tend to attempt to reconstruct the story for storage in a way closer to the ideal. Doing so would be tough work for a listener in this case since this

"rewriting" would have to be done in real time as the story is delivered or from short-term memory while the rest of the newscast is continuing. Or this may be done over time afterwards, using what decaying fragments of the story could be remembered in the absence of a coherent narrative framework and adding to these whatever uncertain or imagined story elements might be needed to perform narrative functions left unfulfilled due to original details not being retained (Mandler and Johnson 134).

Another interesting pattern appears if we look at the traditional narrative version in light of the Theme for each clause, converting each Theme into a statement of narrative intent as we go:

Theme	Message being offered
There	"I'll tell you about (what) there (are)..."
The only way workers can get to these towers	"I'll tell you about the only way workers can get to these towers..."
The helicopter working for Northwestel yesterday	"I'll tell you about the helicopter..."
Its pilot	"I'll tell you about its pilot..."
The pilot	"I'll tell you about (what) the pilot (did)..."
The pilot	"I'll tell you about (what) the pilot (did next)..."
and (he)	"And I'll tell you about (what he did next)..."
Then	"I'll tell you about (what happened) then..."
One of them	"I'll tell you about (what) one of them (did)..."
This call	"I'll tell you about this call..."
Another helicopter	"I'll tell you about another helicopter..."
Two hours later	"I'll tell you about (what happened) two hours later..."
The pilot of the crashed helicopter	"I'll tell you about the pilot of the crashed helicopter..."
The pilot's name	"I'll tell you about the pilot's name..."
because police	"I'll tell you about ('because'/why the name wasn't released by) police..."
Investigators from the Canadian Transportation Safety Board	"I'll tell you about investigators..."
The Yukon coroner's office and the RCMP	"I'll tell you about the coroner and RCMP..."
The police and Northwestel	"I'll tell you about the police and Northwestel..."

Each clause begins with a Theme which signals a clear topic to be elaborated on by the Rheme, making the clause a full message or proposition.¹ In each case, the Theme's conversion into a statement of narrative intent ("I'll tell you about...") is recognizable as the next desirable stage in the telling of the story and is almost invariably drawn from the "news" delivered in the Rheme of the previous clause which has become "given" information. The Themes are usually but not always the Subject of the clause, and the clauses are usually but not always in active voice. But consistently, the very first words in each clause represent a Theme which makes the storyteller's current topic immediately clear to the listener.

Reading experiments show "passages can be made more or less comprehensible, without changing them, merely by altering a subject's expectations concerning the topics of the passages" (Rosenberg and Simon 294). In radio writing, it could be that even slight alterations in the wording of spoken passages may improve comprehension by giving listeners accurate expectations of the content to be delivered in the next few words or phrases. The possibility that careful Theme selection might be the key to this sort of increase in comprehension is clearly worth experimental testing. This would be a first step to developing it perhaps as a conscious and teachable technique that could be followed more dependably than the standard conventional *Start with the Subject/Use active voice* commandments. A new instruction could be: *Pick the Theme for each clause so that it makes the topic of the clause's message immediately clear to the listener, with this message being the next element in the unfolding narrative.*

¹ The "clause as message" being Halliday's term (see *Functional* 38-67) and "proposition" being the one favoured by Mandler and Johnson in their approach to the grammar of stories.

The traditional narrative version of the story does not, of course, stand as-is as a report suitable for broadcast on radio news. One important missing element is attribution, based on the original reporter's judgement of need. Another is separation into an Announcer Introduction and a reporter's Voice Report. Doing both these is straightforward, however, and requires little tinkering with the wording. In the following version, changes to the earlier traditional narrative version are underlined:

ANNOUNCER INTRODUCTION:

Police and Northwestel have released more details about a helicopter crash in the Yukon yesterday that killed one man.

"X" reports:

VOICE REPORT:

There are phone company tower sites in the mountainous areas in the eastern Yukon.

The only way workers can get to many of these remote sites is by helicopter.

The helicopter working for Northwestel yesterday belonged to Frontier Helicopters of Abbotsford, B.C.

Its pilot was a 27-year-old man from British Columbia.

Mike Carter of Northwestel says the pilot flew three Northwestel employees to a telephone relay tower near the border between the Yukon and the Northwest Territories.

Carter says the pilot dropped his three passengers at the tower site and flew off alone toward his base in Watson Lake.

Then the Northwestel employees heard a radio distress call from the pilot.

One of them phoned the RCMP in Watson Lake on a mobile phone.

Police say this call was at six o'clock.

Another helicopter was sent out from the Frontier base at Watson Lake to search for the missing one.

Two hours later, it found the crashed helicopter near the old Tungsten mine site.

The pilot of the crashed helicopter was dead.

The pilot's name is not being released because police are still trying to contact his family.

Investigators from the Canadian Transportation Safety Board are trying to find out why the helicopter crashed.

The Yukon coroner's office and the RCMP are also investigating.

"X", CBC News, Whitehorse.

The addition of attribution in the places judged necessary by the original reporter in no way distorts the narrative sequence — and the new version is actually slightly shorter than the original (241 words versus 247). Reiteration by same-word repetition of the word *pilot*, rather than use of a pronoun, avoids the confusion which crept into the original when both the pilot and Carter were referred to as *he*. No journalistic compromise is involved in rendering the story in this way, and the only change in sequencing from the traditional version was the relocation of the "more details" phrase from the very bottom to the very top. A more experienced or skilled (or less hurried) radio news reporter would probably have written the story this way in the first place, so this parsing has not discovered any secret new style; it has, however, shown in some detail the exact differences between the original and rewritten stories. It has also provided a practical vocabulary for explaining these differences more precisely than is common in radio newsrooms.

Example B: A Winnipeg Tragedy

The next story to be examined also deals with a "spot news" event but uses it as a way of exploring a broader issue. Unlike the previous example, which was clearly a piece of rushed writing, this story's composition suggests careful thought. The writer made specific decisions about non-chronological sequencing, and also employed production techniques such as tape clips from characters in the story and a bit of background sound linked to it. The transcript of this story places in boxes any segments which involve voices other than the reporter's and indicates background sound with parentheses. The transcript retains the punctuation used in the reporter's original script:

ANNOUNCER INTRODUCTION:

The latest murder in Winnipeg has many people shaking their heads.
 The victim was Jeff Chartrand.
 People say Chartrand was a good man, trying to do good work.
 Chartrand was a Native.
 He lived in the poorest part of town...a quiet man who worked as a volunteer,
 helping his neighbours.
 His body was found early yesterday.
 Like most of Winnipeg's murder victims, Chartrand was stabbed to death.
 "Y" has the story.

VOICE REPORT:

Yesterday morning Ivan Swain heard some screaming.
 Someone hammering on his door.
 He ran across the street.
 He knew the apartment was a sniff house...a place used by young people to hide in
 and sniff solvents...like glue and gasoline.
 Among the shadows in the apartment Swain found Jeff Chartrand.

CLIP 1, MALE: "They were saying there was a stabbing. The fellow was lying on the ground, by the wall, and he was really white, and it didn't look like he was breathing."

(SOUND OF INSIDE MOVING CAR)

Swain says Chartrand was one man he'd never seen at the sniff house.
And Tommy Prince agrees.
Prince knew Chartrand as a kind of volunteer.
A guy who just liked to help people on his own.

CLIP 2, MALE: "He would just go around, drive around, see if he'd see anybody he knew that was intoxicated or needed a ride home, eh."

Chartrand didn't have a steady job.
He did a little seasonal farm work picking potatoes.
He used the money to pay for his car.
He lived with his grandmother.
He wanted to join the Bear Clan Patrol.
It's a group of volunteers who do the kind of thing Jeff was already doing...helping out other Aboriginal people.
Chartrand's sister, April, says some people don't like it when they see a guy like Jeff who's trying to get his life organized.

CLIP 3, FEMALE: "They were jealous of my brother because he had his own car and would always drive everybody around, taking older people grocery shopping."

The man who found Jeff's body works as a volunteer in Winnipeg's north end trying to encourage other native people to get involved in businesses.
Ivan Swain says it's the only way to rescue the community from its despair.
He says Chartrand's death is a tragedy, but no one should be surprised.

CLIP 4, MALE: "The economy is so badly in despair, especially the aboriginal economy in despair with people being on welfare. They can't create jobs, they can't find jobs. It's one way to escape reality but then you look at it, you get to a consequence where something like this happens."

Some people are calling Chartrand a hero.
They respect what he was trying to do.
Other people say sure, he's a hero.
But the streets are hard on heroes.
A man has been charged with his murder.

"Y", CBC News, Winnipeg. (CBC World at Six 14 January 1993)

Once again, to aid discussion, the sentences of this story will be numbered as they appear. The taped portions will be dealt with as blocks, so each will be assigned only a single number, no matter how many sentences it contains:

1. The latest murder in Winnipeg has many people shaking their heads.
2. The victim was Jeff Chartrand.
3. People say Chartrand was a good man, trying to do good work.
4. Chartrand was a Native.
5. (a) He lived in the poorest part of town...(b) a quiet man (c) who worked as a volunteer, helping his neighbours.
6. His body was found early yesterday.
7. Like most of Winnipeg's murder victims, Chartrand was stabbed to death.
8. Yesterday morning Ivan Swain heard some screaming.
9. Someone hammering on his door.
10. He ran across the street.
11. He knew the apartment was a sniff house...a place used by young people to hide in and sniff solvents...like glue and gasoline.
12. Among the shadows in the apartment Swain found Jeff Chartrand.

13. CLIP 1, MALE: "They were saying there was a stabbing. The fellow was lying on the ground, by the wall, and he was really white, and it didn't look like he was breathing."

14. Swain says Chartrand was one man he'd never seen at the sniff house.
15. And Tommy Prince agrees.
16. Prince knew Chartrand as a kind of volunteer.
17. A guy who just liked to help people on his own.

18. CLIP 2, MALE: "He would just go around, drive around, see if he'd see anybody he knew that was intoxicated or needed a ride home, eh."

19. Chartrand didn't have a steady job.
20. He did a little seasonal farm work picking potatoes.
21. He used the money to pay for his car.
22. He lived with his grandmother.
23. He wanted to join the Bear Clan Patrol.
24. It's a group of volunteers who do the kind of thing Jeff was already doing...helping out other Aboriginal people.
25. Chartrand's sister, April, says some people don't like it when they see a guy like Jeff who's trying to get his life organized.

26. CLIP 3, FEMALE: "They were jealous of my brother because he had his own car and would always drive everybody around, taking older people grocery shopping."

27. The man who found Jeff's body works as a volunteer in Winnipeg's north end trying to encourage other native people to get involved in businesses.
28. Ivan Swain says it's the only way to rescue the community from its despair.
29. He says Chartrand's death is a tragedy, but no one should be surprised.

30. CLIP 4, MALE: "The economy is so badly in despair, especially the aboriginal economy in despair with people being on welfare. They can't create jobs, they can't find jobs. It's one way to escape reality but then you look at it, you get to a consequence where something like this happens."

31. Some people are calling Chartrand a hero.
32. They respect what he was trying to do.
33. Other people say sure, he's a hero.
34. But the streets are hard on heroes.
35. A man has been charged with his murder.

Lines 1-7 in the introduction summarize the story, introducing all its main elements. Then the reporter picks up the story with the discovery of the body (lines 8-14), flashes back to tell about Chartrand's character and recent life (lines 15-26), and then jumps ahead again to public reaction to the murder and its place in a broader social context (lines 27-35). Here is a rewrite following the framework of traditional oral narrative:

Preamble/Introduction:

This is a story about why some people in Winnipeg are saying the victim of the city's latest murder was a kind of hero.

Orientation (Setting):

1. The poorest part of Winnipeg is the North end.
2. That's where Jeff Chartrand lived.

Orientation (Character):

3. Chartrand was a Native man.
4. He was quiet
5. and lived with his grandmother.

Orientation (Normal Action):

6. Chartrand didn't have a steady job
7. but liked helping people.
8. He did a little seasonal farm work picking potatoes
9. and used the money to pay for his car.

Complication (Peak 1):

10. Chartrand became a kind of volunteer, using his car to help his neighbours.

Process of Resolution:

11. He used to drive around

12. and see if anybody he knew was intoxicated or needed a ride home

13. and he would help them.

14. Chartrand wanted to join the Bear Clan Patrol.

15. That's a group of volunteers

16. who do the kind of thing Chartrand was already doing, helping out other Aboriginal people.

17. Some people don't like to see someone like Chartrand getting his life organized.

18. They were jealous

19. because he had his own car

20. and used it to drive people around

21. when they needed help, taking older people shopping.

Resolution:

22. Ivan Swain is another kind of volunteer in Winnipeg's North end, trying to help Native people start businesses.

23. Swain feels that's the only way to rescue the community from despair.

24. Yesterday morning, Swain heard someone screaming.

25. Someone was hammering on his door, saying there had been a stabbing.

26. Swain ran across the street

27. to an apartment he knew was a sniff house, a place where young people hide to sniff solvents like glue or gasoline.

28. Among the shadows in the apartment, Swain found a man he'd never seen at the sniff house before.

29. It was Jeff Chartrand

30. Swain could see that Chartrand was very pale

31. and wasn't breathing.

32. Chartrand had been stabbed

33. and was dead.

Closure:

34. A man was charged with murder.

35. News of this latest killing had many people in Winnipeg shaking their heads.

36. People said Chartrand was a good man, trying to do good work.

37. Ivan Swain agreed Chartrand's death is a tragedy

38. but he said no one should be surprised.

39. He said despair over the local economy makes people frustrated and angry.

40. Some people called Chartrand a hero.

41. They respect what he was trying to do.

42. Other people said sure, he was a hero

43. but the streets are hard on heroes.

The details in the original news story (numbered 1-35) are arranged in this "ideal" or traditional oral narrative version as follows:

Preamble/Introduction: 31

Orientation (Setting): 5a

Orientation (Characters): 4, 5b, 22

Orientation (Normal Action): 19, 17, 20, 21

Complication (Peak 1): 16, 5c

Process of Resolution: 18, 23, 24, 25, 26

Resolution (Peak 2): 27, 28, 8, 9, 10, 11, 12, 14, 2, 13, 7

Closure: 35, 1, 3, 29, 30, 31, 32, 33, 34¹

¹ Lines 1 and 3 from the original story could be cut since their intent duplicates that of other lines in the Closure section; they have been left in because this is chiefly an exercise in sequencing, not brevity.

The oral narrative version could have provided a more elaborate description of Winnipeg's North end in the setting but there is little to draw on from the original news story. Naming the city and specifying its "poorest part" may be enough to orient most listeners to the physical and social realities of the setting. The story then introduces the main protagonist (Chartrand) and runs through a prolonged episode in which his identity is established (and his name is mentioned seven times). A second episode is begun with the introduction of its protagonist (Swain) and a link is made between him and Chartrand through use of a comparative anaphoric reference ("another kind of volunteer"). Action quickly moves this second protagonist into contact with the first, so the shift aside from Chartrand's story is very temporary. The two characters (Chartrand and Swain) are then retained together through to the end, one as the object of discussion and the other as commentator.

In the original news version, no details are given about Swain when he first appeared; his full name is mentioned once and his last name twice, meaning he is unlikely to last long as a recoverable referent. Then Swain is dropped entirely between lines 14 and 26 as Chartrand's character is developed and the voices of Tony Prince and Chartrand's sister April are used. There is mention in line 26 of "The man who found Jeff's body..." and then "Ivan Swain" is mentioned in line 27, but these reiterations give no clear clue that either has an anaphoric referent, let alone that they have the same. This demands the listener connect Swain's name with a memory, but the reporter gave no indication at the beginning that this would be necessary and that Swain was any more than a vehicle to describe the finding of the body. Use of this

example in classes for Aboriginal broadcasters and second year journalism students has shown the predictable occurs: a significant portion of each listening group reported being at least initially confused over Swain's identity when he is reintroduced, and some never make the connection with the opening of the story until it is explained.¹

This confusion is referred to above as "predictable" because it is entirely consistent with the predictions outlined by Mandler and Johnson, cited at the end of the previous chapter, and with Halliday's discussion of cohesion. The original news story follows an established literary convention and contains all the elements of "ideal structure" but its surface structure deviates from the ideal in a number of ways, placing certain elements (such as Swain finding of the body) at a substantial distance from what would be their expected locations in the ideal structure. This displacement is not marked overtly by the storyteller to indicate to the listener what to expect, although the switch to Tony Prince hints we are going to hear more about the victim. The listeners are not signalled what, if anything, they are expected to do with the memory of Swain as this transition is made; therefore it is no surprise he is lost to many, given the

¹ No tallies of confused listeners were taken in class, but the sense of this instructor was that it was about half in each case. I first used this example in March 1993 at journalism workshops with Dene broadcasters at CBC Mackenzie in Yellowknife. I had obtained a tape and script after hearing it because it seemed like an example of creative storytelling that might be of interest to the Aboriginal broadcasters. In short, I selected it as a *good* example. To my surprise, both groups of Dene (to different degrees) found it confusing and couldn't see the point of telling the story that way. We reworked it according to their own ideas of how a story is told – and what emerged was arguably a much clearer story for any sort of listener. This experience brought home to me how dependent my own understanding of the original story had been on my familiarity with the literary and cinematic device of opening with *The Finding of the Body* – and the discussion with these Dene broadcasters in Yellowknife was what started me down my current path of research. The experience was in some respects parallel to that of Sol Worth and John Adair in their work with novice Navajo filmmakers: "We found, for example, that the Navajo were joining *edemes* (i.e. individual shots connected in the editing process) together in a way quite different from the way 'we' do. It became clear to us that our rules were being broken. In fact it wasn't until we noted that the Navajo were doing it 'wrong' that we realized the prescriptive strength of some of our rules of syntactic organization." (Worth and Adair 168)

previously noted prediction that "(d)istortions in recall will occur at points where ambiguity or violation of an ideal structure occurs in the surface structure" (Mandler and Johnson 133-4).

The distortion in recall of Swain's identity is the best example of how the writer might have been helped by a better knowledge of the limits on the auditory processing of language, of the relative usefulness of cohesion strategies, and of the ideal story sequencing "grammar" as demonstrated in oral tradition. The storyteller would have been anxious over the distance in time and interfering detail between the first use of Swain and the later reference back to him. And the storyteller would have recognized immediately that the use of a literary or cinematic convention to jump straight into the action of the story was a clear "violation" of effective oral narrative performance style.

(O)ne type of setting statement is of crucial importance. We have not found any folktales which do not provide an introduction to a protagonist, no matter how brief. Such stories do not begin with "The dog crossed the bridge....," implying that the listener already knows who the protagonist is. This type of abrupt beginning seems to be reserved for stories originating in written form, where constraints on memory are less important and allow more luxury in format. (Mandler and Johnson 118)

The concept of "narrative grammar" provides a perfect metaphor for understanding what has happened here. The reporter of this news story has produced the narrative equivalent of a complex sentence. It is not grammatically incorrect in a technical sense -- and might be extremely effective in another medium such as print or

film -- but the flashback sequence constitutes a lengthy subordinate clause inserted into the middle of what would otherwise have been a simple clause describing a straightforward event: *The man who found the body of Jeff Chartrand, who was a good man who used his car to help his neighbours to the annoyance of some other people who didn't like seeing someone like him getting his life together, feels the economic despair of North Winnipeg is to blame for violence such as this.* The conventional rules for radio writing would set off alarm bells over this sentence, based on the length of the subordinate clause and the distance it puts between the sentence's Subject and its Verb. Radio reporters do not generally possess an equivalently clear understanding of *narrative* grammar and the limits on how far it can be pushed in oral storytelling.

The story as originally presented may work well for listeners who recognize and appreciate immediately the storytelling device being used. In fact, these listeners may find it preferable to the alternate radio news version of this story, based on traditional oral narrative sequencing. This case (unlike Example A) is not a clear cut case of right and wrong, but the rewritten version, below, seems to achieve all the goals of the original story without running an equivalent risk of confusing listeners. The rewrite based on traditional oral narrative requires the addition of attribution (once again, using the original reporter's judgement as a guide) but this is straightforward. Turning the Preamble into a news story's lead also requires bringing a few details up from the body of the story, with the opening line coming from the very end of the story, the "newest" part:

ANNOUNCER INTRODUCTION:

Some people in Winnipeg are saying the victim of the city's latest murder was a kind of hero.

The poorest part of Winnipeg is the North end. That's where Jeff Chartrand lived, and where he was stabbed to death last night.

Y has the story:

VOICE REPORT:

Chartrand was a Native man.

He was quiet and lived with his grandmother.

Chartrand didn't have a steady job but liked helping people.

He had worked for a while picking potatoes and used the money to pay for his car.

Tony Prince knew Chartrand as a kind of volunteer, helping his neighbours.

CLIP 2, MALE: "He would just go around, drive around, see if he'd see anybody he knew that was intoxicated or needed a ride home, eh."

Chartrand wanted to join the Bear Clan Patrol.

That's a group of volunteers who do the kind of thing Chartrand was already doing, helping out other Aboriginal people.

Chartrand's sister, April, says some people don't like to see someone like Chartrand getting his life organized.

CLIP 3, FEMALE: "They were jealous of my brother because he had his own car and would always drive everybody around, taking older people grocery shopping."

Ivan Swain is another kind of volunteer in Winnipeg's North end, trying to help Native people start businesses.

Swain feels that's the only way to rescue the community from despair.

Yesterday morning, Swain heard someone screaming.

Someone was hammering on his door, saying there had been a stabbing.¹

¹ The original did not clearly explain why the hammering on the door led Swain to run across the street. Swain clarified this in his first clip, saying, "They were saying there was a stabbing." Removing that clause from the clip and inserting it up here places the detail in its proper narrative sequence.

Swain ran across the street to an apartment he knew was a sniff house, a place where young people hide to sniff solvents like glue or gasoline.

Among the shadows in the apartment, Swain found a man he says he'd never seen at the sniff house before.

CLIP 1, MALE: "The fellow was lying on the ground, by the wall, and he was really white, and it didn't look like he was breathing."

It was Jeff Chartrand.

Chartrand had been stabbed and was dead.

A man has been charged with murder.

News of this latest killing has many people in Winnipeg shaking their heads.

People say Chartrand was a good man, trying to do good work.

Ivan Swain agrees Chartrand's death is a tragedy but says no one should be surprised.

CLIP 4, MALE: "The economy is so badly in despair, especially the aboriginal economy in despair with people being on welfare. They can't create jobs, they can't find jobs. It's one way to escape reality but then you look at it, you get to a consequence where something like this happens."

Some people are calling Chartrand a hero.

They respect what he was trying to do.

Other people say sure, he was a hero but the streets are hard on heroes.

"Y", CBC News, Winnipeg.

Once again, this is not offered as a "definitive" version, but rather as an alternative which seems to avoid some difficulties encountered by the original, without sacrificing its content or dramatic effect. Whether or not it is "better" depends on whether it would deliver this story more clearly to a larger number of listeners than the original; as shown, there are strong reasons to believe it would.

Example C: Interest Rates Drop

The previous two examples lend themselves quite naturally to narrative form since they each involve an event. The first recounts a simple incident (a helicopter crash) while the second takes a similar sort of event (a stabbing) and places it inside a larger narrative of the victim's life and the social conditions in which he lived and died. Virtually all news involves events, whether they be battles or crimes or fluctuations in the economy or differences of opinions among political camps; and all events can be described as narrative. Radio news trainers at the CBC have traditionally carried this further and turned the "can" to "should"; a technique taught throughout the 1980s in radio skills courses was the idea of beginning the writing of a story by expressing its essence in a Focus Statement following the format *People...Doing Something...For a Reason*.¹ This forced news writers to inject human players into every report, rather than referring only to volcanoes erupting or prices rising, and to portray actions that have causes and meaning. Still, radio news writers often doubt the usefulness of traditional narrative formats in stories describing political debates, trends or other "invisible" events.

Example "C" is one of these types of stories. It is a tightly written update on interest rate fluctuations:

¹ As often happens with useful tools, this approach fell from favour among some trainers after it was pushed too far by others who demanded each story be about only *one* person doing something. This strait jacket proved impractical, triggering a rejection of Focus as a routine step.

ANNOUNCER INTRODUCTION:

The Bank of Canada is expected to lower its key lending rate today and the chartered banks could follow with rate cuts of their own. The news comes at a time when many economists fear the Canadian economy is slipping back into recession.

But as "Z" reports, there's a new positive mood in financial markets following last week's interest rate reductions in the U.S.

VOICE REPORT:

Interest rates in Canada are still among the highest in the industrial world, but today they'll move down another small notch as investors continue to warm up to North American currencies.

CLIP 1, MALE: "A lot of investors internationally are wondering if the North American currency block has maybe hit bottom."

Ted Carmichael, an economist at J. P. Morgan Canada, says the crisis that started with the Mexican peso and then spread to the U.S. and Canadian dollars has now subsided.

The U.S. dollar is now climbing again against the yen and the mark.

That and lower U.S. interest rates are giving the North American economy a second wind.

CLIP 2, MALE: "We've had month and months of weakness in the U.S. and Canadian dollars. Now that the U.S. seems to be finding its feet, putting money into North America, which includes Canada, looks like a better bet than it did some time ago."

The Canadian dollar had another exceptionally strong day yesterday, at one point peaking above seventy-four and a quarter cents U.S.

That's giving the Bank of Canada room to lower its key lending rate today and that's much needed medicine for a sick economy, says Paul Sommerville, an economist at Richardson Greenshields.

CLIP 3, MALE: "Housing starts at the lowest level since 1982, a fall in the savings rate from twelve to about six per cent, essentially no job growth, net job growth in 1995 in Canada."

The Bank of Canada rate should come down between forty and fifty basis points today and the chartered banks could very well follow with another quarter point reduction in their prime lending rate, the second reduction in a week. All good news for an ailing economy.

"Z", CBC News, Toronto. (CBC World Report 10 July 1995)

Once again, the lines of this story will be numbered for reference:

1. The Bank of Canada is expected to lower its key lending rate today and the chartered banks could follow with rate cuts of their own.
2. The news comes at a time when many economists fear the Canadian economy is slipping back into recession.
3. But as "Z" reports, there's a new positive mood in financial markets following last week's interest rate reductions in the U.S.
4. (a) Interest rates in Canada are still among the highest in the industrial world, (b) but today they'll move down another small notch as (c) investors continue to warm up to North American currencies.

5. CLIP 1, MALE: "A lot of investors internationally are wondering if the North American currency block has maybe hit bottom."

6. Ted Carmichael, an economist at J. P. Morgan Canada, says the crisis that started with the Mexican peso and then spread to the U.S. and Canadian dollars has now subsided.
7. The U.S. dollar is now climbing again against the yen and the mark.
8. That and lower U.S. interest rates are giving the North American economy a second wind.

9. CLIP 2, MALE: "We've had month and months of weakness in the U.S. and Canadian dollars. Now that the U.S. seems to be finding its feet, putting money into North America, which includes Canada, looks like a better bet than it did some time ago."

10. The Canadian dollar had another exceptionally strong day yesterday, at one point peaking above seventy-four and a quarter cents U.S.
11. (a) That's giving the Bank of Canada room to lower its key lending rate today and (b) that's much needed medicine for (c) a sick economy, says Paul Sommerville, an economist at Richardson Greenshields.

12. CLIP 3, MALE: "Housing starts at the lowest level since 1982, a fall in the savings rate from twelve to about six per cent, essentially no job growth, net job growth in 1995 in Canada."

13. (a) The Bank of Canada rate should come down between forty and fifty basis points today and (b) the chartered banks could very well follow with another quarter point reduction in their prime lending rate -- the second reduction in a week -- (c) all good news for an ailing economy.

The most obvious sequencing problem with this original news story is the placement of attribution. The first taped comment appears out of nowhere, meaning the listener has no idea who this is and must devote attention to surmising the person's identity (a foreign investor? financial analyst? Bank of Canada official?), checking short term working memory in case a name or clue had been given earlier in the story, and checking longer-term memory to see if the voice is familiar from the past -- all while trying to process and understand the message that's incoming. The name ("Ted Carmichael, an economist at J.P. Morgan Canada") is then given when the reporter

picks up his story, but there's no overt link to the preceding comment; the listener is left to infer that this name belongs to the previous speaker, but drawing this inference also requires the diversion of attention away from keeping up with the continuing message. Use of the unidentified voice was a form of cataphoric reference; recognizing this would have alerted the reporter to its fragility in oral communication.

The reporter then continues with three sentences which move the story along and make no mention of Carmichael. Then there's another taped segment of an unidentified male voice. The listener may suspect this is an anaphoric reference and may be able to recover from working memory the sound of Carmichael's voice to make a match, and perhaps even recover the previous mention of who Carmichael is (name and/or position or at least the vague idea of his affiliation to a bank). Or the listener may decide this segment is following the cataphoric style used with the previous clip, thus expecting the name to come after the voice. In that case, the person may be disappointed and further distracted when the story resumes without identifying the speaker. All these disruptions may be subconscious and fleeting, but the discussion of human information processing in previous chapters suggests there can't help but be an impact on comprehension and retention.

Throughout the story to this point, the reporter has presented several statements as fact -- that interest rates will dip that day, that the U.S. dollar is climbing, that the North American economy is getting a second wind, and that the Canadian dollar had a strong day the day before. Then the reporter continues with what are apparently further statements of fact -- that this gives room to the Bank of Canada to lower its

key lending rate and that this is "much needed medicine for an ailing economy" -- which the listener receives on the same terms as the previous statements. Then, however, the reporter steps back from responsibility for what has already passed through the listener's awareness and he attributes the remark to a specific individual.¹ To evaluate the statement in light of its source, the listener must recover it from working memory and revisit it, diverting attention away from the continuing story. Or the listener may elect to leave it alone, stored as a statement of "fact" from the journalist rather than an opinion from the economist, while listening to the story continue.

What comes after that is the clip from the economist, Sommerville, who says: "Housing starts at the lowest level since 1982, a fall in the savings rate from twelve to about six per cent, essentially no job growth, net job growth in 1995 in Canada." These are phrases, not even clauses, and seem to be leading up to the making of a point. The sentence prior to the clip creates the expectation the point being built will be about *why* the lower rates will be "medicine" for the economy -- but no point is ever made and this violation of expectations may disrupt attention. And after using the voice clip to introduce four specific points showing the weakness of the economy, the reporter jumps backwards in the story to elaborate on the rate changes last mentioned in the first half of the sentence prior to the introduction of Sommerville and his subsequent statements. The end result is a report which, in print, seems to move

¹ This sort of print-style "dangling attribution" is discouraged by writers of radio news style guides (see CBC News Style 48) but is affected by some extremely experienced and skilled reporters as a part of their personal style; sometimes the identification of the speaker is inserted as a lengthy subordinate clause or other phrase which interrupts the flow of the very point being attributed.

quite efficiently through a complex issue -- but which, on closer inspection, contains potential stumbling blocks for the listener's attention.

A reordering of the story according to traditional or "ideal" story structure might unfold as follows:

Preamble/Introduction:

This is a story about why the Bank of Canada may lower its key lending rate today and why the chartered banks could follow with rate cuts of their own.

Orientation (Setting):

1. Many economists fear the Canadian economy is slipping back into recession.
2. Interest rates in Canada are still among the highest in the industrial world.
3. Housing starts are at the lowest level since 1982; there's been a fall in savings rates from twelve to six percent; and there's been no net job growth in Canada in 1995.
4. The crisis with the Mexican peso spread to the U.S. and Canadian dollars, but...

Orientation (Characters/Normal Action):

5. ...a lot of investors internationally are now wondering if the North American currency block maybe has hit bottom.

Complication (Peak 1):

6. Those investors are warming up to North American currencies.

Process of Resolution:

7. The U.S. dollar is now climbing against the yen and the mark
8. and a cut in U.S. interest rates last week has brought the North American economy a second wind.
9. The improvements in the U.S. after months of weakness are making North American investments seem a better bet, and that includes investments in Canada.
10. The Canadian dollar had another exceptionally strong day yesterday, at one point peaking above seventy-four and a quarter cents U.S.

Resolution (Peak 2):

11. That's giving the Bank of Canada room to lower its key lending rate today.

12. The rate should come down between forty and fifty basis points.

Closure:

13. The chartered banks could very well follow with another quarter point reduction in their prime rates -- the second reduction in a week.

14. Much needed medicine for an ailing economy.

The details in the original news story have been rearranged in the "ideal" format as follows:

Preamble/Introduction: 1

Orientation (Setting): 2, 4a, 12, 6

Orientation (Characters/Normal Action): 5

Complication (Peak 1): 4c

Process of Resolution: 7, 8, 9, 10

Resolution (Peak 2): 11a, 13a

Closure: 13b, 13c

And using this as a guide, the original story can be rewritten with a more orderly unfolding of action, less repetition and attribution restored in a simpler fashion:

ANNOUNCER INTRODUCTION:

The Bank of Canada may lower its key lending rate to day and the chartered banks may follow with rate cuts of their own.

That's good news at a time when many economists fear Canada is slipping back into recession. "Z" reports:

VOICE REPORT:

Interest rates in Canada are still among the highest in the industrial world, and Paul Sommerville, an economist at Richard Greenshields, says there are other signs of a sick

economy:

CLIP 3, MALE: "Housing starts at the lowest level since 1982, a fall in the savings rate from twelve to about six per cent, essentially no job growth, net job growth in 1995 in Canada."

The crisis with the Mexican peso spread to the U.S. and Canadian dollars, but Ted Carmichael at J. P. Morgan Canada says that's now subsided:

CLIP 1, MALE: "A lot of investors internationally are wondering if the North American currency block has maybe hit bottom."

Carmichael says those investors are warming up to North American currencies.

The U.S. dollar is now climbing against the yen and the mark, and U.S. interest rates went down last week.

Carmichael says that's giving the North American economy a second wind.

CLIP 2, MALE: "We've had month and months of weakness in the U.S. and Canadian dollars. Now that the U.S. seems to be finding its feet, putting money into North America, which includes Canada, looks like a better bet than it did some time ago."

The Canadian dollar had another exceptionally strong day yesterday, at one point peaking above seventy-four and a quarter cents U.S.

That's giving the Bank of Canada room to lower its key lending rate today.

The rate should come down between forty and fifty basis points.

The chartered banks could very well follow with another quarter point reduction in their prime rates — the second reduction in a week:

Much needed medicine for an ailing economy.

"Z", CBC News, Toronto.

Once again, a choice between the original and rewritten versions is subjective. Most of the wording of the original version has been retained since it was well written and evocative. The rewrite still sets up the story with the latest news from the bottom of the narrative version (that the interest rate changes are "good news"), then

establishes the background as setting, and then unfolds the story continuously as action without jumping about in time or topic. Doing so enables the rewrite to come in more than ten percent shorter than the original, brevity being a major virtue in radio journalism.

Conclusion

As has been repeatedly stressed, this thesis has not been an attempt to devise some new "scientific" formula for radio news writing, some sort of paint-by-numbers system which will generate effective prose every time. There is currently no such thing, and if both listeners and journalists are lucky, no such abomination will ever be created. A software package currently exists which will digest raw data about sports events and spit out convincing prose reports; a radio news equivalent (as software or a list of "rules") is not only *not* the goal of this thesis, it is anathema to all that is most valuable in the medium -- or in any form of oral narrative performance. The spoken word is above all else the connection of one human being with another, and each listener experiences the spoken word (perhaps especially the disembodied spoken word of radio) as a sensation within the mind, closely akin to experiencing his or her own thoughts. A living human being brings to another a piece of her or his own experience, expressed in words but made real through a voice which merges those words with projections of the speaker's character, credibility, intelligence, physicality and heart. There is no single right way to compose and speak a story over radio, any

more than there is one right kind of speaker worthy of being a radio storyteller. The telling of stories is, as Adam says, a kind of art. And while a piece of art may be more or less worthy, or may connect more or less deeply with an audience, it is never simply "right" or "wrong." On the other hand, as Tolstoy pointed out, what sometimes appears to be art may not art at all.

There is one indubitable indication distinguishing real art from its counterfeit, namely, the infectiousness of art. If a man, without exercising effort and without altering his standpoint, on reading, hearing, or seeing another man's work, experiences a mental condition which unites him with that man and with other people who also partake of that work of art, then the object evoking that condition is a work of art. And however poetical, realistic, effectful, or interesting a work may be, it is not a work of art if it does not evoke that feeling (quite distinct from all other feelings) of joy, and of spiritual union with another (the author) and with others (those who are also infected by it). (Tolstoy 132)

The goal of this thesis has been to bring together concepts from psychology and Linguistics which radio news oral storytellers rarely or never factor consciously into the creation of their art. As has also been stressed, many radio news journalists achieve end results which demonstrate their instincts with language are so sharp that they may need no new knowledge of its inner mechanisms and the ways it is received by listeners. Other broadcasters can equally effortlessly and confidently produce imaginatively designed presentations which may leave their peers and audiences in awe...but no more knowledgeable in real terms than before. Their reports are equivalent to what Tolstoy denounces as counterfeit art, in that they do not infect

ordinary listeners with the meaning these reporters intended to share.¹

But still other radio news journalists, perhaps the largest group in the profession, often find themselves staring at blank pages or screens, searching for wording, or wrestling with tangled prose, or sitting in front of microphones or on the ends of telephone lines, struggling to perform words which somehow don't feel right. And they wonder: What's *wrong* here? I know this doesn't seem quite right, but *why*? How can I say all this more *clearly*? This is where this deeper knowledge of the processing of language by listeners can help; it provides a kind of checklist for tracing difficulties and a sort of springboard for breaking through writing blocks. Writers preparing radio news don't have time to worry about writing within a strait jacket designed by a linguist -- but neither can they afford to waste precious minutes on trial and error, rewriting and deleting as their deadline looms.

A writer preparing a radio news report could put the knowledge contained in this thesis to work in very practical ways. Picture a reporter, arriving at the keyboard after covering an event. The sort of event doesn't matter. She sits and looks out through her computer screen to the collected faces of a multitude of listeners (*not* Aunt Martha) who represent the full breadth of the audience she can expect to reach. She

¹ Tolstoy's definition of art is interesting in light of the discussion of information processing as an interactive event: "To evoke in oneself a feeling one has once experienced, and having evoked it in oneself, then, by means of movements, lines, colours, sounds, or forms expressed in words, so to transmit that feeling that others may experience the same feeling -- this is the activity of art. Art is a human activity, consisting of this, that one man (sic) consciously, by means of certain external signs, hands on to others feelings he has lived through, and that other people are infected by these feelings, and also experience them." (43) Interestingly, Tolstoy finds that "three conditions cooperate to cause the production of objects of counterfeit art. They are -- (1) the considerable remuneration of artists for their productions, and the professionalization of artists which this has produced, (2) art criticism, and (3) schools of art." (102) Tolstoy and Adam may wish to compare notes on the implications this has for the redefinition of journalism as art.

thinks of her specific relationship with them, of who she is to them and who they are to her, and of the nature of the transaction she is about to perform with them. They are turning to her for interesting news, though they may not be aware of the event she has covered and may have no idea of its connection to their lives. They are customers considering enlisting her services; she is a professional offering a service to a client. The tendered contract is for the reporter to deliver to each listener a clear explanation of what her professional skills and knowledge tell her is important and useful news, and to present it in a way the listener can easily and fully understand upon hearing it presented orally only once, so that the listener is left with the delivered "product" that has been successfully constructed in memory.

The reporter is *not* conversing with friends at a dinner party and is in fact not conversing at all in the sense of being involved in an interactive exchange. She is delivering a presentation to potential clients (listeners who are truly auditors, in Rost's term, being addressed without being expected or even able to respond). Each listener constitutes a potential transaction of content, to use the word from Tannen's continuum of motives, and the reporter's success rate depends on what proportion of these transactions are completed to the satisfaction of the client. A transaction is not completed until her product, the content and meaning of her story, is assembled and functioning within the client's head. The presence of the report on the news is an ostensive act, as spoken of by Rost; the inference listeners will draw from this act will likely be that the information being presented is important. With that will likely come the desire to understand why and the agreement to make the attempt by listening.

This appears to be a more accurate description of the reporter-listener relationship than is offered in many of the well-meaning style guides and textbooks reviewed earlier. It isn't a line of reasoning that needs to be figured out each time the reporter sits down to write; it's something the reporter carries within her head as part of her self-definition. She is being offered a commission by each client and fulfils each commission only if the client successfully acquires the product. This may seem too mercantile a metaphor, undermining the earlier insistence that journalism is art -- but art for art's sake is only one part of its tradition. The painters and sculptors of Renaissance Florence would have recognized these terms as quite normal -- and there's no suggestion their transactional relationship with patrons automatically diminished the right of their work to be considered art. Satisfying the client was of prime importance to them -- as the satisfaction of the listener must be to the radio reporter. Art is the means for achieving this, not an alternate destination.

So the reporter sees herself this way and looks out through her screen at the imagined faces of her listeners (Defoe's crowd of five hundred) and in her head she begins a rehearsal of her ostensive act before the imagined auditors, her listeners. In this case, it is also an act in the sense of being a performance of an oral narrative event. And as she performs the rehearsal, she records the oral narrative's verbal flow in words typed onto her screen, using the keyboard as a tool to record sound rather than create written words. She opens with an introduction, a form of "framing device" as used in oral stories for millennia; in this case, it's a simple answer to the imagined question *What's new?* which is implied before the beginning of each story in a

newscast. She answers this with enough information to signal to the listener the topic and the gist of the story, so that the listener knows roughly where the reporter's performance is heading, but she does not provide many details which will appear later in the narrative unfolding since this would distort the sequencing of that narrative's development.

The same news, though, can be delivered through various stories and this is the first opening for the exercise of creativity. For instance, the reporter may decide to tell the story of the issue that prompted the event, using the event itself as the Resolution in the narrative flow. This doesn't imply the event has "resolved" the issue entirely, but merely that the development of the issue produced this night's newsworthy event, the latest outcome of the story-so-far. Or the reporter could tell the story of the event itself, framing discussion of the issue within the action of that evening. Or the reporter could tell the story of an individual's experience within the event, including the exposition of the issue within that person's experience. Or there may be other options. Use of narrative does not mean all stories must start at the very beginning of the issue at hand; but whatever the starting point and frame selected by the storyteller, once the story starts it should unfold as closely as possible to the ideal narrative flow of traditional story grammar.

The reporter, knowing this, first provides a stage for the story with the Orientation: the where and when and other details of setting in a chain of simple but evocative clauses; then she brings her characters onto this stage and puts them into action in a way that makes their roles clear; then she introduces her Complication,

which may be conflict or difficulty but can just as easily be some positive development which lends the story its significance; and then she traces this development as it works towards however it was left at tonight's event -- whether that's a truly final Resolution or merely the way circumstances stand for now; and then she achieves Closure with comments on this "resolution" and a look off to where the story and its characters go next. By taking this framework as a given, barring a strong specific reason for deviating from it, she avoids many potential writing difficulties before they even present themselves and thus she saves substantial time. Each step of the way, what goes next in the story is what happens next -- or rather, it's what happens next out of the items carefully selected by the reporter from all that she observed and learned about that night. It's this selection of details to include which gives rein to her professional skills and creativity as a storyteller. The arrangement of these details within the ideal narrative framework need be no more a limitation to artistic and journalistic achievement than is painting within a rectangle. The shape may be standard, but the creative possibilities within it are vast.

If, for some reason, she is tempted to deviate from this idea story flow, her knowledge of its relationship to human information processing lets her anticipate the possible implications of using an alternate story sequence. She is well aware the listener will end up trying to save the story in memory in its ideal form, however she presents it, and so she makes sure any deviations are relatively minor. She is also careful to include explicit cues when she leaps backwards or forwards in time, or from place to place. She realizes this marking is necessary for the listener to keep up, and

she further aids this by perhaps lessening lexical density or speaking speed at or immediately after a deviation. She tries to think of her overall story as a single sentence and tries to picture the extent to which violations of ideal sequencing would convolute that sentence by mixing the order of its phrases and clauses. She does not have to spend much time on these sorts of adjustments because she is rarely even tempted to use story sequences which are other than ("less than," she likes to think) ideal. She uses the terminology consciously -- "ideal" and "violation" and "deviation" and "displacement" -- because it reminds her of the negative impacts of indulging literary impulses when working orally. She tries to match her performed story's so-called "surface structure" as closely as possible to its "ideal structure" (but also knows it isn't "structure" at all but *event*). She knows the working memory of a listener is like a "desktop" and she keeps that image in her imagination, keeping track as well of each thing she is forcing the listener to keep at hand on that desktop to cope with her performance. When the desk gets too cluttered, she goes back and simplifies how she'll perform the story; sometimes she'll just make a point of wrapping up one thread and signalling the listener that this one, at least, can be cleared from the desktop and tucked away in longer-term memory.

So the reporter tells her story and records its verbal content, and listens as she does to the auditory way she is telling it to herself during her rehearsal. She knows the listener is using three levels of processing to gain meaning from her performance: acoustic, linguistic, and semantic. She decides on the words to use based on what they mean but also how they sound and the images they evoke -- but she makes these

decisions while continuing to look through the screen to her many auditors, gauging how the words will sound and what the words will mean to *them*, based on her knowledge of who they are, what they know, and how they feel. She knows that what's important is not what she means with the words she says, but rather what meaning those listeners construct from the words they hear. Whether the two match depends on how carefully she selects, arranges and performs the words she chooses to express the propositions she intends. She advances those propositions as single clauses, ending one before beginning the next, but linking them with appropriate conjunctions where possible to make clear the direction of their flow and their relationship to each other.

Before each clause, she asks herself *What will I tell you about now?* and picks the topic, which becomes the Theme, the first words of the clause. She may delay this topical Theme a moment and place before it a word or two as an interpersonal or textual Theme to characterize the clause or clarify its relationship to what's come before. But the topical Theme must be something recognizable to the listener, either as a given from earlier in the story or as a piece of common knowledge which can be easily retrieved by the full range of clients with whom she is attempting to complete her transactions. If a Theme is itself new information, she'll most likely combine it in a thematic equative with a definition or explanation, and then continue by starting the next clause with the same Theme (reiterating it or using a clear reference pronoun). So her choice of Theme always sets the topic for her proposition and she hears in the back of her mind a voice saying *"I'll tell you about..."* as she moves out of one clause

and into the next. Once topic is set, she then delivers the news about that topic as she completes the Rheme. The clauses she uses are each single propositions. When she catches herself saying a clause that involves several lexical elements, she assesses the density of the clause to see if it is likely to be processed easily by her listeners. If there's doubt, she weighs whether the rate of the information's arrival at the listener's ears should be eased by adding extra non-lexical words, or by performing it more slowly, or by using particular prosodic devices such as intonation to add clarity, or by breaking the details up into more than a single clause.

When a clause becomes long, she looks first to see if there are any truly unnecessary words, but she doesn't automatically try to express the same information in the fewest words possible. She knows this will turn an awkwardly long clause into an impenetrably dense one. Of the two, she knows a listener will be able to keep up with a prolonged train of thought that unfolds in a careful order, but probably won't be able to absorb a brief but busy burst of details orchestrated by only the bare minimum of grammar. If length of the story becomes an issue, the solution lies in sharpening the criteria for selection, not in forcing the same amount of detail through the same sized hose at substantially increased pressure.

She knows about referents and cohesion and deliberately repeats the names of her characters and other important elements rather than using pronouns, except when completely unambiguous -- and she'll virtually never use a pronoun as a Theme unless the noun that's the referent is in the previous clause. She'll repeat the noun if it isn't, and will repeat the noun even if the referent *is* in the previous clause if there are any

other elements present which the listener would have to eliminate as potential referents, no matter how unlikely. She uses mainly same-word reiteration for any nouns or terms that appear more than once in the story, rather than seeking synonyms or more general words. Sometimes she finds herself groping for a colourful synonym or even reaching for a thesaurus -- but then catches herself and asks herself what's wrong with repeating the original, anyway? Once more than a clause or two have gone by since mention of a name or term that might have been new to the listener, she'll reiterate it with an additional clue, as a kind of meaning cluster, even if this repeats in whole or part the referent's initial introduction.

She uses taped segments of the voices of others in the same way she would use a clause of her own words in the story at that point, had she not had the tape. She would no more start someone's voice without first identifying the person than she would start a clause with the pronoun *He* without first establishing a referent. An exception is where she might start a clause with *Someone* or a similar general-word Theme -- but she would first signal to the listener the irrelevance of the speaker's specific identity. She'll also watch for sections of taped speech which are too long in time or too full of detail to sustain the speaker's name as a recoverable referent in the listener's mind. If she would have made a point of reiterating the speaker's name within the same series of clauses had she been paraphrasing them, she'll try to reiterate the name at the end of the clip. If that's awkward, she'll end the long voice clip a proposition or two earlier and switch to paraphrasing. This way, she can give the person's name as a kind of textual theme ("*Manning says...*") that sets up the

paraphrased clause ("*...the West wants, etc. etc...*"). This way, she can be confident the listener isn't still wondering whose that last voice was, missing what she's saying as she establishes her next character.

These decisions on reiteration are based on elapsed time since the last clear identification of the referent, on the total number of times the identity of the referent had been reiterated for the listener after the initial introduction, and on the complexity of the details which have come since the last clear identification. The reporter bases all her decisions about modulating content and the prosody of her delivery on the interplay of those three concepts -- how long a detail has been in working memory, how deeply it would have been processed and embedded into memory, and what's come since to supplant it in working memory or at least act as obstacles to its easy retrieval. A clearly established character or detail which is rehearsed through reiteration or otherwise reinforced in the mind of the listener can be left aside from the narrative for a brief time, but only if the flow of competing information is not given time to wash away the sand castle constructed that way in the listener's mind (for it is as fragile as that).

The reporter may use sound to set mood or signal shifts of setting, but she will be careful to allow the sounds enough time to register clearly with the listener, and will help this recognition by making the Theme of her next clause a clear clue to the sound's identity and its role in the story. Then she'll have the sound lowered to just a faint presence to avoid splitting the listener's attention (she knows about selective and intensive attention), and the sound will be lost completely if the reporter moves into

propositions placing particular strain on the listener's concentration. Sound is a useful tool, but the reporter knows the key to oral narrative is the skilful use of words and that production frills may undermine the impact of those words if they reduce the degree to which the listener's attention is focused on turning language into vivid meaning. This reporter knows her best chance at competing with television lies in sending her words straight into the imagination of the listener, almost as synthesized thoughts, rather than externalizing them from the listener by tying them to the sounds of the outside world. Sound can be incorporated into a story as a kind of speech -- but when the reporter uses it that way, she steps back and lets it speak for itself; when sound is so secondary that this isn't necessary, she questions whether the sound itself is, either.

The reporter also knows an oral performance must have an end as clearly marked as its beginning. Delivery of an oral narrative may be a transaction, but it is a transaction between human beings and therefore is not at the extreme end of Tannen's continuum. It entails a significant interpersonal involvement as well, but the reporter knows this is not created by using conversational strategies more appropriate to speech aimed primarily at establishing personal bonds. Rather, in the case of radio news reporting, the strength of the interpersonal bond inferred by the listener is founded on the transaction's value to the listener as a client. If the transaction has been a success and the narrative performed clearly in a way which has registered as meaning with the listener, preferably on an intellectual *and* emotional level, then a personal connection will have been formed during the telling between performer and the auditor. (An

infectious resonance, she calls it, because she also knows her Tolstoy and her R. D. Laing.¹) And the reporter knows this connection requires a gentle disengagement to avoid jeopardizing the image of the story still fresh and fragile in the listener's memory.

The closing of the reporter's story will provide signals on several levels that cue the listener to the closure of the tale and suggest it is ready to be stored in permanent memory as a completed whole. These signals include a winding up of the voice, adjusting prosodic elements of intonation, pitch and rhythm to inject a note of finality. The focus of the storyteller also shifts from the event to its implications, turning the gaze of the listener off to the future or inward to find emotional resonance. Both signal the listener that it's time to reach a decision about the story's significance to that listener's own reality, and thus decide whether and how it is worth retaining as lasting memory.

The final signal, the reporter's sign-off, allows the storyteller to withdraw rather than vanish, and gives the listener a moment to complete the processing of that story's overall meaning before the next one begins. Where particular emotional impact or difficulty in digesting significance can be anticipated, the reporter can provide the listener with a bit of extra time by slowing down the sign-off or pausing before it, or by having background sound continue a bit after it, or by combining any of these. These are *not* done for "dramatic effect", carrying meaning in themselves; they are to

¹ As mentioned earlier: Tolstoy's definition of a work of art as that in which "spectators or auditors are infected by the feelings which the author has felt" (43); and Laing's insistence that there is a "resonance between the singer, the song, sung and heard, and the listener...that no scientific discourse can convey" (11).

accommodate the listener's processing needs so the listener gets time to *feel* the proper effect of what's just been performed. Rushing away from a just-completed story risks wasting its impact or undermining the listener's chance of understanding the following story, since the listener might be distracted away from that next story's beginning, missing the critical answer to the implied question *What's new?* An editing strategy might be to anticipate this "story-lag" effect and accommodate it by not beginning the next story with the statement of "news" after all. Instead, a bridging clause marking the shift in topic but without crucial content may be worth the few extra seconds it takes if it allows listeners to catch up and greet the next news item with all processing resources at the ready.

But this last point is a concern for the editor who is compiling the overall newscast and not for our reporter. When she came back from tonight's event, she first produced her few lines answering the question *What's new?* and set them aside on a page of their own as the introduction to be read by the newscast's announcer. Then she spoke her oral narrative through each of its stages, carefully selecting details and wording as she went and constructing clear clauses and clause complexes. She wove her taped voices into her narrative as speaking characters advancing the unfolding of the story, making sure each character's identity and significance is clear at the appropriate point. And as she heard herself perform all this in her head, for the imaginary audience listening on the other side of her computer screen, she recorded the words with her keyboard and their prosodic music within her own memory, making sure of this by going back and rehearsing a phrase once or twice when she'd

decided she had it just right. Now she is ready to head to the studio to record her voice report, to perform her oral narrative for real.

She has news to tell, a story framework in which to tell it, words and voice music with which to perform that story, tape of voices and sounds to support this performance, and a carefully formed ending to the storytelling event that provides a sense of closure. If there really are listeners out there, and if all aspects of her performance of the story can match the information processing needs of those listeners as closely as she hopes, she may leave within the minds of many of them an actual product from all her labour. If that doesn't happen, her labour might as well have never taken place; as a performance of art, it might just as well have been a concerto played on a dog whistle, sound beyond the capacity of the human ear to hear and therefore pointless.

Appendix

HYPOTHESES FOR FURTHER STUDY

The following hypotheses are based on the assumption that the goal of the radio journalist is to help the listener construct meaning from an oral performance which is as close as possible to the journalist's intended meaning. ("Meaning," in this case, refers to the informational content of the performance rather than the conclusion to be drawn about it by the listener, which is the listener's business and not the reporter's). While this does require holding the interest of the listener throughout the oral performance, the goals of entertainment per se or of projecting an idiosyncratic style for career reasons are both set aside in this discussion. Given this assumption about motive, the following points seem valid, potentially helpful to both practitioners and those who train them, and worthy of testing through further study.

1) Radio news journalists must be aware that while their story may exist as a unified text on paper, it has no such existence for a listener experiencing it in "real time" as a sequence of steadily arriving and disappearing speech and nonspeech sounds.

2) The probable clarity of a scripted oral performance (in this case, a radio news story) should be measured by anticipating:

- how the performed story will be processed by the full range of probable listeners;
- what possible meanings may be constructed from its performance by each of these different listeners, based on backgrounds and abilities which may influence their processing of the specific performance; and
- how closely these meanings compare with the one intended by the radio news journalist.

The important step here is to shift analysis of the script away from its objective linguistic meaning as presented on the page, moving it instead to what is likely to occur in the minds of various listeners during and after experiencing the story's performance. The radio journalist exchanges the question *What am I saying in this story?* for *What might it be possible to hear in this story as told this way?* The onus on the journalist shifts subtly from the need to "be accurate" to the need to eliminate all possible ambiguities and other possible impediments to easy and accurate processing within the mind of one hearing the story performance.

3) Radio news journalists must be aware that attention is a finite information processing resource, allotted such that:

- a primary channel will be selected on the basis of what seems the most relevant flow of stimuli, although secondary channels may continue to be monitored and attention to the primary channel may be briefly interrupted or continuously weakened if possibly relevant stimuli emerge

on the secondary channels; and

- the intensity of attention to a given channel or to any particular aspect of the oral performance event is inversely related to the breadth of stimuli being encountered by the listener.**

This has implications for the increasing practice in radio news reports of mixing actuality sound and voices as background, either for atmosphere or during the process of going into or out of a voice clip. These are seen as ways of holding the attention of the listener, but may actually weaken attention by introducing a secondary channel to be semi-consciously monitored; interesting or unidentified sounds or words on this secondary channel may prompt fleeting de-selection of the primary channel (the reporter's voice report). Likewise, a report with a range of speech and nonspeech auditory elements occurring at the same time means the intensity of attention will be spread broadly, suitable for gathering impressions, rather than concentrated deeply in the way necessary to understand complex detail. Reporters aware of this competition for attention's finite resources could deliberately match their use of background sound to scripted material so that it is richest when the spoken message is simplest, and becomes plainer or disappears entirely as the content of the oral performance becomes more complex and requires the listener's complete attention.

4) Radio news journalists must be aware that various sorts of background sound influence attention in measurable and predictable ways; researchers could chart these degrees of influence using techniques employed by cognitive

psychology.

Journalists using sound behind their oral performance should be taught to recognize and evaluate key characteristics of that sound: Is it speech or nonspeech or a mixture? Does it remain constant, follow a recurring pattern, or does it vary unpredictably? If speech, how similar is the background voice to that of the journalist - for example, male/male? male/female? female/male? female/female? What key sounds or words in the background sound might steal even a flicker of attention away from the primary channel, and where do those sounds fall in the planned performance of the script? If, as suggested above, the preferred signal-to-distraction ratio in certain situations is at least ± 5 db, will varying this ratio compensate for other characteristics in the sound -- for example, an increased ratio when using same-sex voice under the performer -- and can a range of these preferred values be charted for easy rule-of-thumb reference by operating technicians mixing sound under reports?

5) Radio news journalists must be aware that the listener's memory of their reports may be increased when the listener is able to "shadow" the unfolding oral performance event, by being able to devote close attention to the exact wording of the story as it occurs in a predictable flow with a minimum of competing demands.

This is a slight enlarging of the concept of "shadowing" as used in experiments mentioned above (in which the listener repeats the message out loud, word for word, as it is heard) but the same principle seems at play. This calls for transparent

vocabulary arranged in familiar patterns which allow the full range of potential listeners to follow along, keeping pace with the performance. The listener's ability to "shadow" the story, and thereby absorb it more readily into memory, will be undermined whenever the listener encounters vocabulary that is not immediately understandable (even if used previously in the same report since this requires diverting attention away from shadowing to retrieving a meaning from short-term memory). This would also occur when the listener encounters unexpected grammatical constructions or stylistic flourishes thrown in for the sake of variety or originality. Since oral language achieves with grammar what written language achieves lexically, as Halliday says above, use of familiar grammar patterns is at least as important as the use of familiar words.

6) Broadcasters working with both audio and visual material (on television or perhaps on some future version of "radio" distributed by computer networks and supported by graphics) must be aware that visual processing seems to take precedence for attention resources over auditory processing, and the journalists should match their material accordingly.

This goes beyond the common instruction of "writing to the pictures"; it requires judgement on the strength of the visual images, or the difficulty the audience will have in processing the visual stimuli, and adjusting accordingly the flow on the speech processing channel. This could involve consciously decreasing the lexical density of the oral performance accompanying the visuals when attention can be

anticipated to be attracted primarily on those visuals (see also Point 13, below). This means the decreased attention resources available for processing of speech won't be as heavily taxed and less will be missed. Likewise, familiar or simple or perhaps static visuals would interfere the least with portions of the oral performance which are lexically denser or require more narrowly focused intensive attention. The key concepts here are that attention is a finite processing resource, that it is selective and designates primary and secondary channels among incoming types of stimuli, and that the more two channels compete for primacy, the less effectively either's content will be processed into meaning.

7) Radio news journalists should avoid achieving brevity by requiring the listener to retrieve substantial amounts of information from memory for use in the processing of the incoming oral performance, since attention diverted to memory retrieval is attention not available for the encoding, classification and response phases.

Even "common knowledge" is knowledge which is stored in long-term central memory and can be brought to bear in information processing only once it is retrieved -- an action which must take place in real time as the auditory stimuli created by the oral performance event continues to arrive at the ear. "Stating the obvious" in a story serves the purpose of including these details in the appropriate sequence within the speech being processed; memory is of course still involved in classification and response selection of both the familiar and the new, but on the level of interpreting

input rather than significantly augmenting it. The latter could actually constitute opening a "channel" from memory, one that might compete with what is arriving from outside on the auditory channel. (Perhaps attention's selection of the "retrieved memory" channel over the auditory one is what is occurring when one's mind "wanders" in the middle of a story; minimizing the amount of retrieved memory the listener needs to apply to processing perhaps avoids the danger of this channel achieving primacy over the oral performance.)

The same principle may apply to reliance on short-term memory of recently supplied new detail, since it takes attention to rehearse this for storage and then retrieve it for processing. Repetition of previously mentioned details (such as a title and name rather than just name, or a name rather than just a pronoun, or a previously mentioned number when a new number is compared to it) places the "given" necessary for processing right at the point where it is needed.

8) Radio news journalists must be aware of the limited capacity of short-term or working memory and incorporate mechanisms in their oral performance which help register details within that form of memory, if retrieval of those details by the listener will be required later in the performance.

Repetition, rehearsal and use of mnemonic aids such as rhyme or rhythm may all assist, as may overt identification of a detail as something which is important to remember (for instance, phrases such as *The key factor is...* or *The date's important to remember: it's...* — with this signal coming *before* the detail, of course). Without this

deliberate assistance, the listener's attention is left to guess what elements of the story must be kept at hand on the very limited "desktop" of working memory. This could be deduced from context, but the more overt the signal, the less attention is required for the deduction process.

9) The possibility that the *sound* of speech is processed parallel to its linguistic content (by the nonspeech or "poetic" modes mentioned by Tsur) suggests the phonetic character of words and the prosodic qualities involved in their delivery will influence the meaning constructed from them by the listener; given this, radio news journalists should be conscious of the expressiveness of language sound and how to use it deliberately to support the specific meaning (including mood and emotion) they want the listener to construct from oral performance.

Many writers do this naturally by ear, of course, but a more systematic study of how speech sound and pace influence meaning could move this instinctive talent into the realm of a teachable, learnable and usable practical skill. The careful use of the sound and prosody of speech by radio news journalists could help offset creative frustration resulting from the need to use predictable grammar and story flows as aids to "shadowing" (see Point 5, above). As well, use of inappropriate prosody in an oral performance is the phonetic equivalent of a grammatical error, just as a mispronounced word is the equivalent of a spelling error. Training in performance skills should go beyond trying to achieve a natural, "conversational" delivery; radio news journalists

should be taught to make deliberate use of the poetic qualities of language and the expressive qualities of sound and prosody to convey specific, intended meanings.

10) Radio news journalists should be aware of the role played by intuitive leaps in human information processing, assist these where possible, and avoid giving false cues or clues which may lead a listener to make an incorrect assumption about the direction of a phrase or sentence or the overall oral performance.

This is linked to the need for predictable use of grammatical unfolding (see Point 5, above) and the consolidation of individual meaning into clusters (Point 11, below). It also is central to the effective unfolding of narrative flow, as will be discussed in the next chapter. In terms of speech processing, confusion can be avoided by careful sequencing of words so that actions follow the clarification of context/setting and identification of the "actors" (subject/object). This is different from the rigid Subject-Verb-Object rule stressed in broadcast writing style guides; it is the careful provision of detail in the order in which the listener requires it to process and construct effectively the meanings and images contained in the oral performance. Placing setting at the end of a sentence or clause which describes an action increases the odds the listener may have to devote attention to revising an image or meaning formed intuitively in the albeit momentary absence of that information.

For example, if floods in Western Canada have been prominent in the news for several days, a listener can be expected to make an incorrect intuitive leap upon

hearing a story which begins: *Five people have died in severe floods along five rivers in Bangladesh.*¹ Beginning the same story "*In Bangladesh, severe floods...*" is not natural speech style, but "*Severe floods in Bangladesh have killed...*" clarifies the event within its setting before going on to give specifics about what occurred. Likewise, the original version has five people dying but provides no clue as to the cause until the mention of floods. The specific number "five" may not be retained since, at the time of mention, there is no reason for it to resonate with the listener. The delay is very brief, but long enough for attention to be diverted to forming questions or making intuitive leaps about possibilities (based perhaps on information retrieved from memory about other events in the news). Once again, this is commonly done instinctively by good radio writers, but explaining it in light of human information processing makes its importance clear and enables the principle to be taught, rather than just the form.

11) Radio news journalists should think in terms of "meaning clusters" when they write, pulling together all the words which combine to create a single specific image and delivering them as a single speech event before moving on to the next image or detail required in the unfolding sequence of the oral performance.

Grammar may permit words which clarify meaning to wander away from each other within a clause or sentence, but good oral style should not. Even where meaning

¹ Based on a CBC National Radio News story aired in early June 1995 while flooding in Southern Alberta was a focus of national attention.

is perfectly clear when the clause or sentence is read as a whole, the wording may not be appropriate to oral performance. The exact nature of a scene, object, individual or action should be made clear as it is introduced, by treating the collection of nouns and adjectives or verbs and adverbs which describe it, wherever grammatically possible, as though they were inseparable syllables of a single compound word. This useful fiction would help prevent the early intrusion of unrelated information before a clear image has been created. It may also be useful to ensure a noun appears first if it is to be modified by two or more adjectives.¹ This may be done best by devoting a full clause to the description in which the Theme is the noun and the Rheme contains the adjectives.

12) Radio news journalists should be aware the clear, sequential unfolding of meaning in oral performance is accomplished best when the basic unit of expression is recognized as the simple clause, not the sentence or paragraph.

The rule of thumb should not be "one thought per sentence" as commonly stated in guides for radio writing; it should be to complete one clause at a time. A blanket ban on "complex" sentences in radio writing misses the point that the problem is not multiple clauses in a single sentence but clauses within clauses. The sequential unfolding of meaning is most commonly disrupted when a clause is begun and then interrupted by a subordinate clause which separates Theme from Rheme. The listener,

¹ This is instead of the common radio writing rule against "freight trains" of adjectives coming before a noun. The use of multiple adjectives may be necessary to paint a clear picture; the problem is not their number but their placement ahead of the word they modify. Until the specific noun provides a canvas, the adjective is just a brush-load of paint waving about in mid-air.

upon completion of what could potentially be an extended subordinate clause, must try to recall the Theme which may or may not have been held readily accessible in short-term working memory. If the Theme cannot be recalled as soon as the Rheme is resumed, the chance to construct accurate meaning will be lost (as would happen in the case of the previous sentence if a listener had lost track of the Theme "*The listener...*" by the time the clause resumed with "...*must try to...*", causing the confused listener to direct attention away from processing and toward the question, "*Who must try...?*"). Sentence length is not as crucial as keeping each clause intact and completing the specific image offered within it as exactly as possible. Clauses may be daisy-chained into clause complexes using conjunctions or other cohesion mechanisms, and these may not pose any difficulties for processing even though they may technically constitute very long sentences.

13) Radio news journalists should be familiar with the concept of lexical density and learn ways of varying it to suit the nature of their material (including the presence in it of other speech or nonspeech sound or, potentially, visuals) so that information is presented in the oral performance at a rate most likely to match the ability of listeners to process it into accurately constructed meaning.

Tightly written copy, using the fewest words possible, has long been considered one of journalism's cardinal virtues. This originated out of the space constraints in newspapers and was imported into broadcasting to meet the time constraints of radio and television. The two cases are entirely different, however, since readers can control

the rate at which they consume lexical content, whereas listeners and viewers have it fed at them at the rate decided by the broadcaster. Radio news journalists do routinely make decisions about whether they are including too much or too little detail for their audience, but are generally not aware that a critical point is the detail-to-word-count ratio rather than the level of detail per se. Awareness of the role of lexical density in the comprehension of oral performance could help broadcasters make more careful choices about what details to include, how to present them as speech, and how to accompany them (or not) with other sound or visuals. Trade-offs could be made more intelligently: a tightly written story lasting seventy seconds is not efficient if much of its information is presented too densely to be properly absorbed; the reporter needs to be able to anticipate this difficulty and decide whether all the detail is necessary. The reporter in such cases must either lengthen the time allotted or omit detail. These sorts of decisions are made now when reporters writing very tightly still find it impossible to pack in every single detail -- but they rarely make a conscious decision to run longer or drop detail so that they can loosen wording, add redundancies, and take longer to say the same things. The relatively low lexical density of oral language suggests these are exactly the sorts of compromises they should be prepared to make.

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