ELT-45

# The Teaching of Comprehension

Milestones in ELT

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The British Council was established in 1934 and one of our main aims has always been to promote a wider knowledge of the English language. Over the years we have issued many important publications that have set the agenda for ELT professionals, often in partnership with other organisations and institutions.

As part of our 75th anniversary celebrations, we re-launched a selection of these publications online, and more have now been added in connection with our 80th anniversary. Many of the messages and ideas are just as relevant today as they were when first published. We believe they are also useful historical sources through which colleagues can see how our profession has developed over the years.

## The Teaching of Comprehension

This publication contains papers discussed at a British Association of Applied Linguistics (BAAL) seminar at the University of Edinburgh in September 1977. The first two chapters present views of comprehension from psycholinguistic and discourse analysis perspectives, respectively. In the third chapter, an accessible overview of listening comprehension is offered, taking in the interactive factors involved in speaking and listening; the complexity of the speaking process; and the differing functions of written and spoken language. In the fourth chapter, Reading comprehension, the author discusses how children learn to read; refers to inhibitors to and determinants of comprehension, and, finally, suggests how reading comprehension can be improved. In the fifth chapter, Materials for listening comprehension, 'fill in the blank' exercises are criticised and more communicative activities are illustrated and recommended. The final chapter, Developing materials for reading comprehension, makes recommendations specifically for the development, selection and use of reading materials in ESP.

An Occasional Paper

# The Teaching of Comprehension

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# The Teaching of Comprehension

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# INTRODUCTION

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One of the major activities of the British Association of Applied Linguistics is the holding of occasional seminars devoted to the discussion of a single topic. Such seminars have been held on eg error analysis, materials for teaching communicative competence, language testing, reading in a second language, the relationship between first and second language teaching. The Association normally holds about two of these a year and is thus able to make its annual meeting non-thematic.

In September 1977 a British Association of Applied Linguistics (BAAL) Seminar was held in the University of Edinburgh on the theme of 'Comprehension'. Six papers were commissioned and precirculated to participants. Each paper was introduced by a discussant and an opportunity given after discussion for the author to reply. An attempt was made in the organisation of the Seminar to provide for a range of approaches to comprehension and at the same time to include both more theoretical and more practical aspects.

Here is a list of the papers, authors and discussants with affiliations as in September 1977:

1  Comprehension - the Psycholinguistic view:
                        Alison McRae, Department
                        of Psychology, University of
                        Edinburgh
   Discussant:   Christopher Candlin, Department of
                 Linguistics, University of Lancaster

2  Comprehension - the Discourse Analysis view:
                        A H Urquhart, Department
                        of Linguistics, University
                        of Edinburgh
   Discussant:   Malcolm Coulthard, Department of English,
                 University of Birmingham

3  Listening Comprehension:
                        Gillian Brown, Department
                        of Linguistics, Uiversity of
                        Edinburgh
   Discussant:   Patricia Wright, Medical Research Council
                 Applied Psychology Unit, Cambridge

4　Reading Comprehension:
　　　　　　　　　　　　W K Gardner, School of Education,
　　　　　　　　　　　　University of Nottingham
　　Discussant:　Tom Gorman, National Foundation for
　　　　　　　　　　　　Educational Research, Slough, Bucks

5　Materials for Teaching Listening Comprehension:
　　　　　　　　　　　　Ramsey Rutherford, Language
　　　　　　　　　　　　Centre, University of Bielefeld,
　　　　　　　　　　　　West Germany
　　Discussant:　Leslie Dickinson, Moray House College,
　　　　　　　　　　　　Edinburgh
6　Materials for Teaching Reading Comprehension:
　　　　　　　　　　　　Liisa Numenmaa-Lautamatti,
　　　　　　　　　　　　Language Centre for Finnish
　　　　　　　　　　　　Universities, University of
　　　　　　　　　　　　Jyvaskyla, Finland
　　Discussant:　W B Currie, Edinburgh Language Foundation

In retrospect, while the Seminar was exciting (it attracted over 80 participants) and stimulating, it could have been more clearly conceived. It lacked a clear boundary definition between acquiring a first language and learning a second or a foreign language. The discussion kept shifting ground from one to the other, and often this meant moving from a more data based to a more speculative consideration. Again, the Seminar lacked a session on the testing of comprehension. The papers and the discussion kept coming back to the need for testing and the value of the evidence provided by tests but we were left hoping that good tests would become available when needed even though it is clear they won't be. Again, we could have been more practical than we were. Even in the last two sessions on Materials we seemed too often to be talking programmatically about what we might do but hadn't yet done. Again, more helpful advice could have been given to the discussants who were sometimes unclear whether to provide a critique of the paper in its own terms or to make a direct link between the paper and language teaching.

We have mentioned some of the lacks in the Seminar, let us now turn to its positive contributions. The first - and most important - is that it did succeed in taking up the middle ground between the theoretical and the practical, the ground shared by the psycholinguist at one and the language tester at the other. In the middle ground we find the matching of the cause (or process) of comprehension with the effect (or product), in the terms used frequently throughout the

Seminar. But we found that both variables, process or product, intervene at all points, that the psychologist (and tester) need and study both, and yet both remain independent variables, ie they are both under investigation at the same time, leaving no dependent variable for us to cling to. A highly pragmatic beginning (eg Urquhart on the Watson-Glaser test) might have led usefully into discussion of process and into psycho-socio implications and insights. The usefulness of testing, after all, is that it stakes out a claim in the middle ground by setting up a product (through its tasks and items) which allows us to reflect on the process. Of course, it hardly needs to be said, the selected product may be the wrong one.

In establishing ourselves in the middle ground we were painfully aware that it is an area that the language teacher may feel excluded from. For the teacher the notion of a 'partial construct', ie a specific comprehension for each individual, is not very helpful. For the teacher the comprehension test or exercise may be the most readily accessible model of comprehension. This being so the teacher needs more than a partial construct - he needs a construct he must put to use now. We realised then that in our middle ground the normative dimension was missing, that dimension which is everyday reality to the teacher who deals usually with groups and not with individuals and who must make judgements in terms of group expectations and group performance.

And yet the normative dimension was present in a curiously ambiguous way. We moved in discussion backwards and forwards, often without realising it, between comprehension and the teaching of comprehension. We were not always clear whether it was the activity or the teaching of the activity that was under discussion. This is a well-known problem to the applied linguist who permanently treads the boundary between language and the teaching of language. Indeed, it is probably a false boundary and a very broad one since so often the study of a language or a part of a language (eg its grammar) arises from a pedagogical need to teach the language. Given this constant to-ing and fro-ing between comprehension and the teaching of comprehension, willy-nilly the normative dimension was with us in the Seminar.

The second achievement of the Seminar was that we avoided trying to pin comprehension down by a definition. True, there were frequent assertions that comprehension 'is' or 'has to do with' something else. That something else might be 'the

reduction of uncertainty' or 'prediction' or 'knowledge of the world' or 'reflecting on a text' or 'paraphrase' or so on. But as the inverted commas indicate no attempt was being made to define comprehension; the equations were intended as illustrations or as metaphors, nothing more. And like all metaphors they have their value in providing insight into some aspects of comprehension.

The third achievement was that the Seminar brought into focus the importance of text selection and grading (or staging). For teaching purposes text selection is crucial - and it is not helped by arguments about authenticity. Teaching is 'real' in itself but by its nature is removed from other real worlds. All teaching, all pedagogically motivated reflection on texts, is artificial and idealising. Of course, from a teaching point of view the non-ideal text (ie the 'authentic' text) is a problem because comprehension teaching is necessarily aimed at the comprehension not of a single text but of texts in general. We were glad to be reminded of Henry Sweet's remark: 'Texts should be dull and commonplace but not too much so.'

The fourth achievement was that the Seminar did not take seriously the distinction often made between lower and higher order skills. (An example of lower order skills would be reading for detail, and of higher order skills, reading for inference). Both types of skill need one another. Teaching strategy may require that they be kept separate, just as it may be pedagogically useful to keep listening and reading comprehension apart. But there is no important difference, no fundamental distinction, between the two modes of comprehension or between the two orders of skills. We hoped that the Seminar might help others to focus on the possibility of relating one kind of skill to another, so that, for example, materials used for teaching reading for detail could also be used for reading for inference.

No formal recommendations came out of the Seminar but in the last discussion there was general assent to these four suggestions:

1    that a need exists for the production of more tests of comprehension both for normative purposes and for use in experimental work. All comprehension work requires tests and as the research becomes more elaborate so the test must become more sophisticated.

2    that work in the middle ground is badly needed.  For example it is discourse-in-texts-for-teaching that needs investigation not discourse in general.   The latter will continue anyway but for applied linguistic purposes it is the discourse analysis of a particular text that is needed. Waiting on science is neither satisfying nor profitable.

3    that more work in the currently neglected areas of text selection and grading is needed.   This is especially true of listening comprehension materials where so far no equivalent teaching pack to the Science Research Associates reading materials has appeared.  Text selection and grading have the double usefulness of providing pedagogic materials and of validating hypotheses as to levels of difficulty.  One way of establishing what can or cannot be comprehended is to draw on finely graded levels of difficulty which are distinguished one from another in linguistic terms.

4    that more investigation of 'motivating' texts is neces-sary, ie to pursue the search for the source of interest in certain texts.  Such interest undoubtedly furthers compre-hension, but what is it (apart from a plausible circularity) that furthers the interest?  Such a question is similar to the question about children's literature, in which books appeal to children?  While a post hoc explanation to the question about motivating texts is not sufficient (since the analysis is never predictive, always of those texts which have been found to be motivating) it does add to the existing evidence as to whether those texts that are comprehended easily can be generalised about or whether the connection between such texts is random.

If, as elsewhere, the trap of reductionism can be avoided and we ignore such proposals as 'comprehension is 'really' some-thing else' or 'what is really crucial in comprehension is not language but world knowledge', if these can be avoided then comprehension is a good topic for bringing together various strands in applied linguistics.   In particular the value for applied linguists of discussing comprehension is that it makes necessary that separation of language from everything else which is at the heart of applied linguistics. The comprehen-sion discussion then properly goes on to ask what it is precisely that is or is not comprehended.

Applied linguistics is concerned with the demythologising of language, the removing of the magic which understandably

attaches to a basic human possession such as language. Taking the magic away paradoxically makes language both more important and less important: more important because language seen for real appears as not simply a carrier of actions, attitudes and emotions but itself a form of action, attitude and emotion; less important because it becomes possible to view language as a tool, a form of behaviour that can be shaped and learnt. Given such a view of language as servant and not master (as Lewis Carroll suggested) we gain in confidence and find a wholesome change in our attitude towards eg language learning. It then becomes absurd to say 'I just can't (or the British can't) learn foreign languages'.

Language needs to be taken seriously - which means it will sometimes be important and sometimes not. Taking it seriously means not identifying it with something else, whether that something else belongs to the individual or to society. The BAAL Seminar on comprehension was one small contribution to taking language seriously.

# COMPREHENSION: THE PSYCHOLINGUISTIC VIEW

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The study of comprehension lies at the centre of the psycholinguist's professional being. Some, it is true, concentrate their energies on the other two mysteries òf the discipline - questions of production and acquisition - but few would deny the importance of discovering how we understand spoken or written language. It is an area where psycholinguistics comes into its own. With language as the independent variable in the process, the linguist within the psycholinguist is given a freedom to control the material and investigate aspects of the richness of the language system at will, while the psychologist is at hand to temper this enthusiasm and try to explain the data with reference to other cognitive systems. The paradoxical fate of such a fundamental question is, of course, that answers to it and approaches to such answers multiply with the differing expertise, prejudices and motives of those investigating the topic. Thus there appear to be almost as many psycholinguistic views of comprehension as there are psycholinguists so the plan of this paper is to outline some of the approaches to the topic which have appeared in the last few years. Inevitably, it is a selection which reflects my interests but as such may enable a reasonably coherent version of the psycholinguistic view to emerge.

## Comprehension is not computing derivational histories

An exercise such as this generally starts out with a spirited rejection of the Derivational Theory of Complexity (the DTC), often in a "mea culpa" vein, stressing how seductive a theory of comprehension it was and how fortunate it is that various experimental studies have set us now on the right path - or at least have taken us off the one which Miller started to pave in 1962. The theory proposed that psychological complexity would be a direct reflection of linguistic complexity as measured by determining the number of transformations involved in the sentence's derivation. If sentence A required more transformations for its description than B, people would find A more difficult, irrespective of whether this difficulty was measured by the time taken to verify it (McMahon, 1963), to match it to a picture (Slobin, 1966), the number of errors in a shadowing task (Miller and Isard, 1963), the amount of interference produced in a recognition task (Savin and Perchonock, 1965), difficulty of

recall (Blumenthal and Boakes, 1967) or paraphrase (Fodor and Garrett, 1967).

Initial success, principally with studies which demonstrated the difficulty of passive and negative sentences relative to their active and affirmative counterparts, barely lasted beyond Miller's paper, when it became clear that certain transformations actually reversed the effect (Fodor, Bever and Garrett, 1974) and that features other than the linguistic description of the sentences used in these tasks also contributed to complexity. Wason (1965) showed that the ease of denying a property of an object depends on the nature of the contrast class, demonstrating that some contexts do lend themselves to negative description more readily than others. Olson and Filby (1972) asked subjects to verify descriptions of a picture showing a truck pushing a car when they had been set to attend to only one of the vehicles. Under these conditions, when they were attending to the car, they found it easier to verify 'The car is being pushed by the truck' than the active equivalent 'The truck is pushing the car'. Thus sentence voice was interacting with attentional factors in determining item difficulty.

For the study of comprehension these latter failures were obviously more significant and interesting. The finding that the tachistoscopic threshold for 'John swims faster than Bob swims' is higher than that for 'John swims faster than Bob' although the second is more complex linguistically by the deletion of 'swims' (Fodoret al, 1974) could have been accommodated within the theory by tinkering with the linguistic analysis. It would have done nothing to alter an assumption implicit in the DTC that any activity which involved making use of the meaning of an utterance required the person to cover the full deep structure of that sentence and its semantic interpretation and that this part of the activity was carried out independently of the rest so that differences in difficulty between two items could be attributed to differences in this derivational process. The finding that the difficulty of negative sentences interacted with their truth value and that a non-reversible passive sentence (The flowers are being watered by the girl) could be verified more quickly than a reversible active (The dog is chasing the cat) in a similar task (Slobin, 1966) did demonstrate the need for a theory of comprehension which was not simply a reflection of the linguistic model.

The lesson to be learnt from this episode, then, is that the measurable difficulties we have in understanding a sentence

are just as likely to arise from factors to do with why we want to understand it in the first place as from any complexity the sentence may be said to have intrinsically. We seldom understand a sentence in vacuo: we use it as a source of information to a particular end and therefore the various ways in which we can extract this information have to be specified in greater detail. This attempt characterises most of the other studies we shall report.

Before leaving the DTC, however, it is important not to lose sight of its successes. All other things being equal, which, of course, they seldom are, negative sentences cause more problems than affirmative ones and there always appears to be a residual effect of the passive construction, even though subjects are wooed into handling it with ease. Valian and Wales (1976) have shown that over a large range of constructions native speakers share linguists' judgments of simplicity as well as their confusions. There must be a large core of language structures and tasks over which grammatical and psychological complexity will match but the DTC is not strong enough to guide us out into the disputed periphery.

## Comprehension is making good guesses

There are several reasons for taking longer to travel between A and B than between C and D. It may be that A and B are further apart than C and D so that a greater number of steps are required. Alternatively, it may be that the road from A to B is poorly signposted, so that the traveller loses his way and finds himself on the road to D instead. Failure to recognise this mistake leads to an error, while rectifying it makes him late for his appointment at B. Similarly, one sentence may be psychologically more complex than another either because it requires more computation of the same kind as that involved in the easier sentence, as was assumed by the DTC, or because it cannot benefit from some clear clues to meaning which are available in the easier sentence. Bever (1970), Kimball (1973) and Limber (1976) in particular have proposed an alternative view of comprehension difficulties based on the latter model.

These studies set out to identify ways in which a listener can uncover the propositional structure of a sentence directly from its surface form, analysing it first into its major clauses and then establishing the logical relations between elements in these clauses. There is plenty of evidence that native speakers are sensitive to the clausal and constituent structure of sentences. Martin (1970) asked subjects to sort the words

of sentences like 'Children who attend regularly appreciate lessons greatly' into natural groups. He found that the clusterings produced by this method corresponded closely to the phrase structure of the sentence. Fodor et al (1974) summarise the click displacement experiments in which subjects are asked to report the position in a sentence in which they heard a short burst of white noise. They found that the position reported was frequently inaccurate and that subjects tended to report that they heard the click at a clause boundary. Whether the effect was perceptual or a response bias, the studies do demonstrate the subjects' sensitivity to the propositional structure of the sentence. This then poses the question of what information in the surface form is being used to guide these analyses.

Clark and Clark (1977) produce a useful summary of the heuristic strategies which have been proposed so far for this purpose. They separate them into syntactic and semantic approaches, where the characteristic of the former is that they rely on function words to give clues to structure while the semantic approaches rely more on contextual information and plausible anticipation. For example, they quote Kimball's strategy:

'Whenever you find a function word, begin a new constituent larger than one word.'

This has to be further specified for different types of function words: in particular it recommends that whenever a listener hears a relative pronoun he should start a new clause. This then predicts that a sentence which contains a relative pronoun will be understood more easily than one from which the pronoun has been deleted, which is what Fodor and Garrett (1967) demonstrated. One of the semantic strategies they report is one of Bever's relating to word order which has gained wide currency:

'Look for the first noun-verb-noun sequence to be an agent, action, and object, unless the sequence is marked otherwise.'

Here is an alternative explanation for the difficulty of passives, since the passive word order does not support the semantic analysis accorded it by the strategy while the active does.

Of course, we have already seen that passives are not always more difficult than actives and so it is clear that these strategies work only within certain limits. How should these

limits be specified? One way would be to order the strategies: a terrifying task and one not guaranteed a consistent solution which would in any case have to be supplemented by guides to aid a subject's search through the list for any specific task. The directness of the process, which was its principal appeal, would soon be lost.

This is assuming that these parsing strategies are intended to be sufficient for the comprehension task rather than supplementary to some 'brute force' method of analysis. What happens when the ordering strategy above fails? Is the subject directed to another strategy in the series, does he assume on the spot an alternative, complementary analysis or does he have to resort to a more long-winded but comprehensive attack on the problem? The function of the strategies is not at all clear.

A similar literature is growing up around studies of child language, and the possibility of establishing a developmental continuity with this approach is attractive. Before age six, children characteristically misinterpret passive sentences as if they were following Bever's strategy (Beilin, 1975). They also adopt a temporal form of this, called an order of mention strategy by Clark (1969) whereby they assume that when two events are mentioned in a sentence, the first mentioned also occurred first, leading to misinterpretation of sentences such as:

'The boy jumped the fence after he patted the dog' (Clark, 1971)

However, children eventually learn to understand passive sentences and temporal conjunctions so it is possible to argue that these strategies are used to cope with the child's confusions only until a more reliable understanding develops. If their function is supplementary in this way, then it may be that they are also brought into play by adults asked to paraphrase 'perverse' sentences such as the following:

'Don't come any closer or I won't jump' (Fillenbaum, 1974)

'The player kicked the ball kicked him' (Limber, 1976)

Whether they have any part to play in comprehension under normal conditions is, however, undecided.

Other semantic strategies share the advice that the listener should use what he knows or has already been told to help him identify the referents of later constituents: in other words, he should use contextual information to ease the comprehension process. The principal evidence in support of this strategy is the rarity with which people are troubled by phrases which are objectively ambiguous in the sense that they would support alternative interpretations if placed in different linguistic contexts.

This observation opens up the discussion to include consideration of a much wider view of comprehension. Just as linguistic context can aid understanding, so can the non-linguistic factors which are part of the wider task for which the language is being used in the first place. Indeed, in the case of deictic expressions, contextual information is fundamental to their interpretation so it is crucial that this wider view of comprehension should be considered.

One reason for attempting to elaborate a fuller account of the role of context is that some of the difficulties which have been identified so far may be explained not by linguistic differences between the constructions but by aspects of the way in which the constructions are suited to the task. To return to passives, we have seen that Olson and Filby managed to make it easier for people to verify a passive description of a picture than an active one by manipulating the way in which they encoded the picture itself. They still found a residual effect of the passive which they suggest is due to the possibility that it is more natural to give a picture an active than a passive encoding. This is consistent with Wright's (1969) findings. She asked people to identify the agent and object of sentences read to them either in the active or passive voice and found that the difficulties had to do with the nature of the match between the form of question and the form of the sentence. In this part of the study, where no picture encoding was necessary, there were in fact more errors to active sentences than to passives, suggesting that the results of previous studies are contaminated by difficulties peculiar to the materials used in the task.

Clark (1976) summarises the evidence which led to his comparison model of comprehension. He sets out to explain how people verify statements and answer questions, using data from experimental settings but claiming greater validity for the basic processes. There are four stages to the

process.   The first two consist in producing a representation of the sentence which is being 'comprehended' and a representation of the information to which this sentence applies. This information may consist of a picture which is being described by the sentence, some general knowledge which is being interrogated, information which has been given verbally and is the basis for some deduction, or some combination of these.   The third stage is the comparison stage, where these two representations are brought together and combined according to the task requirements.   This leads to the final response stage where the conclusion of the comparison stage is translated into some appropriate action or reply.

The stages are very interdependent and impose restrictions on each other.   For example, stage 3 compares the representations produced during the first two stages and so these representations must both be expressed in a common code to make comparison possible.   Clark favours a propositional representation rather than, say, trying to visualise the sentence and then compare images or giving an exhaustive description of the non-linguistic information and then comparing surface forms.   The relative ordering of the first two stages depends on the task requirements and this order may affect the encoding of the information.   For example, in a task where people are asked to verify a description of a picture of a star and a cross vertically aligned, Clark deduced that they would encode the picture using the relation used in the sentence if the sentence was given to them before the picture but tended to encode the picture using the relation 'above' if the picture was given to them before the sentence. Thus if they had to verify the true statement 'The star is below the plus' against a picture of that relation, they would encode the picture as 'star below plus' if they were given the sentence first but 'plus above star' if they were given the picture first.

The comparison stage operates on a system of matches and mismatches - no shades of judgment are required by the subject.   Consider the way Clark explains the process of answering questions about the agent and object of active and passive sentences.   He observes that the representation of active and passive sentences should take account of their differences in focus and proposes that 'A hit B' and 'B was hit by A' should be represented respectively as:

   (A did (A hit B))  and  ((A hit B) happened to B)

The question 'Who hit B?' would be represented similarly, using a dummy symbol to stand for the unknown element, thus:

(X did (X hit B)).

Comparing this with the active sentence produces a match insofar as the known X of the question is replaced by A in the statement and the answer falls out automatically into stage 4. However, the representation is not congruent with that of the passive sentence and so various (unspecified) conversation processes have to be set in motion before the answer can be discovered. On the other hand, the question 'By whom was B hit?' ((X hit B) happened to B) would produce a complementary pattern of difficulty.

By exhaustive pairings of different types of pictures and questions with various forms of linguistic information, manipulating polarity, voice, presuppositional structure, etc., and by using highly practised and patient subjects, Clark has built up impressive support for the details of his model. However, it stands or falls as a general theory of comprehension on how well it can be extended to more naturalistic situations. The following section outlines ways in which this might be done.

**Comprehension is more than verifying picture descriptions**

An extension which is obviously necessary is to a wider frame of reference. Comprehension rarely involves the comparison of simple sentences against minimal context but requires the listener to integrate the information presented into some much larger system and to extract from it details which may have been recorded a long time before the event. Indeed these details may never have been directly recorded but rather deduced from other information which was previously the focus of interest: the experiments by Bransford and his colleagues among others demonstrate how poor we are at distinguishing between original information and what can be inferred from it (Bransford, Barclay and Franks, 1972). Norman and Rumelhart (1975) present a collection of studies relating to their view of how one can account for these observations. In keeping with the AI tradition of ghastly puns, they call their system Elinor after their initials and that of their colleague, Peter Lindsay.

They envisage an enormous network of primitive relations which constitute the personal knowledge base of an individual or of a computer. The nodes represent predicates, such as 'Pose', standing for possess or 'Do' standing for an actional

predicate. These are linked to concepts by relations such as 'subject', 'object', 'agent', 'instrument', 'from-time' and 'to-time'. This would enable us to represent the observations 'Jim had a car from June till September' and 'Jim crashed his car' in such a way that it was clear that Jim and the car were the same in both sentences by attaching a single representation of each of these objects to both predicates. We might even be able to deduce that he crashed his car in September. This would depend on how the predicates were to be decomposed into more primitive relations. For example, 'X gives Y to Z' is analysed into 'X causes Z to get Y from X' where 'Z gets Y from X' is represented as a change from the state that X has Y to the state that Z has Y. Lexical parsing of this kind then enables one to make deductions such as 'If X has given Y to Z then Z now has Y'. The presuppositional structure of various verbs can be accommodated within the system (Munro, 1975).

Rumelhart and Levin (1975) outline the operation of sentence comprehension within their VERBWORLD system. In principle it is similar to Clark's model, consisting of the coding of the verbal input first into a surface proposition, containing a predicate and its arguments which is then converted into its underlying semantic structure by decomposing the predicate into primitive relations. The sentence is now in the same form as the information stored in memory. A comparison stage follows where the system searches for contradictory or confirming information with which to integrate the input. This leads on to a fourth stage with the retrieval of appropriate contextual information for responding to the input. At the comparison stage, it may be that the information can be matched partially by structures already stored in memory, in which case the extra detail is attached as new nodes to the existing network, and so the knowledge base is extended and elaborated for future use.

The principal concern of Elinor is to explore the nature of this representation system and the utilisation of the information in comprehension tasks is not described in great detail. As it stands it is not even as sensitive as Clark's outline to contextual effects. More seriously, it barely indicates how memory should be searched, which is the price which must be paid for a more ambitious project of this kind.

This issue is addressed by Anderson and Bower (1973) in their model of H(uman) A(ssociative) M(emory). Like Elinor, HAM has an extensive semantic network also propositionally based although this time arboreal representations are favoured,

related to standard theory deep structures, rather than arcs labelled with case relations as in Elitor. Again, comprehension and question answering involves matching a probe tree to structures already in memory but Anderson and Bower add assumptions about the nature of the search, involving a quasi-parallel search from each terminal node of the input tree and serial search of possible associations at any node, which leads to predictions about relative search time and so difficulty of various tasks. The evidence testing these predictions is equivocal (see Anderson, 1976) but again it shows how the comparison model can be extended to a wider domain than verification of simple pictures.

A final view from Miller and Johnson-Laird (1976), also with a strong computer flavour. They advocate that the aim of a comprehension system should be to translate the linguistic input into routines for action in accordance with the social context of which it is part. They observe that verification of an utterance is only one of many possible ways one can react to it once it is embedded in social activity so they separate the system into two parts - a translator which converts the sentence into control instructions and an executor which decides whether to implement the instructions at all and if so to decide what form an appropriate response should take. This allows for a speech act analysis to be added to the basic model. It elaborates the fourth stage of the model and shows how its requirements can interact with the earlier processes so that, for example, one does not reply to a rhetorical question, or indeed go through the process of matching it to any known information. Again the approach is compatible with an extension of the comparison model.

## Overview

In the last section of his book on Semantics and Comprehension, Clark observes that some people might not accept that he was writing about comprehension at all. He was concerned with the form in which people represented linguistic and other information and then how this was utilised in various tasks but said nothing about how they arrived at these representations. Most psycholinguists would share his concerns. To the extent that psycholinguistics is an empirical science it is constrained by having to investigate the consequences of comprehension, embedded in some activity, rather than the comprehension itself, in its idealised (and probably totally misleading) sense of the flash of understanding of some pure linguistic item. This makes it crucial that we should first understand the dynamics of the

framework task in which the language is being used, be it sentence-picture verification, paraphrasing, phoneme monitoring, shadowing, question answering, recognition or recall. To do this, it will be necessary to use contrastive linguistic material in order to establish the way in which interpretation of the language interacts with other aspects of the activity. Once these guidelines have been set down it might be possible to return with more confidence to the question of how meaning is extracted from the surface if it has not been answered already. The assumption of the DTC that all measures of psychological complexity will equivalently reflect the relative difficulty of linguistic items has been shown repeatedly to be false.

As a framework for adult comprehension tasks, the comparison model, suitably extended, has wide applicability. There is the danger that in seeking to extend it to cover more phenomena its original force becomes dissipated, so it is worthwhile to reiterate its characteristics and consider its limitation.

To the extent that a comprehension task requires that the linguistic component should be evaluated against some other source of information there must be a point at which some representation of the two sources should be compared, provided that the details of this comparison process are not specified too rigidly. This corresponds to the information-processing claim that one cannot separate memory from perception (Haber and Hershenson, 1973) which is widely supported. It appears, then, that some comparison stage is likely to be involved in these tasks. This comparison must then be translated into some kind of action and it is unlikely that any model will fail to have a response stage, very heavily dependent on the nature of the comparison and the style of the task. The important question is what kinds of representations are compared.

They must share a common code if comparison is to be possible. It has also been assumed that this code must be rich enough to support a full semantic analysis of the linguistic input. Non-linguistic information is then translated into the same propositional structure. Its analysis may be modified by various task parameters but it is the linguistic requirements which call the tune. On this point they are challenged by the approach which emphasises context-dependent semantic strategies where the nature of the linguistic analysis is a function of the social situation and the listener's expectations, with language as an adjunct to the principal activity.

It is likely that children are more prepared to let non-linguistic concerns direct their linguistic understanding than the comparison model would allow. Baldwin (1975) reports a 4 year old girl who, when asked to put a carpet in a doll's bed, complied with the instructions only after she had redefined the carpet as a blanket. Probably it is this subordination of linguistic interests to the realistic demands of the situation which accounts for much of the smoothness of interaction between adults and children in the early stages of language acquisition. One of the most important aspects of development is the way in which this balance between the priority of linguistic and non-linguistic information changes. As adults, we may also minimise our attention to linguistic detail, allowing other concerns to direct the nature of the processing on some occasions.

The various views presented here can thus be incorporated into a fairly representative framework if we allow for an extended version of the comparison model, supplemented by some index of the balance between linguistic and non-linguistic priority which can be adjusted to account for different conditions. The index could be set low, for example, when half-watching a Bette Davis film on a Friday night, high when reading an article by Chomsky and balanced evenly when reading poetry which depends for its effect on the contrast between literal and expected interpretations. Within this framework, one would then look for the articulation of detailed theories to account for particular instances of comprehension.

## References

Anderson, J R., 1976. Language, Memory and Thought. New Jersey: Lawrence Erlbaum Associates.

Anderson, J R., and Bower, G H., 1973. Human Associative Memory. Washington: Winston.

Baldwin, P., 1975. On the acquisition of meaning of in, on and under. Unpublished M. A thesis, University of Stirling.

Beilin, H., 1975. Studies in the Cognitive Basis of Language. Acquisition. Academic Press.

Bever, T G., 1970. The cognitive basis for linguistic structures In J R Hayes (ed) Cognition and the Development of New York: Wiley.

Blumenthal, A L., and Boakes, R., 1967. Prompted recall of sentences, a further study. JVLVB., 6, 674-676.

Bransford, J D., Barclay, J R., and Franks, J J., 1972. Sentence memory: a constructive versus interpretive approach. Cog. Psych., 3, 193-209.

Clark, E V., 1969. 'Language Acquisition: The Child's Spontaneous Description of Events in Time'. University of Edinburgh Ph. D Thesis.

Clark, E V., 1971. On the acquisition of the meaning of before and after. JVLVB., 10, 266-275.

Clark, H H., 1976. Semantics and Comprehension. Mouton: The Hague.

Clark, H H., and Clark, E V., 1977. Psychology and Language: an Introduction to psycholinguistics. Harcourt Brace: New York.

Fillenbaum, S., 1974. Or: Some uses. J. Exp. Psych., 103, 913-921.

Fodor, J., Bever, T., and Garrett, M., 1974. The Psychology of Language. McGraw-Hill, New York.

Fodor, J A., and Garrett, M F., 1967. Some syntactic determinants of sentential complexity. Perception and Psychophysics, 2, 289-296.

Haber, R N., and Hershenson, M., 1073. The Psychology of Visual Perception. Holt, Rinehart and Winston.

Kimball, J., 1973. Seven principles of surface structure parsing in natural language. Cognition, 2, 15-47.

Limber, J., 1976. Syntax and sentence interpretation. In R J Wales and E Walker (eds) New Approaches to Language Mechanisms. Amsterdam: North-Holland,pp. 151-181.

Martin, E., 1970. Toward an analysis of subjective phrase structure. Psych. Bull., 74, 153-166.

McMahon, L., 1963. Grammatical analysis as part of understanding a sentence. Unpublished dectoral dissertation, Harvard University.

Miller, G A., 1962. Some psychological studies of grammar. American Psychologist, 17, 748-762.

Miller, G A., and Isard, S., 1963. Some perceptual consequences of linguistic rules. JVLVB., 2, 217-228.

Miller, G A., and Johnson-Laird, P N., 1976. Language and Perception. Cambridge.

Munro, A., 1975. Linguistic theory and the LNR structural representation. In Norman & Rumelhart, pp. 88-113.

Norman, D A., and Rumelhart, D E., 1975. Explorations in Cognition. Freeman: San Francisco.

Olson, D R., and Filby, N., 1972. On the comprehension of active and passive sentences. Cog. Psych., 3., 361-381.

Rumelhart, D E., and Levin, J A., 1975. A language comprehension system. In Norman & Rumelhart, pp. 179-208.

Savin, H., and Perchonock, E., 1965. Grammatical structure and the immediate recall of English sentences. JVLVB., 4 348-353.

Slobin, D I., 1966. Grammatical transformations in childhood and adulthood. JVLVB., 5, 219-227.

Valian, V., and Wales, R J., 1976. What's what? Cognition, 4, 155-176.

Wason, P C., 1965. The contexts of plausible denial. JVLVB., 4, 7-11.

Wright, P., 1969. Transformations and the understanding of sentences. Language and Speech, 12, 156-166.

# COMPREHENSION: THE DISCOURSE ANALYSIS VIEW:
## MEANING IN DISCOURSE

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## Introduction

The reasons why this paper has assumed the form it has are at present slightly obscure even to me, so I had better begin with a brief account of the background, in the hope that this will clarify the relationships between the different parts of the paper.

For the last two years I have been working on a reading research project, funded by the King Abdul Aziz University in Jeddah, Saudi Arabia.  The ultimate aim of the research has been to help students of engineering and medicine at K.A.A.U. to read their text-books more efficiently.  Thus we have been primarily concerned with readers' ability to extract information from 'factual' study texts.  In the first year, we conducted a general survey of the field (cf. Widdowson and Urquhart,1976).  The second year has been largely given over to an attempt to construct a reading course for Saudi engineering students.  Section 4 gives an account of some of the language skills I think such a course should try to impart.

It should be obvious from this that I am not primarily a discourse analyst.  However, given that texts contain information which cannot be described in terms of individual sentences, any attempts to teach, or measure the acquisition of such information require as their starting point some kind of discourse analysis.  Such analysis precedes the assessment of the quantity or quality of the information derived by a reader from a written text.*  From this point of view, the purpose of discourse analysis is, as Frederikson says, to obtain,

> . . . a sufficiently objective and complete specification of the semantic properties of the stimulus passage and . . . . a set of measurements which are sufficient to provide an objective and sufficiently complete description of the properties of the verbal protocols which constitute 'learning performance' (Frederikson, 1972: 211 - 212).

* Attempts to measure the comprehension of discourse, and the ways in which the organization of a text affects readers' interpretation of it have become an academic growth industry in the 1970's (cf. Frase, 1972; Crothers, 1972; Meyer, 1975; etc).

Since written texts are, after all, language texts, it seems natural, when setting out to provide such a specification, to turn for help to linguistics. In particular, since comprehension, however one defines it, involves meaning one turns to semantics. Fredirikson refers above to the 'semantic' properties of a passage, and Carroll remarks on the need, on the need, when constructing comprehension questions, of 'elaborate transformations, probably of a 'semantic' nature' (Carroll, 1972:4).*

However, in attempting to describe textual meaning I have been continually struck by the gap between descriptions of language meaning given by theoretical semanticists such as Leech (1974), and the complexities of meaning relations contained in actual texts. An initial reaction is that the gap is due to the fact that modern structural linguistics has been slow to tackle semantics, which is thus a comparatively recent development. But this view is mistaken. As far as discourse meaning is concerned, it is not the case that semanticists are at present behind but gradually catching up. They are, in fact, on a different road.

Semanticists and linguists in general are, of course, entitled to establish the limits of their own subject, and the fact that, as far as I can see, much of general linguistics is irrelevant to language comprehension, for example, would not need saying, were it not for the fact that writers on language comprehension, show clear signs of having been influenced by linguistics. And this influence has, I think, been rather harmful.

So in Section 2 I set out my reasons for thinking that 'mainstream' general linguistics must, at least, be approached with great caution by anyone concerned with discourse analysis, language comprehension, and in fact, 'real' language communication in general. In Section 3 I examine some views, either explicit or implicit, of comprehension, partly in support of my claim that linguistics can have a malign influence. And lastly, in Section 4, in an attempt to end on a constructive note, I describe the sort of comprehension skills which I would like the reading course mentioned above to impart.

* Though it seems likely that both these writers are using 'semantics' (using 'semantics') in a rather loose way

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I should begin by saying that the remarks that follow intended to apply only to 'mainstream' or 'received' linguistics. They are certainly not meant to characterize the positions adopted by all linguists. Nor are they intended as an attach on the preoccupations of mainstream linguists; if the conclusion is that mainstream linguistics is often irrelevant to discourse analysis and language comprehension, so also is nuclear physics.

1 Mainstream linguists are concerned with sentences rather than with utterances.

Sentences are theoretical constructs, belonging to the abstract language system as described by linguists. Utterances are actual bits of language, occurring in contexts, and the contexts contribute to their meaning. Palmer remarks that,

> . . . we (linguists) are not concerned with utterance meaning (Palmer, 1976:27).

Lyons is more tentative, but considers that

> . . . the complexity of handling contextual features may be interpreted as an argument against the possibility of constructing a complete theory of the meaning of utterances (Lyons, 1968:413).

However, discourse is made up of utterances. Any attempt to describe the meaning structure of a text must necessarily involve handling utterance meaning.

As Lyons points out above, the difficulty of doing so lies in the fact that contextual features are an integral part of utterance meaning, and they must be taken to include not only the environment in which the utterance occurs, and utterances which have gone before, but also the previous experience of the participants. Faced with these difficulties, linguists have tended to distinguish as far as possible between conceptual (system) and contextual meaning, and tried to discuss system meaning with as little reference to context as possible.

Whether this is a wise decision is debatable. It certainly seems to me to rule out Leech's attempt (9Off) to test empirically the meaning of 'basic sentences'. The difficulty is that subjects will treat the sentences as utterances and try

to contextualize them.    Hence one will not know whether they are responding to conceptual or contextual meaning.

It is certainly arguable that attempts by psycholinguists in the 1960's to relate the 'difficulty' of different types of syntactic construction, passives v. actives, etc., to their supposedly different derivational histories were invalid partly because no attempt was made to incorporate context.    Olson (1972) has shown that the interrelationship between syntactic form and context can be a significant factor in determining difficulty.    Children whose attention had previously been fixed on the topic of a truck found the sentence,

The truck was hit by the car

easier to respond to than the corresponding active sentence.

Whatever the difficulties, context must be taken into account in discourse analysis and language comprehension studies. Possibly we shall have to be content with a very imcomplete theory.

2    Mainstream linguists are more interested in sense than in reference.

'Sense' refers to the meaning relationship's between different language items;  reference  is  the  relationship  between language and the outside world.    To be fair, linguists differ in the amount of importance they attach to reference.    Leech appears to make an extreme view:

. . . The search for an explanation of linguistic phenomena in terms of what is not language is as vain as the search for an exit from a room which has no doors or windows... study relations <u>within</u> language (1974:5).

Lyons is again more tentative:

. . . it is at least arguable that linguistic meaning cannot be understood or explicated except in terms of other kinds of non-linguistic meaning (1977:1).

Palmer is more forthright:

. . . there is no such thing in semantics as linguistic ability that is unrelated to knowledge of the world (1976:46).

Despite  these  divergences,  it  is  fair  to  assert  that mainstream linguists concentrate on sense (Palmer unkindly remarks  that  this  is  because  sense  is  easier  to  discuss).

However, for discourse analysis, and language comprehension studies in particular, knowledge of the world is of enormous importance. In fact, it seems to me that Sacks (1972) is fundamentally correct in claiming that a 'real' text is a sequence of words which is recognizable as a 'possible description'. Bransford and Johnson (1972) report that subjects found sentences like

The notes were sour because the seam split

significantly more difficult to remember than

The account was low because she went to the bank.

In other words, texts which describe easily recognizable situations etc. in the world are more meaningful, and hence more easily remembered, than those which do not.*

3 Linguists have concentrated on language <u>system</u> rather than on language <u>behaviour</u>.

In a sense, this is just a restatement of (1) above, in that sentences are part of language system, and utterances are manifestations of language behaviour. It seems worth restating, however, in order to emphasize the creative nature of the activity of comprehending language. Comprehension involves <u>making sense</u> of utterances, by adding information, supplying presuppositions, occasionally twisting the data. Lyon's claim that utterances are

'. . . understood by hearers on the basis of the regularities of formation and transformations determined for sentences by the rules of grammar (1968:420) is quite inadequate, even if we could agree on what is meant by 'on the basis of'.

Bransford and Johnson report experiments in which subjects, given sentences like,

The floor was dirty because she used the mop

later claimed that they had seen the sentence,

The mop was dirty.

In fact, of course, what they had done was to supply this information in order to make sense of the causal relationship in the original utterance.

* Subjects' memory for sentences like the first one above would be improved by giving them a 'cue', in the above case, 'bagpipe'.

It is arguable, then, that discourse analysts and students of language comprehension should attach less importance to information contained in a text, and more to the strategies employed by the hearer/reader to make sense of the text. Grice (1975) outlines maxims used by participants in communicating. Particularly important is the Relevance Maxim, whereby a hearer will assume that any utterance in a discourse is relevant to that discourse. He may then have to supply information of his own to justify that assumption. Grice illustrates the point with the following dialogue:

a   How is C getting on with his job?

b   Oh, quite well,I think; he likes his colleagues and he hasn't been to prison yet.

Grice points out that A may have to supply 'conversational implicatures' to make sense of B's response, in this case that John has a record of dishonesty. Sacks (1972) also makes use of hearer maxims in order to explain why hearers prefer one interpretative choice over another.

4   Mainstream linguists refuse to consider any unit higher than the sentence.

The three previous descriptions of linguistic positions were all aspects of the emphasis on system/competence as opposed to behaviour/performance. Statement (IV) is different. Mainstream linguists stop at the sentence because of their (justifiable) claim that it is the highest unit that can be handled in terms of syntax. This linguistic emphasis on a syntactic unit has been carried over into language teaching, etc., with the following results:

(a) it is assumed that comprehension can be tested adequately at sentence level. This danger has been fairly well publicised, but it is still quite common to find comprehension testing restricted to questions like the following:

Test:   Red blood cells live for about 4 months.
        Bone cells can live as long as 30 years.

Q.1:   How long do red blood cells live for?
Q.2:   What type of cells can live as long as 30 years?*

*My favourite question of this type, from draft reading material for the Open University, asked simply 'what is important?' Various answers came to mind.

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(b) The sentence being a syntactic unit, a great deal is known about its syntactic properties. Not nearly as much is known about the function or meaning of different syntactic constructions. When writers proclaim the need to test comprehension at levels higher than the sentence, they often appear to assume that we know all there is to know about the meaning of sentences. This is not the case. When one deals with real texts, it is often much more difficult than at first appears to distinguish, for example, between restrictive and non-restrictive relatives, or to give a reasoned explanation as to why 'when' and 'if' are sometimes interchangeable and sometimes not. Or to give a simple explanation of the function of 'when' clauses which will account for,

> The same kind of mass screening is often found in elementary schools when children are tested for hearing, sight or dental problems.

> A particularly staggering example of this faith in our knowledge of sentence meanings is provided by Bever, in a discussion of Crothers' recall experiment (Crothers, 1972:278). Crothers' texts were about 180 words in length and consisted of some 12/13 sentences. Bever suggested that, rather than use Crothers' discourse model, the texts be re-written as single, complex sentences.

> In this way, Bever thought, the semantic relationships of the discourse would be unravelled.

The above discussion is intended to suggest that the influence of linguistic theories on discourse analysis and language comprehension studies is likely to have the effect of causing an over-emphasis on the importance of (a) language system, as opposed to language behaviour, and (b) the sentence as a unit, and in particular, the syntax of the sentence. Some of these characteristics can be detected in the work of Bormuth, and Carroll, discussed below in Section 3. The section also includes a brief account of Bloom's categorization of comprehension skills, and of the Watson-Glaser 'Critical Thinking Appraisal' test. Both of these are intended to illustrate approaches to language comprehension apparently uninfluenced by structural linguistics.

Bormuth's position as reviewed here is contained in two articles, of which the first (Bormuth, 1968) sets out his view of the skills invoved in reading comprehension, and how these can be tested. The second (1970), of which Bormuth is a joint author, restates his position with some modifications, and reports the results of testing some of his question types on American school children. Unless otherwise stated, references here are to the 1968 paper.

Bormuth, who states as his main concern the testing of 'literal * and inferential' comprehension (he is largely silent afterwards about inferential comprehension) is very critical of existing comprehension tests. Descriptions of comprehension in terms of comprehending the important facts, making inferences comprehending the main idea etc are 'nebulous' and 'mentalistic'. Comprehension is defined as an increase in information as a result of reading. Reading texts are language texts. Hence comprehension is 'a response to the language system'. Readers acquire the information

. . . encoded in language by means of their knowledge of how the language system works. The content of comprehension instruction

. . . might be said to be the rules describing how the language system works to transmit information (50).

Formulations of skills in terms of grasping the main idea, etc., are valueless because they say nothing about how main ideas are marked as such in the language.

Comprehension must be made overt. In the 1970 paper, he refers to the need for . . . an instructional rather than a psychological theory of comprehension (1970:349).

The comprehension 'unit' should consist of the text, the question, and the response. Questions are constructed by

1 devising rules whereby a question and response can be derived directly from the text.

2 classifying question types according to different sets of rules

3 generalizing the rules.

* Several writers use the word 'literal' without further explanation. Presumably it means 'non-evaluative'.

Bormuth's position is thus that of the no-nonsense, hard-nosed tester, hot on 'rigour' (a word he uses several times) and merciless on nebulous introspection. But the apparent rigour of his account conceals some notable confusion. My main objections to Bormuth's general position are as follows:

a   While for testing purposes we might want to define comprehension as the ability to respond overtly to questions, do we really want to suggest that in the absence of such responses, no comprehension takes place? In the 1970 paper, Bormuth equates comprehension with the ability to answer a Wh- question which deletes one of the IC's of a syntactic structure (3sl). Do we want to use the term 'comprehension' for this?

b   It is wrong, or at least inadequate, to describe comprehension as 'a response to the language system'. The system, however we define it, is only one component in a comprehension situation. Bormuth, in fact, appears to confuse language system and the communicative use of language. He refers to

. . . rules describing how the language works to transmit information = (1968:50).

But the TG model of syntax which he is using is silent about communicative use.*

c   While he begins by defining comprehension as 'an increase in information', it seems to be the case that either information is forgotten or Bormuth has a very odd conception of it. In the 1968 article, comprehension is later said to be the ability to perform acts, such as 'modifying nouns by gerunds'. This isn't what I consider 'information'.

Turning now to Bormuth's question types, there are seven of these, and they give a pretty good idea of the results of a 'rigorous' approach based essentially on structuralist grammar.

Text:   The diminutive lad mounted the steed.
        He fell off the steed.   His arm was broken.

Q.T. 1 Rote:  Who mounted the steed?

* Bormuth does show some awareness of the need for a model of comprehension performance. But it's odd and fragmentary, consisting of reading T.G. trees 'from left to right and from bottom to top'. The left-hand NP refers to an object, and the rest of the sentence 'modifies' it.

Bormuth considers these 'relatively uninteresting' (relative to what, one wonders), and doubts whether they actually test comprehension, on the grounds that lexical items can be replaced by nonsense words and the question still answered appropriately, e.g.

> The melfip delfebbed the worglop.
> Who delfebbed the worglop?

Q.T. 2 Transform:  By whom was the steed mounted?

Presumably Bormuth considers this 'real' comprehension but it's difficult to see why.   It's open to the same objection as Q.T.1, i.e.

> By whom was the worglop delfebbed?

Q.T. 3 Semantic  Substitute:  Who  climbed  on  the  spirited horse?

Q.T. 4 Compound: By whom was the spirited horse climbed on?

Q.T. 5 Semantically Cued: What person mounted the steed?

Q.T. 6 Anaphoric:  Whose arm was broken?

Q.T. 7 Intersentence Relation:  What caused the breaking of the diminutive boy's arm?

I don't think it can be doubted that something has gone seriously wrong.   Q.7, for example, is frankly ludicrous, prompting a response like

> 'The postillion's club, before his being struck by lightning'.

Bormuth claims that his question types are 'eminently usable by teachers' (60).  This I would categorically deny.  For a class of native-speakers, which is what Bormuth had in mind, most of these questions would seem to be a total waste of time.   In the 1970 paper, Bormuth and co-workers report that American children showed a 'startling' inability to answer the questions.    Possibly they couldn't write for laughing.    Or they may have gone to sleep.

Bormuth is aware that structural linguistics does not cover all the areas he wants to test, and he cites logic, semantics and rhetoric as suitable subjects to supply descriptive dences to the tester.   It could be argued that Bormuth was unfortunate in that he wrote the article too early, at a time when TG syntax was more dominant than it is now, and semantics and discourse analysis less developed.  But this is, I think, to miss

an important point.   Bormuth's attitude is that, in order to test comprehension of sentences, one must wait until syntacticians have provided a full description of syntactic structures, and so on for semanticists etc.   In fact, he rather plaintively remarks (59) that linguists have not yet worked out the details of the Wh-question transformation.   But this is to assume that in order to ask Wh- questions, one must refer to a TG account of them, and this is nonsense.

By assuming that theoretical investigations of syntax was relevant to testing comprehension, Bormuth succeeds only in producing some largely irrelevant types of question.   Perhaps if he had been less attracted to 'rigorous' descriptions (which of course have their place inside TG grammar) and less inclined to brand reliance on intuition as nebulous mentalism, he might have produced some more sensible tests.

## Carroll (1972)

Like Bormuth, Carroll is principally concerned with comprehension from a tester's point of view; the second part of his paper is devoted to an excellent review of existing types of comprehension task (he appears to find Bormuth's questions of rather limited value).

For the purposes of testing, Carroll attempts to distinguish 'pure' or 'simple' comprehension from (a) memory and (b) processes of inference, deduction, and problem solving.   Here I'll discuss only what he says about comprehension as opposed to inferences etc.

Carroll discusses two examples of test tasks involving what would commonly be called inferential reasoning.   The first is the sentence,

John isn't as tall as Mary, but he's taller than Tom.

The question is, 'Who is tallest?'   The second example is a paragraph describing how a boy called Tad returns home after a day enjoying himself in a glen, and finds his father, dressed in his Sunday suit, chopping wood, which, we are told, was Tad's job.   Students must answer the multiple choice question,

When Tad saw his father, he felt

A   disappointed

B   impatient

C   angry

D  guilty

(The required answer is D.)

Now, I think the first thing to say about these two examples is that they are strikingly different.   As Carroll points out, the ability to select the required answer in the second example (Tad and his Dad) requires

. . . a sensitivity to social relationships and expectations that are only hinted at in the paragraph (9).

He adds, moreover, that a good case could be made for choosing any of the other alternatives.   This is not the case in the first example, where, if one assumes that 'he' refers to 'John', there is only one correct answer.   In consequence, I would be rather dubious about lumping both tasks under the heading of 'inferential reasoning'.

In discussing the first (John) example, Carroll argues that a reader might comprehend the meaning of the two clauses without being able to answer the question,   'Who is tallest?'. In fact, he argues that given the text,

John isn't as tall as Mary

the question, 'Who is shorter than Mary?' requires

. . . a certain amount of intellectual effort that again goes beyond sheer comprehension (8).

In other words, Carroll seems to equate pure comprehension with the ability to answer what Bormuth termed 'vote' questions, and did not consider as testing comprehension at all.   I think Carroll's position is unsatisfactory for the following reasons:

1  It assumes that comprehension must be passive.   Once intellectual effort rears its ugly head, we're outside the limits of 'sheer comprehension'.  I don't think this is tenable, in that even recognition of the system must require effort.

2   As far as I am concerned, the two sentences

John isn't as tall as Mary

and

John is shorter than Mary

are virtually synonymous.* Now, given the second sentence, one can answer the question, 'Who is shorter?' in terms of 'sheer comprehension'. But since, as far as I am concerned, the two sentences are equivalent by virtue of the language system, then what Carroll appears to be arguing is that 'going from' one sentence to a related sentence by means of the language system constitutes inferential reasoning. So presumably, given the sentence

John hit Bill

the question

Who was Bill hit by?

requires inferential reasoning to answer. This seems very odd.

3 More fundamentally, it seems perverse to claim that in the case of the John-Mary-Tom example, it is possible to comprehend both clauses without being able to answer the question 'Who's tallest?'. In their introduction, Carroll and Freedle point out that language is all about

. . . the communication of semantic relations concerning various states of the environment (p.x.).

Carroll's sentence describes a situation in the environment. There are three people involved, and the sentence establishes their relative heights. It so happens that to do this fully, English seems to require two clauses (one can imagine a language which would do it in one clause). As far as I am concerned, if you can't answer 'Who is tallest?', then you haven't grasped the situation, and if you haven't grasped the situation, you can't be said to have comprehended the sentence. Carroll's argument attaches too much importance to sentence-bound sense, and not enough to reference.

Having attempted to distinguish comprehension from other mental operations, Caroll then tries to define what comprehension is. He distinguishes two levels, namely

* Lachlan Mackenzie disagrees, claiming that for him the first sentence allows for the possibility that John is taller. He agrees, however, as far as 'John isn't so tall as Mary'.

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1 adequate comprehension, which is, unsurprisingly, recognition of system rules, of what linguistic information has been 'committed' by the system.

2 total comprehension: the relating of this committed information to a wider context.

So that, given the sentence,

The Fundalan added an are to his plot

'adequate' comprehension would consist of recognition of Subject-Verb-Object relationships, the fact that the suffix 'an' may signify 'a person originating from' etc. Then 'total' comprehension would involve establishing, from later sentences, who or what the Fundalan was, etc.

At first sight, this idea is attractive, appearing to find a place for system meaning, the way this meaning can be restricted by context, the way a reader builds up information during his reading, etc. But I remain sceptical, for the following reasons:

1 His scheme attributes an independent existence to the language system, a theoretical abstraction.

2 It suggests that we handle chunks of language initially as sentenced and later 'contextualize' them into utterances.

3 As a description of how we operate with language, it is, I think, false. It just doesn't seem likely to me that we begin by processing system information, and keep the options open until at some later point, the choice is resolved by context, as in the 'Fundalan' example.

Native speakers don't seem to be very aware of ambiguities.*

4 The above objection is unfair since Carroll explicitly points out that he is not putting forward a description of the process of comprehension. He sees it as an account of what readers can reasonably be expected to learn from a language text. But what is the point of 'adequate' comprehension? Suppose someone reads the sentence,

* At the point when, listening to the news, I realized that the utterance, Mr X is reported to have disappeared in a light plane was ambiguous, I realized that I had been round a linguistics department too long.

This book is for the car-owner who wants to understand his car and is prepared to take a spanner and dismantle it.

Can we say he has adequately understood it if he realizes that 'it' refers to some non-human referent which has probably been mentioned earlier? What do we say to a student who thinks the sentence mentions dismantling a spanner? 'Not bad, lad. Adequate, at least. Five out of ten'?

The point is that Carroll is a tester. He's looking for the lowest common denominator. As a tester, he thinks 'You can't ask Question X because the answer depends on them knowing 'y' and you can't ask Question Z because . . .' So you fall back on language system, which by definition, all native speakers know. But I think you're in danger of losing touch with worthwhile comprehension of discourse.

The next two 'accounts' of comprehension, the first explicit, the second implicit, do not appear to have been influenced in any way by linguistics.

## Bloom (1956)

Bloom sees comprehension as one of a number of student behaviours, which together go to make up a taxonomy of educational objectives. Other objectives are Knowledge, Application, Analysis, Synthesis, and Evaluation.

Bloom's account of comprehension is not restricted to language comprehension. It is defined as,

'. . . those objectives, behaviours or responses which represent an understanding of the literal message contained in a communication' (89).

The communication may be non-verbal.

Comprehension is divided into three types of activity:

1 Translation. This covers translation into other languages, terms, levels of generality, forms of communication.

'It will usually involve the giving of meaning to the various parts of a communication, taken in isolation, although such meanings may in part be determined by the context in which the ideas appear. (89)

Given the differences in their overall approach, Bloom's 'translation' corresponds very roughly to Carroll's 'pure comprehension'.

2  Interpretation:  This involves,

. . . dealing with a communication as a configuration of ideas whose comprehension may require re-ordering of the ideas into a new configuration in the mind of the individual (90).

(One can imagine how this sort of statement would make Bormuth splutter.)   Interpretation applies to comprehension of the relative importance of ideas, their interrelationships, etc.    It seems reasonable to claim that, in the case of Carroll's 'John, Mary and Tom' example, answering the question 'Who is tallest?' involves interpretation.

3  Extrapolation:  This refers to

. . . the making of estimates or predictions based on understanding of the trends, tendencies, or conditions described in the communication . . the making of inferences with respect to implications, consequences, corollaries, and effects which are in accordance with the conditions described in the communication (90).

It seems reasonable to claim that to arrive at the required answer in Carroll's 'Tad' example requires extrapolation.

Rather than try to illustrate Bloom, (his own examples are lengthy and complex), I will try to show in the following discussion of the Watson-Glaser test and of my own testing items how Bloom's categorization of reading skills can be applied.

**The Watson-Glaser 'Critical Thinking Appraisal' test (Watson and Glaser, 1951):**

I know nothing about the background to this test, which I regard as one of the most interesting reading tests I have seen.    It appears to be conceptually related to Bloom's taxonomy, but the resemblance may be accidental.

The test is divided into 5 sub-tests:

1  Inference
2  Recognition of Assumptions

40

3  Deduction

4  Interpretation

5  Evaluation of Arguments

Each of these will now be illustrated.

a. Inference:  On the basis of information in the paragraph below, readers must judge whether the subsequent statements are True, False, Probably True, Probably True, Probably False, or whether there is Insufficient Data to decide.

The first newspaper in America, edited by Ben Harris, appeared in Boston on September 25, 1690, and was banned the same day by Governor Simon Bradstreet.  The editor's subsequent long fight to continue his little paper and print what he wished marks an important episode in the continuing struggle to maintain a free press.

   i    The editor of the first American newspaper died within a few days after his paper was banned on September 25, 1690.  (False.  If he had died then, he wouldn't have conducted a 'long' struggle.  Notice that this involves giving a context-dependent value to 'long'.)

   ii   A copy of the first issue of Ben Harris' newspaper was promptly brought to Governor Bradstreet's attention. (Probably True.  You could argue that the governor had been planning in advance to ban it.)

   iii  The editor of this paper wrote articles criticizing Governor Bradstreet.  (Insufficient Data.  Harris could have criticized H.M. Government.  Or Bradstreet could have objected to the picture on p.3.)

   iv   Ben Harris was a man of persistence in holding to some of his interests or aims.  (True.)

Comments:  Numbers 2 and 3 are probably examples of extrapolation.  On the whole, Watson and Glaser's 'Inferences' seem to involve extrapolation.  Usually items which are either True or False fall outside this category, as you would expect.  No. 1 is probably 'Interpretation', 4 is almost 'Translation'.

b. Assumptions:  Subjects must state 'Assumption made' or 'Assumption not made' with respect to given statements.

   'We need to save time in getting there so we'd better go by plane'.

i   Going by plane will take less time than going by some other means of transportation (Made).

ii   There is plane service available to us for at least part of the distance to the destination (Made).

iii   Travel by plane is more convenient than travel by train (not made).

Comments: Presuppositions in 1951.   Assumption 1 is a conversational implicature in Grice's terms.  Assumption 2 is a necessary condition for seriously uttering the second clause.

c   Deduction: Subjects must state 'Conclusion follows/ doesn't follow'.   All good athletes are in fine physical condition.   Some good athletes have poor scholastic records. Therefore -

i   Some persons with poor scholastic records are in fine physical condition (Yes).

ii   If a person is in fine physical condition, he will have a poor scholastic record.  (False)

etc.

Comments: I find this the least interesting test, possibly because I underwent a year's logic course as an undergraduate.  I think the questions would be classed as 'Interpretation' in Bloom's scheme.

d   Interpretation: Students must answer 'Conclusion Follows beyond reasonable doubt' or 'Doesn't Follow'.

The history of the last 2000 years shows that wars have become steadily more frequent and more destructive, the twentieth century having the worst record thus far on both these counts.

i   Mankind has not advanced much in his ability to keep peace. (Follows)

ii   Wars are bound to be more destructive as science provides more powerful weapons. (Doesn't Follow)

iii During the past 300 years, men have engaged in more frequent and more destructive wars than they did in any previous 300-year period since the year 1. (Follows)

<u>Comments:</u> Numbers (i) and (iii) fall into Bloom's Interpretation Category (which is lucky, as confusion would otherwise be rife).     No. (ii) would probably be classed as an extrapolation, a suggested cause for the given facts.

e   Evaluation:  Students must rate arguments as 'Strong' or 'Weak'.   Should all young men in the United States go to college?

   i   Yes; college provides an opportunity for them to learn school songs and cheers.  (Weak*)

   ii  No; a large per cent of young men do not have enough ability to derive any benefit from college training. (Strong)

   iii No; excessive studying permanently warps an individual's personality. (Weak)

<u>Comments:</u> Outside Bloom's comprehension categories and outside mine, too, I think.

My justification for including examples of this test is that it is a test of language skills, operating with discourse.  It is also, in my opinion, an interesting test, whereas Bormuth's approach does, and Carroll's probably would lead to activities of mind - congealing boredom.  It is thus, I think, worthwhile to try and classify the skills involved.   Bloom's categorization is quite useful, and would include sub-tests 1, 3 and 4 under Comprehension.  How Bloom would classify sub-test (ii) I don't know.

## Conclusion

In this last section, I am going to give a very brief description of the type of information I want readers to extract from texts, in the reading course for Saudi engineering students I have been working on.   The course is based on the first

* The answers in this case are those of the test-setters.

chapter of 'The Man-Made World', which is the text-book used on the 1st-year engineering course at K.A.A.U. The first passage is given in Appendix 1.**

## Information in the Text

1   Syntactic or anaphoric:

    a   There is a world which is made by man.

    b   The apartment has 4 rooms.

    c   The apartment house is in the city.

    d   The 4-roomed apartment contains a hung-room.

    e   The apartment house has 1000 inhabitants.

    etc.

Note:   Anaphoric reference is often restricted to explicit reference.   But the chaining of one sentence to another is often done in such a way that the reference is implicit, eg.

. . . the low standing of the USA in infant mortality.   In this country this figure is about 22/1000.   (The first sentence doesn't explicitly mention a figure.)

. . . we can build a health testing center.   A computer collects all the data . . . (The fact that the computer is in the health testing center is felt implicit.)

1   Interpretative or Deductive:

    a   The 4 rooms mentioned are bedroom, kitchen, bathroom and living-room.

    b   The device in the living-room is a television set.

    c   The devices in the kitchen are (1) a fridge or freezer (2) a cooker.

    d   One average inhabitant produces 2 pounds of rubbish per day.

** Since I am rather tired of E.S.P. devotees telling me that the texts are not 'real' engineering texts, I should point out that, according to its introduction, 'The Man-Made World' was written by American engineers, for American engineering students.

e   Given a maximum of 4 people per apartment, there appears to be 250 apartments in one apartment house.

f   Marine life is changed for the bad by having rubbish dumped on it.

g   Coal-burning generating equipment produces more air-pollution than more modern equipment.

h   You get electrical black-outs on hot days because more people use their air-conditioners at a higher level.

etc.

Comments: This is an awful rag-bag, guaranteed to make people flee back to the safety of the system. It seems to me, however, that these statements, or similar ones (and more of them) are derivable from the text, and that the information contained in them is necessary if the text is to make sense.

3 ˙ High-level Structuring:

devices and systems give comfort and pleasure - T.V., hot water, frozen hamburgers, etc.

devices and pleasures produce noise and pollusion – air-conditioners, sewage systems, etc.

Extrapolation:

a   This book is going to talk about improving technology for the benefit of man

b   An improvement in technology could lead to less pollution.

etc.

General Conclusions:   I am aware that I haven't said very much about discourse analysis.   This is partly for lack of space, partly because at the moment I don't think there is very much to say.  As far as I am concerned, for the reader to 'comprehend' discourse means his being able to make sense of the discourse as a whole.   I see no point in trying to distinguish between 'adequate' comprehension (which is in no sense adequate) and 'total' comprehension (which will never be total).  Comprehension must be a provisional construct by an individual, based partly on a language text, partly on the knowledge and skills he brings to the text.  If this involves accepting 'different' comprehensions (which it does), then we will just have to be flexible about this.

## The Man-Made World

The man-made world includes all the devices and systems made by man for the use of man. These are the devices which surround us and affect every part of our lives. Suppose you are in a city apartment house. The 4-room apartment contains a kitchen where frozen foods are stored and prepared. It contains a living-room with television bringing in entertainers, educators and politicians. Finally, it contains a bedroom and a bathroom with as much fresh water, heat and electricity as we want. Nowadays most people, both rich and poor, have a lot of conveniences which were unknown even to the very rich a few years ago.

Yet in this same apartment house, incinerators burn the rubbish from its 1000 inhabitants. If these are average people, 5000 lbs of rubbish appear each day.The smoke from the incinerators adds to the cloud of smoke which so often rests over the city. The rubbish which is not burned is taken away and dumped into the sea nearby, where it gradually changes marine life. Sewage from the building joins that from neighbouring houses and flows through the under ground pipes to the sea.

Throughout the building, air-conditioners hum 24 hours a day during the hot summer months. The noise adds to the street noise and slowly damages the hearing of the men and women who live there. Furthermore, the air-conditioners need so much electricity that the electricity company continues to use old-fashioned coal-burning generating equipment. The results are more air-pollution, and occasional electrical blackouts on particularly hot days.

The man-made world surrounds us  the comforts and the pleasures, the noise and the pollution. We live in an age of technology. The health of our society depends on our ability to adapt to modern technology and to control the development of that technology for the benefit of man.

# BIBLIOGRAPHY

Bloom, B S. Taxonomy of Educational Objectives. Bk. 1. Longman, 1956.

Bormuth, J R., Carr, J., Manning, J and Pearson, D (1970). Children's comprehension of between - and within-sentence structures. Journal of Educational Psychology 5. 349-357.

Bormuth, J R (1969). An operational definition of comprehension instruction. In Goodman and Fleming (1969: 48-60).

Bransford, J and Johnson, M K (1972). Consideration of some problems of comprehension. Paper presented at the 8th Annual Carnegie Symposium on Cognition. Pittsburg, May 1972.

Carroll, J B (1972). Defining language comprehension: Some speculations. In Freedle and Carroll (1972: 1-29).

Crothers, E J (1972). Memory structure and the recall of discourse. In Freedle and Carroll (1972: 247-283).

Frase, L T (1972). Maintenance and control in the acquisition of knowledge from written material. In Freedle and Carroll (1972: 337-357).

Frederiksen, C H (1972). Effects of task-induced cognitive operations on comprehension and memory processes. In Freedle and Carroll (eds), 1972.

Freedle, R O and Carroll, J B (1972). Language comprehension and the acquisition of knowledge. Washington: V.H. Winston and Sons.

Grice, H P (1968). Logic and conversation. Unpublished manuscript.

Olson, D R (1972). Language use for communicating, instructing and thinking. In Freedle and Carroll (1972: 139-169).

Sacks, H (1972). On the analyzability of stories by children. In Cumperz and Hymes, 1972.

Watson, G and Glaser, E M. Critical thinking Appraisal. Harcourt Brace, 1951.

Widdowson, H G and Urquhart, A H (1974). K.A.A.U. Reading Research Project: 1st Yearly Report.

# LISTENING COMPREHENSION*
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I want to begin by considering some of the ways in which spontaneous spoken language differs from written language. Then I shall consider how these differences affect the strategies that students need to acquire in order to listen and understand comfortably. And finally I shall consider how these strategies relate to general strategies of understanding language.

## Differences between spoken and written language

1 Manner of production

Spontaneous spoken language is produced very differently from written language. The most obvious difference is that spontaneous speech is usually produced in an interactive situation where the speaker has to take account of the hearer. Naturally the writer has to take some account of his reader(s) and adjust his style and content to his reader but he can only do this by a process of empathy and he has no immediate feedback to take account of. The speaker, on the other hand, must constantly monitor his listener to check that the assumptions he is making are indeed shared assumptions, and that the listener understands what he is saying. We may observe speakers checking that the channel is open on a noisy telephone line. We also observe the phrases which establish what the speaker believes to be shared 'of course', 'as we know' and what he believes he is adding - 'I think', 'perhaps', - which are particularly common in expository speech.

Besides monitoring his interlocutor's comprehension of what he is saying, the speaker has to check to see what the attitude of the hearer is to what he is saying, and indeed how what he is saying appears to modify the hearer's attitude to the speaker. If he observes that the hearer looks impatient, or angry, the speaker may backtrack and even contradict what he has previously said in order to re-establish a comfortable relationship with his Listener. Meanwhile of course the speaker is obliged to be much more direct than the writer in the way he expresses his own attitude to what he is saying. If he is impatient or excited he can disguise this in

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writing but not when he speaks. Even if he chooses the same words, the way he utters the word, his voice quality, the expression on his face, the way he holds his hands and his body, will inform the listener of much more than he can gauge merely from a written transcript of what was said. We meet here the phenomenon of 'it's not so much what he said, but the way he said it'.

Just as the speaker has to monitor the hearer's comprehension of what he is saying and his attitude to what he is saying so he has to construct for the hearer a comfortable interactive structure. In conversation it is the duty of the speaker to make it clear when he is giving up his turn - and there are conventional signs by which he can make this clear (of. e.g. Sacks, Schegloff and Jefferson, 1974). In an extended monologue, like a lecture, a sermon or public speech, it is the duty of the speaker to make clear the structure of his message - to mark the point where he moves from one topic to another - the marking may be done verbally as in 'I'd like now to turn to . . .' or 'let's think about X now' and by non-verbal means such as starting high in the pitch range after a pause and a previous ending on a low fall. And, as well, it is necessary for him to make it clear when he has come to an end and that it is someone else's turn to speak.

Yet another factor in the interactive situation which the speaker is forced to take account of is the pressure of time. In a conversation the speaker speaks against time. He must not take up too long a turn in the conversation - people who take long turns in conversations are considered to be bores. Yet he has to complete whatever he wants to say before his interlocutor breaks in - and most interlocutors are there, hovering with something to say at the end of every potentially completed unit. It is important therefore for the speaker to keep on speaking. He may hold the channel open for himself by uttering nonverbal fillers like 'er' or 'mm' or verbal 'waffle' like 'well, I suppose one might think about it in these sort of terms if you see what I mean.' It is noticeable in recordings of conversations between peers, where the role relationship makes it possible for any member of the conversation to break in, that the speaker very rarely breathes at the end of a syntactic unit. There is often no pause at all at the end of a syntactic unit but the speaker hurries into the next unit and once he is safely two or three words in, usually before a major lexical item (cf. Goldman-Eisler 1958) he will breathe, having made it quite clear with incomplete syntax and incomplete intonation pattern that he has not yet finished. (There are of course individuals who are

undeterred by this marking of temporal rights and will brutally finish off the man's sentence while he takes his breath, and then go on as if in their own turn. Too much of this tends not to lead to an easy conversation.) Even in the extended monologue situation, the speaker has to keep on speaking. He may not be overtly threatened by another speaker hovering to break in but is threatened by the possibility of his audience getting up and leaving or, at least, beginning to move restively. Unlike the writer, who can lay down his pen and gaze reflectively at the ceiling for ten minutes while trying to sort out an idea, or even go and prune the roses for half an hour to clear his mind, the duty of the public speaker is to fill the time allotted to him with words. It is a rare public speaker who would take a three minute break while he searched for the apposite example.

All these interactive factors between speaker and hearer clearly contribute to a very different method of production from writing. But perhaps the most striking difference arises from the fact that we have begun to note in the last paragraph the fact that the speaker is speaking in the here-and-now situation and that he has no permanent precise record of what he has just said or what has been said by previous speakers. He has, simultaneously, to remember in a general sense how he got to his present point in the argument, while he is planning and monitoring the correctness of the utterance he is actually producing, and already plannig how this is to fit into an overall structure whose end he is tending towards. Once we begin to examine the complexity of what is going on when we produce spontaneous speech, the wonder is indeed that we manage to speak at all. What is not surprising therefore is to find if we examine recordings of spontaneously produced speech that this form of speech looks very unlike what a formal written record of it would look like. What sort of differences do we find?

a Very often the speaker does not in fact marshal his arguments very well or get his narrative in the right order (unless he is a practised public speaker - which still doesn't necessarily guarantee skill in these areas). Often a speaker reaches a conclusion and realises he has left something out and has to tag it on at the end: 'Oh, I should have said earlier that the real name was . . .' or 'Oh - I forgot to tell you . . .'. This is of course disastrously common with some would-be tellers of funny stories who forget to insert the information that makes sense of the punch line before they reach the punch line or, even worse, those mesmerised by the punch line who produce it before it is due. Many speakers, finding

that they have failed to produce a decent coherent structure will recycle, sometimes in the middle, sometimes at the end of what they have said, with more or less aplomb varying between 'Oh dear, I ought to have told you' and 'let me put that another way . . .' The main point to be made here is that in extended turns in spontaneous speech there is a strong tendency for speakers to recycle what they have said before and express it in a slightly different way - this can of course arise because their judgment of the interactive situation is that the listener hasn't followed them very well, but often it seems that the speaker is applying some logical or aesthetic criticism to the utterance he has produced. We find then, recycling of the message - more recycling and less controlled recycling than we find in written language.

b   The speaker's control of syntax over a series of clauses is obviously limited by his short term memory. If he is embarked on his third dependent clause it may well be in a relation to the main clause that he would shudder at if he saw it written down. But of course in speech he will probably only be conscious of the detailed syntax of the previous clause (as will his hearer, for the same reasons). So one frequently finds, in transcripts of spontaneous speech that in a sequence of clauses ABC the sequence AB is fine and the sequence BC is fine but the overall relationship is not. Here is an example of disjointed syntax from a highly fluent public speaker:

> it is something of the order of seventy percent of the total cost of a poultry production is in the cost of the feed

This doesn't of course worry the normal listener who is listening for the message under similar short term memory constraints to the speaker's. But it does become important when we consider the implications for teaching non-native speakers to cope with discontinuous and fragmented syntactic structures.

c   Speakers, like tired writers, often get into a lexical or syntactic rut, especially in conversation. The speaker, as I keep on saying, is speaking under pressure of time. Often he has a choice of using a word or structure that he has just produced or searching around for a new or more satisfactory one - which will mean that he has no manufactured channel holding devices. If he is under stress, especially for instance in an interview situation, he is very likely to use again an already activated word or structure. This is a frequent feature in conversations where it seems to have a very

positive solidary social function. Consider for example the following exchanges:

1 A Is it soon going to be impossible to operate out there?

  B. No+ I wouldn't say impossible + no

  A Dangerous

  B Dangerous + yes

2 A Are you optimistic about a settlement?

  B I'm an optimist ++ I'm hopeful that we'll leave this building having arrived at some kind of settlement

  A . . . D'you think this is going to satisfy your members?

  B well ++heh+heh+heh+++ it's a question of arriving at a negotiated settlement + + what + eh + our members may accept or may have to accept + as a settlement + is not necessarily something that satisfies them

It is clear that if you accept someone else's 'word' you are in a sense accepting that this is a proper part of the world you are discussing. It is very common conversational ploy to accept someone else's words and modify them slightly 'Well, perhaps not exactly coy, more modest really'. Experienced public speakers may develop long sequences of structures where they can rest in the structure and merely fill in the slot in the paradigm - here is an extract from a speech by Enoch Powell.

    Conservative Central Office must be having a very bad time + number ten Downing Street must be having a very bad time + ministers and members of Parliament must be having a very bad time

This is of course a well-known rhetorical device which has the stylistic effect of binding the discourse together very strongly and arises, I suspect, from the way a speaker can buy himself time to plan his next structures while re-using an already activated one.

3 The interactive factors of holding the channel open while planning in the here and now lead to the very dense use of 'fillers' in spontaneous speech - chunks of speech which contain very little, if any cognitive content and which appear to operate as prefabs which the speaker may utter while planning what he really wants to say. In public speech these

tend to be relatively formal fillers of the 'but I think we really must, as a nation, consider' sort whereas in informal conversation they may be very much less structured:

> but I think it's actually quite interesting because you find people who it seems to me I find for instance with the first year course

Now the overall effect of these differences in production between written language and spoken language is profound and leads, hardly surprisingly, to very different sorts of output. Spontaneous spoken language is, typically, more repetitive than written language and more full of channel holders and interactive control markers ('I mean', 'you know', etc.). This means that spoken language in general contains much more diffuse cognitive content than written language. If you make a transcript of spontaneous speech you will find that there is much less information, in general discursive speech, per 300 words than there is in 300 words of written language (of. Jean Ure, 1971). There may of course be a lot of interactive and attitudinal material in the spoken language, but less cognitive meaning. This has clear implications for comprehension exercises of the traditional sort where students are asked questions at intervals roughly three printed lines apart. It simply isn't proper or appropriate to ask many questions about the cognitive content of a short transcript of spontaneous speech - we might, however, wish to pay some attention to the interaction management which the tape would display.

2    The functions of written and spoken language

We are all familiar with a naive attitude which assumes that written language is merely parasitic on spoken language and we properly describe such an attitude as ill-informed, but it seems to me that people engaged in producing materials for teaching listening comprehension have not, in general, sufficiently considered the differing functions of speech and writing, and not sufficiently taken into account these differences in the texts that they use for listening comprehension training.

What do we use written language for? Clearly one of its prime functions is to make accurate records of what has been said or done on a particular occasion. Thus policemen write down what witnesses say, nurses write down detailed verbal instructions, a court recorder writes down what goes on in courts of law and Hansard records in writing what transpired

in Parliament. Similarly we write down our wills so that hopefully there can be no argument about our intentions after our death, we write down shopping lists, we write down the time and date of appointments for the dentist, hairdresser, osteopath and so on. We write down then, records of things that have happened that we want to remember accurately and events which are due to take place in the future that we don't want to forget. We do this because our memories of verbal interactions are in general very inexact. We do not remember in detail the words that someone used but we remember the overall semantic impression that we came away from the interactions with. For most of us our memory of words uttered only a minute ago is very unreliable especially if we have heard something else spoken since. We extract a generalised meaning from what has been said. And since we each interpret what we hear in terms of our expectations and what we have paid particular attention to, there is often disagreement between witnesses of a merely verbal interaction. This is where the written record comes into its own. Obviously it records only a fraction of the total interaction   it only records the words spoken - not how they were spoken. But at least this provides the bare bones of an accurate record.

If you think over the last 24 hours and consider what you have used written language for, what do you come up with? You may have jotted down something that you wanted to remember - someone's address, a phone number, the title of a book, directions of how to get to a particular library, you may have written a cheque or envelope or letter, an at least semi-permanent record of some of your intentions, you may have jotted down that you must remember to call in at the cleaners on the way home. Obviously academics and students make extensive use of the written language to enable them to record facts and opinions. An even smaller minority of the population uses written language to transmit cultural values in a literary form. It is possible, in an extended written text, to develop detailed arguments, to give complex and precise instructions, to construct detailed narratives with intertwined plots and sub-plots, to relate together a mass of factual information and to expect that the reader will be able to cope with all this. As a reader he has the opportunity of reading and re-reading sentences that he has not immediately understood and of going back over entire paragraphs and reading them again and indeed of reading the entire text again. And on each encounter the text remains the same.

Speech is not, on the whole, used for transmission of detailed information, and when it is it tends to be backed up with visual, if not written aids. It is well known for instance, that the lecture is a very inefficient means of transmitting information - much better to send students to a book. What the lecture is good for, if it is good for anything, is the transmission of attitudes - which may be focused on some central point that the lecturer keeps on returning to. When speech is used for the transmission of facts, as in a news broadcast, we find that a special structure is evolved which allows the main points to be made several times: first we have headlines, then the announcement in short sentences, then a 'comment' which repeats the content of the announcement and then, at the end, a reiteration of the headlines.

Consider what happens if you are trying to find your way about an unfamiliar town and you stop and ask a passerby for directions. If by a lucky chance you find someone who recognises your destination and rattles off a series of directions, you will encounter the familiar frustration of not being able to remember more than the first three directions - and you will be doing well if you have got those correct and in the right order. The situation in a town that you are familiar with is of course very different. If the directions involve landmarks which you already have visual associations with it will be much easier to remember the verbal instructions - because of course you are no longer simply relying on uncontextualised words.

I hope I have given a sufficient number of examples to remind you of the extent to which literate members of society are not expected to remember details of what they hear precisely. If people want to remember details precisely, they write them down.

What then is spoken language used for? I would like to suggest that it is primarily used for the purposes of social interaction. If you think back on what you have said to whom over the last 24 hours you will surely find that you have spent a lot of talking time simply being friendly to people. You may have little memory of what you talked about - the main impression may be that your interlocutors were friendly or worried or in a hurry. But the oiling of social wheels is clearly fundamentally carried on by speech. Very often, as we can clearly observe in the way people meeting each other casually for the first time cast about for a topic that they will be able to talk comfortably about, the nature of the

content of the conversation is quite unimportant. What is important is the possibility of establishing or maintaining friendly relations. Most of us have a stock of topics which we are prepared to talk about - and many of us are quite prepared to take very different views on these topics when talking to different people, because their primary function is to form a comfortable structure for an interaction. Little, if anything, depends on the cognitive content.

There are of course occasions where speech is used for primarily transactional purposes -where for instances, buying and selling is involved, or alterations to your house, or the engineer comes to mend the washing machine. Typically the interaction begins with primarily interactional talk and then moves on. Now we tend to find that information packed utterance typically comes in short bursts. If you're giving an order in a shop you proceed with one or two items at a time. If you're describing how you want your window enlarged, you'll deal with one detail at a time. If you're explaining how your washing machine is malfunctioning, you'll state one symptom at a time (as you do, if you're helpful to your doctor, if you visit him and describe your own symptoms). Very often, of course, in such situations, one of the interlocutors at least will be recording the gist of what is said in writing.

The occasions in real life where we listen to long monologues and are able to extract a lot of information from them are rare - and specific. If you have very little knowledge of hi-fi equipment and you listen to a long monologue on it, you are unlikely to remember much detail and you may well have got the structure of the detail wrong. You may have understood some relatively trivial point and remember that, rather than the main point that was being made, simply because it related to something in your own experience. If, on the other hand, you are an expert in hi-fi equipment you may well remember a great deal of detail of what was said   not only remember it, but be able to form an opinion as to its correctness, veracity, etc.   That is to say if you hear a monologue or conversation on a subject you know a good deal about, there will be a sufficient amount in it that is familiar to you to allow you to extract the relatively few unfamiliar points and insert them into your familiar structure.

I believe that what I have said here is reasonably obvious and uncontroversial. It seems to me that it has clear implications for the sorts of material used in training listening comprehension:

a   If a student is required to remember any detailed points made in a spoken text, he should be permitted to note in writing what he takes the main point of the text to be.

b   If he is exposed to detailed instructions or a mass of facts these should be presented in very short texts of 30 seconds or so - of the sort he is likely to encounter in real life.

c   He must be trained to recognise not only the cognitive content of texts, facts, opinions etc., but also the interactional structuring of texts - such texts must be long enough for him to observe interaction management - who is being kind, domineering, agressive to whom and how.

In general - different texts must be used for different purposes.   Very short texts can be used for training in recognising specific features of ihteraction and in recognising where, in the message, the transactional focus lies and what the cognitive content of the message is.   Longer texts may be used for training in recognising interaction management strategies and in extracting a very few of the main notions in the text.

## Implications for teaching strategies of comprehension

1   Prediction

I have said that the speaker in an interaction does a great deal of work in structuring what he says so that his listener can follow it.   Equally the listener has to do a lot of work.   If he doesn't work, he will have the experience that sometimes shocks even hardened academics who sit down to read an article and arrive at the end having (apparently) read it all but having no conscious idea what it was about.

The most important work that a listener can do (I shall keep on referring to the listener but I believe this applies equally to the reader) is to predict what the speaker is likely to be going on to say.   We all clearly operate on this principle in everyday life - no sooner have we assimilated the content of one chunk than we set up expectations of what the speaker is likely to say in the next chunk -and indeed, how he is likely to say it.   Very often we can finish off his utterance for him. The better you know the speaker and the better acquainted you are with the topic, the better you can predict what he will sáy next -and you can starting preparing your own reply.

Clearly although you must hear it, in the sense of being exposed to the acoustic impressions, you don't actually listen to all the detail, in the sense of completely processing all that a speaker in your own language says - you predict -and sample the incoming utterance to see if it matches reasonably well with your predictions. I take it this is the sort of listening ability we wish to encourage in our students.

If we wish to encourage students to have the confidence to predict what a speaker is likely to say, we must make very sure that we are not expecting more of the foreign learner than we would expect of ourselves as adult native speakers. If an adult native speaker of English switches on the radio in the middle of a talk, he may have to listen for several sentences before he 'gets his ear in', and before he could tell you what was the topic which the speaker was discussing. Similarly if you walk up to a group of friends to join in an ongoing conversation, you will take some time before you begin to speak because you want to be able to control enough of what is going on to enable you to take a properly predictive, interactive part. Just as the native speaker needs to know who is talking and to whom and what he is talking about, so much more does the foreign student. He does not, in my view, simply require to be told in brief what he is about to hear and who the speaker(s) is. All this does is lumber him with a set of facts before he starts on the facts that matter. Many of us must have read the summaries of articles which were not very relevant to our current thinking, before embarking on the main body of the article, and unless something in the summary has triggered off an awakening of previous experience which this will be relevant to, the summary really makes no difference to the ease or difficulty with which we read the paper. What is crucial is the stimulating of our own relevant experience. Similarly the spadework in teaching comprehension comes before the student is exposed to the text, not after it. (I am making, you will observe, a distinction between teaching comprehension and testing comprehension.) You want to get him to the point of having a reasonable idea of what to expect before he hears the tape. Preparing students to listen to (or read) a text involves, at least, participatory discussion of the ethnographic features of the text and of all that the student can bring to bear from his previous experience which seems relevant to these features. If he discusses who the speaker is, how old he is, indeed as much about him as the teacher can find out, the student can already begin to imagine what sort of opinions such a person might have on the given topic. If he is further told who the listeners are and the occasion on which

the text is produced, the student should be able to produce an even better bet about what is likely to be said. Obviously it will be easier for European students with very similar cultural values to make such predictions - obviously it is easier for them. But in order to understand English, students from other more exotic backgrounds will have to be introduced to stereotypes of English cultural expectations. There is a sense in which this needs to be taught before the language. The more work that the teacher and student can do together before the student is exposed to the text, the more the text becomes a sampling exercise for the student where he has to listen to see if what he predicted in fact does occur. Obviously, especially in the early stages, the teacher will have to control the initial discussion to make sure that the student produces at least some ideas which are going to turn up text. Clearly the teacher can make the exercise more or less extensive - the student can predict the general tenor of a whole text or, given a careful examination of part of a paragraphal sequence, he can be asked to predict what the next remark of the speaker will be. The first task only requires the use of ethnographic cues but the second also involves techniques of discourse analysis.

It is not, of course, the case that the student should only be encouraged to predict the cognitive content of the text. It is important in studying dialogues, for instance, that he should consider questions like 'well, is David likely to agree with what Jim has just said, considering what he was saying earlier on?' That is to say, the student should observe and predict the attitudes and intentions of the speaker as well as the verbal content of the text.

The predictions the student makes will not always be correct; as native speakers we are sometimes (but perhaps not really very often) surprised by something someone says. And what will certainly be the case is that students will get very different total impressions from a text that they have been properly prepared for. Each person will assimilate the content differently according to his own interests. And indeed this again is something we commonly experience in our own language - you have only to compare the lecture notes taken by a set of mature postgraduate students on the same lecture to observe this. The student -and the teacher  have to be prepared to operate with a notion of ' reasonable interpretation' rather than of 'correct interpretation.' The important point, surely is that the text should mean something to the student.

One of the real difficulties confronting the teacher in teaching listening comprehension is the notion of 'correctness' - a notion which has of course a very vivid independent life in many curricula in the shape of tests. However I think it is important to consider just what we mean by 'correctness' in listening comprehension. Clearly we will all agree that a student exposed to a brief set of directions should be able to carry out those directions (provided that there is not an undue burden on memory and that he is in a position to be able to do what is required). However, once we come to exposing students to longer texts and particularly to interactive dialogue, I believe we should abandon the notion of a 'right' answer to a question, and be prepared to accept any answer which makes reasonable sense. I believe this for several reasons. I shall mention two. First, the sort of normal phonetic simplification that goes on in the stream of speech, assimilation, elision etc.) very frequently leads to 'anomalous' utterances. So we find for instance a newsreader producing a form which sounds like 'the knees of the working people' but clearly means 'the needs of the working people' (elision of/d/in/niːdz/) and a form which sounds like 'their respected power cuts' but means 'their expected power cuts' ('linking /r/' and elision of /k/in/ɪkspektid/). Now obviously there is a sense in which the first version in each case is 'correct', in that it represents fairly reasonably the phonetic realisation, but it is equally obvious that what is required here is a meaningful and reasonable interpretation. You may think this a stupid and unnecessary point, but I have encountered foreign university lecturers in English who have argued insistently that the first version in each case is 'correct' because ' that is what the speaker said'.

The second reason is that in listening to tapes of interactional dialogue, it is by no means always clear what, exactly, the speaker said. The stressed items and the tonic constituent are usually clear enough, but often the ends of words get lost in a typical simplification and, for instance, the difference between singular and plural, past or present tense forms, may be quite obscured. If you listen to the tape, one moment you can hear it one way – and then suddenly it flips to the other, a sort of auditory 'Necker's cube' effect. Clearly if it were important to the message the speaker would have made it clear. It isn't, so he doesn't. It seems to me that students should not be led to expect (for instance by being offered a transcript which does not make clear the doubt which exists) that such details must always be made explicit in speech. I

believe it is positively crippling to students working in listening comprehension to be taught to hug the phonetic ground and to produce a 'correct' answer on every occasion. We have to instil in them the confidence to listen like a native speaker - sampling the speaker's utterance and matching it against their predictions. Such a listener is not thrown into a panic if the speaker says something he hasn't quite heard properly - he merely makes a sensible prediction, or supposes that if it were important the speaker would have said it with more emphasis (with greater articulatory precision, louder and longer) and carries on listening. Far too many foreign students, obsessed by the notions of correctness instilled in them by common 'teaching' (or testing) techniques, panic as soon as they fail to understand something and stop listening to everything that follows. It may be that the 'prediction and sampling' technique which I advocate will sometimes lead them to misinterpret. So, after all, do native speakers - I suspect far more than we ever imagine or need to check up on. We all get by with a rough fit with reality.

3   Choosing texts

Texts, as I said in part 1, are created for different reasons. It is important to consider the reason for the creation of any text chosen for use in listening comprehension and to devise exercises which are appropriate to that text. If you want to train your students to abstract information, facts, from a text you must choose a text whose primary purpose is the statement of information. And you must note that such texts are typically delivered in short bursts and your students should only be exposed to typically short bursts. No normal everyday situation occurs in which people are exposed to three hundred words of speech in one burst and then expected to remember in detail a series of facts from it. On the other hand there are frequent occasions in real life where detailed facts - where to meet someone, where to find a particular book in a library, how to use the subway system, what time a film starts and finishes, do constitute short spoken texts and these seem ideal for fact extraction purposes.

Once beyond short factual texts, into the range of longer discursive speech, especially interactive dialogue, the propriety of asking questions which demand the precise restatement of factual information seems to me to be in doubt. One can of course train students to extract facts from extended discursive texts but it is a long and painful process

which is not a skill which life normally demands.*  Moreover it has the harmful effect of training students to expect to perform the same operations, to view in the same terms, all the texts which they encounter.  Where the purpose of the text was primarily interactional – to establish and maintain social relationships – it is very often the case that the participants themselves seem to pay very little attention to the content of what they are saying and frequently contradict themselves.  It hardly seems appropriate to demand of students that they should extracts facts from such texts.  On the other hand they may well examine the strategies of interaction – how turns are exchanged, who is dominating the conversation and by what tactics, who is being polite and what are the formal correlates of politeness in this text, who is adopting an aggressive or negative attitude and how is this realised.  They may be asked very general questions about the topics under discussion but, where the participants themselves are not particularly concerned with detail, it seems unreasonable to ask students to inflate detailed fact into the primary purpose for studying the text.  Indeed it tends to be a counter-productive exercise, since interactional exchanges are usually so full of 'fillers' and remarks whose main function is to cement the relationship or guide the listener through the text that the factual content is swamped.

It is important then, when you have decided on the particular skill which you wish to encourage in a given occasion, to select a suitable text and to teach the student strategies for dealing with that particular type of text.

## Conclusions

I have paid especial attention to spoken texts in this discussion and I have suggested that since speech is produced in circumstances different from those in which written language is produced, and since speech is used in different ways, we need to take account of these facts in devising listening comprehension exercises.  On the other hand comprehension of either written or spoken language demands the same sort of interactive and predictive work on the part

* It may be objected that university lectures do demand such a skill.  It is worth noting that lectures are universally considered unsatisfactory vehicles for the transmission of facts (as opposed to attitudes) and that the lecturers who want their students to remember the detail of what they say usually make use of written handouts and blackboard notes.

of the addressee. This interactive and predictive work can only be properly carried on by an addressee whose state of mind has been properly prepared to be receptive to the text.

I have made several comments, in passing, on the distinction to be drawn between teaching and testing exercises. I have suggested that the main burden in teaching should come in the preparation of the student to encounter the text. I don't believe it is possible to foster confident interactive and predictive strategies in a testing situation. Similarly my claim that it is inappropriate to demand 'correct' answers when a student is exposed to long interactive texts suggests that such texts do not provide suitable material for easily marked tests. In particular multiple-choice questions tend to foster a belief that only one set of plausible alternatives can be correct. As teachers are frequently painfully aware, if the alternatives are really plausible, several may simultaneously be acceptable answers. It is, I believe, particularly important in listening comprehension, which by its nature puts a lot of strain on the student's memory, to allow any answer which can be judged acceptable.

Many listening courses currently on the market do attempt to teach some individual strategies peculiar to the listening situation. They encourage students to discriminate between segmental minimal pairs, to recognise stressed words and information focus and even, sometimes, to distinguish between foregrounded utterances and, for instance, items in parenthesis. They go on to encourage students to identify different syntactic structures and lexical items. Often they encourage recognition of logical connectors and anaphoric items.

All this is clearly necessary but we also need to add training in recognising signals of interaction at many different levels. The presentation of real spoken texts in many courses is often not considered with sufficient care and the texts are presented in what appears to be essentially a testing situation: the student is presented with the text, sometimes preceded by a modicum of lexical 'priming', and then required to answer questions on it. Surely we need a much more humane introduction to the uses of language in texts. The students must be prepared for the text - in their own language if necessary. They should listen to the text with all possible props where they are helpful for example a written transcript. Many an adult speaker of English would prefer to listen to 'King Lear' on the radio with a written version in front of him so that the patterns of speech and the patterns

of the printed words resonate together. It seems to me a sound pedagogic principle to offer as many support systems as possible to a student struggling with an unfamiliar task.

Given the support systems, the knowledge that an answer does not have to be 'correct', and training in the use of all available ethnographic and discourse cues to predict what is likely to come next, we may hope that the foreign student may begin to have the confidence to listen like a native speaker.

**Reference**

Ure, Jean (1971)
'Lexical density and register differentiation'.
in (eds)
J L M Trim, Applications of linguistics: selected papers on the second international congress of Applied Linguistics, Cambridge. Cambridge University Press.

Sacks,H., Schegloff, E A and Jefferson, G (1974)
'A simplest systematics for the organisation of turn-taking for conversation' Language vol. 50, no. 4.

Goldman-Eisler, F. (1958)
'Speech analysis and mental processes' Language and Speech, vol. 1.

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# READING COMPREHENSION

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## Introduction: The Reading Process

Learning to speak usually precedes learning to read. Hence, teachers of reading assume that young children have attained a certain language competence through listening and talking which will transfer readily to the reading situation. Indeed, such a competence is generally regarded as a necessary pre-requisite for reading instruction. (Downing & Thackeray 1971).

One effect of this has been to focus the teaching of reading on methods which enable children to decode our writing system through a controlled response to graphic shapes. Most children have been taught to read by some combination of whole word recognition and phonic approaches. It has been assumed that meaning comes automatically with decoding. Because a young child 'has language' the meaning is there - somewhere - and can be transferred directly as the reader produces a phonetic transcription of a text.

This view has been summarised by Calloway (1970)

"The relationship between L.A.D. (Language Acquisition Device) and reading consists in the fact that the brain function involved in understanding representational auditory stimuli is the same as that required in the reading process after the sound is decoded from the visual symbols of language; that is, as the child recognises the words in a sentence he gets their meaning in terms of sound values just as he does in spoken language . . . . . Once the child

has decoded the sound, he then utilizes this ability which is acquired spontaneously through the facilitation of L.A.D."

Thus, reading is regarded as a simple process which may be represented as:-

The reader - decoding written symbols into speech equivalents - acquiring meaning from "speech sounds".

The simplicity of this model is attractive, and it has the virtue of removing from the teacher of reading any responsibility for teaching comprehension. Unfortunately, the simple model is often an over-simplification, and that would appear to be the case here.

For instance, empirical studies of the errors made by young readers have confirmed that an attempt to preserve meaning is instrumental in determining what is actually read. Comprehension is not merely a product of the phonetic transcription of a text, but it controls what a reader expects to read. Meanings occur in the mind of a reader, even a beginning reader, before words are decoded. (Weber 1968). Equally, it may be argued that the transfer of meaning from a phonetic transcription of a written text rests on the assumption that the spoken and graphic forms of language have a commonality which permits such a transfer to take place, and this is open to question. Certainly, both spoken and written language share a common vocabulary and grammar: on the other hand a writer is forced to use linguistic devices to compensate for his lack of face to face contact with his audience. What is not known of a certainty is the degree to which written conventions interfere with the capacity of a reader to comprehend the intended meanings of a writer when the reader is inexperienced in dealing with such conventions. It seems reasonable to assume, however, that a reader requires a mastery of a variety of written 'registers'* if he is to comprehend adequately the different language forms which reflect differing purposes in writing.

*The term 'register' is used here to indicate possible differences between the language of a popular novel, and, for instance, the language of a learned paper.

To summarise:-

1   The simplistic notion that reading consists of decoding, and comprehension is merely the addition of meaning to the phonetic transcription of a text, is difficult to sustain.

2   It is becoming increasingly apparent that comprehension may precede decoding, and almost certainly is part of the decoding process.

3   The transference of 'meaning' from an experience of spoken language to written language may be impaired because written language uses special conventions which are rare in speech.

It is to this latter point that we now turn.

## Spoken and Written Language

Whilst it is convenient, sometimes, to refer to spoken language as an entity, speech forms vary from speaker to speaker and situation to situation.  For our present purpose it is sufficient to refer to the categories suggested by Bernstein. (1961; 1971)

If one wishes to consider the relationship between spoken and written language, then, it may be argued that the restricted code, as described by Bernstein, is far removed from the conventions of writing, whereas, when the same writer describes the more elaborated codes of an educated minority, he is referring to spoken language which has acquired some of the characteristics of written language.   It is interesting to note that in schools reading comprehension standards tend to decline where it may be predicted that "restricted" speech predominates.*  Such an association does not, in itself, prove a cause and effect relationship, but it is tempting to hypothesise that a limited experience of language forms in speech inhibits a transference of meaning from more elaborated written texts, unless some pedagogical intervention takes place.  It is known that attempts to teach children how to comprehend the written message are rare** hence,

*An interesting summary of reading standards in schools may be found in:- A Language for Life: (HMSO 1975).

** Lunzer, E A and Gardner, K.   The Effective Use of Reading (In publication).

the failure of pupils from certain social backgrounds to acquire a reasonable competence in reading may well stem from their inability to analyse written conventions. There is little or no transfer from spoken to written language.

Equally, however, written messages have varying degrees of complexity. Some narrative prose comes very near to speech, most learned papers adopt a style at the opposite end of the scale. Perhaps reading comprehension would be regarded in a different way if writers were not so conventional. Let's try it!

Look here. We're going to run into trouble if we're daft enough to think that writing is just speech written down. It's not like that. Writing is more fancy. You see, when I write, I've got to try and make sure I say everything I want to say in one go. When I'm talking to you I can do it in little bits, and I can find out how much you know as I go along. So I don't get so complicated. If I say something you think is rubbish, you'll say rubbish and I'll try and tell you why its not rubbish. We might not get far but at least we stand a fair chance of getting somewhere. With this writing lark, I'm fine. I know what I'm saying. The trouble is, I don't know what you're getting out of it. That way we might not get anywhere.

It would be interesting to know how you reacted to that piece of light relief. Were you offended? Was there an immediate slackening in reading tension? What happened to your 'comprehension'?

The serious point is that reading comprehension is not merely a function of capabilities within the reader. Some writers succeed in making themselves unreadable. There is a sense, therefore, in which reading comprehension rests on our ability to overcome the difficulties placed in our way by a writer, and this takes us a very long way from transferring "speech meanings" to the reading situation.

It may be suggested, then, that in order to acquire adequate reading comprehension we need to come to terms with the special, and unique forms of language, which writers tend to use. There may be a level of reading comprehension which is a kind of direct transfer from speech, but this will often represent no more than the surface melody offered by the composer. To probe the underlying harmonies one needs a means of interpreting the detail of the score.

## Levels of comprehension

Reading takes many forms, and readers read for a variety of purposes. For instance, we might picture Mr Smith sitting in the corner seat of a railway carriage reading a paper-back. He has chosen an occupation that passes the time between Edinburgh and Kings Cross. His eyes pass over a printed text, his brain receives impressions which are translated into words, phrases and sentences. As long as some sort of sense flows from the print, Mr Smith is satisfied. He is merely keeping boredom at bay, and feels no desire for more than the immediate passage of meaning. He knows what the writer is saying, and, in a way, he comprehends what he is reading. It is a story, it has identifiable characters who are mixed up in a series of continued events, and it all comes to some sort of conclusion.

In another compartment, however, Mr Jones is reading a report which will be discussed at an important meeting on the following day. He marks certain statements, makes notes, pauses to consider points he anticipates his opponents will emphasise, refers back to confirm the development of an argument. Clearly, Mr Jones also comprehends what he is reading, but his comprehension is quite different from that of Mr Smith. Mr Jones is reconstructing information, making inferences and value judgements, testing the validity of statements and storing conclusions in his memory which will be used at a later date.

This simple illustration of the different forms reading may take serves to introduce a number of crucial issues. First, comprehension may be immediate and run concurrently with continuous reading. The outcome of such reading may be little more than a sense of pleasure. If the reader was questioned about such reading he might have retained only a very general idea of the plot, some impression of the style of the writer, and a knowledge that it was "a good story". Judged by external criteria the reader has comprehended little, yet, for the reader the level of comprehension sustained his purpose or intention. Second, it is evident from Mr Jones' reading that at least two activities can be identified. He read to obtain a "surface meaning"; he then reflected and brought critical analysis to bear on his first impressions. (Note that reflection involved re-reading with definite objectives in view). It might be argued that reading comprehension was confined to the search for "surface meaning", which resembled, in some ways, Mr Smith's continuous reading. What followed was not strictly reading

comprehension but the application of some form of analysis to the "meanings" of the initial read.  In practice, reading theorists tend to regard the total process as reading comprehension, but this could lead to confusion unless the distinction between comprehending "what I am reading" and "comprehending what I must do to extend this initial comprehension" is understood.  Third, it follows from these arguments, that what a reader comprehends is as much a function of that reader's intentions as it is of an assumed reading competence. Mr Smith might have performed poorly on a comprehension test, yet be an extremely competent reader.

If the several issues mentioned above are borne in mind, it is now possible to examine two ways in which levels of comprehension have been analysed.  Barrett (1968) has suggested four fundamental categories:-

1   Literal Meaning

2   Reorganisation of literal meanings

3   Inference

4   Evaluation

It is useful to relate these categories to the reading exercise carried out by Mr Jones.  His first read resulted in a literal overview; he then, presumably, brought several "meanings" together of his report; inference and evaluation followed -a very neat and tidy analysis.  But Mr Smith was not merely concerned with literal meaning.  As he read he was surely making convert inferences, and covert evaluations.  He had no need, however, to make such inferences and evaluation explicit.

We may, therefore, conclude that there is a difference between concurrent "meanings" and staged "meanings", and this difference may be regarded as qualitative rather than quantitative.  Crudely, Mr Jones was analysing and Mr Smith appreciating, accepting, of course, that this is a dichotomy forced by the original illustration.  Appreciation could, under different circumstances, be a product of analysis.

The present writer has suggested that the Barrett categories might be reformulated in a manner which emphasises the reader directed nature of reading comprehension.*

* In an unpublished paper read to the English Advisory Committee, Nottingham University 1973. The categories are drawn from Gallagher, J J (1970). Classroom Observation (Chicago: Rand McNally).

| 1 | Cognitive Recall | The writer is saying this or that |
| 2 | Convergent Response | I can relate this and that to mean . . . . . |
| 3 | Divergent Response | From this and that it seems. . . |
| 4 | Imaginative Response | This has set me dreaming about . . . . . . |

In this formulation an attempt is made to indicate that mental operations which could be termed inference and evaluation are utilised at every level of response. For example:-

| Cognitive Recall: | The reader selects certain "meanings" as being representative of the total meaning, and rejects others as being unimportant. |
| Convergent Response: | Selected "meanings" - reorganised - indicate . . . . . . . . . . |
| Divergent Response: | These "meanings" lead me to believe that . . . . . . . |

No matter how levels of comprehension are analysed, however, it seems that an essential element is the interaction between the intentions of the reader and the "meanings" which are available in the text. The outcomes of reading rest on:-

a   What the reader wishes to achieve.

b   His competence in utilising the printed text in order to extract the "meanings" appropriate for his intentions.

## Reading Competence

What ability or skills are essential to achieve competence in reading? The question has exercised many minds since the early years of the century. Davis (1968) has reviewed the history of work on reading comprehension, and he points out that empirical work was initiated by Thorndike in 1917. Thorndike discovered that the ability to read a passage without error was no indication that the reader was able to answer questions on the substance of the passage. Once it was recognised that accurate reading was not necessarily reading with understanding a number of lines were pursued.

In 1926, Alderman claimed gains in comprehension following training in vocabulary and retention exercises. Berry (1931) was able to distinguish between general comprehension and comprehension of detail, Dewey (1935) obtained relatively low correlations between the ability to obtain facts and carry out inferential thinking, whilst Feder (1938) provided data to show that reading for information may be independent of reading for inference.*

Thus, the possibility was envisaged that reading comprehension might consist of a set of sub-skills, each of which might be related to a different aspect of the outcomes of reading. Many attempts have been made to categorise such hypothetical sub-skills. For example, the New York City Board of Education (1964) lists 12 comprehension skills and 12 work study skills. However, there is no certainty that such lists of "skills" represent abilities within the learner, although they may represent activities which are part of study reading.

More recently, studies involving factorial analysis** have indicated the probability that one factor will emerge from such studies, or by far the greater portion of the variance accounting for the differences between readers will be attributable to a single factor or variable. Therefore, it is likely that the taxonomics of reading skills are, in fact, better regarded as activities involving comprehension than as categories of abilities.

Further, Lunzer and Gardner (1977) have indicated that competence in reading for learning rests on the ability and willingness of the reader to reflect on what is being read. This finding was based primarily on evidence that scores on reading comprehension tests varied in relation to the interest exhibited by the reader.

At this point it may be suggested that competence in reading consists of:-

1   An ability to recognise or respond to units of print as representing "meanings".

* I am indebted to E A Lunzer for this brief analysis of early work on reading comprehension.

** Davis 1968: Thorndike(1971)   Spearritt (1972) Lunzer and Gardner (1977)

2   A willingness to reflect upon such meanings in accord with the intentions of the reader.

3   An ability to apply the appropriate level of reflection in any given reading situation.

4   There is some evidence that there is a distinction between word knowledge and responses that are more related to reflection.

## The Determinants of Reading Comprehension

It has been suggested above that:-

1   Reading comprehension cannot be regarded simply as a process through which a reader transfers meanings from speech to a phonetic transcription of a text.

2   The written forms of language possess certain unique characteristics which require a specialised response from the reader.

3   Reading comprehension is largely a product of the intentions of the reader, and these intentions may be fulfilled by either

a   comprehension which is concurrent with reading, or

b   comprehension which results from reflection that interrupts reading.

If this is accepted, it seems reasonable to believe that, in any given reading situation, a range of factors will interact which determine the level of understanding achieved by the reader. These determinants may be classified in the following way:-

1   Psychological

Dominant, here, is the purpose of the reader.   Clearly, reading at bed-time to quiet the mind is less likely to result in the depth of understanding which can result from ordered study.   Reading to obtain one piece of information will involve the deliberate passing over the irrelevant material.

Closely allied to this is the interest, or attitude of the reader. It can be shown that a reader's comprehension of what is being read varies with the degree of involvement the reader generates with the text. (e.g. Lunzer and Gardner 1977)

The reader's sensitivity is also important. "If music be the food of love . . . . . " To react - "Another load of mush" is hardly likely to produce a response which would be credit to the Immortal Bard.

## 2 Intellectual

Whilst the motivation of the reader is important, clearly other considerations must be examined. For instance, however strong the motivation of a reader, the quality of reading comprehension will be affected by that reader's existing intellectual framework. In a word, what we bring to our reading in terms of existing knowledge the conceptualisation, will determine the depth of our understanding. Consider the following passages:-

"Now although we have postulated the necessity for supposing the intervention of a comparator system acting as a filter in the regulation of behaviour, we were not in a position to give any clear account of how it works, beyond the statement that its settings subserve recognition patterns. Given the concepts of the schema and the strategy, we can carry the analysis at least one stage further. The strategy defines a sequence of favoured outputs for its constituents links. The schema defines a family of inputs dependent on the behaviour of the subject, i.e. on the instructions of the effected system."*

"Substrata factors are thought of as neurological memory subsystems of brain cell assemblies containing various kinds of information, such as auditory, visual, and kinesthetic associations which in a cultural milieu bestow a sense of reality upon symbolically represented thought units. Such sub-systems of cell-assemblies gain an interfacilitation, in Hebb's sense, by firing in phase."**

"Needle to needle, and stitch to stitch,
Pull the old woman out of the ditch
If you ain't out by the time I'm in,
I'll rap your knuckles with my knitting pin."***

* From Lunzer, E A (Ed) "The Regulation of Behaviour"

** Holmes, J A "The Substrata-Factor Theory of Reading"

*** Traditional knitting pattern.

It may be hazarded that (i) is not easily comprehended unless the reader has some knowledge of information theory; (ii) is scarcely recognisable as a theory of reading without a previous acquaintance with the author; (iii) is not a knitting pattern to a modern housewife, although the words are perfectly "comprehensible".

The distance of the reader from the conceptualisations adopted by the writer may well be critical. Indeed, there is a sense in which we have to know all about what we are reading about before we can understand it. Certainly, it is difficult to learn from reading unless we have already "learned" before we come to reading.

3  Methodological

Given that a reader is adequately motivated, and has chosen material within his conceptual range, then subsequent perfor- mance may be inhibited or enhanced by the strategies adopted. For example, study reading requires a "broken read", i.e. the reader should both glance ahead and return to passages already scanned, in order to achieve mastery of the material. Facility in note taking assists retention, questioning the text improves the grasp of an argument.  Such devices have been examined mainly with reference to study reading, but it is clear that the method adopted by the reader will influence the effectiveness of his reading.

4  Technical

It is unfortunate, but true, that some writers manage to produce unreadable texts.  If reading is considered to be the reconstruction of meaning in the mind of the author (Goodman) then it follows that the author must adopt a mode of presentation which makes such meanings available to the reader.  In general, two main problems arise.  One involves the ordering or sequencing of material; the other is concerned with the linguistic forms of the message.

In technical texts, it is now becoming standard practice for a writer to offer chapter summaries for a reader to peruse. This serves a number of purposes, among which are:-

  a   The mind of the reader is focused on content in advance.

  b   The reader is guided through the arrangement of the material.

    c   The reader is alerted to sections which require special attention.

When devices, such as a summary, are not used an additional task is given to the reader. In effect, it is necessary to determine the author's plan and intentions through actual reading. Thus, reading can be made more efficient by actually organising written material in a way which makes it more accessible to the reader.

With regard to the forms used by writers, the originators of readability formulae have isolated sentence length and word length as being critical. (Klare 1963: 1974) Ideally, perhaps, some measure of grammatical complexity, using a syntactic variable such as clause structure or propositional phrases, should also be considered, but the practical difficulties are immense. However, using simple measures of readability Klare (1975) has shown that if two groups of readers who are equal in reading ability, are given the same comprehension test following a reading task, those given a more readable version of the test passage will learn and understand more.

A cautionary note must be sounded, however. Readability formulae measure certain correlates of text difficulty. They do not measure that difficulty directly. The formulae were designed to be applied post hoc to samples of prose, and it is invalid to assume that they can be used as a guide for writing simple prose. (Harrison 1977)

Nevertheless the main argument, remains. If a reader finds a text too difficult, the natural response of the reader is to become frusrated, and comprehension suffers.

## The Improvement of Reading Comprehension

Little work on the development of Reading Comprehension had been carried out in this country until the Schools Council funded a three-year project - "The Effective Use of Reading" - in 1973. Most of the information offered in this section is drawn from enquiries which formed part of this project. (Lunzer & Gardner).

First, it is evident that standard classroom practice has not encompassed the development of reading beyond the early stages.*  On the contrary, a survey of the use of reading

*The Bullock Report - A Language for Life - surveys current practice.

across the curriculum in Secondary Schools, has revealed that, outside of English lessons, reading is rarely used for learning. The fact is that in subjects like Science and Social Studies reading plays a very minor role. In quantitative terms, reading of all kinds takes up about 10% of lesson time; qualitatively, such reading is made up largely of looking over questions and instructions. Some 90% of reading is of less than 30 seconds in duration. It is impossible to escape the conclusion that pupils have little opportunity to practice reflective reading.

Second, there exists a deep seated negative attitude towards reading among both pupils and teachers. This is best illustrated by noting that pupils regard a reading homework as "no homework"; teacher are defensive about allowing pupils to read because they fear that the activity will be a waste of time.

Third, such reading as does take place in secondary schools is frequently beyond the scope of average pupils. For instance, standard science texts are written at a readability level far in advance of the pupils developing capability. As a result, comprehension is poor, and frustration common.

It may be concluded, therefore, that a potential for using reading for self-learning is being neglected, and the possibility of developing reading comprehension is being ignored in schools. As a consequence, many students from 'A' level courses onwards are likely to experience difficulty with study reading. There are many tutors in Higher Education who would support this view, but precise evidence is lacking.

However, the assertion that reading comprehension is not being developed within the educational system is supported by more positive findings of the Schools Council Project. In brief, it has been established that reading for learning can be improved significantly with 11-15 year pupils in a short space of time. (viz. a period of 3 months). Thus, there is evidence that a potential to utilise reading for study is not being realised.

The methods by which the improvement was effected were quite simple. On the one hand it was shown that reading gains were obtained when the pupils received consistent practice in adopting "reading strategies". (This relates to the points made in Section 5(iii) above). More interesting perhaps, was the response of pupils to the introduction of discussion techniques which ran concurrently with reading

tasks. Texts were presented in a form which compelled reflection and prediction, and pupils were given the opportunity of entering into a discourse which opened up a dialogue. Thus, inference and evaluation were challenged in open debate. (This approach bore upon the issues raised in Section 5(i) and (ii) above).

There is little doubt that pupils benefit from the linking of reading to oral discussion, and this leads to some interesting speculation. In effect, reading with concurrent discussion enables a reader to transfer the assumed meanings of the written code into speech forms. It may well be that such transference is essential for understanding. In open oral discussion such assumed meanings are tested out by argument. It may be assumed that effective silent reading demands a similar "discussion" within the mind of the reader. This is the "ability and willingness to reflect" which, here, is held to be the major factor in determining the level of reading comprehension.

However, it seems that the nature of this reflection implies a reformulation of the language of the writer. Comprehension from reading, therefore, may be best conceived as a transformation of a written language into a personal, abbreviated language where complex forms are conceptualised as terse "ideas".

Put another way, the distance of the writer from his readers, the lack of personal feed-back from reader to writer, demands a degree of explicitness from the writer that issues in the written forms of our language. Such forms, however, are not the forms of either "inner thought" or discussion. Therefore, the outcomes of reading which involve reflection involve the conversion of the elaborated language of the writer into the more concise phrases which express "my conceptualisation of the message".

## Conclusions

The previous section ended on a note of speculation. Yet this speculation is germane to the issue under consideration - What is reading comprehension?

Clearly, it is more than the attribution of meaning to 'sounds' represented by graphic conventions. The different conditions which apply to spoken as opposed to written communication alone render this position untenable. For example, there is a knock on my door. My secretary has told me whom to expect.

"Come in" (My tone reveals warmth and pleasure).

"Come in" (Oh God! Not another interruption).

"Come in" (You wrote a lousy essay and I'm going to put you through the wringer).

The reader is faced with:-

"There was a knock on my door. It was Miss Gracey.

"Come in" I said. (But which "Come in" was it?)

It is suggested here that a writer uses special language conventions which are designed to overcome, as far as possible, the constraints of the communication situation. Therefore, a reader requires experience of these written conventions in order to reconstruct the meanings in the mind of the writer. The fact that written and spoken language share a common vocabulary is not, in itself, enough for reading comprehension. Some of the inhibitors of comprehension in a reading situation have been outlined and the hypothesis has been put forward that there are gains in reading comprehension when written and spoken language forms are brought closer together through concurrent discussion of what is being read. This hypothesis receives some support from recent research. It is not denied that a reader can also acquire valuable "reading strategies".

Finally, it has been put forward that the crux of reading comprehension is the ability to convert written language into forms nearer those used in either "inner thought" or dialogue. This conversion is achieved through a process of reflection and it should be noted that the permanence of a written message permits a different quality of reflection from that which is normally achieved listening to a lecture or partaking in a dialogue.

One further extension of the dimension may be suggested now. There are rare occasions when comprehension does not imply a conversion of the writer's language. For instance:

Do not spit

Or, less certainly:-

The law of diminishing returns . . . . . .

But what about . . . . . . . .

| | |
|---|---|
| Biting air | Morning call |
| Winds blow | Lift up head |
| City streets | Nipped by winter |
| Under snow | Stay in bed.* |

Prohibitions and laws are special cases. But poetry, and some poetic prose are of great interest. Here the writer deliberately sets out to encapsulate a conceptualisation in the terse forms that represent the usual outcomes of reflective reading. Yet, often, such written expressions are the most difficult to comprehend. Can it be that the process of converting inert written language into living meaning is, itself, essential to acquiring meaning?

* From "Winter Days" Gareth Owen. In Wordscapes. OUP. 1970.

# BIBLIOGRAPHY

Barrett, T C (1968)  Taxonomy of Cognitive of Affective Dimensions of Reading Comprehension (Unpub) Cited in Clymer, T. (1968) What is Reading?: Meltick, A and Merrit, J E (1972) Reading Today and Tomorrow.  U.L.P.

Bernstein, B (1961)  Social Class and Linguistic Development: A Theory of Social Learning.  In Halsey, A H., Floud, J and Anderson, C A (Ed).  Education, Economy and Society.

Bernstein, B (1971)  Class, Codes and Control  Vol. 1  R. & K.P.

Berry, B T (1931)  Improving Freshman reading habits  English Journal 20  824-828.

Callaway, W R (1970)  Modes of biological adaptation and their role in psychological development.  P.C.D. Mongraphs No. 1, Cited in Gibson, E.  The Psychology of Reading.  M.I.T. Press.

Davis, F B (1968)  Research in comprehension in reading. Reading Research Quarterly, -3, 185-197.

Dewey, J C (1935)  The acquisition of facts as a measure of reading comprehension.  Elementary School Journal 35 346-348.

Downing and Thackeray (1971)  Reading Readiness  U.L.P.

Lunzer, E A and Gardner, K (1977)  The Effective Use of Reading  (In publication)  A Schools Council Project.

New York City Board of Education (1964)  Reading in the subject areas  Curriculum Bulletin No 6  1963-64 series.

Spearritt, D (1972)  Indentification of sub-skills in reading comprehension by maximum likelihood factor analysis. Reading Research Quarterly 8  92-111.

Thorndike, E L (1917) The psychology of thinking in the case of reading.  Psychology Review 24,  220-234.

Webster, R M (1968)  First graders use of grammatical context in reading.  In Levin, H and William, J P (eds).  Basic Studies in Reading.  New York: Basic Books.

# MATERIALS FOR TEACHING LISTENING COMPREHENSION

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During my time in Leeds and York with the survey of adolescents' language, I was constantly reminded of the considerable difference that always exists between actual conversation, and the kind of language that is normally taught. I grew to feel more and more certain that even the very detailed teaching syllabuses developed at the Nuffield and Schools' Council modern language projects bore little resemblance to the conversations in several languages we were transcribing every day. The language teams also had passing doubts about this, and snippets of 'real' spoken language were introduced in listening exercises quite early in the "Vorwarts" course (described by Beile). I don't now remember whether the themes of these bits of conversations fitted the general themes of the units, though I remember the French materials developed under Mike Buckby were always highly integrated. I suspect we were all in those days far too influenced by the simple 4-way classification of 'skills' though we knew perfectly well they were kinds of activity, often closely related to each other or synchronous.

It was because of a passionate interest in the differing functions of these so-called skills and the language associated with them which pushed Mike Buckby into very carefully specifying the language relating to these skills. A look at his team's later teachers' books will reveal an almost faddish preoccupation with the classification of vocabulary and structures. He did it according to what the pupils were required to be able to do with these 'bits' of language. For example, relatively few words were required to be actively mastered, since this assumed these words were not only understood but also assimilated graphically and/or phonemically. This was asking rather a lot, particularly when it was virtually a requirement to introduce quite a number of new words per unit in order to make the material interesting and not merely linguistically repetitive a la Ebbinghaus. Think of the number of verbs of (visual) perception needed to write an interesting French reader about Piccard and his bathysphere. You can reduce a good many of the contexts to "see" but in doing so you lose an opportunity to introduce this particular set of words in a guessable sequence, fitted to an imagineable situation. I refer to words like "look through/at, see (through) luminous/darkness". This "guessability" just mentioned is

critically related to the interest in so-called "gist understanding" which a good many people in York would have loved to have tied down, particularly for testing purposes. It is plainly apparent to me now, as it was not some years ago, that advanced comprehension of a foreign language contains a very large element of 'gist' guessing. If one remembers the basic concepts that very young children <u>ask</u> their parents about, and the care with which most of us have to <u>read</u> the serious Sunday papers in order to know what is going on in the world around us, then we must accept the idea that the <u>systems</u> of ideas and beliefs that operate in our societies are rather hazily understood. Yet we <u>talk</u> about such things as they affect us, resolve to <u>read</u> some well-reviewed text on the subject, <u>listen to</u> or <u>watch</u> programmes on the subject. In thinking about <u>listening</u> materials then, we need to bear in mind such things as: 'educated' guessing, acceptance of and further handling of 'vague' concepts, the 'oblique' references to the systems of ideas and beliefs in societies, and, something which I would like to mention now, the 'motivation' of a text.

By 'text' I mean what Lyons means in his 'Semantics': an actual occurrence of a stretch of language <u>either</u> written or spoken.

By 'motivation of a text' I mean the reason <u>why</u> a text occurs when it does, in the <u>medium</u> it occurs, and in <u>which part of a sequence</u> of 'texts' (called a 'configuration') it is found: all very gestaltist.

The 'motivation of students' I take to be the attitude of students towards the theme of a set of configurated texts, their <u>psychological</u> role with relationship to them.

Before illustrating I would explain that Bielefeld University students of English have a great variety of language courses in their curriculum, and will normally have studied the subject for nine years in the gymnasium. What I say here is related to them, and may go some way to explaining their impatience with over-attention to the 'superficial' aspect of performance, and unmotivated or non-life-like exercises.

In order to satisfy these more general motivational requirements it is necessary to state (or plan) the obvious function of a text. To bring this home to students in Germany I find it necessary to specify a text in terms of a 'task' framed within their own culture. Why would one use English in a German city outside the classroom? Presumably to communicate with

English people who visit the area or come to work in the area for a time. It may lead then to the following set of encounters with texts and for participants, the units of which are not inviolable, but may be predicted, more-or-less:

1  <u>Read</u> a letter from let's say an English family whom you <u>know</u> from a previous visit to England.

2  <u>Look up</u> a train table (you can imagine the differences a <u>car would make</u>) for train times.

3  Interpret the times so that they form the necessary coordinates for a <u>letter</u> arranging to meet them at a particular time and <u>place</u>.

4  <u>Receive</u> and understand a confirming telephone call to say <u>they will</u> be coming as arranged.

5  <u>Telephone</u> your English lektor at the university to excuse <u>yourself</u> from his class, and <u>judge</u> from his response whether you have apprised him of the matter tactfully enough to <u>suggest</u> he/she meets your visitors later.

6  <u>Greet</u> your visitors successfully - not too formal, not too <u>slangily</u>, according to your <u>estimate</u> of what sort of people they are.

7  <u>Offer</u> to show them round the older parts of the Inner City <u>without</u> demonstrating too-chilling an interest in town planning or architecture, be positive without being bossy.

8  <u>Interpret</u> their responses to your suggestion, estimating <u>the length</u> of time your trot round the old faithfuls will take, as well as the <u>style, content, form</u> and <u>brevity</u> of your introductions/explanations of the buildings. Understand the significance of silly or ironic questions.

9  <u>Translate</u> selectively, briefly and informally from the <u>various</u> hand-outs and posters describing the buildings you visit.

10  <u>Induce</u> from conversational implications when the time <u>has come</u> to break for coffee/ice-cream.

11  <u>Explain</u> the culturally different possibilities offered by <u>places</u> which offer sustenance: i.e. you don't need to go to a pub for a cooling beer for father - a cafe will probably satisfy everybody.

. . .and so on . . .

Some of these stages may be dropped or taken in a different order. The student is required to stage-manage a social event to predict behaviour from any clue he can perceive, from a child's impatience to a raised eye-lid or a revealing intonation contour or an emphatically stressed or repeated word or phrase. Each linguistic task and/or text is motivated in a least two ways: by the logic of the circumstances (which may not need to be made explicit by language) and/or the relationship of one text/task to the other (i.e. read the menu 'text' before producing the spoken 'text' by which you order what you have heard your visitors want. The ways in which these texts relate to each other in a sequence I call a configuration (one also has a configuration or sequence of events). The language in this particular sequence partly interprets the culture of this speaker of English as a Foreign Language, but in terms of his visitors' native English culture. I argue that this is in fact a more difficult phenomenon to manage than when the student encounters British culture in Britain, since it is a good deal less passive. If he can manage it he is learning to use all his communicative skills and absorb among other things, listening clues/cues in physical contexts. I argue then that ultimate hearing/listening competence at this very high level, is most naturally practised with natural recurring speech events in mind.

This sort of thing can only be done in relatively tiny groups of very advanced students - so advanced that most universities assume they already have an adequate command of English. Some general principles can be extracted, however, which I try to maintain almost regardless of level or size of group - in particular the avoidance of unmotivated listening comprehension materials.

How did I come to this position? Very largely as the result of trying to produce listening materials from tapes and transcripts of adolescent's conversations.

The argument was that one aimed at something like real conversational competence in English (participation involving relevant speaking and hearing, turn taking, responding to cues, talking roles and so on) then one analysed target language conversational texts and used them later for exercises - mostly of the gap-filling type.

My interest in this type of listening material had a double motivation. On the one hand I was professionally obliged to

transcribe and analyse conversational samples (as part of a team in the years 1967-73 in the universities of Leeds then York), and on the other we were later asked to show how such materials could be used. This last development suited me well because I knew how little material of this type was available. My interest here had originally been aroused by the master in this area, Les Dickinson, whose work with Ronald Mackin is well known, of whom more anon.

But to take the obligation first: as a way of discovering and experiencing how adolescents converse about what interests them transcribing their conversations was matchless, though difficult. No lively group conversation can ever be 100 per cent reliably transcribed. Also, conversational analysis was in its infancy: the still barely acknowledged work of Harvey Sacks was yet to come. One was faced with the phenomenon that people were convinced they 'knew' what speech was. I met groups who denied the existence of hesitation phenomena. After all everyone talks and participates in conversations. Why analyse the air we breathe, the language we actually speak? Psychologically the process seems something like the perception of constancies, for example the apparently steady visual picture we most of us have despite the vibrations of the vehicle we may be travelling in, the movements of the eyes, head and body, and the vagaries of attention.

The apparently trivial task of transcribing the tape of a conversation could take up to 72 hours, we found. It was and is an unnatural and difficult task, the major step in the re-creation of what had been going on. One was forced to realise that in life we do not attend to everything participants in a group conversation say, and even if we did we would not perceive every word - merely the intent.

The leads to problems in the use of transcriptions as a basis of listening exercises. For example:

1 You (the student) did not take part in the original conversation

2 You perhaps would not have wanted to have taken part in it on the grounds of disliking the participants, the type of persons they seemed to be, the style of the discourse, the philosophy of life or political beliefs they profess

3 You are not acquainted with the world of objects and beliefs that are referred to

4   You cannot <u>see</u> the participants

5   You are required to read, hear and wield a pen while listening to the sound part of the conversation - you are analysing or being objective but <u>not</u> participating (though exercises can be constructed to <u>allow</u> you to participate to some extent)

6   You very often are asked to do a form of <u>dictation</u> exercise - an interesting form of activity, but only part of the competency aimed at.

Rather overstating the case, you are undoubtedly (and correctly) saying, but the point I want to make now leads me to re-phrase the last criticism in the list: that a fill-in-the-blank exercise is basically a form of linguistic analysis, of decoding, by which one learns a good deal <u>about</u> heard language at word level, but probably relatively little about how to hear a foreign language, or improve one's understanding of what persons in a language foreign to you typically mean.

In saying this I am not dismissing the use of all listening materials in teaching a foreign language. Presumably persons succeed in learning a foreign language, or teaching it, in terms of their motivation. The most narrowly - conceived material may be useful if teacher and/or learner is highly motivated, and more roundly contextualised stretches of language also dealt with. I have given examples earlier of the text/task configuration which may well occur in life. But there are more traditional examples of the ways in which very large stretches of heard language can be more-or-less assimilated when dealt with in conjunction with another skill. I find carefully reading the plot of an opera or a play in a foreign language or scanning the text <u>before</u> going to see/hear it invariably allows me to 'hear' it more successfully. Time and trouble taken to prepare groups of students <u>before</u> seeing a film or play in the target language (when opportunity presents itself) pays off when prepared for audio-visually <u>and</u> linguistically. A literary text also has its communicative structure. Obviously a play has participants who are found in particular places at particular times, 'messages' are received and sent with particular intents via different means. The summary of a play, its plot, is sometimes thought of as its deep structure, according to some workers in the theory of literature (an area which bears much the same relationship to literary criticism as general linguistics to specific models of grammar).

A far cry from listening comprehension, you may say? My reply must be that I assume any language event to have 'structure' and to utilise language skills, whether it is a literary or a non-literary event. It is all grist to the language teacher. If extending the acquaintanceship of one's students beyond one's own self and one's own language is to be achieved then listening may well have to be contextualised by presenting British and American films (under the guise of Landeskunde), and recording chunks of dialogue and critical or dismissive/approving discussion, for use in class before and after the film(s) are presented. For us nothing can be too small (Les Dickinson's search for useful "fillers"), too real (Mary Underwood's occupational dialogues), or too topical (language variation in The Archers, or "Did Bogey Really say" "Play it again, Sam!" in Michael Curtiz's "Casablanca"?) At some point the advanced learner has to be pushed beyond his pre-occupation with the 'word'.

The role of close analysis or coding may be used to show that many areas or uses of a (foreign) language may have to be taken on trust, or guessed. A linearly ordered sequencing in beginning to learn a language may be allowed, because this stage is controllable. But plunging into the real language in all its varied incompleteness can be very depressing if the difficulty of the task is not realised. Coping with this seems to demand courage, perhaps because materials and a teaching method are not to hand, and the analysis not yet begun. Ingenuity may also be required, and an impure mixing of techniques and may be a slightly unusual choice of aim. Perhaps we can look at some attempts.

Dickinson and Mackin suffered perhaps from having to motivate (in the sense defined earlier) their listening from the texts already printed in a Higher Course of English Study. Very often they take a conversation about one of the printed extracts, and occasionally feel the need to go through the contents in a slightly schoolmasterish manner. But very often the conversation have charming flights of fantasy which I like, partly because I know the same sort of people who made the recordings. Like Crystal and Davy's subjects, they are largely nice people whom liberal university people would be acquainted with. Nothing wrong with that, but once you identify any group of speakers in your materials you are likely to find other groups who dislike them (e.g. Maoist, militant or radical students). Because of the method of publishing alternative motivations are inevitably not illustrated. In life a short story or poem or newspaper article may motivate the written text rather than the other way round. Recently I

recorded bits of the Wade-Stove womens' final at Wimbledon because anyone could have predicted an article in The Times next day which would evoke the very strong patriotic feeling that actually did manifest itself. On another occasion I made a Dickinson-like listening comprehension exercise from the whole of a BBC commentary of The Dikkler winning the Cheltenham Gold Cup before reading Dick Francis' Dead Cert. I will come back to this because the book was later read in the language laboratory using an aural technique to encourage extensive reading.

My students became impatient of the exercises in Dickenson and Mackin because the gap-fillers concentrated a good deal on the language, and they felt it got between them and the content. We later used the transcripts themselves with the tape, then found ways of re-constructing and discussing the content, Crystal and Davy's text could be used in a similar way, though very few of my students can bear the purely linguistic aims of that book. They tend to say that language has content not merely a stylistic medium. One importantly drinks water rather than analyses it, though analysts are needed. By no means is every language student a budding linguist. Crystal and Davy's concept of 'real' language (i.e. what they collect and illustrate) will be arguable to a student who would change the world through careful reading and discussion of Marx or Galbraith. Book two of a Higher Course of English Study (Mackin and Carver) provides a tape only of the written extracts - more useful than it would seem, in helping students to read through hearing.

This allows me to go back to reading Dick Francis' Dead Cert in the language laboratory. In keeping with the idea of reading a whole text rather an extract, I chose to read a book of a type I read myself from choice in my mother tongue. I know that reading for fun in a second language is difficult for students who have to do too much reading of the factual type anyway, and are used only to intensive reading of page-long extracts. I felt that the experience of having read one whole book extensively would be valuable. The main obstacle was and is word-for-word reading/translation and speed. So after introducing the language of racing and some of the cultural pattern related to it, I took thirty page segments and chose 5-10 short key fragments to put on tape. They were prefaced by questions of the inductive type, the object of which was to cause the student to think about/encourage him to guess what was likely to happen next. If you were A threatened by B under circumstances C would you do D, E or F? Then followed the extract. The 30 minute tape could be repeated

so that the questions could be seen retrospectively if necessary, but this was rarely done. I did not cite the page an extract was to be found on, but it could be found at some place after the previous extract and within the thirty pages set for the week. Obviously this was to encourage selective scanning, a pre-requisite in reading a book for story. I rarely tested the exactness of the students' guesses; after all the characters had been introduced and the 'problem' identified. The later lab sessions were made optional. For some Dick Francis became very important, for others he was trivial, and attendance reflected this.

The business of predicting began to obsess me for a time thereafter. I heard an LSE economist state he could scan a book in a language he did not know, for example Rumanian, and pick out the pages or chapter which were relevant to his work on the exploitation of the sea-bed. In order to illustrate this idea I asked a Rumanian lady colleague to tape her translation of Everyman's Encyclopaedia's entry on Mihail Eminescu, perhaps the greatest of her country's poets. I assumed a target population of students of general/comparative Romance literature needing to be able to use encyclopaedic sources in all Romance languages. I asked students to order a list of possible paragraph topics in a biographical entry, then listen to the tape together with the Rumanian text up to three times, having read (in German) the 13 questions which were based on Everyman's. They were asked to try to answer the questions, bearing in mind the predictable ordering of the text. For example would you expect to find the date of his birth before his date of death, an analysis of the characteristics of his four most famous poems before the date and the place of his first publication? Are the topics of his entry more predictable than their ordering?

The tape was used to concentrate attention on the text, cause it to be read without stopping, and encourage the growth of guesses which could on the second and third run through be checked and integrated. Subjects were encouraged to underline any possible useful facts as they read through.

The format of this seminar was experimental in form only, because I intended only to stimulate discussion of the predictability of this sort of text and how they may be read. I did not analyse the results, but I was satisfied that hearing could be, and is often best, integrated with other skills, in a motivated, contextualised, and general approach to language learning.

The business of familiarising a foreign learner with target language variations seems worthy, but difficult to achieve. Our own exercise on children talking in a South Yorkshire dialect seems to cause considerable difficulty (York Child Language Survey Kit: Using English Transcripts. 1973, no longer available). Leslie Dickinson's very beautiful taped exercise (internal, Jordanhill) to help Asian teachers in Glasgow to cope with the formidable problems of the classroom language produced by children is effective because it concentrates on content via asking questions of the deductive type in advance of a re-hearing of a relevant segment of the conversation. The discussion of the cultural patterns of life revealed by the child's remarks, seems also a necessity.

My perhaps idiosyncratic teacher's view of listening comprehention materials has been stimulated over ten years by Leslie Dickinson's work (I think he would claim it to be much influenced by the late Julian Dakin), and by my former colleagues at the Nuffield Child Language Survey in York.

**BIBLIOGRAPHY**

D Crystal and D Davy, Advanced Conversational English. 1975. Longman.

L Dickinson and R Mackin, Varieties of Spoken English Workbook. 1969. O.U.P.

- R Mackin and D Carver, A Higher Course of English Study I and II. 1965 - 71. O.U.P.

M Underwood, Listen to this! O.U.P. 1971.

# DEVELOPING MATERIALS FOR TEACHING READING COMPREHENSION IN A FOREIGN LANGUAGE

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In this paper problems relating to the teaching of reading in a foreign language, and particularly those relating to the development of materials for this purpose, will be discussed from the point of view of the following kind of situation. First, reading comprehension is required from the student as part of his degree, or necessitated by his studies. Second, the explicit aim of the course - and this does not always follow from the above - is to develop reading comprehension serving the student's study or professional needs. Third, reading is taught as an independent skill, without the support of courses in spoken language. This is often necessitated by lack of time. Further, we shall be concerned with reading in English as a foreign language, and with reading materials which are informative in character. The suggestions put forward should, however, be applicable to other languages and other kinds of situations, provided the aim of the reading course is that of developing a skill necessary for communication in a foreign language.

**The only trouble with present reading materials . . . . .**

'. . . extremely well done, the only trouble is that one never seems to come across the students they were designed for', writes Lynn in his review of a set of ESP materials (Lynn 1974, 88). These are not uncommon feelings about teaching materials in general among teachers of reading in a foreign language, in spite of rapid development in the field. If specified, the discontent seems to be due to the following kinds of factors.

- Materials are often made for as large groups as possible and do not therefore fit any particular learner's or group's needs too well.

The lack of a specific target group makes the aims too general and the contents somehow vague. The writer's assumptions about what the student knows and what special difficulties he has, may be so far off the mark that the ʒading materials can only be used if the teacher produces a ɔcabulary and exercises as the course proceeds. For the

student there can hardly be a more unmotivating approach to a text than one where the instruction and exercises are based on mistaken ideas about his knowledge of the language.

- One-sidedness of approach in several textbooks may necessitate the use of material from a number of different sources to guarantee coverage of and practice in grammar, vocabulary, reading, information finding strategies, discourse features, and patterns of speech acts in scientific communication. Authors may be too engrossed in either their own pet theory or in a current phase of linguistic knowledge to include a variety of approaches.

- Emphasis on testing, not teaching, of reading comprehension. Materials may be based on current methods of testing, apaprently giving a lot of practice in reading by providing multiple choice exercises, gap filling exercises, etc., but actually giving little help to the student who finds the exercises beyond his capacity.

- Teachers may also feel that the information offered about the textbook by the publisher or the author is insufficient. They might like to know more about the precise criteria on which the selection of texts and exercises is based, and the type of learner the author has in mind. Lack of information again may lead to a situation where the teacher can only use the materials in part, or in a modified form, producing the exercises or texts himself.

Many of the problems outlined above are due to insufficient planning and inquiry into the learners' needs and/or consultation of outside experts at the initial stage of material development. We also need more co-operation between representatives of the foreign language and those of the students' mother tongue, as well as experimentation of new materials and consequent reworking as necessary. Ultimately, of course, much of this is due to the financing of the work. Materials developers are often pressed, for financial reasons, to give up basic inquiries into the learners' needs, or, even where the necessary information is available, persuaded to write with a more general audience in mind. Consequently, we are not in a situation where commercial materials are often in a modified form, complemented by a number of other materials representing different levels or approaches, or by materials produced by the teacher. Practically the only materials created to fulfill the needs of specific groups of learners are those developed non-commercially as language teaching units by language teachers themselves.

The problems discussed above are of a practical, mainly financial, nature. There are, however, other factors, concerning the theoretical basis of materials development, which have more far-reaching consequences for the teaching of reading, and which will form the topic of this paper. The argument to be put forward here is that the primary reason for the failure of many reading materials is not their too general aims or one-sidedness of approach but their implicit basic assumption about the nature of the relationship of language teaching and the teaching of reading. Text-books fail because they attempt simultaneously to teach knowledge of a foreign language and the communicative use of that language. In Upshur's words, '. . . the complex problem (of) producing students who can communicate with English speakers by means of the English language (. . .) is often simplified to teaching a knowledge of English.' (Upshur 1973, 212). This is naturally not to say that language teaching is unnecessary for reading in a foreign language, the argument is only that language-teaching activities such as the examination of linguistic properties of a text are not conducive to fluent reading. The teaching of a foreign language should serve the needs of the reading process, not dominate and thus hamper it, and the syllabus of a reading course should be based on actually observed difficulties in reading not on preconceived ideas of what the students should know about the language. This claim and its consequences for language teaching and material development will be discussed in more detail below.

## Theoretical models and reading materials

The kind of notion that a materials producer has of reading in a foreign language, however unformulated or unconscious, will affect all the major decisions about his work. It will shape his choice of texts, his method of instruction, and his emphasis in choosing the linguistic content of his course. If a materials developer thinks that reading comprehension is based on understanding of single consecutive sentences, and that the best way to develop it is by thorough analysis of words and sentences, he will presumably choose his texts and exercises accordingly. It is therefore very important that the ideas of the theoretical model on which the materials producer bases his decisions, are explicit to him and that he also makes them explicit to the potential users of his materials.

- We shall proceed to inspect more closely this influence of models on language teaching materials.

Generally speaking, the theoretical models on which most existing reading materials, explicitly or implicitly, are based, are to a large extent models not of the reading process itself, but of linguistic properties of texts, or of language learning. A model based on linguistics or language learning is here called a language-oriented model. The profound influence of the state of linguistics is apparent when we consider how advances in linguistic research are reflected in materials development. When the study of language was more closely related to literary studies, reading comprehension was thought of mainly in terms of literary analysis of language, based more on appreciation and evaluation of stylistic aspects than on comprehension of conceptual meaning. With sentence-based linguistics, language teaching and teaching materials have been similarly sentence-based, while with an increasing knowledge of the properties of texts, the teaching of reading has more and more acquired features of discourse analysis: it includes examination of intersentential features such as reference, coherence, cohesion, and use of connectives. The influence of socio-linguistics is seen in the application of the theory of speech acts to the study of written discourse, and the present interest in presupposition in language will undoubtedly soon leave its mark on materials development. Thus, answers to problems in the teaching of reading are sought in a more varied knowledge of the foreign language, and not in an understanding of the kind of activities reading comprehension involves.

Another area which has influenced thinking in the teaching of reading comprehension, as pointed out by Cooper and Petrosky, is testing of reading comprehension (Cooper & Petrosky 1975, 24). The notion of separate 'reading skills', distinguished for the purposes of assessment, may lead to a position where reading comprehension is thought of in terms of the very skills measured by tests. Separate skills listed by testing experts (e.g., Davies 1968) may seem like a good starting point for the development of reading materials, but they actually have little to say about the reading process itself. What is measured is the outcome of reading rather than the use of reading strategies themselves. It may well be assumed that if the reader scores well on items measuring 'skills' like 'drawing inferences from the context' or 'finding answers to questions answered explicitly or in paraphrase', he is a fluent reader. However, we get no help in understanding the nature of reading. It follows then, that the practice of these techniques in a reading course works well if the student is a fluent reader - in which case the course is unecessary anyway - but gives little help to the student who finds them

beyond him. Thus, while the language-oriented model leads to teaching of reading comprehension based only on one of the prerequisites of fluent reading, viz. language, the testing model leads to teaching where the existence of reading comprehension is presupposed.

There also exists a current psycholinguistic model of reading, which is supported by experimental findings, and corresponds largely to the general nature of human cognitive behaviour. The model was presented in its main points as early as 1908 by Huey (1908), and later recapitulated in practically the same form by Smith (Smith 1971). According to the model, which is based on reading in the mother tongue, reading is a highly active and selective process characterised by the processing of the information on the printed page on the level of meaning, not of words and structures. Smith defines comprehension as reduction of uncertainty, that is, reading is not creating a meaning out of a vacuum. The uncertainty relates to alternative expectation about the outcome of reading. The alternatives are created on a very general level at first, but get more and more specific as reading proceeds. Since a fluent reader uses prediction and anticipation based on all relevant previously acquired knowledge, he 'depends less on visual information when he can make use of information from other sources, notably an understanding of what the passage is about.' (Smith 1971, 195). The model, then, suggests that what the reader already knows is at least as important for the outcome as what is on the printed page, and this makes reading a process where the reader uses a minimum number of cues to arrive at a correct or most plausible meaning. For the purposes of our argument the following points are particularly important:

- the reader himself provides most of the necessary information
- identification of meaning takes place in terms of units larger than words.

The implications of this model, here called reading-oriented, to the development of reading materials, will be the main point of this paper. In the discussion that follows the term skill will be used of reading comprehension. This skill is conceived as consisting of various sub-skills or strategies, such as prediction, identification of meaning, and the use of redundancy.

The reading-oriented model would seem to offer unquestionable advantages for the teaching of reading in ESP classes. It would help to base reading practice on the kind of activities

that are the ultimate aim of ESP reading courses, and give the student exactly the kind of strategies he would need for his studies and later in his profession. Further, it would help to solve many problems in materials development, as will be suggested later. We also have evidence from teachers who have used it in the teaching of ESP classes that it can be used with success (e.g., Cooper and Petrosky 1975, Riley 1976, Sakr 1975). Often, however, the attitude of language teachers seems to be that, useful as the mastery of reading strategies is for ESP students, their development is outside the scope of language teaching (e.g., Eskey 1973, Mackay 1974, Nation 1974). The reason for this may well be that in its traditional language-oriented form, foreign language teaching stands in direct opposition to the process of reading, as delineated in the model. The relationship of these two will therefore be considered next.

## Foreign language teaching and the teaching of reading

If we compare the reading process, as presented by the psycholinguistic model, and the kind of instruction that courses in reading comprehension generally consist of, we find that language-oriented teaching of reading comprehension works against the nature of the reading process. This may well explain why 'an advanced learner can be a slow reader' (Harris 1960). Detailed comparison of the two models at work will illustrate this.

One of the central features of the reading-oriented models is that the reader works on the level of meaning, not only of the whole message*, as it gradually unravels itself, but also of its significance in relation to previously acquired knwoledge, and, more generally, to his view of the world.¹

*Thus use of the context for the identification of the meaning is not characteristic of the level of words alone. As Carroll points out, 'the 'total meaning of an utterance has to do with the relation of a sentence or discourse to its total context.' (Carroll 1972, 12). Urquhart, discussing the effect of discourse organisation on comprehension, gives concrete examples of the effect of the context on the meaning of sentences (Urquhart 1976, 76 ff.) Can we not assume, similarly, that the identification of the meaning of larger units of discourse is based on the context as well (i.e., paragraphs, crudely put, are interpreted in terms of the surrounding paragraphs, chapters in terms of the whole book)? Of course, the higher the unit, the more there usually is to create a context-free meaning, but the total meaning, presumably, cannot be arrived at without the total context.

Language-oriented teaching, on the other hand, generally works on the levels of words and structures within sentences. A fluent reader uses his level of total meaning to predict and anticipate actively during the reading process, whereas the language-oriented approach forces the learner to struggle with lower units to build up a meaning on a higher level, usually that of a sentence. The fluent reader uses the level of total meaning to fill in gaps in his comprehension of the message, or, as Cooper and Petrosky point out, comprehension can precede the identification of individual words (Cooper and Petrosky 1975, 4), and, presumably, of larger units. The language-oriented approach, inadvertently, stresses the importance of every word and structure for understanding. A fluent reader processes information extracted from the text in meaningful chunks, which facilitates the full use of short-term memory. The language-oriented approach trains him to work with small units, each of which is considered equally important for comprehension, and thus overloads short-term memory.

We all know how struggling with unfamiliar words, or reading on word-level as in proof-reading, makes processing of the text at higher levels of meaning difficult or impossible. Further, a fluent reader is capable of taking advantage of redundancy at many levels, which makes the use of a minimal number of cues possible. In language-oriented teaching hardly anything is redundant. A fluent reader is also capable of varying his speed and his strategies according to the purpose of the reading and the type of material, while in language-oriented reading it is the examination of the language that dictates the speed. A fluent reader, using his knowledge of the particular field of study and its conventions, will be not only working on the level of referential meaning, but will also understand why or to what general purpose the information is offered and why it is offered in that particular form or way. The language-oriented approach naturally cannot include these aspects. And last of all, fluent reading presupposes an active and confident use of one's mind, which may be discouraged by language-oriented teaching, if it emphasises the necessity of a thorough examination and mastery of the linguistic properties of texts.

Discourse analysis seemed to offer a way out from the sentence-based approach to one based on textual aspects, and was therefore welcomed by teachers and materials

developers. But again, it is possible that enthusiasm about linguistic advances overrides considerations of the reading process. Reading is not discourse analysis, and though the reader undoubtedly takes advantage of textual features, we do not know exactly how and to what extent. At worst, practice emphasising discourse features may lead to mechanical analysis with no increase in the comprehension of the contents, and leave the student helpless when he confronts a text where, say, explicit signals of logical relationships are not used. Briefly, discourse analysis may be found as language-oriented as sentence analysis.

There would seem to be several reasons then to make us reconsider the relationship of foreign language teaching and the teaching of reading, to enable us to create reading material where the knowledge of the foreign language serves the reading process instead of turning the readers into amateur linguists.

## Implications of the special nature of reading in an ESP class

As was noted above, the psycholinguistic model of reading presupposes the knowledge of the language, and is therefore primarily a model of reading in the mother tongue. How then can it be applied to situations where this very essential condition is partly lacking, i.e., where the reader has insufficient knowledge of the language used.

To solve this problem let us look again at the two important implications of the psychological model discussed earlier:

- the reader himself provides most of the necessary information.
- identification of meaning takes place in terms of units larger than words.

To see how it is possible to use information other than that printed on the page and how much the identification of textual units is a matter of prediction, it is useful to examine a realistic reading situation of the kind that ESP students will have to face outside the classroom, that is, the kind of reading situation for which the reading course should prepare them. Such a reading situation is characterised by the following kinds of features, many of which are lacking in classroom reading:

1 There is a clearly defined purpose for the reading, and this purpose regulates the way the reading is done, whether it is

to skim, to preview the material, or to read it thoroughly at least in places. This purpose also provides the motivation for reading.

2    The information to be searched for is connected with knowledge already acquired by the reader, and the reader makes an active effort to fit in new information.

3    The reader has fairly definite alternative anticipations about the contents and form of the reading material, even if these are vaguely formulated or not actively used.    These anticipations may be based on the following types of knowledge.

- knowledge of the possible purpose for which the text was written

- knowledge of the sub-matter and other background information of the text relating to the field of study

- knowledge of communication conventions in that particular field in that type of text

- knowledge of the writer of the text, his ways of presenting the material, his possible idiosyncracies, his attitudes, etc.,

- knowledge of the time of the publication and thus of the relationship of the text to the general framework of knowledge in the field

- knowledge of the concepts likely to appear in the text

- knowledge of the general construction typical or likely in that kind of text

- general idea of the contents.

Further, the reader may test and modify his expectations by approaching the text gradually, skimming the contents, previewing the first and last chapters, and thus arriving at more definite expectations.    This all will greatly facilitate the intake of the information and guide his reading strategies, because, as de Leuuw points out, a perspective is essential for the reader.    If he does not have it at the outset, this kind of 'phased reading' will help to create it (de Leuuw 1965, 183-184).

Most of this support is absent in classroom reading, where, in the extreme case, the student may get a piece of text (or non-text) which is unauthentic in the sense that it has not

been written to serve any genuine communication: it has been written for language teaching purposes. Even newspaper articles or an article from a scientific journal, if presented without the kind of contextual knowledge that operates in a realistic reading situation, fail to create the necessary perspective. Newspaper material, particularly, depends to a large extent on our current knowledge of the world, what happened the day before and what can be expected at the time, not of reading, but when the paper came out. If we take a text like this out of its temporal and cultural setting, we deprive the reader of an important level of anticipation on which it would be possible to build the meaning. Reading a strange text out of context, with little to base anticipation on, is difficult enough even with sufficient language skills, but when this task is presented to a foreign language learner as language learning practice, he is left to struggle on at word and sentence level, and so to develop undesirable reading strategies.

Interestingly, this point comes out very clearly in the review by Lynn, referred to above. He compares the ESP-type textbooks in the series concerned to a later edition, addressed to students of English, and thus having the advantage that it need not try to teach both language and reading at the same time. Lynn writes about the earlier ESP textbooks: 'Students who need English courses never seem to be advanced enough for the ( . . . ) material, and students who clearly are advanced enough and would benefit from the books never seem to want to waste time on English courses', and goes on, referring to the new edition: 'it may incidentally help one's English, but it really sets out to lead one to think more clearly about English teaching and succeeds in doing so.' (Lynn 1974, 89). What Lynn, essentially, is saying is that natural and fluent reading may only proceed at the level of total meaning of discourse, and that it is hindered by reversion to word or structural, i.e., language teaching, level. This makes it absurd to teach language and to claim that what is taught is language use.

The implications of the realistic reading situation typical for ESP students can now be summarised. It seems that the ESP situation is an ideal one for the development of a reading-oriented course. The students are adults, and already have knowledge of one language and its use in communication. They also have some knowledge of their own field of study and of the patterns of communication typical of it, on the basis of their reading in the mother tongue. They can be taught to make use of a lot of background information of the

kind that was described above, and they can be helped to use prediction based on this information to compensate for insufficient knowledge of the foreign language. In what follows, suggestions will be made for the development of reading-oriented materials for ESP students.

## Developing materials for a reading-oriented course

The following suggesions for a reading-oriented course in a foreign language are based on the psycholinguistic model of reading, described above, and on the realistic reading situation of students reading for information for the purposes of their studies or their profession. They are only intended to serve as starting-points for application of the model, to be tried out and modified by teachers.

1   The materials should focus on the learner. Most ESP teaching is directed to adult learners, who could take a much more active part in learning to read. This focussing would also make it possible to see the materials for self-study, or autonomy, to use the term adopted by the CRAPEL (Centre des Reserches et Applications Pedagogique et Linguistique, University of Nancy) and extensively discussed by Riley (Riley 1976). *  To help the learner to see his own role in the development of reading strategies, he should be offered the following kind of background information, in as non-technical a form as possible.

-   Sufficient information about the reading process, particularly of reading in a foreign language. He should be advised to take a general reading course or to read an introductory book on efficient reading. He should be made aware of the function of memory in reading, of the factors operant in a realistic reading situation and of their use in reading in a foreign language, as well as of the active, selective nature of reading.

-   Information on the general features of informative writing, of the ways the texts may be structured, of forms and functions of different types of paragraphs, and of the functions of language in scientific communication. This would help in several ways. It would help him to create a

* Riley gives an interesting description of the work done at the C.R.A.P.E.L. to develop autonomy in foreign language learning, with the learners setting their own goals and the teachers functioning in the role of 'helpers'.

perspective and therefore to read selectively, using linguistic cues to perceive whether the writer is using the language to define, give out facts, illustrate, etc., and to adjust his purpose in reading accordingly.

- Initial information about the foreign language, its particular difficulties as compared with his mother tongue, and its role in reading, in very general terms. He should also get information about every possible source of help he can use on his own: dictionaries, glossaries, grammars, encyclopadias, etc. He should be made aware that the learning of the reading process in a foreign language is something he will ultimately carry out himself, and that he can continue developing his strategies after the course is finished.

2   The selection of reading materials should be guided by an attempt to simulate a realistic reading situation as far as possible, or to create one. This indicates to use a materials which allow the student a maximum use of his knowledge of the subject, of the type of text, and of its context. Highly specialised materials are therefore out of the question for first and second year students, but ideal for learners, who have a wide knowledge of their own field. For most ESP students, texts from their own textbooks would seem best. Informative texts of general character also seem to work, provided they are supported by contextual information. The teacher may naturally also consult his students about the kind of material they would like to read: initial information about reading, as suggested above, would help them to choose.

The grading of reading tasks could be done in one of the following ways:

- varying the length of the text

- varying the amount of the accompanying information about the subject-matter of the text offered to the students

- varying the amount of information given on the structural properties of the text, or of the special conventions of communication in the particular field

- varying the purpose of the reading task (e.g., finding the answer to a specific question, skimming for the general idea, finding three main points, finding out specific facts, etc.)

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- varying the help given the student in terms of terminology, or central concepts and subconcepts relevant to the subject-matter.*

Grading in terms of simplifying the language of the texts is, however, a more problematic point. There seem, in fact, to be several reasons suggesting that the use of authentic reading materials should be started as early as possible - Riley claims that they can be used at all levels (Riley 1976). The use of unauthentic or simplified materials could, in fact, be said to be a by-product of the language-oriented approach, due to feelings that the best way to facilitate extraction of information from a text for a foreign language learner, is by manipulating sentence length, syntax, or lexical items. Since, however, the reading process relies on a selective use of all possible levels of the text, and is based on the maximum use of minimal cues, it is only by giving the student material containing all the features naturally occurring in informative texts, that we can make it possible for him to learn to take advantage of these. We cannot claim to have enough knowledge of discourse to confidently manipulate texts for the purposes of fluent reading. For the teacher to select 'from the incredible structural richness of a language', --- 'to decide and arrange the sequence of ( . . .) presentation' (Kennedy 1976), means, as Kennedy points out, that the students have to form their hypotheses about the use of the language on the basis of artificial language. This may also deprive the student of a source of incidental learning. And last of all, since, as Riley points out (Riley 1976) unauthentic materials 'are immediately and instinctively recognizable as such', they may affect the student's motivation and consequently his way of processing the material.

3 Methods of instruction and practice follow from what has been claimed above about the nature of a realistic reading situation. The suggestions, again, are meant to serve as starting-points, not as final solutions. In general, a reading course should provide material both for classroom work and for self-study, ideally both selected with the cooperation of

*For an experiment investigating the effect of advance conceptual organisers on learning and retention of verbal material see Ausubel 1960. Ausubel makes the claim, relevant to our argument, that teaching should provide the learner with very general or subsuming concepts relevant to the new information, to facilitate its incorporation into the cognitive structure.

teachers of the subject concerned. The specific nature of reading as an activity possible practically anywhere, alone or in groups, should be taken advantage of and be made explicit to the students.

The treatment of a text in class could proceed on the following lines.

-   The students first read the contextual information accompanying the text, the purpose of which is to provide them with a purpose and perspective for reading.

-   Students are then encouraged to discuss the information offered and to create anticipations concerning the form and contents of the text. The students may have more previous knowledge relating to the text and the subject-matter than the teacher, and they should be invited to use it. The materials should offer concrete examples of working with a text and using all possible information. The teacher might find that often the students work more actively and confidently if they form small groups for discussion during the lesson, each group reporting their findings.

-   Advance expectations may be tentatively checked by previewing the introductory and conclusive part of the text, or other relevant parts of it. On the basis of this sharpened focus, new expectations may be formed, now related to the particular reading task in hand.

-   The actual reading of the text should never be in terms of a thorough linguistic examination, when done in the reading course. It should be a task of finding some information in the text. The tasks should offer practice in the development of a variety of reading strategies, such as skimming in order to get a general idea of the contents, scanning for a piece of detailed information, previewing in order to determine further strategies, detailed information, previewing in order to determine further strategies, detailed reading for organized information, or finding out the main ideas and the subsidiary matter related to them. It should also offer opportunities to learn how and when to change strategies and reading speed, and how to determine where the establishing of exact meaning is necessary. With longer passages, the students should learn to note, while skimming, where comprehension is difficult, to be able to return and work at it at their own speed.

Once the students have completed the reading task, the outcome is checked and alternative suggestions discussed. If there are unacceptable interpretations, their source should be located and the reason for the unacceptability be explained and discussed. While definite misinterpretations should be eliminated, the teacher should avoid creating the impression that there is only one right way to understand the text.

As has been pointed out, this kind of reading course will bring along certain changes in language teaching as well. First, the reading course, whether held by the language teacher or somebody else, is kept separate from the foreign language class, which, ideally, becomes a service-course proper. Secondly, the contents of a foreign language course will be modified to answer the explicit needs of students observed in the reading course. Thirdly, the language teacher becomes a helper instead of being the central source of information (cf., for instance, Riley 1976 and Mackay 1974). He also works out a language syllabus for his group of learners, something that no central institute or commercial agent is capable of doing. This may mean no revolutionary change in language teaching itself, but it may mean that teachers will create more and more varied ways of relating foreign language learning to the kind of prediction characteristic of reading. Since the teacher need not, in a learning situation, worry about evaluation of responses, he may create ways of practising anticipation with larger units than words. Moody's report of a teaching experiment in anticipating sentences in discourse (Moody 1976), ways of using syntactic structure to create expectancies as suggested by Pierce (Pierce 1973), and the methods of using collocations in language teaching suggested by Brown (Brown 1974) are all interesting examples of possibilities of developing language teaching in this direction.

**Final Suggestions**

The development of a reading course in a foreign language along the lines described above is a task best carried out, it would seem, by a team consisting of reading experts, language teaching experts and representatives of the field of study for which the materials are being created. The inclusion of experts of the field is very important, since the working of the model requires active use of the knowledge of the field and of its special conventions of communication. Once the model has been studied, however, the students will gradually learn to provide the information relating to their field of study, as long as the reading material represents their field of knowledge.

This kind of reading course could take the form of a general model or guide, on which further development of more specific courses could be based. It should not be intended to replace a language course or to combine the teaching of language and the teaching of reading strategies. Ideally, of course, a reading course would be a general one, offered to all students and based on the mother tongue, but offering examples from several foreign languages. If a general reading course is not available, the language teacher could reshape his course to accommodate reading-oriented activities based on the model textbook. In the last resort, if even this type of teaching is for some reason impossible, the student should be advised to use the guide for self-study, to help him put into use the knowledge of language he acquires in the language class.

In this way, problems created by the teaching of reading comprehension in an ESP situation could best be solved by taking advantage of the special nature of the ESP class, and working out ways of teaching language use instead of linguistic knowledge of the language. If students are taught how to compensate for their insufficient knowledge of the foreign language by using all their previously acquired knowledge relevant to the task, they will develop not only the right kind of reading strategies, but strategies for learning from written material, and a confident and independent approach to reading.

This is possible if language teachers are willing to develop language teaching into the direction of teaching a communicative use of the language, and to adopt a new role as helpers in the reading situation. For this they urgently need reading-oriented learning materials produced by language teaching experts in cooperation with reading experts and representatives of the field of study concerned.

# References

Ausubel, David. 1960 The use of advance organizers in the learning and retention of meaningful verbal material, Journal of Educational Psychology 1960/51, 267-72

Brown, Dorothy, F. 1974 Advanced vocabulary teaching: The problem of collocation, RELC Journal 1974/5: 2, 1-11

Carroll, John B. 1972 Defining language comprehension: Some speculations, in John B. Carroll and Roy F. Freedle, 1972. Language comprehension and the acquisition of knowledge, Winston and Sons, Washington, D.C.

Cooper, Charles, R., and Anthony R. Petrosky, 1975. A psycholinguistic view of the fluent reading process: theory, reader strategies, and classroom instruction. Mimeo

de Leeuw, Manya and Eric, 1972 (1965), Read better, read faster. Penguin Books: Harmondsworth.

Eskey, David E., 1973. A model programme for teaching advanced reading to students of English as a foreign language Language Learning 1973/23:2, 169-84

Huey, Edmund Burke, 1908. The psychology and pedagogy of reading. Macmillan (HIT Press 1968)

Kennedy, Graeme D., 1973. Conditions for language learning, in Oller and Richards 1973, 66-80

Lynn, Robert W., 1974. Review of the English Studies Series 8: Language Teaching Texts, by H.G. Widdowson. RELC Journal 1974/5:2, 88-89

Mackay, Ronald, 1974. Teaching the information gathering skills, RELC Journal 1974/5:2, 58-68

Moody, K.W., 1976. A type of exercise for developing prediction skills in reading, RELC Journal 1976/7:1

Nation, I.S.P., 1974. Making a reading course, RELC Journal 1974/5:1, 77-83

Oller, John W. Jr., and Jack C. Richards, 1973. Focus on the learner. Newbury House Publ. Mass.

Pierce, Mary Eleanor, 1973. Sentence-level expectancy as an aid to advanced reading TESOL Quarterly 1973/7:3, 269-77

Riley, Philip, 1976. Current trends in language teaching at the C.R.A.P.E.L. Language Centre News: Special issue on teaching and testing communicative competence, Language Centre for Finnish Universities: University of Jyvaskyla, Finland.

Sakr, Ahmad, 1975. The place of reading in the teaching of English for special purposes (TESP), Eighth annual conference of the IATEFL, London, 1975. Mimeo.

Smith, Frank, 1971. Understanding reading. Holt, Rinehart and Winston: New York

Upshur, John A., 1973. Context for language testing, in Oller and Richards 1973, 200-213.

Urquhart, A.H., 1976. The effect of rhetorical organisation on the readability of study texts. Unpubl. Ph.D. thesis, University of Edinburgh.

# ELT documents

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## 104 Developments in the training of teachers of English

This issue is devoted largely to the training of TEFL teachers in England. Articles include detailed descriptions of the courses at the universities of Manchester, Bangor, Edinburgh and Lancaster. The purpose of the issue is to provide information on current trends.

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## 105 The use of the media in ELT

This issue will ask questions like 'Why Broadcast?' and 'Why do we use broadcasting in teaching?'. There will be articles on the production of material for broadcast and its practical application in the classroom. The supposed dichotomy between good production and good teaching will also be discussed.

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## 106 Projects in materials design

A number of different projects from a variety (geographical and professional) of overseas institutions will be described by the planner or director concerned in each. Particular attention will be focussed on the problems which arose in each case, and how these affected the development of the project.

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