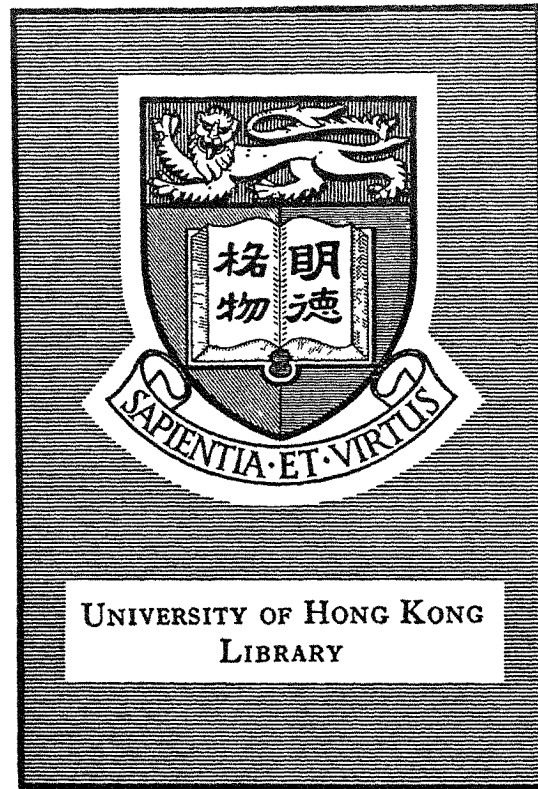


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This issue was prepared by Evelyn G.H. Cheung and Elizabeth Samson (in alphabetical order)

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  - b. Words or phrases used as linguistic examples.
  - c. Words or phrases given particularly strong emphasis.
  - d. Titles of tables, graphs and other diagrams.
  - e. Titles or headings of other books or articles referred to or cited.
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  - a. Title of article or review. (The author's name(s) may be in smaller type).
  - b. Headings of NOTES and REFERENCES sections.
4. Single inverted commas should be reserved for
  - a. A distancing device by the author (e.g. This is not predicted by Smith's 'theory'.....).
  - b. A method of highlighting the first mention of terms specially coined for the paper.
5. Double inverted commas should be reserved for verbatim quotations.
6. The first page should contain the title of the article at the top of the page, in capitals, with the name of the author(s) immediately below and centred. A reasonable amount of blank space should separate these from the start of the text. Headings such as Introduction should be underlined and located at the left-hand side of the text. There should be two blank spaces between the subheading and the start of the first sentence of the text, which should be indented 5 spaces.
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8. Footnotes should not be used. Reference in the text should be to author's name, year of publication and, wherever applicable, page or pages referred to (e.g. "This is refuted by Smith (1978a: 33-5). However, several authors take a different view (Chan 1978:13; Green 1980)").
9. Notes which require explanation should be indicated by superscript numerals in the body of the article and should be grouped together in a section headed NOTES (in capitals) at the end of the text. The number and quantity of notes should be kept to a minimum.

10. References should be listed in alphabetical order in a section headed REFERENCES (in capital letters), immediately following the NOTES section.
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# TOWARDS AN ALGORITHM FOR THE ANALYSIS OF WRITTEN ENGLISH TEXT

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## *Introduction*

This is an initial position paper which forms part of an extensive and in-depth study on the information structure of written English texts and language users' perception of such structures. The paper describes a set of procedures to be used in the study, as a descriptive apparatus, for the purpose of identifying the information structure of written English texts. However, working out such a procedure is not a straightforward matter. The analysis of written texts can be undertaken from numerous perspectives with the result that there may be many possible ways to analyse the same text. Another complicating factor involved is the fact that many interesting attempts at written text analysis focus on the analysis of one particular level of the text (e.g. sentence, paragraph, logical relationships, etc.). Anyone trying to perform a more in-depth analysis of written texts would, therefore, find it rather impossible to follow exclusively any one particular approach. The researcher has to either work out a procedure of analysis all on his/her own, or to adopt an eclectic approach, taking whatever is good and useful from the different approaches. The latter is the option adopted in this study.

Adopting an eclectic approach, however, may put into question the theoretical rigour of the analysis procedure, since suggestions from different (or even rival) viewpoints could be chosen. The guiding principle in eclecticism seems to be practical convenience. Anyone taking an eclectic approach either disregards theoretical considerations, or has to establish the theoretical rigour of the approach a-posteriori through the validity of the data analysed. Such an approach in linguistic analysis is not really new. According to Baily (1981)

"... tagmemics addresses language on all fronts at the same time. If there is no theory to account for a given "level", then some solution, however tentative, must be found to allow the work of description to go forward. ... the description is not to be judged solely against the standards of elegance, simplicity, and thoroughness but on the practical grounds of efficiency" (p. viii)

It is possible to view the situation from an interactive perspective. An eclectic method would be chosen initially as a convenient starting point. Data would be gathered and analysed. The goodness of fit between data and the descriptive apparatus can then be tested, and modifications of the initial position incorporated. This interactive process can then be iterated until there is a reasonably good fit between data and procedure of analysis which could also be

theoretically sound. What the present paper attempts to do is the first stage of the interactive process just described.

The text analysis procedure envisaged in the present paper will then be derived from different approaches now available. The primary concern at present is to establish a practicable and conveniently workable analysis procedure as the initial input to the interactive process. The emphasis is that of obtaining a problem solving tool for written text analysis. Such a problem solving procedure can be conveniently subsumed under the concept of 'algorithm' as applied in computer science. By describing the text analysis procedure as an algorithm, the initial heuristic value of the procedure is being emphasised; nevertheless, the establishment of a theoretical foundation for the text analysis procedure is the ultimate objective of the algorithm.

The initial nature of the text analysis procedure eventually evolved should again be emphasised. It is through the testing of the goodness of fit between the analysis of the information structure of texts and language users' perception of such structures that modifications, and subsequent approximation to a rigorous and coherent formulation of the initial procedure can be arrived at.

The paper will first present the rationale for the proposed text analysis. The initial text analysis procedure will then be described. Finally, the method for testing the goodness of fit will be introduced.

#### *Rationale for the Proposed Text Analysis Procedure*

It may be appropriate, at this point, to clarify the concept of 'text' as used in the present paper. The term 'text' is used here in the sense of Widdowson (1984), who distinguishes between 'text' and 'discourse'. Such a distinction is based on the theory that meaning is negotiated (Halliday 1973, 1975). Widdowson (1984) writes

"Meaning, in this view, is a function of the interaction between participants which is mediated through the language. I will refer to this process as *discourse*. The language used to mediate the process can be recorded or transcribed and studied in detachment. This I will refer to as *text*: the overt trace of an interaction, which can be used as a set of clues for reconstituting the discourse." (p. 58)

The study of written language, viewed from the above perspective, would be dominated by the study of text rather than discourse because the interactions of participants are not easily, if ever, obvious to the researcher. Written language data would, therefore, tend to be predominantly those of the text. Such an emphasis would also be the bias of the study reported here.

Being a relatively young and burgeoning discipline, text analysis receives input from a good number of fields of research (see

de Beaugrande et al. 1981) and can be pursued from several distinct and widely different theoretical perspectives. One such approach which influences the present paper to a certain extent is the Tagmemic point of view. As indicated in the Introduction, the Tagmemic approach to the study of language emphasises an a-posteriori and quasi inductive approach to linguistic research, taking practical convenience in data analysis, rather than any predetermined theoretical perspective, as a starting point (Pike 1981, Baily 1918). What the present study will take upon from the Tagmemic approach is the research orientation just described rather than the specific method of analysis by slot filling or the strict adherence to the taxonomy of 'etic' and 'emic' elements, even though this latter may have very wide applications and has thus some influence over the present study as well. It may be necessary to point out here that Tagmemics is an approach to linguistic study capable of various and different applications. Well known studies subsumed under the label of Tagmemics include diverse pieces of research such as Grimes's (1975) pioneering work on the tagmemic approach to discourse analysis, Meyer's (1975) study on reading, Clements's (1979) study of the staging effect and comprehension, Longacre's (1979) study on paragraph structure, and Pickering's (1980) modification of Grimes's approach, to mention just a few.

The approach which encompasses what can be broadly included within the so-called schemata approach (e.g. 'schema' Head 1920, Bartlett 1932, Rumelhart 1975, Fillmore 1975, Chafe 1977, 'script' Schank and Abelson 1977, 'frame' Bateson 1972, Hymes 1974, Goffman 1974, Minsky 1975) will not be used in the present study because the schematic approach deals with the psychological environment of information processing rather than the linguistic organisation of texts. Likewise, the approach labelled as 'text linguistics' (e.g. van Dijk 1977, de Beaugrande & Dressler 1981) will also not be included in the present study because, even though text linguistics has been proposed primarily as encompassing "... any work in language science devoted to the text as the primary object of inquiry" (de Beaugrande & Dressler 1981 p. 14), the main emphasis of text linguistics is on the logical relationships among textual elements rather than the surface signals of text structure as such.

Though dealing directly with the information structure within the sentence and not predominantly associated with text analysis, the functional sentence perspective approach will be featured in this study. It should be noted that, as in most approaches, functional sentence perspective represents a number of different areas of research and methods of analysis. Danes (1974) identifies 3 principal areas: (a) given/new information, (b) theme/rheme, (c) communicative dynamism. The first two are associated primarily with V. Mathesius while communicative dynamism is associated principally with J. Firbas. Functional sentence perspective will be used in this study for the analysis of the information structure within the sentence. The particular method adopted is that suggested by Halliday (1967) on the thematic structure in English.

The approach used extensively in this study is that developed by E.O. Winter and his associates. This approach relies heavily on the

notion of signalling in texts. Winter (1977, 1982) proposes, what he calls, clause relations which can be used to identify semantic relationships between clauses:

"A clause relation is the cognitive process whereby we interpret the meaning of a sentence or group of sentences in the light of its adjoining sentence or group of sentences." (Hoey 1983 p. 18)

The above are some of the approaches for text analysis some of which will be used in the study planned. In the next section the procedure for the text analysis work will be described.

### *The Text Analysis Procedure*

In working out a text analysis (or indeed any linguistic description) procedure, it is imperative to define the lowest and the highest level of description. The specification of the lowest level would provide the basis for identifying the lowest emic elements upon which the analysis can begin from. This is not as intuitive as many tend to think. As a case in point, it is quite usual that, when tackling phenomena of the written text, researchers tend to take, as a natural (or intuitive) starting point, the orthographic word, which may not necessarily be the most logical and/or the most convenient starting point. The specification of the highest level in the analysis would define the field of inquiry within a logical and manageable boundary without which the field of inquiry would extend almost indefinitely. An example can be found in the analysis of the written text. If the uppermost level for the analysis procedure were not set, the inquiry might gradually extend to text phenomena in other parallel semiotic systems, or to higher levels of enquiries like related psychological and/or neurological phenomena. It is certainly legitimate to expand any field of research to any related fields. However, if a researcher includes in his/her analysis phenomena of other related fields because of a lack of definition of the field of inquiry, the research would almost by necessity become ill-defined and fuzzy as it had happened to a number of research studies in the analysis of the written text.

The starting (or lowest) level units of description in the present analysis are the two constituents that make up the 'theme' and the 'rheme' of the sentence. This is not an arbitrary decision. Within the history of linguistics, the discussion of the information structure within the sentence has been predominantly influenced by the Czech school of linguistics. Even with considerable variation, the Czech school also concerned itself with what Halliday calls the thematic system of language; and the problem of the theme-rheme relationships was very much in focus since Mathesius's time (Mathesius 1915). Firbas (1974) point out that, as early as 1844, Henri Weil (1844) suggests that there is a point of departure and a goal of discourse in every sentence. As the present study deals with the information structure of texts, it is natural that the theme-rheme structure would constitute the basis for intra-clause analysis. (The term 'clause' is used here within the framework of Winter (1982); regarding the concept of sentence. See below.) The study will

basically follow Halliday's (1967) suggestion on the thematic system of English. Within Halliday's formulation, the various markedness conditions in the thematic system of English would provide the basis for the intra-clause information structure.

The next level comprises various inter-clause level relationships. The analysis of this level will be based principally on the ideas of E.O. Winter (1977, 1982). The central concept in this approach is that of 'signalling' of semantic relationships between and among textual units via textual elements. Winter identifies three major types of signals: (a) vocabulary 1 - sentence subordinators, (b) vocabulary 2 - sentence connectors, and (c) vocabulary 3 - open lexical items with clause relating functions. Semantic relationships that relate clauses together are labelled 'clause relations'. Winter (1982) identifies two basic clause relations: 'logical sequence' and 'matching relation'. Any set of clauses, bound together by various clause relations, is labelled by Winter 'sentence'.

The notion of 'sentence' in Winter's framework requires some clarification. Winter (1982) states

"... a definition of sentence as consisting of one or more clauses, at least one of which is independent declarative clause." (p. 23)

It is clear from the above that a sentence in Winter's sense of the term would include instances where there are more than one independent clause in one sentence.

As far as the present study is concerned, the suggestions within Winter's treatment that are of primary interest are from his treatment of the relationships between main and subordinate clause in terms of the 'given-new' information structure in discourse, and his treatment of markedness conditions regarding clause subordination. The proposals made by Winter would be used to bring forth the information structure among the clauses within the same sentence of a text.

The overall information pattern of texts will be investigated using Hoey's (1983) treatment. Hoey follows Winter's text signalling approach and expands his clause relation notion to investigate overall discourse pattern of written texts. He introduces the notion of 'discourse pattern' and identifies four main types of basic discourse patterns: Problem-Solution, Matching Compatibility, Matching Contrast, General-Particular.

With the establishment of the theme-rheme structure for intra-clausal semantics, clause relations for inter-clausal relationships, and discourse patterns for macro-structural (to use a van Dijk term) relationships the text analysis procedure should be complete. However, as pointed out by Winter (1982) himself, textual clues may not always be available for interpretation. In such cases, extratextual (or even extralinguistic) knowledge needs to be used for interpretation of the meaning of the clause.

"... we speculate about the real-world knowledge which we use to account for the meaning of our sentence in context, ..." (p. 85)

However, when real-world knowledge is advocated to interpret linguistic meaning, there is virtually no limit as to what and which other semiotic systems will be referred to. Ever more remote explanations can be found in practically any semiotic system. In fact, such instances can be found in a good number of discussions on the logico-linguistic semantics. The present study will, however, try to stay within the written text as far as possible. Information not already found within the text will be used only if it is necessary for the immediate interpretation of the clause in question. This follows van Dijk's (1977) advice that

"... to keep the notion of 'implicit information' manageable and linguistically interesting, it will be identified with this SET OF IMPLICATIONS NECESSARY FOR THE INTERPRETATION OF SUBSEQUENT SENTENCES." (p. 112)

The result of the text analysis procedure outlined above is the information structure of the text. This point should be stressed, because all too often it is assumed that the analysis of linguistic data (particularly that of texts) would represent what the producer of that piece of language has in mind and/or what the receiver of the text comprehends qua linguistic message. As pointed out earlier, discourse is taken in this study as always being interactional, and that the written text by itself is not the total of discourse and that "the vicarious second person contribution is always left to some extent presupposed". (Widdowson 1984 p. 62) Widdowson (1984) goes on to point out that

"When the reader comes along, ..., he has to create an interaction from the partial record provided: he has to convert the text into a discourse." (p.62)

From this it is clear that the interactional part of the discourse in the case of written language is neither found in the written texts nor simultaneously present to both the producer and the receiver of the text. This is one of the principal reasons for the present study which is to concentrate on the written text as such; and to empirically investigate the reader's understanding of written texts.

#### *The Repertory Grid Analysis Technique*

From the discussion on the nature of discourse in the written mode and the nature of the written text being only a partial record of linguistic interactions it can be seen that production and reception in discourses involving written language should not be assumed to be necessarily parallel and equivalent as many researchers tend to assume (e.g. Meyer 1975, Clements 1979). In the present study, the focus will be on the reader of written texts and specifically on the goodness of fit between the text analysis structure and the reader's own perception of the information structure of the text.

Regarding data gathering, quantitative rather than introspectional methods will be used in the present study. As almost standardly applied, introspectional data are obtained through subject's own verbalisation, the interpretation of which is rarely a

simple and straightforward process.

The quantitative method to be used is the Repertory Grid Analysis technique. This is based on George A. Kelly's (1956) 'Personal Construct Theory'. Kelly maintains that every human person perceives the world according to an ever refining construct system which becomes a frame of reference for and at the same time is modified by perception. Kelly first used the Repertory Grid Analysis technique, which also originated from him, in psychotherapy. However, before long, a number of researchers (e.g. Slater 1977, Thomas et al 1977, Shaw 1980, Barnister and Fransella 1981, Fransella 1981) extended the concept of Personal Construct theory and the technique of Repertory Grid Analysis to several areas of research, particularly market research, architectural design, and education. The Centre for the Study of Human Learning at Brunel University, Middlesex, which is one of the principal centres for the application of Repertory Grid Analysis, has been doing considerable research in language studies, especially in reading.

In its most general outline, Repertory Grid Analysis quantitatively investigates the patterning of a person's perception of objects (called Elements) and their association with the person's particular points of view (called Constructs). In doing the analysis, only the Elements need be clearly and unambiguously defined; Constructs can be either 'supplied' by the experimenter or 'elicited' from the subject or both. In doing linguistic analysis with the Repertory Grid Analysis technique the Elements can be linguistic units defined within the area of investigation and the Constructs can either be a particular theoretical model (Supplied constructs or the subject's own intuition (Elicited constructs).

The application of the Repertory Grid Analysis technique envisaged in this study takes as 'elements' clauses in a written text; these are quantified by being assigned values vis-a-vis their thematic structure (variation of values arising from the variation in thematic features like relative markedness), their position within networks of clause relations, and their being members of a component in the overall discourse pattern. These parameters are taken as 'constructs' in the Repertory Grid Analysis.

The grid is obtained by asking subjects to associate the clauses (elements) with various parameters in the text (constructs) through a standard method of comparison and contrast in all Repertory Grid Analysis methods. The constructs need not all be supplied in the sense of having the same labels found in the text analysis procedure described earlier. Some of the constructs can be as they are in the taxonomy. Nevertheless, subjects are left free to articulate their own constructs using whatever labels they think fit.

The grid thus arrived at will then be analysed using the method of Repertory Grid Analysis devised by Shaw (1980). This method uses hierarchical cluster analysis as its basic statistical tool. Through cluster analysis the patterning of both elements and constructs will be identified. Such a pattern would represent the subject's perception of the information structure of a text, since the elements are the clauses found in a written text and part of the constructs are

the dimensions of the information structure of the text as identified through the text analysis procedure and part are elicited from the subjects themselves.

What makes Shaw's program interesting is not so much the use of cluster analysis, but rather her employment of the notion of 'conversation', which originates in Jahoda and Thomas's (1965) 'science of learning conversation'. The basis of the notion of conversation is the realisation that in behavioural research a physical science paradigm does not do justice to human behaviour as such. People as experimental subjects cannot be considered and controlled using the criteria of physical science. Human interactions can be and are found among the experimenter and his/her subjects. Such interactions among conscious participants in an experiment must be considered as a kind of conversation in the sense that the subjects particularly have to have full knowledge of whatever aspects of the experiment he/she wishes to have and be allowed to contribute as a human being. In the context of the present study, the notion of 'conversation' encompasses the interaction between text, linguistic theory and language user in an interesting and fruitful way. The use of the Shaw program and the notion of conversation just described will enable the investigation of the language user's perspective vis-a-vis the written text (conversation with the text) and the comparison among different language users regarding the similarities and the differences in their perspectives on the same text (conversation among language users) and the comparison between language user's perspective and a linguistic theoretical model (conversation between language user and theory). It is through conversation that the interactive and iterative processes, described in the Introduction, are made conceptually and computationally possible.

### *Conclusion*

Winter (1977) makes a very good point when he dates that the impressive advances of syntactic theories in the 60s and early 70s were possible because of the research done in the study of surface structure phenomena within the sentence in the 40 or so years earlier, and that the study of discourse (particularly the study of written discourse) does not have, as yet, a similar surface phenomenon research to serve as a research basis. He maintains, therefore, that research in discourse analysis should, at least in its present stage of development, concentrate more on the 'surface' phenomena of text and discourse. The present study is a response to such a suggestion.

The study of raw data (linguistic or otherwise) may appear to be rather forbidding because of the hard work and drudgery involved particularly in the data collection stage. Many linguists may still have the scenario of the dialectologist going from remote village to remote village trying to collect desired linguistic data. In more recent times, Blom and Gumperz's (1972) study on Norwegian code switching or Labov's (1970) study on black English or the phenomenon of the final and preconsonantal 'r' in New York are examples of the



problems involved in data collection. The reliance on native speaker's intuition in the heyday of syntactic theories seemed to be a solution towards speedy data collection and to give more time for 'theorising'.

There has been a change for the better regarding data collection in the 80s. The availability and convenience of computer power has progressed and is still progressing at a staggering speed. (Indeed, Shaw's programs are implementable in a number of popular micro-computers.) The study of raw linguistic data and actual language behaviours will certainly become more manageable with the help of computers. It is this desire for and the possibility of examining actual linguistic data that prompted the undertaking of the present research.

Data collection with the help of the computer would, in addition, make possible a statistical approach to theoretical linguistic investigation. Such an approach seems to the present writer to be extremely important for the development of linguistics as a field of research. Such a statistical approach to theoretical linguistic research has been strongly advocated by Labov and many other linguists. As suggested in the Introduction, the quantitative method being used in this study would, in all probability, yield qualitative research results in substantiating or rejecting theoretical linguistic models proposed by theories.

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## SUBJECT AND TOPIC IN FOUR NARRATIVES

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### *Introduction*

In *Psychology and Language* (Chaps. 1 & 6) Clark and Clark consider the structure of language as consisting of three functional aspects - the propositional content; the illocutionary content and the thematic structure. The propositional content relates to the information which the speaker wishes to convey to the listener, to the 'states' and 'events' which he wishes to talk about; the illocutionary content relates to the speech act which the speaker intends to make - whether he intends to make a statement, ask a question, issue a warning, make a promise, etc; and the thematic structure relates to the organisation of the phrasal element within the clause, in particular with the element that will be chosen as subject of the clause, with the placing of the intonational contour so that it reflects correctly what part of the information the speaker assumes the listener to know already and what part he assumes him not to know, and, finally, with the choice of the element that will open the clause. This last operation is called 'frame and insert' by Clark and Clark, and is clearly related to the Prague School notion of 'theme and rheme'.

Halliday's three macro-functions of language (1970; 1973, Chap. 2) - the ideational or informative, the interpersonal and the textual - are undoubtedly an influence on, if not the main source of, Clark and Clark's divisions. Halliday defines his terms thus: the ideational function is "the use of language to inform" (1973: 37); the interpersonal function is "the use of language to express social and personal relations, including all forms of the speaker's intrusion into the speech situation and the speech act" (1973: 41); and the textual function "fills the requirement that language should be operationally relevant - that it should have texture, in real contexts of situation, that distinguishes a living message from a mere entry in a grammar or dictionary" (1973: 42). Under this last function he includes the structures 'theme and rheme' and 'given and new information'.

Halliday goes on to link his three functions with the three types of subject which can occur in clauses (see further below). Thus, the ideational function is seen in the 'logical subject'; the interpersonal function in the 'grammatical subject'; and the textual function in the 'psychological subject'. Halliday distinguishes two kinds of psychological subject, one which reflects the theme/rheme structure and one which reflects the given/new information structure (1970: 164).

In this paper we shall be concerned with the kinds of selection which take place to fill the various subject roles and what effect their coincidence, or non-coincidence, in same lexical item has, for, as Halliday says, "these [four subjects] coincide unless there is 'good reason' for them not to do so" (1970: 165).

### *Aim and Scope*

The aim of this paper, therefore, is to examine the concepts of 'subject', 'theme' and 'topic', particularly as expressed in the writings of Halliday, Hornby, Chafe and Lautamatti and apply these concepts to the analysis of a number of selected narrative texts in order to determine the extent to which the coincidence of these concepts in the same lexical item contributes to the readability of the text. Broadly speaking, 'subject' refers to the subject of the verb in the traditional sense; 'topic' refers to the interest focus of the sentence or clause; and 'theme' to the first element in the sentence or clause. These concepts will be examined in more detail below under the respective headings of 'Grammatical Subject', 'Logical Subject' and 'Psychological Subject'. It is hypothesized that the more readable texts will show a greater degree of 'topic maintenance', i.e. that the events of the narrative will be presented from a sustained point of view, probably that of the (human) originator of the verbal processes. Thus we hope to discuss one of the ways in which narrative styles may differ. The choice of *narrative* texts, as opposed to fictional non-narrative or non-fictional expository texts, was dictated by the need to establish a 'base-form' which we take notionally to be centred upon a human agent as subject of the verb, initiator of the verbal processes and primary focus of interest. For expository texts we have not been able to identify a 'base-form' and in the texts we have so far examined a high degree of topic change was noted with human, non-human concrete and non-human abstract terms occurring as subject and/or topic. Clearly, more work needs to be done in this area.

### *Selection of Texts*

As this is primarily a study of narrative we have begun with the most basic form, the 'folk tale' or 'fairy story'. This is characterised by having a strong 'story line', in the sense that there is very little digression from the sequence of events in order to elaborate the details of the story, to fill in the temporal or locational setting except in the most general terms (e.g. "once upon a time in a far-off country...") or to give detailed physical descriptions or rounded characterisations of the participants. These devices and the purpose their absence serves - that of generalising the places, characters and events sufficiently so that the moral message will seem applicable to the greatest number of people - do not concern us here except insofar as they give the folk-tale narrative a particular structure and organisation.

The particular narrative selected, the opening section of *The Elves and the Shoemaker* (abbreviated as 'ES') conforms well with

these premises and also shows a high degree of lexical repetition which is typical of stories presented orally (and frequently to children): it is difficult for the listeners to assimilate complex plots or elaborate details without losing track of the whole.

For comparison with the folk tale narrative we have chosen three modern narratives by accredited authors, one British, one American and one Australian. These texts are the opening of

*The Dead* by James Joyce;

*The Headless Hawk* by Truman Capote; and

*An Evening at Sissy Kamara's* by Patrick White

(hereafter abbreviated as TD, HH and ESK respectively). The criteria employed in the selection of these texts were:

- (1) that they should be short stories (rather than novels) to given some degree of comparability with the folk tale;
- (2) that they should be essentially reported narrative (rather than description or reflection or dramatic narrative - though these elements cannot be completely eliminated);
- (3) that they should not be first-person narratives - again, to make them similar to the folk-tale which is a third-person narrative; and
- (4) that they should consist of fairly short sentences in general. As very short extracts are being considered here it did not seem useful to have some texts with long, heavily embedded sentences and others with short, simple ones. In a word, the keynote was superficial similarity. Apart from this, the choices were random. In the event, all three began *in medias res* and supplied the expository material as the story unfolded. This similarity with each other (and difference from the folk tale) was accidental but caused by the fact that most stories that begin with the setting rarely restrict it to one or two perfunctory expressions (like the folk tale) but elaborate it over one or several paragraphs, which would have been too long for our purposes. This does mean that sometimes (especially in the case of HH) after a narrative opening the story shifts gear, in this case to an evocation of the ominous, gothic atmosphere of the story by a description of the climatic setting and the street scene, in order, perhaps, to present the protagonist, Vincent, in terms of the way external situations impinge on and reflect his psychological turmoil.

### *Sentence Structures Compared*

As we shall be dealing with the organisation of the clauses later when we consider the particular realisations of the thematic structure within them, it will be useful to set out the structure of the four texts in terms of their sentence composition, i.e. the number and type of clauses in each sentence. The notation employed below distinguishes four clause types, viz. *main*, *subordinate*, *relative* and *noun* and these are further subdivided into *major* and *minor* according to whether they are grammatically complete or not. The criteria for deciding this distinction are generally those found in Scale and Category/Systemic Grammar (see, for example, Scott et al. (1968)). It should be noted that 'understood' items which are present in a previous co-ordinated clause are considered as belonging to, and therefore completing, the following clauses, which are then treated as major, not minor. For example, *John was sitting at home and watching*



*television* consists of two main clauses, both major, whereas *John was sitting at home, watching television* consists of one main clause (major) and one subordinate clause (minor).

The four types of major clauses are notated with capital letters, viz. M, S, R, N, and the corresponding minor clauses with lower-case letters, viz. m, s, r, n. '&' is a symbol for any co-ordinating conjunction. Brackets indicate an alternative analysis.

Table 1: Sentence Structures Compared

<i>The Elves and the Shoemaker (ES)</i>	<i>The Dead (TD)</i>
1. M	1. M
2. S&SMSs	2. M&MS&Ss
3. M&SMS	3. MN
4. Ms&M-m	4. M&M
5. M	5. Ms(&s&s)SSSsN
6. MRS&MN	6. M
7. M&SMS	7. MRR
8. M&MS	8. M
9. Ms(r)	9. MS;S&SR
10. M	10. MS
11. MN	
12. M&M&M	

<i>The Headless Hawk (HH)</i>	<i>An Evening at Sissy Kamara's (ESK)</i>
1. M	1. M&MMM
2. sM&MS	2. 'M'M
3. M&M; M&Mrr	3. '(m)M'M&M
4. MS	4. M&MNR
5. Mr&M	5. SMs
6. Ms&M	6. MS&S&S
7. MMs&sN	7. M
8. M	8. 'M'M
9. M(&M)	9. M
10. M	10. MN
11. SM&M	

*Discussion of Table 1:* What this shows without going into a statistical breakdown, is that all the texts contain approximately the same number of sentences and that the sentences in each range in complexity from the simple sentence with one main clause to compound-complex sentences with several conjoined and embedded clauses. The folk tale is not more simple in its sentence structure than the other texts in spite of its simplicity of content. On average the texts contain sentences of 1-4 clauses, which is not overly lengthy or complex. Therefore, all the texts have a similar 'pace'. It would be possible, of course, for the length and complexity of the clauses themselves to vary widely in spite of the similarity in the number of clauses per sentence, but this would make the texts very unequal in length - which is not the case.

### *The Grammatical, Logical and Psychological Subjects*

The idea that the grammatical subject is not the only 'subject' of a clause has been taken up in recent years by, among others, Lyons, Halliday, Hornby and Chafe.

Broadly speaking, the distinction between the current notions of these three 'subjects' is between the item which is in concord with the verb (the grammatical subject), the item which is logically the agent of the action expressed by the verb (the logical subject) and the first element in the sentence (the psychological subject)<sup>1</sup>. Further, Halliday has attempted to expand this by distinguishing a second kind of psychological subject which operates in the information unit and which he identifies with 'given' information (1970: 162-4). It is recognised by the presence ('new') or absence ('given') of stressing<sup>2</sup>.

The terminology employed by the different writers is not consistent: thus for grammatical subject we also find 'mood subject' (Halliday), 'superficial subject' (Hornby) and 'structural subject' (Lautamatti). Halliday also speaks of 'theme' and 'actor' for the psychological and the logical subjects respectively and for most purposes the 'topic' of the topic-and-comment analysis of clauses is also equated with the theme/psychological subject.

To explain the matter in more detail, in an ordinary declarative sentence the three kinds of subject all combine in the same item, e.g.

*The elves made the shoes:* *elves* is the grammatical, logical and psychological subject.

In a passive sentence the by-agent is the logical subject, e.g.

*The shoes were made by the elves:* *shoes* is the grammatical and psychological subject; *elves* the logical subject.

In a sentence with a marked theme, the initial item is the psychological subject e.g.

*The shoes, the elves made at night:* shoes is the psychological subject; *elves* the grammatical and logical subject.

It is possible for all three subjects to be separate, e.g.

*The shoes, they were made by the elves:* shoes is the psychological subject; *they* the grammatical subject; and *elves* the logical subject.

We shall now consider each of the three subjects in turn.

### *The Grammatical Subject as Topic*

The grammatical subject is the most fundamental of the notions of 'subject' and there is very little disagreement about identifying it. Only the 'empty subjects' *it* and *there* are problematical, especially the latter as verb concord is with the following noun and not with this word which, positionally, seem to be the grammatical subject. In this case (but not with the empty *it*) we have taken the following lexical item to be the grammatical subject. In unmarked clauses the grammatical subject is usually also the theme (in Halliday's usage) and the 'given' information: it thus constitutes the topic of the clause, i.e. what the speaker is talking about.

In the analysis which follows we shall look at three kinds of information: topic development, clause relationships and lexicalisation and we shall see how this is brought together (or not) in the role of the grammatical subject. We will thus be able to see how the topic is maintained by the choice of the grammatical subject and what differences exist in the different narratives. The three kinds of information to be presented in the table will be discussed in more detail now because of the notational problems involved:

(1) Topic development. This will be indicated in the notation by the use of a letter of the alphabet for each different entity acting as grammatical subject. Thus, *the shoemaker* or *he* will be shown as A for each clause of which it is the subject. Where attributes, parts of the body, or clothing are the grammatical subjects but are seen as linked topically with the possessor rather than as separate entities, e.g. *his wife, his hand, his hat, everything about him* etc, then they will be indicated by A<sup>1</sup>, A<sup>2</sup>, A<sup>3</sup>, A<sup>4</sup>. etc in order to show the maintenance of the topic, where the use of B, C, D, etc would obscure this. This is a similar idea to Grimes' 'scope change' which "is like the effect of a zoom lens on a camera. It changes the area that is under attention". (p. 46) The other letters of the alphabet are used in sequence for other topical subject as they occur (except for the use of 'z' for non-referential pronoun subjects or 'empty subjects')

(2) Clause relationships. Embedded clauses will be enclosed in square brackets so that the subjects of the main clauses will be more prominent. Obviously for the maintenance of the topic the subject of the main clause will be generally more important than the subordinate clauses, except, as Lautamatti has shown, where the main clause acts merely as a 'modality marker'. Such sentences, however, are more

likely to occur in expository prose than in narrative writing.  
 (3) Lexicalisation. Following Lautamatti, we have wished to take note of the use of lexical items, as opposed to pronouns, as subject. Thus, where a lexical item is used we have notated this with a capital letter; for pronouns a lower case letter is used; and for an understood or non-realised subject round brackets are used with a lower case letter.

Table 2: *The Grammatical Subject as Topic*

<i>The Elves and the Shoemaker (ES)</i>	<i>The Dead (TD)</i>
1. A + A <sup>1</sup>	1. A
2. [a(a)]A[B[(a)]]	2. a(a)[Ba[(a)]]
3. A[a]a[a]	3. z[a]
4. A[(a)]C - (c)	4. C(c)
5. C	5. C[(c)][(c)][(c)][(c)][(c)[d]]]
6. A + A <sup>1</sup> [a <sup>1</sup> [a <sup>1</sup> ]](a)[d]	6. e
7. E[e]e[(e)]	7. f[f][f <sup>1</sup> ]
8. A(a)[a]	8. e
9. f[(a)]	9. e[f <sup>2</sup> ][C(c)[C]]
10. C	10. g[g]
11. a[d]	
12. E <sup>1</sup> (e <sup>1</sup> )(e <sup>1</sup> )	

<i>The Headless Hawk (HH)</i>	<i>An Evening at Sissy Kamara's (ESK)</i>
1. A	1. BACD
2. [(a)]a(a)[B]	2. 'a'B
3. CDeF[(f)][(f)]	3. 'a+b'A(a)
4. A[a]	4. Ba[z[e]]
5. G[(g)]H	5. [a]A[(a)]
6. a[(a)]a	6. a[b(b)(b)]
7. I(i)[(i)(i)[i]]	7. B
8. J	8. 'b'A
9. i	9. f
10. I <sup>1</sup>	10. a[a]
11. [i]ii	(NB. A and B are reversed here so that the protagonist can be represented by A.)

*Discussion of Table 2:* Impressionistically we would probably place four texts in the order ES, ESK, HH, TD in terms of complexity and this is strongly confirmed by, particularly, the kind of subject maintenance which takes place in each. In ES we have a very direct narrative with a simple focus on the shoemaker (seen in the large number of As in the table). In ESK there are two main characters and the narrative consists of some conversational exchanges between them with additional information on the external appearance of Mr Petrocheilos and the inner musings of Mrs Pantzopoulos - a dynamic description of Mrs P which is the counterpart of the static description of Mr P - thus there is a more or less alternating topical focus. In HH we have again two characters with a polar focus but the topic development is complicated by a central section which shifts off onto the environmental context with a succession of different objects occupying the subject role. Finally, TD focusses on three topics - Lily, Miss Kate + Miss Julia, and the dance - without, in this brief opening section, determining which is in central focus. Texts HH and ESK show in their selection of two protagonists an interactive situation, either implied or direct, whereas in TD one focus seems to develop out of, and to supersede, the previous one (and this process continues in the next section of narrative as the focus shifts to Mary Jane, then to the aunts again, back briefly to Lily, and so on).

A further point of interest here is the use of lexically realised subjects. The two simplest texts, ES and ESK, have also the largest number of lexical subjects for the protagonists. Considering the main clauses we find that in ES six of the twelve sentences contain 'the shoemaker' as subject; and in ESK there are similarly four occurrences of *Mrs Pantzopoulos* and four of *Mr Petrocheilos*. TD and HH have at most only two occurrences of any lexical items as subject of a main clause.

### *Logical Subjects Compared*

As mentioned above, the logical subject of the clause is generally the 'actor' or 'agent' of the 'process' expressed by the verb. Where there is a human agent (or a non-human animate agent) and a verb expressing a dynamic action, then it is usually the case that this agent is the logical subject whether the surface structure of the sentence is active or passive, has marked or unmarked word order, or shows clefting or not. Where the verbal process is static (or 'stative') we will similarly identify the human or otherwise animate 'actor', or 'dative' in Case Grammar terms, as the logical subject. This follows traditional notions fairly closely. Halliday indicates also that if there is no expressed (or implied) animate agent an inanimate noun may occupy the role of 'actor' as in "The gazebo has collapsed" (1970: 152). Further, Halliday quotes Sweet's analysis of *the book in The book sells well* as the 'logical direct object' (or 'goal' in Case Grammar terms) (1970: 148). *Sell* is obviously a special case in many ways - an action verb used in the active voice with an unexpressed but implied agent. There are not many other verbs like it. Unfortunately, there is no indication of how to treat other verbs, especially the different kinds of statives, and for our purposes the information provided by Halliday in this limited

classification is not sufficiently revealing. We therefore propose the following measures to make the analysis more delicate:

Firstly, we wish to recognise the existence of inanimate subjects as, possibly, constituting a different kind of 'actor' role from a human/animate subject. We will consider such sentences as *There stood the shoes on the workbench* (ES) and *Her hair was fawn-coloured* (HH) as having inanimate logical subjects and therefore distinct because of this fact. We could, of course, extend the inferential argument to the point of maintaining that the shoes were placed on the workbench by the elves or that 'fawn-coloured' presupposes the perception of a human being, but this seems contrary to the intention of the author in choosing a neutral expression.

Secondly, there are within the texts words which do, however, imply a human agent or a human 'experiencer' much more directly even though none is expressed and those we would also like to take note of in some way - perhaps as a sub-class of the inanimate logical subject type. Such words are underlined in the sentences below:

*A promise of rain had darkened the sky.*

*Voices... sounding muffled and strange, carried a fretful undertone.*

*Buses... seemed like green-bellied fish.*

Thirdly, there are two sentences in the texts which begin with a stressed deictic element referring anaphorically to the previous proposition rather than to a single lexical item. We would like to mark these separately too.

Thus, in the table below, where the grammatical and logical subjects coincide, this is marked

H for human/animate subjects

C for concrete/tangible/countable inanimate subjects

C' for concrete/tangible/countable inanimate subjects with human participant

A for abstract/intangible/uncountable inanimate subjects

A' for abstract/intangible/uncountable inanimate subjects with human experiencer

F for a formal element or non-referential pronoun as subject

X for non-coincidence of grammatical and logical subjects

Upper-case letters are used for main clauses; and lower-case letters for subordinate/relative/noun clauses.

*Discussion of Table 3:* What this shows is that again the two simpler narratives have less complexity with regard to the logical subjects. ES and ESK are almost entirely person-oriented, thus they have a high proportion of human logical subjects (83% and 84% respectively - see Table 5). The other two narratives, however, show a much more complex picture: in TD 50% of the main clauses have inanimate subjects and in HH the figure is 42% (this includes *voices* and *faces* as being, in this passage, dislocated from the person's who possess them - as a reflex of the disorientation of the protagonist). Thus, the simpler narratives tend to relate the events from a unitary point of view: ES chooses the viewpoint of the

protagonist, the shoemaker, as the main orientation (though there are subsidiary shifts to other familiar persons and objects, e.g. the customers and the shoes); and ESK focuses fairly consistently on the two main characters alternately. The other narratives show complexity of focus by shifting the viewpoint more frequently and more randomly, especially HH which is almost kaleidoscopic in its array of logical subjects.

*Table 3: The Logical Subjects Compared*

<i>The Elves and the Shoemaker</i>	<i>The Dead</i>
1. H	1. X
2. hhHch	2. HHchh
3. HhHh	3. X
4. HhC-C'	4. HH
5. C'	5. Hhhhhhh
6. HhhHh	6. C'
7. HhHh	7. Hhh
8. HHh	8. C'
9. Xh	9. C'hhhhh
10. C'	10. Ff
11. Hh	
12. HHH	

<i>The Headless Hawk</i>	<i>An Evening at Sissy Kamara's</i>
1. H	1. HHCC'
2. hHHc	2. HH
3. A'CFC'c'c'	3. H+HHH
4. Hh	4. HHfa
5. C'cC	5. hHh
6. HhH	6. Hhhh
7. HHhhh	7. H
8. C	8. HH
9. H	9. F
10. C'	10. Hh
11. hHH	

Table 3A: Totals of Different Types of Logical Subjects

	ES		TD		HH		ESK	
	main clauses	s/r/n clauses	main clauses	s/r/n clauses	main clauses	s/r/n clauses	main clauses	s/r/n clauses
H h	15	14	6	15	11	7	16	6
C c C'c'	4	1	3	1	6	4	2	-
A a A'a'	-	-	-	-	1	-	-	1
F f	-	-	1	1	1	-	1	-
X x	1	-	2	-	-	-	-	-

### The Psychological Subject

By and large the psychological subject is the element which occurs first in the structure of the clause. For Halliday, following the Prague School, this is equated with 'theme' as distinct from the rest of the clause, or the 'rheme'. There is general, though not universal, agreement about this notion of the theme: Clark and Clark consider the term 'theme' to be used too widely and too loosely and therefore prefer 'frame' (with 'insert' being used for 'rheme') (see Introduction above); and Hornby quotes the case of the cleft-sentence to demonstrate that the theme does not always precede the rheme.

Halliday lists the themes of typical clauses as follows (1970: 161-2): in a declarative clause the grammatical subject is usually the theme; in a polar interrogative the auxiliary verb is usually the theme; in a wh-interrogative the wh-word is usually the theme and in an imperative sentence the lexical verb is usually the theme. The above cases are considered to be 'unmarked'. If an element other than the one listed occupies the initial position in the clause then the theme is said to be 'marked'. However, there are many sentences which begin with items other than those listed by Halliday which are generally felt to be normal. Grimes (1975: 328-9), in what appears to be a condensation of Halliday (1967: 220-1), has this to say about the problem:

"Non-anaphoric connectives like *and* and *but* appear to be athematic even though they are initial. They are followed by the full range of thematic possibilities for clauses. This independence establishes them as outside the system. Some discourse level connectives like *first, ... second, ...* may go with chunks of speech much larger than clauses, but they also appear to be athematic for the same reason.

In between athematic elements like these and fully thematic things like object topicalisation, there seems to be a range of semi-thematic introducers that restrict some of the possibilities of what can be topicalised after them but leave others open. We have already considered subordinating conjunctions like *although* and *because* in this sense. Linkage clauses appear to impose mild restrictions in some languages. Modally oriented introducers like *perhaps* have a similar effect"



Thus, following Halliday and Grimes we can discount co-ordinating and subordinating conjunctions and discourse connectors from acting as the 'theme', There are, however, some other cases occurring in our texts which require further discussion.

Firstly, there is the case of temporal setting indicators in the folk tale. Halliday (1967: 220) has recognised the fact that in one sense "all adjuncts are 'sentence adjuncts', whether of time/place or of cause, manner, etc, since their domain may extend over various levels of sentence structure". But he concludes that "a distinction must be made, however, between adjuncts of time, place and cause, manner, etc. on the one hand and items like *perhaps* and *however* on the other, with reference to the relation between theme and initial position in the clause". Although we have followed this ruling it was with some regret as we feel that in the folk tale the temporal setting indicators function very much like discourse markers in that they give a definite structural shape to the narrative and tend to occur in initial position, especially *once upon a time*. In this sense they are different from, say *never once..* and *For years and years..* in TD which are not part of the conventional framework of the story.

Secondly, there is the case of the initially occurring subordinate clause, which is not directly mentioned by Halliday. In the same way that each clause has the potential of marked or unmarked structure, a subordinate clause occurring initially in the sentence, when it could in fact be placed later, acts exactly like an adjunct in the structure of the main clause. Indeed some grammatical models take this line (see for example Crystal and Davy 1969). Therefore, in the analysis of the psychological subject which follows we have adopted this point of view: that a main clause preceded by a subordinate clause is considered to begin with a marked theme.

Similar to this in essence is the case of direct speech (and also free indirect speech) with a following ascription, e.g.

*'Oh no, we are Greeks, aren't we!' Mrs Pantzopoulos said.*  
where the whole of the direct speech functions as a preceding object of the verb said and is thus, structurally, a marked theme (as the ascription could of course precede the direct speech). The quoted speech itself, however, forms a separate discourse unit and must be analysed separately. Usually the speech is the more important item and it is presented first to keep the pace of the narrative lively, the ascription being merely a reminder to the reader of the identity of the speaker.

*Discussion of Table 4:* If we exclude the three instances of preceding direct/indirect speech in ESK as being of less importance (a marked theme in the speech itself would have been more interesting), we find no significant difference between texts TD, HH and ESK. Only the folk tale stands apart as having a high proportion of marked themes - eleven of the eighteen main clauses begin with a marked theme, and also one subordinate clause (in sentence 2). An examination of the exact nature of the thematisers involved reveals that nine out of the twelve are temporal markers which give a high measure of overt structure to the narrative. This clear structuring of the narrative presumably works towards greater readability, which

Table 4: *The Psychological Subject Compared*

<i>The Elves and the Shoemaker</i>		<i>The Dead</i>	
1.	M : Once upon a time..	1.	U : -
2.	M(M): Although he worked hard and was honest ../(until) one day	2.	M(+M): Hardly...
3.	UM : -/just before he went to bed	3.	U : -
4.	MM : In the morning../there, on his workbench..	4.	UU : -
5.	U : -	5.	U : -
6.	UU : -	6.	U : -
7.	MM : That day../When he saw the beautiful shoes...	7.	U : -
8.	MU : With this money...	8.	M : Never once..
9.	N : The next morning...	9.	M : For years and years..
10.	M : Again...	10.	U : -
11.	U : -		
12.	MUU : Shortly after..		
<i>The Headless Hawk</i>		<i>An Evening at Sissy Kamara's</i>	
1.	U : -	1.	MMUU : At that instant../in spite of her rigidity.
2.	M(+M):Outside, after locking the door..	2.	(M) : free indirect speech
3.	UUUU: -	3.	(M)U : direct speech
4.	U : -	4.	UU : -
5.	UU : -	5.	M : For much as she hated etc
6.	UM : -/presently..	6.	M : Now
7.	UU : -	7.	U : -
8.	U : -	8.	(M) : free indirect speech
9.	U : -	9.	U : -
10.	U : -	10.	U : -
11.	M(+M):When she noticed Vincent coming towards her...		

M = MARKED THEME

U = UNMARKED THEME

is obviously a necessary feature in a text intended for younger readers. The narrative which comes next in readability, ESK, also contains two very clear temporal indicators - *at that instant* and *now* - which is consistent with the type of sequential narrative that it is.

Another feature which distinguishes ES from HH and ESK and (probably) TD - though TD contains much background information in the form of description, comment and reminiscence - is what Grimes, following Huisman, refers to as "tight temporal sequencing" and "loose temporal sequencing", that is to say, the amount of actual time that would have elapsed between the narrative steps. HH and ESK represent clear cases of "tight temporal sequencing" as they follow the actual events closely and thus the time signals are unnecessary, as we presume that in ESK it is a matter of seconds and in HH of minutes elapsing. TD is a mixture of 'tight' and 'loose'. ES is clearly of the 'loose' type as several hours elapse between each step and thus the reader needs to re-adjust himself chronologically at each stage. Episodic narrative intended for adults use the same temporal markers but the amount of information contained at each step of the narrative is generally greater and the markers are thus less obtrusive.

### *Conclusion*

Lyons has proposed that "the frequency with which the logical and the thematic subject coincide, in English and other languages, in thematically neutral or unmarked utterance... is presumably to be accounted for in terms of psychological salience" (1977: 510). He goes on to suggest that information which is known, or 'given' in Halliday's sense, will be, almost by definition, more psychologically salient than what is unknown. For this reason, most sentences in English begin with a NP which is both grammatically and cognitively (i.e. logically) the subject of the verb. Our findings bear out this suggestion in general in that most of the sentences do indeed conform to this pattern. However, the simplest narrative which we analysed, the folk tale, shows some deviation from this tendency as most sentences begin with a temporal adverbial. If, however, we consider these as discourse markers and thus extraneous to the structure of the sentence as such then Lyons' hypothesis continues to hold good. Otherwise, we might postulate a slightly different theory - that in discourse the simplest sentence to understand might be one which operates with a connective link of some kind in initial position, either a true discourse connector or a temporal or locational marker. Thus, for example, *Yesterday he went to town* might be easier to understand than *He went to town yesterday*; and *Nevertheless he sold the wood* easier than *He nevertheless sold the wood* or *He sold the wood nevertheless*. This is because the relationship to the previous discourse is immediately known without the necessity of storing the information until sufficient clues have been presented either overtly or inferentially. Obviously this is a tentative suggestion which would require investigation beyond the scant evidence presented here.

Lyons also points to the notion that in general, as human beings, we are more interested in what other human beings do and therefore "in any process which involves a person or an animal or

inanimate entity the expression referring to the person will be the logical subject" (1977: 511). It is more natural from a cognitive point of view if sentences proceed from a human subject, i.e. that the human entity should be at least the grammatical subject and possibly the logical and psychological subjects as well. In terms of readability this is certainly borne out by our analyses. The easiest narratives werethose with the highest proportion of human grammatical subjects (which were also the logical subjects, if not always the psychological subjects) and the most difficult passages were those which included more other subjects, either inanimate, abstract or formal.

*Table 5: Comparative Summary of Differences Between the 4 Texts*

	no. of sentences	no. of clauses			no. of different gram subjs	proportion of log subjs as H	proportion of marked psych subjs in main clauses
		main	s/r/n	total			
ES	12	19	17	36	6	83%	60%
TD	10	12	19	31	7	72%	33%
HH	11	20	11	31	10	60%	26%
ESK	10	18	8	26	6	84%	46%

Table 5 shows that the simpler texts, ES and ESK, maintain their topics by having a smaller number of different elements functioning as grammatical subject (6 each) and a larger proportion of human logical subjects (83% and 84% respectively). They also have a larger number of non-subject elements in sentence-initial position (i.e. marked psychological subjects) - 60% and 46% respectively. However, as was suggested above, this may be a feature which aids comprehension rather than, as might be supposed, complicating it.

## NOTES

- 1 (a) Hornby (1972) has questioned Halliday's equating the psychological subject with the initial sentence element and has pointed to cleft sentences where, he says, the psychological subject may follow the verb, e.g.

*It was the shoes that the elves made: shoes* is the psychological subjects; *It* is the grammatical subject; and *elves* the logical subject.

- (b) Lautamatti (1977) has also offered the notion of "lexical subject" as opposed to a pronominal subject [the shoes vs. they]; and "topical subject vs. "non-topical subject". She discusses the sentence

*Biologists suggest that new-born babies are completely helpless* and points out that it is the subject of the noun clause, *babies*, which is real topical focus of the sentence whereas the subject of the main clause, *biologists*, is the non-topical subject, and the whole main clause is merely an introductory 'modality marker' and could be replaced, presumably, by an item other than a main clause, e.g. *as biologists suggest*, or *according to biologists*.

2. A feature of note is that Halliday's psychological subject no. 2 (given information) is displaced from its initial position on two occasions in our texts by the presence of the stressed anaphoric pronoun *that*, once in sentence 10 of TD and once in sentence 9 ESK.
3. Because of the constraints on thematising elements in subordinate, relative and noun clauses we have limited the analysis in Table 4 to main clauses only.

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## APPENDIX 1

TEXT: THE ELVES AND THE SHOEMAKER

- 1) Once upon a time a shoemaker and his wife lived together in great poverty.
- 2) Although he worked hard and was honest, the shoemaker grew poorer and poorer, until one day there was only enough money left to buy leather for one pair of shoes.
- 3) The shoemaker worked carefully on this leather, and just before he went to bed he finished cutting it so that he could start to sew the first thing the next morning.
- 4) In the morning the shoemaker went into his shop, all ready to work, and, there, on his workbench, stood the shoes - all finished!
- 5) They were of perfect workmanship, finely and neatly made.
- 6) The shoemaker and his wife, who came in when she heard his cries of amazement, were puzzled and could not imagine who had done this for them.
- 7) That day a customer came in, and when he saw the beautiful shoes he bought them immediately, paying a very high price.
- 8) With this money, the shoemaker bought enough leather for two pairs of shoes, and cut them out before he went to bed.
- 9) The next morning what was the shoemaker's surprise to find two pairs of shoes all finished on his workbench!
- 10) Again they were carefully and neatly made.
- 11) He could not imagine who had done such fine work.
- 12) Shortly after, two customers came in and bought the two pairs of shoes, and paid a very high price for them.

## APPENDIX 2

TEXT: THE DEAD by JAMES JOYCE

- 1) Lily, the caretaker's daughter, was literally run off her feet.
- 2) Hardly had she brought one gentleman into the little pantry behind the office on the ground floor and helped him off with his overcoat, than the wheezy halldoor bell clanged again and she had to scamper along the bare hallway to let in another guest.
- 3) It was well for her she had not to attend to the ladies also.
- 4) But Miss Kate and Miss Julia had thought of that and had converted the bathroom upstairs into a ladies' dressing-room.
- 5) Miss Kate and Miss Julia were there, gossiping and laughing and fussing, walking after each other to the head of the stairs, peering down over the banisters and calling down to Lily to ask her who had come.
- 6) It was always a great affair, the Misses Morkan's annual dance.
- 7) Everybody who knew them came to it, members of the family, old friends of the family, the members of Julia's choir, any of Kate's pupils too.
- 8) Never once had it fallen flat.
- 9) For years and years it had gone off in splendid style, as long as anyone could remember: ever since Kate and Julia, after the death of their brother Pat, had left the house in Stoney Batter and taken Mary Jane, their only niece, to live with them in the dark, gaunt house on Usher's Island, the upper part of which they had rented from Mr Fulham, corn-factor on the ground floor.
- 10) That was a good thirty years ago if it was a day.

### APPENDIX 3

TEXT: THE HEADLESS HAWK by TRUMAN CAPOTE

1) Vincent switched off the lights in the gallery. 2) Outside, after locking the door, he smoothed the brim of his elegant Panama, and started towards Third Avenue, his umbrella-cane tap-tap-tapping along the pavement. 3) A promise of rain had darkened the day since dawn, and a sky of bloated clouds blurred the five-o'clock sun; it was hot, though, humid as tropical mist, and voices, sounding along the grey July street, sounding muffled and strange, carried a fretful undertone. 4) Vincent felt as though he moved beneath the sea. 5) Buses, cruising crosstown through Fifty-seventh Street, seemed like green-bellied fish, and faces loomed and rocked like wave-riding masks. 6) He studied each passer-by, hunting one, and presently he saw her, a girl in a green raincoat. 7) She was standing on the downtown corner of Fifty-seventh and Third, just standing there smoking a cigarette, and giving somehow the impression that she hummed a tune. 8) The raincoat was transparent. 9) She wore dark slacks, no socks, a pair of huaraches, a man's white shirt. 10) Her hair was fawn-coloured and cut like boy's. 11) When she noticed Vincent crossing towards her, she dropped the cigarette and hurried down the block to the doorway of an antique store.

### APPENDIX 4

TEXT: AN EVENING AT SISSY KUMARA'S by PATRICK WHITE

1) At that instant Mr Petrocheilos probed the nerve, and in spite of her rigidity Mrs Pantzopoulos bounced, the paper covering the head-rest grated, the hair grew moist round the edges of her face.  
2) Would she care for an injection? Mr Petrocheilos asked.  
3) 'Oh no, we are Greeks, aren't we?' Mrs Pantzopoulos said, and laughed. 4) Mr Petrocheilos did not reply, and she blushed for what must have sounded pretentious to anyone who did not understand. 5) For much as she hated the nagging of the little metal probe, and the gnawing of the still more brutal drill, Mrs Pantzopoulos felt it her duty to test her capacity for suffering while extended in the dentist's chair. 6) Now she watched, with fascinated languor, from beneath her eyelids, the dentist's strong and hairy wrists, as he stooped and breathed, and prepared the drill. 7) Mr Petrocheilos was a bony, uncommunicative man. 8) Did he perhaps enjoy torturing his patients? Mrs Pantzopoulos wondered. 9) That would have been going too far. 10) She wondered why she had not changed her dentist.



## STRUCTURE IN WRITTEN TEXT

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The aim of this paper is to examine the meaning of the term 'structure' as used by some researchers in respect to written texts. The term 'structure' has been adopted so readily and widely by researchers in the field of discourse analysis that it has been used, not surprisingly, to denote slightly different things. Hoey (1983) for example, points out that Sinclair & Coulthard (1975) see a structural description in terms very different from Labov & Fanshel (1977)<sup>1</sup> and that a number of linguists who claim to be studying structure, are in fact involved in studies of organization. This interesting observation highlights the different perceptions that some researchers have regarding structure.

Hoey (1983) as mentioned above makes a distinction between discourse linguists who attempt to work out the structure in discourses and those who are accounting for organization. He uses the criteria employed in the work of Sinclair & Coulthard (1975) in his definition of a structural description:

"The descriptive system is finite, in which all the data are describable, the descriptive apparatus is precisely relatable to the data, and there is at least one impossible combination of symbols. Structural description in short is description which allows one to make predictive statements about data." (Hoey, p.11).

Sinclair and Coulthard (1975) have avowedly state that their method of presentation closely follows Halliday's 'scale and category' proposals for grammatical theory (p. 24). However it is also suggested elsewhere (p. 8) that language descriptions at that time was mainly concerned with the clause and that while Halliday's (1976) discussion of information structure took account of context to a certain extent, linguistic analysis was not concerned with the structure of text. Nevertheless, Sinclair and Coulthard have found Halliday's ideas a useful starting point to work from and in turn have come up with a structure of one type of spoken discourse. Drawing again on Hoey's idea that the criteria to be adopted for a *structural* description (emphasis mine) be based on that set by Sinclair & Coulthard (1975) who in turn based their structural description on Halliday's proposals, it is interesting to note that Hoey classifies Halliday and Hasan's (1976) work *Cohesion in English* as a study of organization.

The important part about Hoey's perception of organization is the claim that it is not possible to give structural descriptions about the processes of meaning or word formation in the area of morphology/lexis or in another area labelled 'cohesion/semantic relations'. Unlike choices made at the phonological, syntactical and exchange level, where deviations from structural principles operating

at these levels are not tolerated, 'new words, or new uses of old words, are readily found out and, if useful, as readily accepted' (p. 19). The structural systems therefore are seen as providing the framework for 'creative choices' to be made primarily at the morphological/lexical level which overlaps with the phonological and syntactical levels; and at the cohesion/semantic relations level which overlaps with the syntactical and exchange levels.

How does Halliday view cohesion? The 1980 edition of *Cohesion in English* states that cohesion 'refer specifically to ... non-structural text-forming relations' which are also 'semantic relation' (p. 7). So far we have seen that there is no conflict in the way Hoey and Halliday and Hasan view cohesion except that the former designates the study of cohesive relations as a study of organization. However, Halliday and Hasan sometimes appear to prefer to explain about 'texture' or cohesion in terms of what it is not, and by using structure as an analogy: "it is not the same as structure in the usual sense, the relation which links the parts of a sentence or a clause."; or "The concept of cohesion is set up to account for relations in a discourse, but in a rather different way, without the implication that there is some structural unit that is above the sentence."

When Halliday and Hasan do mention 'structure' which has nothing to do with the sentence, it is called a *discourse structure* :

"Discourse structure is, as the name implies, a type of structure; the term is used to refer to the structure of some postulated unit higher than the sentence, for example the paragraph, or some larger entity such as episode or topic unit."

Halliday and Hasan claim that it is perhaps not possible to come up with generalized structural relationships into which sentences enter as the realization of functions in some higher unit, as can be done for all units below the sentence, although it is possible to specify the structure of a paragraph or topic unit at least in certain genres or registers (p. 10). In 1982 however, Halliday in his paper 'How is a text like a clause' quotes Hasan as suggesting that perhaps in *all* registers it is possible to state the structure of a text as a configuration of *functions* (emphases mine). So in essence, what Halliday and Hasan maintain is that while it is difficult to talk of a text structure as a configuration of grammatical constituents it is possible to regard the structure of a text as a configuration of functions. The "structural formula" given for example, for a particular class of transaction in a personal food store is:

((Greeting · ) Sale Initiation ^ ) ((Sale inquiry ^ · )  
 (Sale Request ^ Sale compliance ^ ) Sale ^  
 Purchase ^ Purchase closure ( ^ Finis)

The Structural formula for the register of 'persuasion' is:

Set ground ^ State problem ^ Offer solution ^  
 Evaluate solution ( ^ Personalize solution)^2

The researchers cited so far see the structural description of a text/discourse as consisting of a sequence of obligatory and optional elements, expressed in functional terms. The sequence or formula attempts to account for all the data in the text and has predictable value for another text of the same kind.

Wood (1982) for example, calls the functional division of a text its rhetorical structure following Selinker, Trimble and their co-workers. Wood's criticism of their work on rhetorical structures centres on the level of generality of the rhetorical functions set up by them. Wood then attempts to specify the concept of rhetorical function more exactly by examining a corpus of chemistry articles and also tries to describe the specific linguistic forms that certain functions could be realized in the texts following Gopnik's approach, the linguistic rhetorical structure.<sup>3</sup>

His normative rhetorical structure for chemistry articles take this form:

- |                                |                                 |
|--------------------------------|---------------------------------|
| 1. Title                       | 5. Nature of present experiment |
| 2. Author                      | 6. Experimental                 |
| 3. (Summary)                   | 7. Results                      |
| 4. Background of previous work | 8. References                   |

Wood claims that the model above captures the basic description of the functional structure of the text type described, although it is still possible to refine the description with further analysis of a variety of such texts. However, the functional divisions presented above reflect "the pattern of the scientific method" so that for example, the omission of the 'Results' section would result in a deficient scientific text. With regard to the *linguistic* rhetorical structure, Wood's analysis appears partly to be in accord with Halliday and Hasan's observation that it is perhaps not possible to come up with generalized structural relationships into which sentences enter as the realization of functions in some higher unit. Similarly, Wood maintains that it is unlikely that a structure that takes account of all the sentences in a text can be evolved, given the "idiosyncratic features" in each of the different articles examined (p. 131). However, he claims that he has isolated six "normalized sentences" giving the linguistic rhetorical structure of the procedure sections of preparation chemistry articles. Even then, only three of the six sentences are found in each of the papers in the corpus. The sentences take these forms:

- (1) x quantity of chemical<sub>1</sub> be  $\left[ \begin{array}{l} \text{mixed with} \\ \text{dissolved in} \end{array} \right]$  y quantity of chemical<sub>2</sub>
- (2)  $\left[ \begin{array}{l} \text{Solution} \\ \text{Mixture} \\ \text{Apparatus} \end{array} \right]$  be  $\left[ \begin{array}{l} \text{warmed} \\ \text{heated} \\ \text{cooled} \end{array} \right]$  (with chemical) ((for p hrs) at q°) (in apparatus)
- (3) Yield is quantity k percentage l

(Where letters indicate variable numbers and the numbered subscripts would vary according to the number of solutions etc. involved).

Despite Wood's claims about the predictability of his "minimum structure" for a very specific section in a preparation chemistry text, he has after all only managed to come up with six "typical" sentences out of many more sentences in the same section, as he admits. The impression, in the final analysis, is that this approach makes rather limited claims about the predictability of language structures and makes one question the usefulness of such analyses in research on written text.

Working too with scientific academic articles, Swales (1981) talks about the sections in a typical article as "Introduction, Review of previous work, Method, Results, Discussion and References". The divisions seem to agree to a great extent with Wood's normative rhetorical structure for chemistry articles, except that Swales refers to them as *sections*. He reserves the use of the term 'structure' to his proposed investigation of the structure of "Article-Introduction" which consists of four parts or "moves". Swales claims that out of the 48 introductions in his corpus, in about 70% of the cases, authors made the four sequenced moves. All the moves with the exception of move 2 are clearly signalled to the reader. His findings are as follows: (the numbers in brackets refer to the number of instances

Move 1:	<i>Establishing the field</i>	(43/48)
(A)	Showing centrality	(25)
	(i) by interest	( 6)
	(ii) by importance	( 6)
	(iii) by topic-prominence	( 7)
	(iv) by standard procedure	( 6)
(B)	Stating Current Knowledge	(11)
(C)	Ascribing key characteristics	( 7)
Move 2:	<i>Summarizing previous research</i>	(48)
(A)	Strong author-orientations	
(B)	Weak author-orientations	
(C)	Subject orientations	
Move 3:	<i>Preparing for present research</i>	(40)
(A)	Indicating a gap	(20)
(B)	Question-Raising	(14)
(C)	Extending a finding	( 6)
Move 4:	<i>Introducing present research</i>	(46)
(A)	Giving the purpose	(23)
(B)	Describing present research	(23)
	(i) by this/the present signals	(15)
	(ii) by move 3 take-up	( 4)
	(iii) by switching to first person pronoun	( 4)

I do not intend to go into detail on the types of moves taken by the writers, except to make a few comments about the choices taken in the corpus. Swales claims in his report that he was attempting "a process analysis that attempted to identify the obligatory and optional moves a conventional journal-author might make in the construction of a text ..." A cursory glance at the frequency counts of the moves suggests that for all the writers in the corpus, only move 2 is obligatory (all 48 writers summarized previous research). It does seem to suggest, from, the rather crude frequency count given, that if one tries to formalize this into a rule, one need only summarize previous research in the introduction, and that potentially one could ignore the other three optional moves. In actual practice, this would probably be rare. It would have been useful if Swales had actually shown us the "commonest pattern" taken by the writers in his data in regard to the types of combination of choices. Secondly, one observes that the communicative intent of the writer can be expressed through a number of different functions, (note the number of alternatives available to the writers under the four moves). This again underscores what Hoey observes about the "creative choices" at the morphological/lexical level and at the cohesion/semantic relations level.

The next *structure* that I would like to discuss briefly is Longacre's grammatical structure of the paragraph. He sees discourse as being capable of being hierarchically broken down into "constituent embedded discourses and paragraphs and in the breakdown of paragraphs into constituent embedded paragraphs and sentences ..." (p. 115) and so on down to clauses, phrases and word structures. In effect, what he is saying is that a piece of discourse consists of embedded discourses and a paragraph consist of embedded paragraphs and that this recursive nature can account for the variety of paragraph structures. Hence a narrative paragraph in narrative genre or a procedural paragraph in procedural genre is composed of a complex of paragraph types which are produced by the "intersection" of three basic parameters. The first parameter is the division of the paragraph into either a closed or an open structure. A closed structure is binary, i.e. it has two constituents and the open structure has n-ary constituents. The second parameter concerns notional relations, i.e. the underlying notions which combine clauses and sentences into larger units. The third parameter which is weighting considerations is related to the metrical distinction between spondaic, iambic and trochaic meters, which I interpret to be about either emphasis or focus or climax, and is supposed to be able to explain the similarity between different paragraph types and variants of the same type.

In order to demonstrate grammatical structure in his analyses Longacre attempts to outline a system of basic paragraph types which are the outcomes of the three parameters above, and which are then in turn, realized in different genres as genre-conditioned variants. These are further realized in different contexts as context-conditioned variants. Identification of paragraph types seems to rest heavily on the second parameter which is also referred to as "notional structure". It has the following values:

- (1) Conjoining - items are grouped, contrasted or given as a field of choice
- (2) Temporal relations - items are ordered temporally (only in n-nary structures).
- (3) Logical relations - items are ordered logically
- (4) Elaborative devices - detail of various sorts are added
- (5) Reportative devices - detail added, but from the standpoint of the discourse as a whole, e.g. quotations, introduction of new participants and props or comment paragraphs (only in binary structures)

The element within the first two parameters combine with one another to form a finite number of paragraph types, and the weighting considerations can be called upon to group like types together. I shall cite two paragraph types given by Longacre where he discusses the three parameters in the following examples. The binary structure encoded in logical relations can give rise to the result and the reason paragraph:

Result paragraph: (translated from a Philippines language)  
 It's really a beautiful place there at Nasuli. That's why they choose to live there, because it's really beautiful there at Nasuli.

Reason paragraph: He came because his boss forced him to come. McDougal simply told him that he was to go to the party.

Longacre uses 'recapitulation' in these examples to identify the reason and result paragraph. In the result paragraph, this refers to the repetition of the first sentence in the subordinate clause of the second. He calls the latter the 'cause margin' and points out that it can be readily omitted to give two members:

Efficient cause	<i>It's really a beautiful place there at Nasuli.</i>
Result	<i>That's why they choose to live there.</i>

However, in the reason paragraph, the entire second sentence is a paraphrase or recapitulation of the cause margin of the first sentence *because his boss forced him to come*, and in this structure, the two members are:

Event/happening	<i>He came (because his boss forced him to come).</i>
Efficient cause	<i>McDougal simply told him that he was to go to the party</i>

Longacre sees the reason and result paragraph as being related because of the inverse function of the cause margin in the two members. By using the weighting consideration, the result paragraph is classified as *IAMBIC* and the reason paragraph as *TROCHAIC*. They are therefore regarded as weighted variants.

It is apparent from the above examples that Longacre's paragraph

is a more structural account, compared to the basically semantic unit that one normally associates with the orthographic paragraph in English. His use of "notional structure" to indicate the relations between sentences and his use of recapitulation as a means of showing that relations, is vaguely connected to some points made by Winter (1979). Winter, however, uses the concept of 'clause relations', which he defines as "the semantic relation between two or more clauses" (1979: 97). Winter is very concerned about basing his descriptions of the relations between clauses, on the grammar of the clause. The grammatical connections that he has set up between a clause and its adjoining clauses would, according to him, "be the first step towards describing the basic forms of the rudimentary 'paragraph'". Winter proposes three stages of "'paragraph' structure". The first consideration is the status of the clause; whether it is the sole independent clause or whether it is in some kind of internal grammatical relation with one or more clauses in the sentence. The second stage is the relation between that clause and the clause or clauses in its adjoining sentences. And the third stage is to consider whether the "membership" of the clause(s) in the sentence and the clause(s) in the adjoining sentences have become members of a larger clause relation, for example within the "situation and evaluation" relation (p. 121). Winter's work has been extended by Hoey (1983a) who refers to the larger clause relations such as "problem-solution", "general-particular", "matching" etc. as "patterns" rather than *structures*; and the whole text as "discourse organization". One notes that while identification of the patterns are based on grammatical and semantic considerations, the clause relations so identified are seen as a particular way of organizing information, and hence can appear in various grammatical forms. By using the terms *pattern* or *organization*, the connected units of information, or configurations of functions within a written text, whose surface manifestations are sentences or clauses, appear to have avoided giving the impression of being locked into a fixed set of fossilized linguistic forms which the term 'structure' may sometimes convey. For example, Wood's analysis of the *linguistic rhetorical structure*, in his study of chemistry articles appears to fall into such a mold. Secondly, 'patterns' also suggest that a writer has the option to decide his own (sometimes idiosyncratic) presentation of information according to what he wants to communicate to the reader, which seems to be one of the important factors, if not the most important factor shaping the final outcome of the text. At the same time, he would most probably consider to a greater or lesser degree, the cultural conventions operating within a particular genre.

This last point brings us to consider some comments made by Fillmore (1982) in his discussion of Halliday's paper mentioned earlier in the essay. Fillmore refers to conventions governing a text of a certain type as the "structure of expectations" which may motivate a writer to produce "such-and-such a passage in a particular place in a text" (p. 252). Interestingly, he appears to view perceptions about structure within a continuum. The weakest claim about text structure is that any coherent text can be given an outline. A stronger claim is that this outline would reveal that it has 'describable parts' within a hierarchy of describable parts. The strongest claim according to Fillmore, is that proposed by Hasan (cited

in Halliday's paper) who maintains that "For any register, specified at any appropriate degree of delicacy, it should be possible to state a generalized structure by reference to which any actual text can be interpreted". Fillmore interprets this to mean that in the process of interpreting a text, portions of the text could be situated within particular positions within the "generalized structures". The interpreter of the text "gets the point" of a passage "partly by knowing - by convention, by common sense or by "announcement" - what the aim of the writer is at that point. One useful point from Fillmore's way of looking at structure is the distinction he makes between "text-external" and "text-internal" sources of text structure. External sources are "cultural conventions or participants' purposes", while internal sources refer to the "announcements" made by the writer as to what will come or explanations as to how the preceding text is to be taken (p. 254). The example given is the sentence, *I have three reasons for wanting my investments refunded*. The reader will then look for the three reasons, whether they are explicitly signalled or not. In this way, portions of text thus identified are slotted within a larger 'generalized structure' in the reader's mind. This use of the term 'structure' from the interpreter's point of view is not unlike Meyer's definition of a structure of a prose passage which is to "depict(s) the relationship among the content of the passage. It shows how an author of a passage has organized his ideas to convey his message, the primary purpose of his writing endeavour" (1975: 8). All these suggest a basic desire on the part of the analyst/interpreter/reader to impose a framework within which he could work out the different parts of the text, and for this the term 'structure' has usually been applied .

So far I have discussed the use of the term 'structure' as found in the works of some researchers who have studied certain aspects of written text. The focus has been on discourse units that go beyond the single clause or sentence. Researchers like Halliday, Longacre, Winter and Hoey seem to view a structural description as a systematic account of data, which is closely tied to grammatical constituents. The structure so identified is hierarchical in nature and has predictive power. Researchers like Hasan, Wood and Swales prefer to regard structure as a configuration of functions. Hasan's "structural formula" appears to operate at a very general level to be useful, contrasting Wood's finding of a rhetorical structure for a very specific type of text. Swales uses the term structure interchangeably with pattern. Although he attempts to account for all the data within his four sequenced moves, he does not seem to be able to account for some data belonging to more than one move. For example, the first sentence of example 3.6 which belongs to the whole of move 1, (showing centrality by topic-prominence) can alternatively be also interpreted as being part of move 3 (Preparing for present research - Indicating a gap):

*The thermal properties of glassy materials at low temperatures are still not completely understood.* (p. 16)

Swales defines move 3 as the evaluative aspect in article introduction which is supposed "to evaluate previous research in the light of present author's topic or purpose". The latter part of



sentence which reads "... *are still not completely understood* " seems to satisfy the criterion set up for move 3. What this seems to suggest is that it is very difficult to slot the rhetorical motivations of the writer into fixed mutually exclusive categories as the relationship between the writer's motivation and the wording is highly complex.

The wide and pervasive use of the term *structure* demonstrates that it is very natural for the human mind to categorize and shape whatever he reads and writes. Problems arise however, when the categories are divided according to different criteria, while the term is assumed to be self-evident. Unfortunately, one has to include the concept 'structure' to a list of terms in linguistics and applied linguistics that needs to be sharply defined before it can be profitably applied.

#### NOTES

1. W. Labov & D. Fanshel, *Therapeutic Discourse: Psychotherapy as conversation* (New York: Academic Press, 1977)
2. Halliday ascribes this formula to J.R. Martin, 'Conjunction and conversational structure', (forthcoming).
3. M. Gopnik, *Linguistic Structures in Scientific Texts*, (The Hague: Mouton, 1972).

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## THE READING TEACHER'S DILEMMA

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One of the hall marks of a profession is that its practitioners seek to inform and update themselves not only about current practices but also about the research findings or theories on which current practices are based. As access to such information is acquired mainly through reading it is desirable that the teacher of reading should be an accomplished reader who approaches a reading task armed with questions to which answers are sought. One such question might be *'How can I improve my teaching of reading?'* A cursory survey of the literature might suggest the answer *'You can't, because reading is a skill which cannot be taught, it can only be learned'*.

The reading teacher, recognising the mismatch between his own expectations or predictions about the literature and the purposes or intentions of the writers of such texts, may then give up the quest, re-frame the original question or pose new questions perhaps exploring the literature to identify the writers' purposes in order to determine whether there is sufficient mutuality of purpose to justify further reading. The strategies employed might include reading through the abstracts and conclusions in research papers or glancing through the introduction and chapter and subheadings in a book. In the latter case headings relating to the role of the teacher, or to teaching techniques, might provoke a check on the number of pages devoted to a particular topic or even a quick glance at the relevant pages. These findings could lead to a decision to discard the text or to begin reading the rest of the text to confirm the existence of the mismatch identified or just to see what the writer could possibly have to say which is relevant to the teacher's purposes.

The strategies and behavior described above are characteristic of the practised, accomplished reader, although they include only a few of the many options open to such a reader. Here they serve to illustrate the *voluntary, independent, purposeful* and *private yet interactive* nature of reading. One might say that, in the act of reading, the accomplished reader is exercising certain rights; the right to read or not to read, the right to interact with the text, the writer, or both and above all the right to determine his or her own reading purposes and, as a result, to make choices about the reading strategies to be employed. The volume of literature available together with constraints on their time make it essential that reading teachers have the skills which enable them to exercise these rights; to decide whether a text should be discarded or pursued and, in the

latter case, how that text should be processed.

The reading teacher who proceeds with his reading, will find certain messages occurring and re-occurring in the texts he examines. As an efficient reader he will not attempt to remember exactly how each writer conveys these messages but will instead retain his own interpretation. The message of most interest to the reading teacher might be that teachers cannot assist their students in the development of reading skills until they themselves are aware of the nature and complexity of the reading process itself. Of almost equal interest, or perhaps concern, will be the suggestion that most people learn how to read, in spite of, rather than because of the teaching they receive. Slowly the reading teaching will become aware that in the eyes of many writers, teachers' attempts to develop their students' reading skills have probably impeded the development of the very skills they intended to foster or, worse still, may have reduced or destroyed their students' chances of ever becoming efficient readers. For teachers who have employed techniques in which they were trained, the suggestion that they were trained to destroy rather than build may come as something of a blow. Fortunately however many teachers engaged in foreign and second language teaching have become familiar with this type of experience as one bandwagon after another has been promoted and then rejected. Less fortunately, many teachers have also become immune to new ideas as a result of over-exposure to bandwagons, recognising that although trumpets may herald the approach of bandwagons, tolling bells usually salute their passing.

The reading teacher who persists in the search for information about reading might decide to follow up on the more positive message, accepting that teachers must *know* before they can *do* (Smith 1978: ix) and that what they must know or understand is the nature of the reading process.

From the view point of such readers, the literature on the reading process can be described as falling into two broad categories, the first offering descriptions of the reading processes of accomplished and less accomplished adult readers and the second exploring the behaviour of young beginner readers. The exploits of readers in the first category may be of interest to the secondary school teacher for a number of reasons.

First, descriptions of the reading processes of accomplished adult readers appear to offer, sometimes implicitly, a taxonomy of possible long term teaching/learning objectives, expressed in the form of target behaviour or performance which the teacher may feel describes the behaviour outcomes relevant to his students' long term needs.

Secondly, description of the reading processes of less accomplished adult readers allow the reader to compare the skills utilised by accomplished readers with those utilised by less accomplished readers thus offering identification of possible short-term or interim teaching/learning objectives.

Thirdly, provided that the reader is reasonably accomplished, descriptions of the reading processes of similarly accomplished readers offer access to an understanding of the reading process through a form of comparative analogy. The reading teacher can monitor and reflect on his own reading behaviour, relating information or description given in the text to an immediate and accessible context. In this way, some of the *new* visual information supplied in the text is converted almost immediately into non-visual information<sup>1</sup> supplied by the reader. This increases the volume of information perceived by the reader as *shared* and reduces the volume of new information, allowing the reader to focus on the differences between his own behaviour and the behaviour of accomplished readers described in the text. Like any other reader who perceives a high degree of shared information the reading teacher experiences what might be described as reassurance and an encouragement to continue reading with sufficient confidence to attack those elements in the text which are perceived as *new* information.

Texts which concentrate on one aspect or view-point, descriptions of research findings, for example, can have an added attraction as they allow the reader to focus on one idea at a time, to absorb it, and to consider the extent to which the idea or findings may be relevant to his teaching situation or, alternatively, to store those aspects which he deems relevant to this own perception of the reading process. Unfortunately however the formal schemata<sup>2</sup> of many academic papers hinder rather than assist the reading teacher, in that academic papers tend to be written for an audience of fellow academics and researchers whose reading purposes differ somewhat from those of the reading teacher with whom this article is concerned. Awareness of the formal schemata of research papers is not necessarily of much help to the reading teacher if he lacks the content schemata needed to process a particular text, such as the degree of shared information often assumed in research papers, an assumption which is illustrated by the low incidence of comparative analogy in such texts<sup>3</sup>. Efforts to process such texts may place the reading teacher in the role of a seriously disadvantaged reader. Unlike the reader who is less aware of formal schemata but who brings to the text a high level of command of content schemata which allows him to process the text for his own purposes with some degree of success (Johns & Davies 1983: 2), the reading teacher may find himself in a situation where the text is inaccessible, in view of his reading purposes, because the content schemata essential to understanding are not available to him. In this situation the reading teacher's dilemma is not dissimilar to that experienced by the secondary school child who is required to read a passage in a coursebook, such as a physics or history text, but lacks the command of content schemata essential to understanding of that text. The reading teacher has an advantage over the secondary school child however because as a voluntary and independent reader he can exercise his right to discard any text he finds inaccessible, a right not often granted to the school child. Furthermore the reading teacher is more likely to have access to alternative texts.

During his perusal of the literature the reading teacher will be exposed to a number of concepts or notions relating to the nature of the reading process and the nature of text. Many of these ideas will

be new or unfamiliar and a number of them will challenge the reading teacher's previous assumptions about the nature of reading and the nature of written text. Some of these concepts are examined below from the standpoint of the reading teacher.

The idea that *text alone does not carry meaning* (Carrell 1983: 82) is possibly one of the most challenging concepts. Years of experience as both learner and teacher have probably fostered in the reading teacher an almost reverential attitude towards printed text, an attitude which embraces the writer as well as the text, particularly if the writer is perceived as an expert in the sense of one who has knowledge of information of a specialist nature unknown to the reader prior to the act of reading. Classroom learning experiences encourage the belief that texts do carry meaning, and not only do they carry meaning, they also carry total and complete meaning. This is demonstrated again and again when, in response to a student's failure to derive accurate information from a text, the teacher supplies the information, quoting the portion of the text from which the information has supposedly been derived. This response clearly indicated that both meaning and information are conveyed in the text and that both are available provided the text is adequately studied. This view of text is reinforced time and again during learning experiences not only in school but also at tertiary level.

Take for example, the university undergraduate level lecture which follows some prescribed reading. In the course of the lecture, the speaker makes a number of references to the reading materials most of which provoke indications of comprehension, acknowledgement or increased note-taking. Some of the speaker's references to the reading materials may however provoke somewhat different reactions. "From his remarks on p. 12 it is obvious that writer x interprets the role of y ...". The reaction of the student audience, perhaps in the form of glazed or blank looks of incomprehension or a frantic search to find the relevant page, reveal quite clearly that whatever it was that was obvious to the speaker, when he read the text, was not at all obvious to the majority of the students when they read the text. Often however, when they re-check the text with the benefit of hindsight, having had access to the speaker's interpretation, they can see quite clearly that which was not obvious before. In both these examples of learning experiences it is unlikely that either the school teacher or the university lecturer was aware that the meaning they had derived from the text was not in fact derived exclusively from the text but was the construct of their own previous knowledge and experience combined with the text. For the students, unaware that their own knowledge and experience has been influenced and expanded during the lesson or lecture, the inference is clear; they had not studied the text adequately in the first place. This belief is reinforced by the fact that the text has now become more meaningful or has acquired a different meaning.

The above examples serve as an introduction to another concept to which the reading teacher may be exposed. The idea that *individual readers interpret texts differently* (Nutall 1982: 9; Carrell 1984: 333) may not be so novel. The teacher's own classroom experience will have provided ample evidence of this phenomenon. The teacher

may also be aware that, outside the classroom, individual readers also interpret texts differently. Freedom of opinion, interpretation and expression may be the hall marks of democracy but who says classrooms are democratic institutions? When society accords the teacher the role of expert or knower (respected or otherwise) and, concomittant with this role, imposes the responsibility for purveying that knowledge to students, society pressures the teacher into the role of guardian and purveyor of knowledge, a responsibility which leaves little or no time for the exploration of students' varying interpretations of text.

An examination of secondary school textbooks offers some explanation of how the teacher is forced into this role. Many school texts bristle with information which is deemed by the author and the teacher to be factual and therefore not open to interpretation. Student interpretations which are non-factual or inaccurate must therefore be disallowed and the teacher's interpretation of the text must be accepted by the students because it is the 'correct' interpretation, one which matches the state of the art as perceived by experts in that field. As a result students are not often required to interpret such texts in the light of their own previous knowledge and experience but are instead required to identify with the previous knowledge and experience of the author and the teacher. Many students therefore come to view such texts as redundant to their purposes and will seek information from the teacher rather than the text, ignoring the challenge to their own previous experience and knowledge which the text may present. There is little point after all in struggling with an apparently meaningless text when you can get the same information, in a more digestible form, straight from the horse's mouth. Thus when faced with an economics text which includes the statement;

*Total cost = normal profits + interest + rent + wages*

the student reader will tend to react by saying to himself "I don't understand that" and will refer to the teacher for clarification. The independent lay reader, on the other hand, would be more likely to think, 'That seems like nonsense. How can profits be part of costs? I must have mis-read the statement. No, the text says quite clearly that profits are part of costs. Perhaps the term costs has a different meaning here or perhaps normal profits are special type of profit. I'll scan the text or refer to the glossary to check it out." Throughout these activities the independent lay reader is attacking the text and interacting with the text, having begun reading on the assumption that he and the writer share a language in common and that the printed text should convey meaning to him. Once it becomes apparent that certain aspects of the language are not commonly shared, thus depriving the text of meaning, the independent reader is forced to seek an explanation. By contrast one could say that the student's learning experiences have indicated that he and specialist authors do not have a language in common and that an intermediary or an interpreter is often essential to his understanding of school text books. While it is true that the student may subsequently review school texts, the reading processes involved in the review are substantially different from those utilised by the independent reader as described above. This means that the student may have little or no need to exercise the skills implicit in a further concept which the



reading teacher is likely to encounter.

Goodman describes reading as a *psycholinguistic guessing game*, involving interaction between thought and language. "Efficient reading does not result from precise perception and identification of all elements but from skill in selecting the fewest, most productive cues necessary to produce guesses which are right the first time" (Goodman 1973: 79). According to Goodman, learner readers use increasingly fewer graphic cues as their reading skills develop and instead make increasing use of syntactic and semantic information and draw on their experiences and concepts, processes which "fortunately parallel the processes they have used in developing the ability to comprehend spoken language" (Goodman 1973: 83). While the idea that skilled reading is a psycholinguistic guessing game may be intellectually acceptable to the reading teacher, the "pre-existing, naive, common sense notion", which according to Goodman must "give way as scientific understanding develops in a field of study", are not easily dismissed as the following incident demonstrates. In a recent broadcast on Hong Kong Radio in which young school children were giving their version of the Christmas story. One child's version went something like this. "Well you see there was this girl called Mary, she was very good and very, very kind and everybody like her. So one day this angel comes along and says, 'Because you've been so good and kind you are going to have a baby for your very own. So they had to go to Bethlehem to have the baby but when they got there all the inns were full because so many women were going to Bethlehem to have their babies ...

This child appears to have experienced no difficulty with the idea of an immaculate conception and copes very well with the problem of the census which was, understandably, outside her experience and conceptual ability. Adult audiences, however, while amused by such childish interpretations, tend to perceive the child's version as a *mis*-interpretation, or a mistake. This type of interpretation may be viewed as entertaining or cute and may even be encouraged outside the classroom but the school-child rapidly learns to recognise that such interpretations are disallowed in the classroom. The school socialisation process encourages all too soon a silent, receptive, one might say passive, response to story telling "so that we can *all* enjoy the story". Furthermore, the schoolchild soon learns that in follow-up discussions, although personal interpretations are not necessarily rejected, the teacher's praise is usually reserved for a particular type of interpretation. Certain aspects of the school socialisation process devalue skills with which many children are already equipped on entry to school, thus inhibiting further development of the very skills which are essential to skilled reading and to the learning process in general. These skills can be described as the willingness and ability to make sense of the world around them and to perceive communication, written or spoken, as purposeful activity conveying messages which should make sense. A child who has these skills will ignore or reject spoken or written texts which appear to be nonsense, and will exercise the right to refrain from participation in an interaction which does not make sense to him. These rights are however often suspended in school. We can all predict, for example, that the child in the incident described below would behave very differently after one term in school, having become

aware that he no longer has the right to refrain from participation in an interaction which appears meaningless.

In Hong Kong the kindergarten interview represents the first major educational hurdle for many children because admission to a 'good' kindergarten can ensure smooth passage into reputable primary and secondary institutions. One lively small applicant, who could already tell the time, emerged from his interview and rejoined his anxiously waiting parents;

Parents: What did the teacher ask you?

Child: My name .... how old I am. ...

Parents: What else did the teacher ask you?

Child: To tell her the time.

Parents: Did you?

Child: No.

Parents: Why not?

Child: Well, she could see the clock as well as I could.

Another concept with which the reading teacher has to come to terms is that the reading process, and also the process of learning to read, should be viewed primarily as a *top-down* rather than a *bottom-up* process. (Carrell 1984:333; Smith 1978: 5-6) Smith lists nine rules of reading instruction which he recommends that teachers should not follow. (Smith 1978: 138-142) Seven out of nine of these are based on a bottom-up view of learning to read and include familiar elements such as single word attack skills, phonics, re-inforcement of newly acquired letters of words, insistence on word-perfect reading and the immediate correction of error. Implicit in these approaches are certain assumptions, all rejected by Smith, such as the idea that the print to sound relationship is an essential part of the reading process, that reading involves the identification of isolated graphic elements which must be linked together by the reader before meaning can be retrieved from the text and that the meaning of a complete text is accessible only through the sum of its parts. Although the reading teacher may already know that the reading processes of the accomplished reader are completely at variance with this view, three factors make it difficult for the teacher to fully accept the idea that a top-down approach is appropriate for the learning to read process.

The first is that the teacher may be convinced that he himself learned to read in precisely this way. Changing this conviction is as difficult as trying to persuade the Hong Kong Cantonese who speaks fluent and colloquial English that his command of English was not developed through mastery of grammatical rules such as 'The present perfect tense is used to describe an action that has just been completed' and 'The present progressive tense is used to describe an ongoing action which has not yet been completed'. In practice, fluent native and non-native speakers 'break' these rules regularly in order to perform appropriately in response to particular situations. Nevertheless it is difficult to convince these speakers of the validity of this.

The second factor reflects the traditional community reluctance to reject established educational practices until they are not only conclusively proven to be destructive but publicly and widely declared as such. This situation is not helped by the lack of in-service training of the professional, as opposed to the administrative and management type, offered to the more senior members of the teaching profession who indirectly exercise considerable influence over classroom practice. An example of this influence in Hong Kong is the common practice whereby the principal collects students' composition books at intervals to check that each and every mistake has been corrected by the teacher, a practice which reveals an attitude towards marking which runs directly counter to almost every current recommendation about the teaching and learning of writing skills.

The third factor poses an even greater problem. While the teacher may accept that a top-down approach is appropriate for a native speaker he may query its suitability for the reader of a foreign language. This view reveals a common misunderstanding of the top-down approach, associating it with lengthy texts when it might more usefully be associated with complete, as opposed to partial, texts. A complete text may consist of only one or two words but convey a complete and meaningful message e.g. signs such as *EXIT*, *CHILDREN'S CORNER - LAVATORIES - BUS STOP*. The child who responds to the question "How do we get out of here?" by pointing to a sign which says *EXIT*, and says "Over there! - It says way out" is dealing with a complete text and demonstrates that he is aware of the association between print and meaning. (Smith 1978: 132-136). Sadly, once he gets to school, this child will probably be taught that *EXIT* does not say *Way Out* - it says *EXIT*, and it begins with the letter *E*. The child's attention is thus directed to the smaller elements of which the text is composed and he is restricted from utilising his already existing top-down perception of printed text. Children from more privileged home environments may start school with even more sophisticated views about text or more particularly the structure of text types. The child who fills a pause in story telling with the request 'What happened next?' demonstrates some awareness of the structure of a story. The child who responds to an offer to tell him a story by saying "Does it have a happy ending or a sad ending?" is demonstrating a higher level awareness of the structure of stories. There is no reason why the beginner reader in a foreign language should not be exposed to the reading experience through complete texts of the story variety provided that these texts are supportively illustrated to reinforce the theme of the story, rather than illustrated to attract adult book purchasers. This necessitates a story theme which is within the conceptual framework of the beginner reader and a theme which is of interest to that reader. This type of reading material is not widely available in Hong Kong where materials for beginner readers in English attempt to teach simultaneously new reading vocabulary items and new spoken vocabulary items, a typical example being a series of pictures each showing an object with a single word underneath.

The inadequacies of reading materials present an extensive problem. The materials referred to immediately above reflect a bottom-up approach, not only to the teaching of reading, but also to

the teaching of reading, but also to the teaching of a foreign language. The use of this type of material also involves the treatment of *printed text as a linguistic object* (TALO) rather than as *a vehicle for information* (TAVI), a distinction drawn by Johns & Davies. (Johns & Davies 1983:1-4). The TAVI method recommended by Johns & Davies for the teaching of reading in a foreign language appears to be of direct relevance to the Hong Kong Secondary School situation. Their method involves providing students with the experience of dealing with the full range of authentic texts which they are likely to encounter in their studies. According to criteria offered by Johns & Davies, Hong Kong Secondary School students fall into the category of students with *immediate* needs as the texts they need to process are already identified by both teachers and students. The approach involves enabling students to identify different *topic-types* and their *information constituents*. Examples of topic-types include Physical Structure texts, Principle texts, Characteristics texts, Process texts, Force texts and Theory texts, the first three being described as texts which have relatively simple or skeletal information structures while the last three have more complex structures. The approach has worked successfully with non native-speaker undergraduate students and less able native speaker secondary school students using the texts that the students needed to process in the course of their studies and focusing on *information* rather than language, on *overall meaning* rather than points of detail and on what is *known* rather than what is not known". (Johns & Davies 1983:10) The approach allows the student reader to gain access to the overall meaning of the text first, thus providing them with a context or framework which will help them to deal next with points of surface detail, the emphasis being placed on the relationship between the surface structure and the *function it performs in the text*. The next step involves students in using *overall*, and then *immediate context* to deal with vocabulary or structure problems which are hindering access to the text. Once the text is within the students grasp the final step might involve the teacher in explaining any words or expressions which remain unclear and perhaps drawing students' attention to the distinction between the specialised, as opposed to everyday use of terms such as *equivalence* and *significance*.

When used with undergraduate students it seems likely that this approach will be enhanced by the students' previous command of content schemata and also by the likelihood that many of them will approach the task of reading with pre-conceptions about the type of information they seek. The less able secondary school students, although native speakers, are unlikely to be endowed with the same qualities and with such students the TAVI approach cannot be used in quite the same way. The approach has to be indirect, appearing to involve *playing around* with texts. If a more direct approach is used, the TAVI approach could end up as yet another example of a TALO approach, with students performing a series of tasks, with varying degrees of success but failing to perceive any purpose in the activity. At this level criteria for the identification of topic-types will probably have to be elicited from the students. These will therefore be based on the students' perceptions and experience of language, thought and communication and may not resemble the teacher's perceptions. Interactions of this type embrace both the 'learning to learn' and the

'learning to mean' processes and require teachers to act as facilitators, utilising management skills in which they may have received no training which, furthermore, they may never have experienced as learners. In order to facilitate these processes the teacher has to be a skilled listener who not only values students' ideas and contributions but is perceived by the students as valuing their ideas and contributions. The successful implementation of the TAVI approach places a further demand on the teacher of reading, that of liaison with teachers of other subjects. In a school system in which education is compartmentalised into subject disciplines operating mainly in splendid isolation from each other this type of liaison is not easily achieved. Amongst negative reactions likely to be met are resistance to what is seen as interference in the teaching of another subject, resentment or suspicion that the quality of teaching or the competence of the teacher is being questioned or the accusation that the EFL teacher is trying to evade responsibility for the students' poor command of English or lack of reading ability. These reactions are not surprising. The teacher of reading who attempts such liaison has gone through a number of complex experiences, gaining access to ideas and information which may not be shared by teachers of other subjects. The reading teacher is likely to be placed in a position similar to that of the ESP consultant who having clearly identified the need for an ESP course is told by the client that the students do not have special needs or purposes, they just need a general English course. The ESP consultant is then faced with the need to re-educate the client (Falvey P. 1985: 4-8). Such a task is unlikely to be undertaken by the teacher of reading if he wishes to maintain friendly relations with his fellow teachers.

The reading teacher armed with an understanding of the reading process and equipped with some ideas about the development of reading skills is not therefore easily able to implement these ideas in the reading lesson and even if he does successfully implement these new ideas he may not be able to prove his success to a wider audience.

If students still experience problems reading texts in other subjects, teachers of other subjects will continue to attribute the problem to the students' poor command of English or their lack of reading skills, even though the problem may lie elsewhere. Informal action research conducted by Dip. Ed. students in the School of Education CUHK suggests that this could indeed be the case. Their findings indicate that when teachers of other subjects 'simplify' reading texts for their students they do not merely simplify the language, instead they make major changes in the content, many of which involve the concretisation, or omission, of abstract concepts dealt with in the reading texts. Examples of this include exploring the *social structure and organisation of the family* with Form I students instead of discussing the *structure and organisation of government machinery in Hong Kong*, presented in the text. Such simplification makes sense if we recognise that many Form I students have not yet worked out the relationship between the school principal the panel chairs and the teachers. It is interesting to note that these changes are not restricted to English-medium texts but are applied to Chinese-medium texts as well. This suggests that students'

reading problems may be caused not only by their lack of necessary content schemata but also by the inclusion in their texts of levels of conceptual abstraction which they are not yet equipped to handle. If we accept that text alone does not carry meaning and that the reader must contribute meaning and information to the text then we must also accept that, for some readers, certain types of text will defy interpretation, even when strategies such as the TAVI approach are used in an attempt to de-mystify those texts.

Texts written for school students must necessarily, take into account the readers' ability to handle abstract concepts, and the likely nature of the readers' experience of the world and the subject matter. These texts must then compensate for any deficiencies in the latter by providing experience or explanations which are within the readers' ability in the former. Many of the textbooks used in Hong Kong tend to be deficient in these provisions as illustrated by an armchair experiment conducted by another group of Dip. Ed. students. Different groups of students read texts selected from the early pages of secondary school textbooks dealing with subjects which they had never studied or had discontinued before Form V level. They then sought clarification of their comprehension problems from fellow students who had majored in that subject in their first degree. The latter, who had experienced no difficulties with the text, frequently found it impossible to explain the text as it stood. Instead they were forced to go outside the text starting with the readers' perceptions and then moving on to a process of comparative analogy. On re-examination of the texts they generally concluded that the texts tended to be deficient in explanation, especially in the definitions of new specialist terms and that many of the texts were only suitable for fully informed or experts reader to use as review material, as for example in the case of a teacher preparing a lesson.

In addition to the obstacles which exist outside the EFL reading classroom, there are many to be found within. Again they tend to be caused by a lack of information, by traditional practice or by misinterpretation of originally valid concepts. An example of this is the belief that students can improve their command of English through extensive reading. This idea is unfortunately often misinterpreted in practice and might be more accurately described as the popular mis-conception that students can improve their English while they are *learning to read* in English. Thus reading texts, such as class readers, originally designed to create a pleasurable experience thereby fostering the habit of reading for pleasure are, in practice, treated as TALO, being used to teach new vocabulary and structures, to focus students' attention on literary features such as plot and characterisation or, worse still, to teach writing skills such as punctuation, paragraph indentation and the use of inverted commas to signal direct speech. This use of class readers tends to ensure that their original purpose is never achieved. It is tempting to blame publishers for this as many class readers include vocabulary lists, comprehension exercises and explanations of new structures. In fairness however we must admit that these features are included because the market demands them. Teachers feel guilty if they 'waste' an entire lesson on pleasurable activity without 'teaching' anything.

Publishers, or to be more accurate, some authors, may be held accountable however for the quality of some of the recently published teaching materials and teachers handbooks which purport to reflect our new understanding of the reading process. On close examination many of them appear to involve the teacher in activities of the type which the literature suggests should be avoided. I am not referring here to the problems which will inevitably arise if teachers refer only to sources offering teaching strategies and techniques while remaining ignorant of the nature of the reading process. My concern is not with problems of mis-use of materials but with the roles which some of new materials implicitly accord to both teacher and student. Many of the recommended activities appear to involve the teacher not as a facilitator, providing exposure and appropriate materials for the student to explore independently, while having access to the teacher's support, but seem instead to force the teacher back into the role of 'expert' involved, for example, in teaching students the "right" questions to ask in the psycholinguistic guessing game. In other words the teacher may be in danger of interfering in the reading process almost more than before. The teacher of reading would be well advised to view with suspicion activities which involve the teacher as an interface between the student and the text. Similarly, activities which distort approaches such as the TAVI approach by encouraging the teacher to *teach* students about the structure of text, instead of allowing students to identify text structure or topic-types in their own way, are also better avoided.

In conclusion I offer a medical reference. Those of us who wish to effect the transplant of research findings into classrooms would do well to note a major problem encountered by surgeons who conduct transplant surgery on human patients. The problem is that of *rejection*. It is not however the patient who rejects the transplant. Rejection comes from numerous hidden elements, often interacting with each other, elements which can only be dealt with once they have been identified and the nature of their inter-relationships examined. We need a lot more research into the nature of classrooms and the behaviour, thoughts, attitudes and relationships of classroom people, i.e. teachers and students, before we can effectively conduct research transplants. We should also be chary of solutions which seek only to *control* or *harness* rejection. Like cortisone, they may offer only a short-term and dangerous antidote with unpleasant side effects which manifest themselves long after treatment has been applied.

#### NOTES

1. The terms *visual* and *non-visual information* are used as in Smith 1978:12.
2. The terms *formal schemata* and *content schemata* are used as defined in Carrell.
3. The reader who understands the function of the *advance organiser* in research papers for example will be unable to utilise the information offered if he is unable to form the cognitive connection necessary to the macro-processing of the text. (Siu, P.K. 1985:2).



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TEACHING INFORMATION SEQUENCE IN SCIENTIFIC WRITING  
TO PRIMARY ESL PUPILS IN SINGAPORE

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Regional English Language Centre (RELC) in Singapore in April 1985)

*Why Teach Information Sequence to Young Learners?*

When I tell teachers that I am interested in teaching information sequence to children aged about 10 or 11 learning English as a second language the first question they generally ask me is not *HOW* you do it but *WHY*. My concern here is with the teaching of non-narrative writing, in particular on science-type topics. The first answer is that teaching children to organise information in an orderly way seems to me a very profitable and useful bit of before-the-event teaching. Most of what passes for composition teaching in the primary school, I am afraid, is an after-the-event attempt to cope with badly-organised writing. Children do have difficulty organising information. Teaching them beforehand to avoid random information sequences is one of the hardest things to do and, over quite a long period of time, one of the most resistant to sustained efforts on the part of the teacher. But it is so important that time and energy spent on it is worthwhile. In research on the teaching of non-narrative writing to 10-year-olds in Singapore, reported on in last year's RELC seminar (Heath 1984) I found that the mechanical aspects were relatively easy to deal with: spelling, handwriting, following a margin, setting out a paragraph, punctuation, sentence grammar. Some aspects at a higher level than the sentence were similarly not too hard: local cohesion (linking sentence 1 to sentence 2), sentence combining, simple global cohesion (linking paragraphs and the title). The hardest thing to get through to young learners, and the one which broke down when control/guidance was taken away, was orderly information sequence. So the first reason for teaching logical information sequence is that there is a clear need and it is quite difficult, even for clever children. Without instruction even the brightest will continue to churn out jerky badly-organised texts.

The need can best be demonstrated at this stage by examining *text A*. This was produced by a 10-year-old boy who had been given the title, pictures of the two fruits and no further help. He wrote for about thirty minutes. Now, what is really wrong with this text? I believe that most teachers, while feeling rather uneasy about it, would not immediately say "random information sequence". Yet, despite a few minor errors, this is the main thing wrong. Most teachers would focus on those surface errors and underline *bore* instead of *bear*; the grammar error in *Have you ever eats durian?*; the concord error in *its skin are red*; and so. Perhaps some would write "This is not well-organised" or "This jumps all over the place" or "Too many short paragraphs". These comments are getting close to the truth,

TEXT A

*Two Southeast Asian Fruits*

There are two popular fruits in Singapore, that is the rambutans and durians. It is also popular in other countries in Asia.

Rambutans and durians are usually popular in July because rambutans and durians bore fruits in July. Have you ever eats durian?

Durains are nice to eat. Its skin are thorny and rough. It also has a thick skin.

We can only know when it is ripe by smelling it. Rambutans are sweet and tasty. Its flesh is white and its skin are red. It is hard to climb a rambutan tree because it is slippery.

but are they helpful? Will they tell the child exactly what is wrong so that she can avoid the negative comment next time? How does the child improve? The answers revolve round information sequence: the teacher must recognise when it is random and teach the children to organise before they write. In short, focussing on information sequence rather than surface errors is both diagnostic and remedial. This is not to say that we should ignore the surface errors of spelling, grammar and punctuation just referred to, though a lot of the energy spent here is 'teaching' after-the-event with little carry-over. My assertion is that if we confine ourselves to those features then children will continue to write badly. We must look beyond them. I have never heard it said in so many words but the implication of surface-error marking is that if you look after the little things the big things in writing will look after themselves. In my experience they don't. The fundamental thrust of writing instruction based on the insights of written discourse analysis is that you must go on to the bigger things like global cohesion and information sequence even if spelling and sentence grammar is not perfect (which it may never be) or you will never get there. It would be too 'strong' to say that if you go for the bigger things the little things will look after themselves; but I would put forward a 'weak' version of that claim.

A second reason for teaching information sequence revolves round the advice we give to our learners about planning. Teachers of composition are frequently at their most pious, unrealistic and high-minded when exhorting pupils to plan their writing. We tell them to do it: do we really teach them how? Most of our advice is, as John Swales has said of ESP Report writing guides, "at a level of generality that makes it hectoring rather than helpful for the non-native speaker" (Swales 1981: 5). Primary ESL learners cannot

really handle the vocabulary of planning, abstract words like *Introduction, Body, Conclusion* or even the deceptively simple Beginning, Middle and End. I suspect that many older learners cannot make much of them either. But primary pupils can handle, as I will show in detail later, information presented in matrices: planning them, filling in the cells and reading along the rows in the process of writing. This is teaching before-the-event at its most helpful for ESL learners.

A third answer to *WHY* is that teaching information sequence is not done at the moment in primary classes for reasons that give some concern to those interested in improving the teaching of writing. Most teachers of primary ESP classes have a literature/creative writing background that influences their ideas on what writing is all about very strongly. For most of them writing is not about information at all but about feelings, responses, emotions, creative expression. These beliefs restrict teachers in what they regard as appropriate topics for writing and in what kind of help children need before they write. Thus *A Memorable Dream* is a good writing topic but *The Life Cycle of The Frog* is not. I disagree. I go along with Peter Wingard when he says that "free creative writing is rarely appropriate in teaching ESL" (Abbott and Wingard 1981; 168). These words apply to nearly every child learning English in Southeast Asia and suggest that teachers would do well to de-emphasise the personal, creative and largely narrative writing that looms so large in school composition syllabuses. Widdowson gives a further objection: creative writing can lead to an avoidance of the central problem of interaction with the reader because it encourages communion with self rather than with others (1983: 47). In teaching the young writers how to handle information in non-narrative topics, however, we can help them to be aware of their readers, to organise their information in a way that is "reader-friendly", to signal the relationships of various parts of their written discourse. (Hoey 1983: 3)

Arising out of teachers' literature/creative writing bias is an over-concern with narrative writing, a further reason why information sequencing is not taught. A glance at a typical syllabus in a Southeast Asian primary school will confirm this: *A Visit To The Dentist, Lost In The City, A House On Fire, An Accident, A Picnic, My School Sports, How I Spent Last Sunday, Showing Your Malaysian Cousin Round Singapore*. As non-narrative topics are almost never given, the question of how to help children organise the information in them just does not arise. The trouble with the above topics is that children only need to use time sequence to hold them together. As far as information is concerned most narrative are an 'anything goes' situation. Here is a sample from an upper primary ESL learner. (*Text B*)

I'm not saying that this is good narrative writing, just that it is typical of what is produced in response to being given one of the topics above. One cannot say that it is "wrong". It is random and irritating but when you are operating in time sequence anything goes as far as information is concerned: so it is not wrong. With non-narrative writing, on the other hand, there are schema, culturally popular ways of presenting information such as Hoey's Problem-Solution-Evaluation pattern. (1979). These can be taught systematically and the writing evaluated against some standard.

Text B

*What I Did Last Sunday*

I got out of bed. It was 7 a.m.. I had my breakfast. There was a plate of cereal and a drink. I like orange juice. My Sister she likes Milo. She has two spoonfuls of sugar in it. Later we ran outside. I like to play with kites. I'm making a blue kite at home with a long tail, The tail is made of .... (and so on).

A further reason is that most teachers have not received training, even elementary, in written discourse analysis. They can all tell you the plot of *Macbeth* but few can analyse a simple text for cohesion/coherence. This situation is being remedied, certainly at the National University of Singapore and probably elsewhere in the region, but it will take time before the results flow into the teaching of writing. Finally, most primary English teachers are rather suspicious of functional writing, of science, of what Wingard calls "sub-technological" writing on nature, transport, industrial processes, sport, music, travel (1981: 1959).

Is it really English? A British adviser on English teaching, Myra Barrs, voiced this unease in her review of Donald Graves *Writing: Teachers and Children at Work* when she wrote "Graves' model of the writing process is, in the end, inadequate. It seems the writer's main job is one of organising information. It is essentially a journalistic model with overtones of information technology" (Barrs 1983; 23). For Barrs and a large number of English teachers the influence of their own literature/creative writing school days is powerful and this has defined the subject: English means writing about dreams and clouds and personal experiences, not science and technology.

So, for all these reasons, most primary teachers do not give help in organising information before the children write. It is a pity. Having made a case for doing this I now intend to examine *HOW* it can be done.

*How to Teach Information Sequence to Young Learners*

I said earlier that it was difficult to teach information sequence to young learners. By this I mean that it is difficult to make the effects permanent, to get a long-term carryover into their written work. This is true of much writing teaching. But the actual techniques are quite simple. The key stage is the *decision* to do it, not the techniques themselves. I propose to discuss three: there are a number of other possibilities.

- (1) 'Brainstorming' followed by re-ordering.

- (2) The study of reading passages leading on to parallel writing.
- (3) Constructing matrices.

All these have been tried with a primary 5 class in Singapore over a period of time and met with some success. Some recently-produced material has incorporated parts of these techniques, in particular the first one.

### *"Brainstorming" Followed by Reorganisation*

To train young ESL learners in the important skill of *describing*, elementary science writing, the teacher could start like this: "Today you are going to write about a fruit that you've never seen or tasted before. It's called a pok-pok. Here's a picture of it. Now ask me some questions about it". The questions will come in any order: Is it juicy? What colour is it inside? Where does it grow? Can you eat the skin? What does it taste like? and so on. The teacher puts them on the chalkboard in a vertical list. When completed the teacher tells the class: "You are going to write about this fruit. What order do you think you should answer the questions in?" After discussion the teacher and class arrive at an acceptable order. Now this seems a paralyzingly obvious, straightforward thing to do but curiously I have never seen it done in several years of observing English writing lessons. What you are doing is introducing young children to rhetoric, to the idea that there are accepted ways of doing things (certainly in Western culture). Kaplan calls this "reinventing the rhetorical tradition". One obvious way with a fruit is to go from the outside and work in: country grown in; seasons available; on trees?; in bunches or singly?; skin; skin colour when unripe; skin colour when ripe; flesh texture; flesh colour; taste; smell.

When all the scientific facts have been dealt with the 'unscientific' questions that young children raise can be added: What does it cost? Where can you buy it? Who buys it in your family? and so on. I deal later with the question of whether to include these in science writing or not.

Of course the teacher of young ESL children will not use words like 'rhetorical models' or 'culturally popular discourse patterns' even though that is exactly what she is introducing to the children.

The writing task is to write about the pok-pok or any other fruits following the information sequence of the re-numbered questions on the board.

### *Study of a Reading Passage and the Writing of a Parallel Text*

Parallel text writing is now fairly familiar to ESL teachers of tertiary students. It is a revolution yet to come in the primary schools. I, for one, cannot wait. The combination of intensive reading for a purpose, analysis, and following a discourse model is very valuable for young learners. Until materials become widely available primary teachers can use or adapt material written for ESP. Here is a text written with a target audience of ESP students at Ngee Ann Polytechnic by John Honeyfield (1981: 112) (*See text C*)

Text C

*Two Southeast Asian Fruits*

The durian and the rambutan are both favourite fruits in Southeast Asia, but they are different in many ways. The durian is a large, spiny fruit with a thick skin. When ripe, the skin is brown in colour, and the flesh is creamy yellow. The flesh is soft and slightly greasy in consistency; a European writer once described the taste as 'a mixture of cheese, onions and sherry'. A durian has a characteristic smell which is rather strong.

The rambutan is a small, hairy fruit which also has a thick skin. When it is ripe, the skin is dark red; the flesh inside is firm and whitish, but may be watery. A ripe rambutan is deliciously sweet. It does not have a strong smell.

Perhaps the bit about sherry can be eliminated for young children but I have at time used the passage with no changes at all.

The children silently read it then go through it with the teacher. This is no ordinary comprehension lesson, however, with the series of aimless questions that has been so well described by Paul Nation in *The Curse of the Comprehension Question* (Nation 1979: 85). The children's attention is directed to the pieces of information which they can underline in pencil, noting the order. Numbers can be written above the facts: large = 1; spiny skin = 2; brown when ripe = 3; and so on. Then the children go through the second paragraph and are either shown or (ideally) discover that the information is in the same order. Here, then, painlessly they are introduced to the idea of "reader-based prose" (Flower and Hayes 1981), of the writer considering his reader by putting the information about the two objects in the same order. "It's so much easier to follow," one 10-year-old commented to me when she had finished.

The writing task, described in more detail in my paper last year, (Heath 1984) is to cover several different fruits in the same way with similar information sequence.

*Constructing and Using a Matrix*

In developing lessons teaching children to set out and use information in a matrix I am drawing heavily on the 'Birmingham school' of written discourse analysis, especially the work of Michael Hoey, Tim Johns and Florence Davies. Davies and Johns have written about TAVI, text as a vehicle of information, contrasting it with what they call TALO, text as linguistic object (1983). Their work on topic types and matrix analyses of typical science texts provides a very

useful starting point for the teacher of writing. Translating all this to the ESL primary classroom I have found that children enjoy and profit from setting out information in a matrix. To pursue my describing fruit topic, constructing an information matrix involves listing the names of the fruit in the rows and the attributed in the columns (See text D).

Text D

	where found	skin	skin colour when ripe	flesh	taste	smell
durian	Malaysia Thailand-	spiny thick	brown	yellow soft	like no other fruit	strong
rambutan	Malaysia Thailand Singapore- trees	hairy thick	dark red	white firm	sweet	not strong
banana						
any other fruit						
etc.						

This information can be elicited from the children in the same way that the reorganising was done in the "brainstorming" method. After doing one or two fruits orally you leave them to fill in the remaining cells of the matrix. They do this from their own knowledge, asking neighbours, perhaps in groups or pairs, extracting information from reading passages, or by consulting reference books. At this stage the information is very compressed, one or two words only in a cell. The writing task is to follow the matrix along the rows from left to right, converting the condensed information into sentences and the whole rows into paragraphs. With clever children the matrix can be taken away before they begin or after they have written on one fruit only. The process of writing, in which researchers have taken much interest lately, becomes one of referring back to the first paragraph which established the sequence. An interesting insight into process is shown in *text B* where the girl has inserted "when it is ripe". I asked her why and when she made the insertion. She said that when she wrote "The skin is yellow when it is ripe" in



the second paragraph she realised that this information was not in the first paragraph so she went back and put it in. This is an example of that non-linear back-end-forth composing process that researchers like Flower and Hayes (1981) have described so carefully.

### *Inserting New Information*

In the review of Donald Graves by Myra Barrs, referred to earlier, she noted with obvious disapproval, that Graves "talks of children the mechanics of data insertion" (Barrs 1983: 23) I note the same thing with approval: one of the most valuable things children can learn is where and how to put new information in their writing. The sections in Keith Johnson's *Communicate in Writing* that deal with this, his rubric "Decide where you would put it and what words you would use" (1981:40) seems to me most helpful. In my own research with 10-year-olds one of the most interesting things to emerge from the writing was how they handled the problem of putting in information that was not in the matrix. The way they did it was a very interesting and frankly heartening confirmation that they had grasped the idea of orderly information sequence. Briefly, what emerged was this: they added something about a fruit that was not provided in the matrix *in the same place every time*. Here are some examples. One girl decided to put something about *shape* which was not in the matrix. She added it between *size* and *skin* in each case.

(mango) "has the shape of a heart"

(banana) "has the shape of a curved moon"

Another included seeds, not given in the matrix, between *skin* and *colour*.

(mango) "has only one seed"

(banana) "the seeds can be eaten too"

(pineapple)"the seeds are on the outside"

And a boy who wanted to mention *cost* did so as the last item in each paragraph.

The mention of cost leads me to answer this question: is it really 'science' when pupils volunteer information on cost, or whether they like it, or who brings the fruit home? Most science teachers will reject it. I accept it and my reasoning is this: if your primary focus is information sequence, as mine is here, and not science or creative writing, then you accept any facts as long as they are in a logical place. I even accept wrong fact: elephants 50 metres long, pineapples growing on trees, bananas with seeds inside, and so on. Put another way, the science teacher and the English (who may be the same person in the primary school) should move towards each other: the science teacher should be less rigid about what she accepts as science and scientific writing; the English teacher should include more science-type topics in writing lessons and fewer blood-curdling narrative sagas; and both of them should show concern for the logical presentation of information, helping children with the mechanics of data insertion.

### *Implications*

The conclusion can be briefly stated.

(1) Writing on science-type non-narrative topics is a profitable and enjoyable use of class time.

(2) By focussing on information sequence the teacher is able to do valuable before-the-event teaching. The teaching is preventive and encouraging rather than the usual disaster-relief exercise at the end of an unsatisfactory writing activity.

(3) Composition syllabus designers for the primary school should include more information-type functional writing and fewer narrative topics.

(4) Textbooks writers and materials developers should include more reading passages with information to analyse, more parallel writing activities, and more information transfer activities such as matrices as the basis of writing activities.

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STRATEGIES IN UNDERSTANDING WRITTEN DISCOURSE-  
WITH SPECIAL REFERENCE TO TRANSLATOR-AS-READER

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When Widdowson comments on the "capacity" of a language user, he refers to "the ability to use a knowledge of language as a resource for the creation of meaning, and is concerned... with... interpretation" (1983: 25). The ability to exploit the meaning potentials in human communication has already partially been accounted for by Hymes in terms of communicative competence and partially by Chomsky in terms of linguistic competence. What has not been taken into consideration by the above, then, according to Widdowson, is the ability of a language user to continue to create new meanings by exploiting background grammatical rules for communicative needs as the events arise, and to adapt such knowledge to communicative situations by using relevant strategies or "procedures" of interpretation. Such ability, then, is what is known as capacity.

For the present author, capacity in translation would allow the translator to activate the relevant schemata to interpret textual regularities as well as irregularities, to create new meaning out of textual constructs, and to present to the target-language reader the communicative value of a text following the linguistic, and often cultural tradition, of the target reader. In other words, the translator should have at his disposal a user-orientated construct of capacity making use of (a) available assessment constructs of bilingual and bicultural resources to be exploited for a purposeful end; and (b) various interpretative strategies or "procedures" to comprehend texts efficiently, and (c) to codify in the target language the same standards of textuality as intended by the original author (de Beaugrande & Dressler 1981).

In this paper the present author will concentrate on some of the reading strategies employed by a translator in the process of translating referred to in (b) above. The process of translating has not been accounted for systematically until the 1970's (notably by de Beaugrande 1978a), and it is a very important line of focus in modern translation studies to establish the inter-relations and translation equivalence between texts. Most translation theories before the 70's managed to offer to translation theorists and practitioners no objective answer of a general nature, rather, emphasis was put on measurement and criticisms of what is "good" and "bad" translation and to the rather complex problem of inter-textual translation equivalence. Incidentally, as far as modern translation research shows, there is probably no one universal translation theory, at best, there are text-type-specific translation theories, and as a result, there are text-type-specific concepts of translation equivalence.

The process of translating involves three interrelated components: the author, the translator, and the reader. In translating

a translator reproduces - in a sequence of textually-based code-switching operations - a source-language (SL) message in a target-language (TL). By making the SL message accessible and understanding to the TL recipient, the translator serves two communicative functions: SL message-recipient and TL message-sender. It is in translating-as-transferring process that the translator aims at the transformation of a written SL text into an optimally equivalent TL text, during which he should possess not only syntactic, semantic and pragmatic understanding of the text in question, but should also be able to analyze and process the SL text. Text-based translating should be most relevant for the present discussion because translation should always be text-oriented, not sentence-oriented or word-oriented. In other words, within a communicative framework, translating process is a combination of two operations or tasks: a SL text-analytical task and a TL text-synthetical (or text-reproductive) task (Wilss 1982: 4). These operations allow the translating process to be broken into multiple stages which are carried out in terms of different "strategies" (de Beaugrande: 1978a) or "interpretive procedures" (Widdowson: 1979, 1983), and which will be discussed below. The present author will restrict herself to the term "strategies" when accounting for the interpretative techniques employed by the translator in various reading stages of translating.

In a recent work by de Beaugrande (1988a), an overall view of text linguistics has been applied to translation. Though it specifically concerns the translating of poetry, the principles discussed in the book may be applicable to a general study of the translating process. In his book *Factors in a Theory of Poetic Translating*, de Beaugrande argues that despite the development of modern linguistics, translation theory has not significantly progressed. Neither descriptive linguistics nor transformational grammar seem to have produced any impressive results on the studies of translation. For, among other things, they are too formal, or too much confined to the sentence level without going beyond. If translation theory is to advance, it cannot be limited to the sentence level, and text linguistics is then what most appeals to Beaugrande.

There can hardly be a one-to-one correspondence between the information presented by a text (in terms of textual conventional symbols on the page) and the textual properties generated in the reader's mind during reading (supplied from the reader's perspective in terms of his knowledge, interest and experience). Even when a certain textual piece is taken as strictly factual, as in a business report, the properties generated in the mind do not necessarily correspond in all respects to the circumstance under which the reported events actually occurred at one time. The question is, rather, how and in what way a text may coincide with the real world, and what a reader can interpret out of the corresponding associations in the text. A text which is wholly factual may also contain information unknown to the reader, and such information may be partially or totally understood if it is arranged with and matched against a familiar background. Understanding occurs in the reading process when new information is arranged against a background made up of the reader's knowledge and experience: (a) the reader must either himself supply some of the schemata not presented in the text, such

schemata are accumulated from his knowledge and experience, thereby the text is adjusted to fit the patterns of their own significance by "assertion" (Widdowson 1984: 222-223), or, (b) he may adjust his schemata to fit those provided in the text and confine them to a well-defined mental representation in the act of "submission" (ibid.). In order to accomplish either one of the two tasks, the reader must actualize the potential of language elements of the text by noting their reference to real world phenomena and by referring to context.

### *Subjectivity of the Reader*

It is thus clear that readers may not process the same text in entirely the same fashion. Sets of signals in the text may remain constant, but the knowledge, experience, expectation and interpretation strategies of each reader certainly differ. In other words, the meaning potential of a text remains constant, but the possibilities to actualize the potential varies according to different capacities of different readers. So there is a constant danger of rendering into the goal language not just the meaning potential of the text, but the translator's own additions and responses, more so in poetic and literary texts than objective reporting. As a result of the translator's response to reading being added in, the end-translation may lose its dynamic impact on the target readers, who would be deprived of their capabilities to interpret and stripped off their potential to appreciate and respond as they should (Nida: 1964). Much worse still is when the translator is purely subjective, that is, he does not work from textual signals, but on individual priorities. He may even misrepresent or distort the signals in the text, that is, either he is not familiar with the linguistic repertoire or else he is ignorant of the author's stylistic manoeuvres. Such misrepresentation and ignorance may arise due to linguistic differences, cultural differences, and special functions served by different text-types.

It is empirically difficult to differentiate the translator's interpretation of the SL text from his subjective formulation and evaluation of the text. The question is: how far should the interpretation go so that the target reader will read what is intended by the author and nothing more? In other words, what governs the interpretation of a text and what governs the evaluation of a text? There seems to be no empirically established guideline to distinguish the two. In theory we can only count on the translator's training, background knowledge and good conscience that he has just translated all, and not more, of the original. What can be polished and improved by the translator is only the minimum, for example, the correction of typographical and syntactic errors, and even these would have to be balanced against the scale of consistencies and style of the author, which the translator should familiarize himself with from the start.

Below are translation examples in which the translators have added their subjective responses to text while reading<sup>1</sup>. As a result, the translations are no longer the functional equivalent of their respective originals. In translation (a), the informative statement

is translated into a cause-and-effect statement, and translation (b) is stylistically more emotional in terms of the tone of voice. Such translation problems, which reflect the subjectivity of the translators while reading, should be cautioned against and are underlined in the Chinese translations for easy reference<sup>2</sup>.

(a) Willie B is a 450-lb gorilla at the Atlanta Zoo. In December a Tennessee TV dealer heard about Willie B us lonely life as the zoo's only gorilla and gave him a TV set.

威利是一隻四百五十磅的大猩猩，牠住在雅蘭達動物園。在十二月時有一位電視商聽說威利在動物園孤獨地生活，因爲動物園之內，只有一隻猩猩，於是決定送給牠一部電視機。

(b) Of course, I had never persuaded myself that buying a house was going to be cheap, and I realised that the naked purchase price was only the tip of the iceberg. There are, in addition, all the hundreds of man hours you spend hunting, the hours you spend gnashing your teeth in disappointment and despair, not to speak of the petrol consumed in driving from one end of London to the other, chasing agents' will-o'-the wisps. Then the fees...

我從來也不勉強自己相信買所房子會是個便宜的交易，現在更發覺房子本身的售價也只是你所要付出的很少部份。除售價以外，不要忘記你還花了多少個小時勞碌奔波，四出狩獵理想的居所，又花了多少時間在失望徬徨中咬牙切齒，爲了和那些房屋經紀週旋，驅車從倫敦的一端到另一端所耗的汽油更不用說了。還有那些 .....

According to de Beaugrande (1978a: 25), "It is more probable that the errors (of translation) derive from inaccurate reading than from inaccurate writing". In practice, the present author has been informed time and again, by experienced translators and student-translators alike, that much translating has to be done without full understanding of the text in question, in other words, translation has to be performed when translators do not have time to digest texts, especially when there is a time-factor, as in newspaper translating. Berman's findings from her text simplification experiment (1984: 146) suggest that it is possible for readers to understand only the gist of a text when the nature of the text can be identified by means of the title or heading and frequency of occurrence of lexical items. There is very little understanding at the sentence level if there is insufficient time for the translator to the text. This is of course far from ideal, far what a translator needs not of all is cautions reading of a text before translating it.

To summarise what has been discussed earlier, the mental representation of the text finally registered in the translator's mind would not be identical with the original text in three ways: (a) the translator has subjected the text to a process of rearrangement: presuppositions, interest and priorities, which may well have led to a redistribution of prominence within the text; (b) the translator-as-reader has very possibly added some components out



of his/her knowledge, beliefs, associations and expectations etc.; (c) insufficient reading time will force the translator to read without understanding the text, resulting in distortion, or misinterpretation of the original. Even these few considerations, not to mention semantic differences, begin to indicate why two translators very rarely arrive at the same translation of a given text, and why there are translation-varieties instead of one authoritative translation. Thus we may conclude that some errors or non-equivalences between the original and the translated texts may derive from discrepancies between the original text and its mental representation (de Beaugrande 1978a: 26).

### *The Role of Syntax and Semantics*

The typical function of syntactic grammar in language use is to arrange the information in texts into a conveniently discoverable form. Since information is arranged into a convenient norm, the reader will have appropriate strategies in arranging expectations and to accept the logic and language of the text as an integral system. When one begins to read a text, the establishment of a theme is a necessary prerequisite to effective text processing, because the theme allows the reader's expectations to accumulate in preparation for a reliable interpretation of the text. The theme reduces the possibilities for alternative meanings and potential ambiguities (Halliday 1968: 17a). The meaning potential of words is "open" and "susceptible to contextual modifications" (Wold 1979: 354), that is, it is automatically reduced as soon as context and topic are established. Such elimination of what is irrelevant controls the expectations of both the sender and the recipient of a message within the situation. In case of ambiguities and puns, there is very often the mentioning of more than one context to which the meaning range is applicable. Should the topic be undefined, the selection and interpretation of word meaning does pose problems due to the high degree of marker-sorting that has to be done for individual words and the lack of contextual criteria to aid the sorting. If the establishment of a theme is delayed, or if there are unexpected shifts in theme, the reader cannot proceed at a normal rate. That is why writers of informative texts make the theme clear at an early point, for example, in newspaper writing, the theme and topic are in the lead or opening paragraph. In some situations, readers understand the text because they provide themselves with predisposed knowledge gained from previous experience. Such prerequisite knowledge is also known to be "free information" (Wold 1979: 357) which provides the entire background for text-processing, or it can be viewed as the necessary information for processing the other parts of the text, which conveys "bound information" (ibid.) The Goodmans (1978: 137) are of the opinion that the reader brings a great deal of free information into the complex and active process of reading. Whenever readers are asked to read a lot of bound information which they do not have enough relevant experience, they will have difficulty understanding the text.

It is therefore logical to say that when one reads, he is moving initially from reader-supplied information based on his own experience toward the information newly provided by the text.

It is likely that he gathers more and more text-supplied information to assist him in subsequent comprehension, and the interpretation of such information will eventually constitute part of the future reader-supplied information. As the reader moves along, he is motivated more by text-supplied information. Should he discover more than one interpretation of the text, or should he comprehend a range of possible interpretations, he may find such experience disturbing, and would have to read on and process more text-supplied information before a final interpretation can be made. On the other hand, he may have to retreat to a certain point in the earlier part of the text, reorganize his reader-based information against text-supplied information, before interpretation becomes fruitful. It is found that readers who are only moderately proficient can cope with texts they do not understand by manipulating its language down to a deep structure level of meaning (ibid.: 138) and it had been demonstrated that readers convert a question they do not understand by transforming it into a statement before they interpret it and attempt to give it an answer. Thus it is well said that "Only if the reading process is consistently pursued to the point where the interpretation is maximally dominated by text-supplied information can a truly objective translation be produced" (de Beaugrande 1978a: 88). Here reading is based on a degree of objectivity which is itself an idealization, for what is truly objective in reading is what validly represents the perceptual potential of the original and is not scientifically measurable.

### *Some Strategies of Reading*

The strategies made use of by readers to map reader-supplied information on to text-supplied information are certainly numerous and there is no attempt by the present author to list them exhaustively. Instead some strategies of reading which are relevant to this paper will be discussed below.

#### (1) *Logical Reasoning*

One of the strategies for the reader to use in order to arrive at an interpretation maximally dominated by text-supplied information is logical reasoning. For example, it is logical for the reader to be aware of the choice of words and their organization into a message sequence. The fact that a certain alternative but not others is chosen constitutes an essential component of the interpreting process. For example, in the utterance *John lives in the country*, it is logical to arrive at the interpretation that "John does not live in town" and that living is still an on-going affair. The ability to place John in one residential environment and not in the other comes from the reader's world experience that 'one can only live in one place at one time'.

#### (2) *Inference*

Another strategy is that of inference (Winograd 1977, in Just & Carpenter 1977: 78). There is some piece of knowledge about the world which enables an entity to be picked out which can be "reasonably inferred to exist" (ibid.). The reader may not have come across the entity uniquely specifiable, but he is able to make use of his world

knowledge to infer. For example, in the utterance *When we arrived home, the telephone was ringing*, though *telephone* is mentioned for the first time, the reader should gather that this is a unique phone referred to. The reader's world knowledge that telephones are installed in private residences in the 20th century helps him to infer that *the telephone* mentioned is a specific one installed at *home*. Such world knowledge should also include the awareness of cultural differences. To cite an example, the western concept of 'privacy' clashes with the Chinese belief that there is nothing to hide if one is a respectable individual. Therefore the notion of privacy mentioned in the English SL text should be interpreted cautiously, and foot-noted when translated. Such awareness of the culturally different, sometimes even contradictory, points of view, will certainly help a reader-translator to arrive at an appropriate inference, interpretation and the translation of the SL text.

### (3) *Prediction/Expectation*

It should be noted that the process of reading does not correspond to the linear sequence of linguistic components in writing, and it would be wrong to assume that language would consist of autonomous self-contained units of information; instead information is distributed among linguistic components for ease of comprehension. For Smith, "the basis of comprehension is prediction and prediction is achieved by making use of what we already know about the world, by making use of the theory of the world in the hear" (1978: 87). Such old or bound information, or familiar knowledge, is included in the components so that the reader-translator will have enough background to make the integration of unfamiliar concepts possible provided there is a common ground of shared concepts between the text and the reader. In sentences of written English, new or free information does not usually appear until the predicate. The subject normally establishes the topic and the predicate expands and modifies the topic. It would be inefficient if the reader had to read and stop to interpret each component of the text: the distribution of components therefore permits the reader to move forward and backward in the text and to regroup components around informational chunks. The mind of the reader retains not a linear sequence, but a storage of chunks in which information is kept, some perceptually more prominent than others. Smith is of the opinion that "written language has to be resolved from the text itself and experience is required to develop the habit of using the thread of an argument or story as a clue to the meaning of language" (ibid.: 136). There are various stages of prediction/expectation for the reader-translator while reading: (a) that a time factor will be accounted for within the situation described by the text; (b) that a mental representation containing the agent or topic under discussion and its associate characteristics will appear; (c) that familiar concepts will be followed by new or unfamiliar ones; (d) that the thread of argument will act as a clue to the meaning of a text. The above listening suggests that the process of reading is not linear, but overlapped and inter-related with expectations and predictions. When expectation fails to materialize, the reader may be disappointed when he comes into contact continuously with familiarity, the reason being that the text is unforthcoming. Or, in other instances, the reader may come upon something which his prediction has not prepared him for, resulting in surprise or shock

reaction to texts, for example, detective stories.

(4) *Marker-selection*

There is no single thing which can be called the meaning of a word because "language has few, of any explicit conventions, no sharp limits to the spheres of operation of rules, no rigid separation of what is syntactical and what is semantical" (Austin 1961: 13). However, the existence of a distinction between syntax and semantics must be taken into account before meaningful translation can be achieved, for interlingual translation is an *interpretation* of verbal signs by means of some other language (Jakobson 1959: 233). When the process of translating involves representing the same message in two different codes, it is worth our attention that it is the message in question, and not the code, which should be dealt with first. If we accept the hypothesis that the deep semantic structure of the surface code in one language never completely corresponds to the underlying semantic structure of another language, and cultural reality is segmented differently into different designates in different languages, the attempt for a word-for-word translation to arrive at a complete match of lexical equivalents is a worthless cause. If we also take to be the case that the semantic components of lexical items in different languages tend to be different, or at most overlapping, then the strategy for translating the semantic content of the SL message is to express it in the TL according to the TL linguistic mode and features. Such translating would involve a whole range of application which varies from language to language and from culture to culture. Moreover, since semantic mapping of the universe by a language is in general arbitrary, the semantic map of each language is thus different from that of other languages, as there is rarely a one-to-one correspondence in semantic structures.

Meanings of a word are found among a set of markers or properties associated with that word. When the word occurs in a text, not all markers are necessarily activated, because the potential meanings of a word often exceed in range the actual contextual meaning of that word. It seems logical that at least some markers must be deleted as defined by the context in which it occurs so as to reduce the range of meanings. According to de Beaugrande (1978a: 38) the meaning potential of a word is probably automatically reduced as soon as a context and a topic are established in a particular situation, such reduction controls the expectations of both the sender and the recipient of a message within a situation. In the case of puns, however, it is the intention of the author that there is more than one marker assigned to a particular word in a unique context, and the figurative use of language (such as metaphoring) must entail an alteration or a replacement of markers. Markers are therefore stored potential meanings which are subject to information-processing strategies and which are restricted by co-textual and contextual requirements and limitations (de Beaugrande 1978a: Chapter 3). When words of a message are used by the sender and understood by the recipient, the strategies of marker-selection are activated once there is an indication of the topic and context. If the topic is undefined, the selection of word markers is very arduous, part of the difficulty may be due to a great number of markers assigned to each word, and the process of marker-sorting is therefore cumbersome when there is no definite criteria to guide the sorting (ibid.: 39). However, the

provision of a context does not necessarily solve all problems. There are still possible ambiguities which may occur in one context, and the item in question is misinterpreted, allowing the comprehension of the later part of the text to be disrupted. Unless the translator is aware of such manipulation by the author, the interpretation of text is done on a trial-and-error basis, repair strategies should be used to arrive at the appropriate and final interpretation.

### *Summary*

What this paper has attempted to discuss are some of the reading strategies employed by a translator in the process of translating. Different stages of reading are discussed in this paper in which the translator is moving from a general task to a more specific one. It is hoped that by understanding more about the reading process, some of the problems of translation may be dealt with and solved.

## NOTES

1. The texts were parts of assignments given to 1984 Year I students of the Hong Kong Polytechnic Higher Diploma in Translation and Interpretation Course. The problems in performance underlined are not uncommon among student upon entry, i.e. without training in translation many students regularly perform in this way.
2. Only the additions of the translators are discussed here. Other translation problem, such as lexical or semantic equivalence etc. will not be dealt with.

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## LINGUISTIC PREDICTION IN ECONOMICS TEXT

Angela Tadros  
(ELR, University of Birmingham 1985)

Reviewed by Elizabeth Samson

This is the latest offering in Birmingham University's Discourse Analysis Monograph series and should emerge, I feel, as one of the more significant among recent publications in written text analysis. The monograph series so far has provided a highly readable means of access to on-going research at Birmingham, and this (tenth) volume is no exception; it is clearly structured and very thorough. Some sections may seem heavy-going for the casual reader, due to the density of detail (like several other monographs this one is a condensed version of the author's Ph.D. thesis LINGUISTIC PREDICTION IN ECONOMICS TEXT Tadros 1981) but the theoretical model put forward represents a real advance in the study of discourse, as well as offering a variety of insights for EFL practitioners.

The central notion used here as a basis for discussing the structure of written text, is that of *Prediction*. This term has often been cited as describing an essential aspect of language use and language learning (e.g. Corder 1973). Within written text analysis, the term 'prediction' has been used to refer to the process of looking ahead of a clause or a sentence, to the "immediately succeeding clause(s) in its paragraph" for what is presupposed to be the appropriate development of the topic (Winter 1982, Hoey 1983). The literature on Reading also makes extensive use of the term in the more generalised sense of guessing what will come next in the text, based on prior experience and knowledge (F. Smith 1978, Goodman 1977).

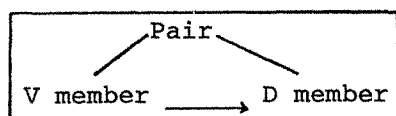
Tadros' approach differs in that her predictive structures deal with much larger stretches of text: what is predicted is not syntactic, but an act of discourse. A further 'novelty' lies in the wide range of concepts brought under the aegis of the notion of *Prediction*. (The six categories consist of Reporting, Advance Labelling, Recapitulation, Enumeration, Questions and Hypotheticality: they can occur singly or in complex patterns involving "embedding" and "overlap").

Tadros' use of *prediction* is derived from the wider concept of *prospection* which has been expounded at a fairly abstract level by Sinclair (1975, 1980). Sinclair postulates that prospective structures are an integral feature of both oral and written interaction, and that they are concerned with "control over what happens next ... an attempt to ... pre-classify all possible next utterances" (Sinclair 1980). Thus *prospection* is linked to another essential notion in Discourse Analysis, that of *purposefulness*. That is, the assumption that people do not generally offer each other gratuitous information - that "all communication is the execution of a

purpose" (further explicated as "plans, goals, intentions, motivations, aims, strategies, tactics, implications, presuppositions" - Sinclair 1975). This purpose has a different origin or source from the information content. Further, the analysis of purpose may well require a different descriptive system from those traditionally used either for 'content' or for formal linguistic structures (Sinclair 1975).

Against this theoretical backdrop, Tadros employs the notion of prediction in much stronger terms and within the confines of an extremely precise hierarchical model. Writers 'predict', by means of signals, what they are going to do in written discourse. If there are no signals in the text, readers may *anticipate* what the writer will do, using their background knowledge and past experience. Thus *anticipation* is more like the Reading theorists' use of the term *prediction* and Tadros makes no claim as to being able to describe it. As opposed to this, *prediction* is a binding commitment on the part of the writer to "the occurrence of another subsequent linguistic event" (Tadros 1985:6).

The analytic unit used by Tadros is a two-part structure termed the *pair*. Each *pair* consists of two *members* and the relation between them is that the first is *predictive* (symbol V) and the second is *predicted* (symbol D). This is represented diagrammatically thus:



(Tadros 1985: 9)

Each member is realised by a minimum of one orthographic sentence: a D member may also be realised by non-linear text, (e.g. diagrams, tables)

For Tadros then, the model of prediction describes an aspect of discourse *structure* and not simply a popular *pattern* in written text. That is, using Sinclair's (1975) definition of structure in terms of a hierarchy, elements of this model can (a) realise other elements at a 'higher' level and (b) be realised by one or more elements of structure at a 'lower' level. Unlike descriptions of the problem-solution pattern (Hoey 1983 & Jordan 1984) and the *Frame* and *schema* text theories (Rumelhart 1975, Fillmore 1976, Davies 1984) all of which seem to focus largely on the organisational or logical pattern of the information content in various texts, Tadros' *prediction* involves the realisation of certain discourse acts, and the structural model provided has managed to capture the actual 'dynamics' of those realisations.<sup>1</sup>

Thus, the chief value of Tadros' work, I feel, lies in the 'multi-level' nature of the description of the six categories of prediction. Each is set out very exactly in terms of a set of criteria for identification of V-D membership in the category using a combination of specific syntactic structures and lexical signals and, optionally, propositional content, pragmatic elements as well as other criteria such as the notions of "new/given" information, authors' role and a "default" theory.

To illustrate this 'multi-level' nature, the criteria for V-membership in the category of *Advance Labelling* are given below (the labels in boxes are mine). In this particular category, membership involves the occurrence of *all* the following: explanations are given to show why sentences possessing 2 or 3 out of these 4 would not be included as well as examples of sentences which 'fit'. The criteria are:

- |                          |   |
|--------------------------|---|
| lexical<br>signal        | 1. The sentence must contain a labelling of an act of discourse;                          |
| prospection              | 2. The labelling of the act must be prospective.  |
| writer's role            | 3. The role of the actor is not assigned elsewhere, and therefore remains as the writers' |
| propositional<br>content | 4. The sentence labelling the act must not include its performance. (from Tadros 1985:22) |

Three types of *Advance Labelling* are then identified and explained, and comprehensive groups of the verb phrases (re. criteria 1 and 2 above) which function as signals for each type are listed. Interestingly, the lists of signals are fairly 'absolute' in that Tadros is putting forward a finite group of markers which will function as clear indicators of particular predictive acts.

In the category of *Enumeration* on the other hand, 3 types are isolated; one on the basis of syntax; one on the basis of lexical signals and one on whether or not the information is new to the context. (Tadros 1985:15). The category of *Recapitulation* uses *position* of the sentence in the paragraph as well as the notion of authorial involvement/detachment as further criteria (Tadros 1985:38).

The multi-level descriptive framework thus manages to relate 'larger' aspects of written communication (e.g. definitions, generalisations) very precisely to smaller linguistic units showing how language actually 'moves' between the levels.

In capturing these relationships in such exact rules, Tadros seems to have taken an important step towards achieving what Labov (1969) calls for when he says:

"the rules we need will show how things are done with words and how one interprets these utterances as actions: in other words relating what is done to what is said and what is said to what is done"

Another relevant comparison, in characterising what Tadros has achieved, might be with past studies of specialist texts, (such as Huddleston et. al 1968, Roe 1977). Widdowson (1979) describes the former as being concerned with quantifying the incidence of formal linguistic "forms like the passive, certain modals, certain types of adverbial clause and so on" and therefore classifies them as examples of *text* analysis as opposed to *discourse* analysis which is "the investigation into the way sentences are put to communicative use"<sup>2</sup>.

He also says "there seems no reason why they should not, in course of time, be represented as types of discourse consisting of certain combinations of such acts as definition, classification, generalisation, qualification and so on". (Widdowson 1979:98).

And this, it seems to me, is exactly what Tadros' study of Economics text offers.

### Teaching Implications

From the perspective of the EFL consumer, Prediction in Text should probably best be viewed as a component in a Communicative Grammar might be. That is, there are many significant insights into aspects of written text which EFL teachers will immediately be able to adapt and incorporate into their own (pre-teaching) text analysis and teaching plans but they cannot expect to use the description of the categories of prediction as a neatly-packaged, teachable whole.

With the current focus on communicative language teaching, the findings in Discourse Analysis are likely to be much more attractive than those in formal linguistics, however, teaching discourse *rules* may not necessarily be any more effective than teaching grammar rules now that we feel the most desirable outcome of teaching/learning to be the ability to *do* things with language.

The (ELT) scenario in which Prediction in Text is likely to prove most useful is where students whose general language ability is fairly high, have to use English at tertiary level for academic reading and essay-writing. Although Tadros makes no claim for the applicability of her categories to other types of written discourse, it seems fairly likely that similar structures would be found in much academic writing, both in pedagogically-oriented and in peer- or specialist- audience texts. Thus EFL practitioners aiming at helping students to plan and then edit their own essays will be able to adapt some of the criteria given for V & D structures for this purpose.<sup>3</sup> Furthermore, the descriptive categories have the potential to be worked into a systematic method for helping student-writers, and text analysts, to *evaluate* written text, in the sense of 'bad' or 'well-formedness'.

Some aspects of Prediction in Text may prove enlightening for teachers, for instance in alerting them to the manipulative or interactive aspect of non-fictional writing. The idea of authorial 'attitude' or 'point of view' is quite well established in literary studies but has not been as well documented in the literature on ESP. It may serve a particularly important function in a second-language learning environment where normally only the information-content of written texts is emphasised - witness the ubiquitous focus on comprehension questions in Reading Courses and on organisation of information in Writing courses.

Tadros' use of the notion of authorial "detachment/involvement" is fairly extensive in the monograph (see pages 4, 28, 38 e.g.). A related idea but one that is mentioned only briefly is that of Sinclair's *Default* hypothesis whereby if one sentence contains an

explicit marker or feature, and the second sentence does not, then the second sentence will be understood as having that same feature. This has immediate applicability in the area of referencing ideas. Even the most able second language students do not always signal:

- (a) personal involvement/detachment re. the point in hand, and/or
- (b) when they have switched from giving their own views to reporting someone else's - or vice versa.

The use of the given/new distinction for information beyond the level of clause could also be of value 'a increasing both teachers' and students' editing skills. Furthermore, the nature of the criteria given for the generation of predictive text structure is so exact or explicit as to suggest interesting possibilities for computer application in the area of second language student self-editing of written text.

Another feature of Prediction in Text which offers the ELT practitioner immediate value comes in the form of the lists of verbs and verb phrases which function as signals in the categories of *Advance Labelling* (Tadros 1985:24-6) *Reporting* (Tadros 1985:31) and *Recapitulation* (Tadros 1985:40). These lists in themselves constitute a significant contribution towards deeper understanding of an aspect of academic language which is often isolated for study. A lot of these verbs would usually be offered as an undifferentiated mass in chapters entitled "Referencing" in the standard handbooks on the style of research papers. But whereas these handbooks usually focus on teaching students the correct form of expression used with these verbs, Tadros' work provides the basis for understanding why a writer makes a particular choice and how that fits his strategy for much longer stretches of text than the sentence.

It has to be emphasised that these potential teaching points would actually have to be contextualised and made teachable by the EFL 'consumer'. And not all the categories are so directly usable. The description of *Hypotheticality* for example, seems in one instance to rely on the readers' previous reading to be able to distinguish the names of famous fictional characters, and in another instance to rely on the readers' knowledge of the specialist subject (i.e. Economics) to distinguish between an Economic prediction and a discourse prediction (Tadros 1985:43). This is acceptable in the case of a native-speaker writer/reader's understanding of prediction but constitutes a potential hazard for second language learners: perhaps all the EFL teacher can hope to do is heighten awareness of the occurrence of these features.

To sum up, although 'prediction' has been tackled in various branches of language study, Tadros' description of it as an *interactive* phenomenon which underpins the discourse organisation of written text is novel and highly interesting. The degree of precision of the descriptive apparatus is particularly laudable, and represents a major step forward certainly in the study of 'specialist literature' and probably in the wider field of discourse linguistics as well. The pedagogical value of the monograph will probably be greatest in providing teachers with firmer strategies for analysing

both teaching texts and student writing, with further significant implications for the judicial use of the predictive categories to help students' reading as well as their writing, in most academic fields of study.

## NOTES

1. Interestingly, actual examples of Tadros' analysis do not look like Sinclair and Coulthard type discourse analysis but incorporate aspects of frame - and schema - type analyses (see section IV, Tadros 1985:53).
2. Incidentally, Tadros' work would probably confound any attempt to apply Widdowson's labels of *Text* vs. *Discourse* analysis, and in fact raises serious questions as to the need for that distinction, given that the 'multi-level' descriptive apparatus mentioned above emphasises the interactive nature of written text and provides close links between formal linguistic features and larger rhetorical units.
3. Of course teachers would have to be selective in the kind of predictive features and amount of emphasis used, as Prediction in Text is, after all, an analysis of *text-book* language and student writers will have different purposes.

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